Appendix D

Notice of Determination

To:			From:		
\boxtimes	Office of Planning and Research		Public Agency: CA Department of Fish and Wildlife		
	U.S. Mail:	Street Address:	Address:		
	P.O. Box 3044	1400 Tenth St., Rm 113 Sacramento, CA 95814	Contact: Janae Scruggs		
	Sacramento, CA 95812-3044		Phone:(530) 841-2567		
	County Clerk County of: Address:		Lead Agency (if different from above):		
	Address		Address:		
			Contact: Phone:		
	BJECT: Filing of Notice of L sources Code.	Determination in compli	ance with Section 21108 or 21152 of the Public		

State Clearinghouse Number (if submitted to State Clearinghouse): 2017017061

Project Title: Hart Ranch Flow Enhancement Project

Project Applicant: Hart Cattle LLC

Project Location (include county): Little Shasta Valley, Siskiyou County, CA (41° 41' 25.85"N latitude, 122 22' 51.11

Project Description:

The Hart Ranch Flow Enhancement Project (Project) consists of various agricultural water infrastructure modifications and ongoing agricultural operations on the Hart Ranch along the Little Shasta River in the Shasta Valley. The Project impact area is limited to 41.66 acres of the working ranch. The Project consists primarily of linear alignments along proposed pipe alignments with associated water management infrastructure in existing irrigated pastures and uplands with occasional irrigation ditch crossings, and modification of the existing agricultural diversion structure which poses a partial barrier to fish passage in the Little Shasta River. On-ranch efficiency and water management [continued]....

This is to advise that the	California Department of Fish and Wildlife	has approved the	above
	(X Lead Agency or Responsible Agency)		

described project on March 2, 2017	and has made the following determinations regarding the above
(date)	

described project.

1. The project [will 🛛 will not] have a significant effect on the environment.

- 2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA. X A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
- 3. Mitigation measures [X] were interest were not] made a condition of the approval of the project.
- 4. A mitigation reporting or monitoring plan [X] was [] was not] adopted for this project.
- 5. A statement of Overriding Considerations [was 🔀 was not] adopted for this project.
- 6. Findings [were Not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:

601 Locust Street, Redding, CA 96001, Shasta County. Electronic copies : http://www.dfg.ca.gov/news/pubnotice/

Signature	(Public Agency):	5-6-		BPM	/
Date:	3/2-117	Date Received	l for filing a	at OPR:	

Authority cited: Sections 21083, Public Resources Code. Reference Section 21000-21174, Public Resources Code. NOD [SCH No. 2017017061] Hart Ranch Flow Enhancement Project CDFW

Project Description [continued]:

improvements include 1) the construction of new stock watering facilities, 2) replacement of the Hart Ranch's failing Main Pipeline, 3) fish passage improvements consisting of relocation and replacement of the Hart irrigation diversion structure and recontour of a portion of the Little Shasta River to ensure fish passage, and 4) water diversion. All Project components are located on the Hart Ranch (41° 41' 25.85"N latitude, 122° 22' 51.11"W longitude). As part of the Project the Department has received Notification of Lake or Streambed Alteration from Hart Cattle LLC to operate, maintain, and repair existing water diversions from the Little Shasta River (Notification No 1600-2016-0314-R1) and Evans Spring (Notification No. 1600-2016-0315-R1).

The parcels are zoned AG1B40 and AG2B40 (Agriculture) which allows construction, operation and maintenance of water infrastructure. The proposed project is located entirely within the unincorporated area of Siskiyou County on active agricultural lands, all within the Shasta Valley. The project is surrounded by agricultural and residential land uses.

HART RANCH FLOW ENHANCEMENT PROJECT

FINAL INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

SCH No. 2017017061

MARCH 2017

Submitted to:

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE 601 Locust Street Redding, CA 96001

Prepared by:



FISH · WATER · PEOPLE

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Report Preparers:

Alpineworks Consulting. Tuliyani Potts. PO Box 676, Mt. Shasta, CA 96067 California Department of Fish & Wildlife, 601 Locust Street, Redding, CA 96001 California Trout. Andrew Braugh, 701 South Mt. Shasta Blvd, Mt. Shasta, CA 96067

1 INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

This document is an Initial Study, with supporting environmental studies, which provides justification for a Mitigated Negative Declaration for the Hart Ranch Flow Enhancement Project (proposed project). This Mitigated Negative Declaration has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq.*, and the State CEQA Guidelines, 14 California Code Regulations Section 15000 *et seq.*

An Initial Study is conducted by a Lead Agency to determine if a project may have a significant effect on the environment. In accordance with CEQA Guidelines Section 15063, an EIR must be prepared if an Initial Study indicates that the proposed project under review may have a potentially significant impact on the environment. A Negative Declaration is a written statement prepared by the Lead Agency describing the reasons why the proposed project would not have a significant effect on the environment, and therefore would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a Negative Declaration shall be prepared for a project subject to CEQA when either:

- a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or
- *b)* The initial study identifies potentially significant effects, but:
 - (1) Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and
 - (2) There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.

If revisions are adopted in the proposed project that would mitigate the effects to a point where no significant effects would occur in accordance with the CEQA Guidelines Section 15070(b), a mitigated negative declaration is prepared.

1.2 LEAD AGENCY

The lead agency is the public agency with primary responsibility over a proposed project. Where two or more public agencies will be involved with a project, CEQA Guidelines Section 15051 provides criteria for identifying the lead agency. In accordance with CEQA Guidelines Section 15051(b)(1), "the lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." Pursuant to Fish and Game Code section 1602, Blair Hart (Permittee) notified the California Department of Fish and Wildlife (CDFW) on July 7, 2016 with the intent to substantially divert or obstruct the natural flow and modify the bed and/or banks of the Little Shasta River and Evans Spring in order to implement the proposed Project. CDFW has determined that the Project has the potential to substantially adversely affect existing fish and wildlife resources and therefore, a Lake or Streambed Alteration Agreement (LSAA) is required under Fish and Game Code section 1603. CDFW's issuance of the LSAA requires compliance with CEQA, and because no other discretionary public agency approvals have been required to date, CDFW has assumed Lead Agency status for the Project under CEQA.

Based on the criteria above, CDFW is the lead agency for the proposed Hart Ranch Flow Enhancement Project.

1.3 DOCUMENT ORGANIZATION

This document is divided into the following sections:

1 Introduction - This section provides an introduction and describes the purpose and organization of this document.

2 Project Information - This section provides general information regarding the project, including the project title, lead agency and address, contact person, brief description of the project location, general plan, land use designations, zoning designation, identification of surrounding land uses, and identification of other public agencies whose review, approval, and/or permits may be required. Also provided is a checklist of the environmental factors that are potentially affected by the project. Finally, this section provides the environmental determination for the project, identifying whether a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report will be prepared for the project.

3 Project Description - This section provides a detailed description of the proposed project.

4 Environmental Checklist - This section describes the environmental setting/overview for each of the environmental subject areas, evaluates a range of impacts classified as "no impact," "less than significant," "less than significant with mitigation incorporated," and "potentially significant" in response to the environmental checklist. Each environmental checklist question is discussed and analyzed. Where appropriate, mitigation measures are identified to mitigate potentially significant impacts to a less than significant level.

Section 4, Environmental Checklist, is the analysis portion of this Initial Study. This section provides an evaluation of the potential environmental impacts of the project. There are eighteen environmental issue subsections within **Section 4.0**, one of which is the CEQA Mandatory Findings of Significance. The other environmental issue subsections consist of the following:

- 1. Aesthetics
- 2. Agricultural Resources
- 3. Air Quality
- 4. Biological Resources
- 5. Cultural Resources
- 6. Geology and Soils
- 7. Greenhouse Gas Emissions
- 8. Hazards and Hazardous Materials
- 9. Hydrology and Water Quality
- 10. Land Use and Planning

- 11. Mineral Resources
- 12. Noise
- 13. Population and Housing
- 14. Public Services
- 15. Recreation
- 16. Transportation/Traffic
- 17. Tribal Cultural Resources
- 18. Utilities and Service Systems
- 19. Mandatory Findings of Significance

Each environmental issue subsection is organized as follows:

The **Overview** summarizes the existing conditions at the regional, sub-regional, and local level as appropriate, and identifies applicable plans and technical information for the particular issue area.

The **Checklist Discussion/Analysis** provides a detailed discussion of each of the environmental issue checklist questions. The level of significance for each topic is determined by considering the predicted magnitude of the impact. Four levels of impact significance are evaluated in this initial study:

No Impact: No project-related impact to the environment would occur with project development.

Less than Significant Impact: The impact would not result in a substantial and adverse change in the environment. This impact level does not require mitigation measures.

Less than Significant with Mitigation Incorporated: An impact that may have a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (CEQA Guidelines Section 15382). However, the incorporation of mitigation measures would reduce the project-related impact to a less than significant level.

Potentially Significant Impact: An impact that is "potentially significant" as described above, but for which mitigation measures cannot be immediately suggested or the effectiveness of potential mitigation measures cannot be determined with certainty. In such cases, an EIR is required.

Where appropriate, a **Mitigation Measures** section is included that lists mitigation measures for impacts identified as "Less than Significant with Mitigation Incorporated." These measures are designed to avoid, minimize, rectify, compensate for, reduce or eliminate identified potential impacts.

The **Conclusions** section summarizes the potential impacts and mitigation measures of the project on an environmental issue. If mitigation measures are recommended, the potential impacts after the implementation of these measures are assessed.

5 Special Studies and References - This section lists all the special studies and other documents either used or referred to in the Initial Study, and persons consulted during preparation of the Initial Study.

2 PROJECT INFORMATION

1.	Project title:	Hart Ranch Flow Enhancement Project
2.	Lead agency name and address:	California Department of Fish and Wildlife 601 Locust Street Redding, CA 96001
3.	Contact person and phone number:	Curt Babcock, Habitat Conservation Program Manager (530) 225-2740
4.	Project location:	APN [# 039-170-310, 039-130-140, 039-170-270, 039- 170-060, 039-170-280, 039-130-100, 039-140-080].
		Various Sections and Ranges, Little Shasta, CA 7.5 minute USGS quadrangle and Solomons Temple, CA 7.5 minute USGS quadrangle.
		Latitude: Various, identified in Project Description Longitude: Various, identified in Project Description
5.	Project sponsor's name and address:	California Trout, Inc. 701 South Mt. Shasta Blvd. Mt. Shasta, CA 96067
6.	General plan designation:	Areas mapped Severe Septic Tank Limits, Flood Hazard, Wildfire Hazard, Prime Agricultural Soils (General Plan Land Use and Circulation Element, maps 1 through 14). Further discussion included in Section 3, Project Description.
7.	Zoning:	AG1B40 Agriculture, AG2B40 Agriculture.
8.	Description of project:	The proposed project implements numerous agricultural water infrastructure improvements designed to improve water management opportunities for the Hart Ranch which result in enhanced flow in the Little Shasta River during critical coho migration periods, and maintenance of existing coho rearing habitat; improved fish passage in the Little Shasta River; and long-term operation and maintenance of irrigation infrastructure for the Hart Ranch.
9.	Surrounding land uses and setting:	The proposed project is located in various locations throughout the county (Figure 1, Project Location). The project is surrounded by active agricultural lands.
10.	Other public agencies whose approval may be required (e.g. permits, financing approval, or participation agreement):	CA Department of Fish and Wildlife (1600 Streambed Alteration Agreement), State Water Board (401 Permit), U.S. Fish and Wildlife Service, NOAA National Marine Fisheries Service, Section 404 and/or Section 27 permits from the U.S. Army Corps of Engineers, Regional Water Quality Control Board (401 Water Quality Certification, SWPPP), Siskiyou County Public Works Department, Siskiyou County Community Development Department (building permit).

2 PROJECT INFORMATION

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is reduced to less than significant through the use of mitigation measures indicated by the checklist on the following pages.

Aesthetics		Agriculture and Forestry Resources	=	Air Quality
Biological Resources		Cultural Resources		Geology/Soils
Greenhouse Gas Emissions		Hazards & Hazardous Materials		Hydrology/Water Quality
Land Use/Planning		Mineral Resources		Noise
Population/Housing		Public Services		Recreation
Transportation/Traffic	н	Tribal Cultural Resources		Utilities/Service Systems

Mandatory Findings of Significance

DETERMINATION: On the basis of this initial evaluation:

- □ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- □ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- □ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- □ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

26/17

Date

Curt Babcock Printed Name

Signature

March

January 26, 2017_____ Date

CDFW

March 2017

Habitat Conservation Program Manager Title

Hart Ranch Flow Enhancement Project Final Initial Study/Mitigated Negative Declaration

2-2

3.1 PROJECT LOCATION AND OBJECTIVES

The proposed Hart Ranch Flow Enhancement Project (Project) is located within the north central portion of the unincorporated area of Siskiyou County, California. This Project will be sited entirely at the Hart Ranch, primarily south of the Little Shasta River and west of Harry Cash Road, with one component located upstream at the ranch's existing agricultural irrigation diversion on the Little Shasta River as illustrated in **Figure 1**, **Project Location Map**. The Hart Ranch, is privately owned and is operated primarily for beef cattle production, including extensive irrigation of forage and pasture. The Ranch lies within the Little Shasta River watershed and holds certain rights to Little Shasta River water, which are used with other water entitlements and groundwater for irrigation and livestock watering. The Project will be located on various parcels and the APN for each site is included under discussion of the Project Summary. All components of this Project are located on existing active agricultural lands which are zoned for agricultural use by Siskiyou County and are part of the Hart Ranch (Ranch).

The overall Project objectives are to (1) enhance flow in the Little Shasta River and maintain existing potential coho salmon rearing habitat upstream of the Hart diversion structure; (2) ensure long-term operation and maintenance of irrigation infrastructure for the Hart Ranch; (3) improve fish passage in the Little Shasta River; and (4) to continue ongoing agricultural operations using both existing and proposed infrastructure.

By improving agricultural water infrastructure, water management opportunities, and fish passage in the Little Shasta River, the Project intends to improve water quality and enhance potential coho salmon habitat in the Little Shasta River with a permanent instream dedication of 0.5 cfs, with an additional long-term dedication of up to 1.0 cfs and potential permissive dedication of the remaining water right by the Hart Ranch while maintaining viable agricultural lands.

As the Project implements a number of irrigation management opportunities and efficiencies, it will allow for additional flows to be dedicated instream. Therefore, the Project is related to the Draft *Safe Harbor Agreement for Voluntary Habitat Enhancement Activities Benefiting Southern Oregon and Northern California Coast Coho Salmon (Oncorhynchus kisutch) on Private Lands in the Shasta Valley, Siskiyou County, California, by and between the Hart Ranch and the National Marine Fisheries Service* (NOAA Fisheries, 2016) (Draft Hart Ranch SHA), which the Hart Ranch submitted to NOAA Fisheries in December 2016 and is currently pending approval. It is anticipated that NOAA Fisheries will approve the Draft Hart Ranch SHA and issue an Enhancement of Survival Permit, pursuant to 16 U.S.C. 1539, by the end of 2017 (subject to NEPA by NOAA Fisheries). After which, the Hart Ranch intends to seek and obtain a consistency determination from the California Department of Fish and Wildlife, pursuant to Fish and Game Code Sections 2089.6, 2089.22, and 2080.1.

3.2 PROJECT SUMMARY

This Project consists of various agricultural water infrastructure modifications and ongoing agricultural operations on the Hart Ranch along the Little Shasta River in the Shasta Valley. The Project impact area is limited to the footprint as identified in design engineering plus a 25-foot buffer on either side, and totals 41.66 acres of the working ranch. The Project consists primarily of linear alignments along proposed pipe alignments with associated water management infrastructure in existing irrigated pastures and uplands with occasional irrigation ditch crossings, and modification of the existing agricultural diversion structure which poses a partial barrier to fish passage in the Little Shasta River.

All infrastructure modifications are designed to improve water management, improve irrigation efficiencies, improve opportunities to utilize various water sources (river water, groundwater, spring water, or other water sources, etc.), reduce the amount of cold water resources being utilized for irrigation and stockwater, increase cold water returns to the river system, and improve fish passage. The components of this Project are designed to improve water quantity and quality in the Little Shasta River during critical migration times for coho salmon.

The Project will allow for an initial contribution up to 1.5 cfs of cold water instream through long-term dedication under California Water Code Section 1707 and potential Safe Harbor Agreement (SHA), currently under negotiation with NOAA Fisheries (NOAA Fisheries, 2016). The Project will result in up to 1.5 cfs of cold water permanently

dedicated instream using California Water Code Section 1707. This water will enhance year round flows starting at the Hart Diversion Structure (River kilometer 17.5) in the foothills reach of the Little Shasta River and could benefit the outmigration of juvenile coho salmon from April 1 through June 30 if and when coho salmon enter the foothills reach. This total instream dedication of up to 1.5 cfs will be achieved through a combination of on-farm water efficiency and water management improvements (0.5 cfs), and voluntary flow contributions (1 cfs) from existing priority water rights held by the Hart Ranch. The Ranch's remaining water right (19.804 cfs) will be modified to add instream use as an authorized purpose, and the entire right less the initial dedication of up to 1.5 cfs, will be available for potential permissive dedication as a result of the 1707 process. This will add fish and wildlife to all their water rights, allowing the water to be legally dedicated and protected for fish and wildlife benefit on an asneeded basis.

On-farm efficiency and water management improvements include 1) the construction of new stock watering facilities, 2) replacement of the Hart Ranch's failing Main Pipeline, 3) fish passage improvements consisting of relocation and replacement of the Hart irrigation diversion structure and recontour of a portion of the Little Shasta River to ensure fish passage, and 4) water diversion.

The Hart Ranch Flow Enhancement Project consists of the following elements, the locations of which are identified in **Figure 1**. All components are located on the Hart Ranch (41° 41' 25.85"N latitude, 122° 22' 51.11"W longitude).

- Stockwater Improvement & Riparian Fencing/Planting: This project component is located on the Hart Ranch (APN 039-170-310, 039-130-140, 039-170-270, 039-170-060, 039-170-280, 039-130-100, 039-140-080) along Harry Cash Road south of the Little Shasta River. This component of the Project consists of (1) retrofitting an existing groundwater well; (2) new water storage tanks; (3) installation of underground PVC pipe and stockwater troughs; (4) installation of riparian fencing; (5) riparian planting along the Little Shasta River; and (6) cross fencing in existing pastures. Figure 2 identifies a site plan for this component of the Project.
- 2) Main Pipeline Replacement: This component of the Project includes replacement of the existing main canal earthen ditch and failing pipeline with underground PVC pipe with risers, valves, State Water Resources Control Board approved flow meter, and connection to existing groundwater wells, for improved water management opportunities and flood irrigation of the eastern portion of the Ranch. Figure 3 identifies a site plan for this component of the Project. (APN 039-170-310, 039-170-150, 039-170-270, 039-170-290).
- 3) Fish Passage Improvements: This component of the Project is located along the Little Shasta River at river kilometer (RK) 18.5 and includes removal of the existing flashboard dam, a temporal barrier for juvenile and adult coho salmon; construction of approximately 105 feet of roughened channel with large boulder clusters and buttresses with a 2.5-3% grade; and replacement of the agricultural diversion for the Hart Ranch to continue diversion of appropriated water rights, within proximity to the Harry Cash Road bridge crossing of the Little Shasta River (APN 039-120-170) (41° 32' 21.55"N latitude, 122° 22' 9.40"W longitude). Figures 4a and 4b identify site plans for this component of the Project.
- 4) Water Diversion: This component of the Project will allow for ongoing operation, maintenance, and repair of existing water diversion structures at the Little Shasta River Hart-Haight Diversion and the Evans Spring Diversion as permitted by CDFW under 1600 Permit and allow for voluntary instream flow contributions of existing decreed water rights at these locations as described in the Draft Hart Ranch SHA.

PROJECT FEATURES

STOCKWATER IMPROVEMENT & RIPARIAN FENCING/PLANTING

Existing Conditions

The northern portion of the Ranch is primarily dry-land, self-sustaining grazing area that is used extensively during the early portions of the year when forage production is supported by available soil moisture. Stockwater is currently provided in these fields by 10,700 feet of open, earthen ditch that flows from east to west along the southern edge of the dry-land grazing area until Dorris Hill, where it turns north and continues. Cattle drink directly out of the ditch or the Little Shasta River which is adjacent to and north of the ranch. As the ditch is not easily accessible within all

fields, and not accessible from some, this significantly reduces the utilization of the rain-fed forage of this acreage for grazing purposes.

A flow rate of approximately 1.5 cfs is typically continuously diverted from either the Little Shasta River or Evans Spring diversions to supply the ditch year round. The unlined ditch cross section, combined with the mild slopes and long ditch length, results in appreciable losses and requires a flow rate significantly higher than the consumption rate to maintain flow near the tail-end of the ditch. Unconsumed water either deep percolates, evaporates, leaves the ranch along the southwestern property boundary, or supports seasonal wildlife habitat near the base of Dorris Hill.

Proposed Improvements

The Project actions associated with the existing stockwater system consists of (1) retrofitting an existing groundwater well and pump with the addition of a new booster pump, regulating tank, and discharge piping; (2) three new 4,100 gallon water storage tanks; (3) installation of approximately 28,364 linear feet (5.37 miles) of underground PVC pipe connection to 20 stockwater troughs; (4) installation of approximately 7,500 linear feet of riparian fencing; (5) a new dedicated pipeline from the regulating tank with valve and flow meter to maintain existing wet meadow wildlife habitat at the eastern toe of Dorris Hill; (6) riparian planting along the Little Shasta River for a distance of approximately 7,500 linear feet; and (7) approximately 14,850 linear feet of steel post and barbed wire cross fencing in existing pastures. Figure 2 identifies a site plan for this component of the Project. This component will increase water use efficiency and provide a more reliable and adequate source of drinking water for the cattle on approximately 950 acres, hereinafter termed the "Northside". The system is designed to provide 35 gallons per day per cow-calf pair for a maximum of 225 cow-calf pairs. At peak demand, the system will operate at a flow rate of 11 GPM (0.02 cfs) to supply the troughs, with an additional 65 GPM (0.14 cfs) available to supply the consumptive needs of the seasonal wildlife habitat near the base of Dorris Hill. A total post-project flow rate of approximately 0.16 cfs will be required year round for the stockwater system, resulting in an anticipated, seasonally dependent, net water savings of +/- 1 cfs under full rights. The pumping system will be fitted with a flow meter to allow proper operation of the system and to provide monitoring of instantaneous and cumulative water use.

The stock watering system is composed of 20 strategically placed rubber-tire troughs that will be supplied by an ondemand pressure pipe network supplied from two new elevated storage tanks on Dorris Hill. Tanks are tentatively proposed to be round, High Density Linear Polyethylene tanks measuring 12 feet in diameter and approximately 12 feet tall. The tanks will be supplied with groundwater pumped from an existing well, and then released as needed to supply the troughs. Sufficient reserve storage capacity is provided in the tanks to maintain water supply to the troughs for two days in the event of pump failure, maintenance, or power outage. To the extent possible, the stockwater distribution pipeline will form a loop so that the tank can supply each trough from two directions and allow segments to be isolated without interrupting supply if maintenance is needed on troughs or certain pipeline sections.

Underground Pipe and Troughs

The Project will require approximately 3 miles of 2" diameter, and 1.3 miles of 1-1/2" diameter HDPE pipe installed using low-impact trenching methods; 1.1 miles of 4" to 6" PVC mainline pipe; related air valves, isolation valves, control valves, and all fittings. Pipelines will be buried with approximately 2.5 feet of cover and will be installed along existing ditches rather than in them. The new stockwater pipe will cross under Harry Cash Road (a County roadway) using conventional open trench excavation. Backfill, compaction, and paving will follow applicable County standards and requirements of the encroachment permit. The distribution system pipeline will also cross over the existing Montague Water Conservation District's Main Canal where the pipeline will transition to a heavy-walled steel pipe that will be suspended over the canal above the water surface.

The pipeline alignment will need to be cleared of vegetation to a width of approximately 8 feet to facilitate construction and site access. Total vegetation removal of approximately 5 acres is required for trenching, including the removal of pasture grasses and alfalfa, which will be re-seeded following construction. Rubber-tire troughs will have a 7" thick unreinforced concrete and crushed rock apron that extends 8 feet from the trough. Each trough installation will occupy an area of approximately 220 square feet. Backfill of pipe alignments will utilize material

from an on-ranch upland borrow pit and native soil. Any excess soil as a result of excavation will be stockpiled in uplands on site. All disturbed areas will be seeded and mulched following construction.

The elevated storage tanks will be installed on a newly constructed gravel pad on Dorris Hill that will require excavation, material placement, and compaction over an area of approximately 2,400 square feet. It is estimated that cut and fill quantities will be 1,500 cubic yards of material. A 14-foot-wide by 750-foot-long graveled road with a slope of approximately 8% will be constructed to access the tanks from the existing ranch road. All cut and fill will be balanced with no need to export material. Imported engineered fill or gravel for the pad will be from a permitted source or from the existing on-ranch borrow pit. **Appendix B** includes 75% design stage plans for the stockwater system improvements.

Construction is expected to last approximately 60 working days and will be planned for early fall (August-November) to avoid wet weather conditions.

Riparian Fencing & Planting

Upon completion of the stockwater system, approximately 7,500 linear feet of riparian fencing will be installed along both banks of the Little Shasta River and the riparian zone will be planted with native shrub and tree species (estimated 750 trees) within a ten (10) foot band of the river. The total area to be planted is approximately two (2) acres, with an estimated 750 trees. Riparian planting will be spaced 10 feet apart on average, with a total density of approximately 375 trees per acre. Fencing will be steel post and barbed wire, consistent with the California Salmonid Stream Habitat Restoration Manual, (CDFG, 2003) or similar specifications, with a setback of not less than 35 feet from the ordinary high water mark. Fencing will allow for existing riparian vegetation recovery and enhancement while facilitating proper management of cattle at the bank of the Little Shasta River. Disturbance will consist of clump plantings of willow, choke cherry, native plum, and other native species. Riparian plants will be installed in a manner that will ensure that the roots will have access to water when water tables are at their lowest. This method for installing riparian plants has proven to be successful in the upper Shasta River with an average success rate of around 60%. Because the hydrology in the Little Shasta is different than the upper Shasta River we expect a 50% survival of plantings after 5 years (which is about 85% survival annually). Riparian planting will typically occur during the winter months (ideally February and March) and planting will be sourced from native local cuttings. Additional Project fencing includes approximately 14,850 linear feet of cross fencing in existing pastures to enhance grazing management. Cross fencing will be steel post and barbed wire. Fencing will be substantially built with a design life of 50 years.

MAIN PIPELINE REPLACEMENT

Existing Conditions

The Ranch has a year-round right to approximately 2.35 cfs from the flow of Evans Spring where the water is diverted and conveyed in an unlined open earthen ditch, entering the ranch on its northeastern boundary. Upon entering the Ranch boundary, the water continues in an open ditch for approximately 2,500 feet, then into a 12" diameter steel pipeline for approximately 1,700 feet before transitioning back to an open ditch just south of the existing ranch road termed "the Lane". South of the Lane, the open ditch continues for 3,500 feet where it terminates. Collectively, the aforementioned pipe and ditch components are considered the "Main Pipeline System". The Main Pipeline System conveys water to flood irrigate six fields totaling 175 acres on the east-side of the Ranch, and is also used for stockwater via on-ranch ditches. Fields are either irrigated directly from the Main Pipeline System. The surface flow can also be supplemented using groundwater pumped from the Big Well and the Hart Well into the existing ditch system.

Although the combined surface water and groundwater sources provide approximately 5.4 cfs of supply, the open ditch infrastructure limits the use of the groundwater to only fields downhill of the inflow location, and seepage and spillage from the ditch system further diminish the efficiency of the irrigation and conveyance systems.

The existing steel pipeline is corroded, contains holes, and is not protected with sufficient soil cover in some locations, leading to damage from cattle traffic. Seepage tests performed by Davids Engineering in 2009 at three different locations in the existing eastside ditches measured seepage rates ranging from 0.06 to 0.42 cfs/day, which can be attributed primarily to wider than necessary channel sections (more wetted area), porous soil types, and rodent holes. Additionally, water is lost from the ditches through cuts or low sections in the embankments. The poor condition of the conveyance system reduces the efficiency of irrigation practices due to spillage and seepage losses that reduce the flow rate available for distribution to the field. These inefficiencies result in excessive water diversion and application rates in portions of fields in order to meet necessary irrigation needs for other portions of fields to maintain pasture growth and grazing capacity.

Proposed Improvements

The objective of the Main Pipeline replacement is to redesign the irrigation distribution system which serves the eastern portion of the ranch to more effectively and efficiently utilize water, which will provide for reductions in water use while simultaneously retaining or improving existing pasture production. The Project replaces a large portion of the Mainline System with buried PVC pipelines that more effectively and efficiently distributes available water supplies to fields through irrigation valves spaced at intervals along the pipelines. The *Little Shasta River Water Efficiency Study* prepared by David's Engineering estimates that irrigation efficiency improvements associated with piping the Mainline could reasonably be expected to result in a 10% reduction in applied water to the eastern portion of the Ranch. Average applied water for the six fields to be served by the Main Pipeline replacement is about 50", or about 690 acre-feet over a 6 month irrigation season. Estimating that irrigation efficiency improvements would decrease this by 10%, this results in a net savings of 70 acre-feet in a season or about 0.2 cfs on a continuous basis. Additionally, estimates of seepage reduction based on ponding tests performed on the Evans Ditch it is estimated that 0.22 cfs of seepage could potentially be recovered from installation of Phase I and Phase II of the Main Pipeline. Therefore, the Main Pipeline replacement will result in an estimated water savings of 0.42 cfs (Davids Engineering, Inc., 2012).

The Project is considered the "backbone" of the irrigation system on the Ranch, which allows for water source combination through interconnection of supply and distribution systems for flexible utilization of available water supplies to serve the Ranch needs. The Mainline System has the capability to deliver a maximum of 7.5 cfs for irrigation purposes by combining the surface water from Evans Spring and Little Shasta River and groundwater from the Evans well, Big well, and the Hart well. The Main Pipeline Project will not require that additional groundwater be pumped. The increased conveyance capacity (from an existing 5.4 cfs to 7.5 cfs) would facilitate additional instantaneous pumping to facilitate higher irrigation application rates on an less frequent basis that are foundational to improving irrigation efficiency; but the Main Pipeline replacement is not designed with additional annual pumping needs beyond what currently exist. Irrigation efficiencies achieved by the Main Pipeline replacement will add to instream dedications of water which are being negotiated as part of a Safe Harbor Agreement and are anticipated to be up to 1.5cfs (NOAA, 2016).

The Project will be accomplished in two Phases. Phase I will effectively replace approximately 3,850 feet of open ditch (850 feet of main canal, 3,000 feet of in-field head ditch), and 1,700 feet of existing steel pipe on the eastside of the Ranch. Approximately 500 feet of the existing steel pipe will be maintained for storm water management, and the remainder will be abandoned in place. Phase I of the Main Pipeline replacement extends the pipeline south to "The Lane" to provide direct irrigation distribution improvements to two primary pastures totaling 70 acres, allows the combining of four water sources (one surface water supply, Evans Spring; and three existing groundwater well sources), and improves conveyance efficiency to all pastures on the east-side of the Ranch. At its terminus, the Phase I pipeline section will discharge to the existing earthen ditch until Phase 2 is completed. **Appendix C** includes 100% design plans for Phase I of the Main Pipeline Replacement. The outflow will be armored with rock as necessary to reduce scour and dissipate flow. Phase II will extend the pipeline and riser system south of the Lane for another 3,500 feet to provide irrigation efficiency and conveyance improvements to the remaining 105 acres that compose the 'eastside' pastures terminating with an air valve at the base of Rabbit Hill. Phase I includes approximately 3,780 feet of PVC pipeline that range in diameter from 12" to 18", of which 2,875 feet contain vertical risers and adjustable irrigation valves spaced at 44 feet. The valves are positioned at the upper-end of each existing pasture and in each existing border strip so that each area can be irrigated by simply opening the valve.

Upon completion of Phase II, the outflow structure at the southern terminus of Phase I will be removed and Phase II pipeline will connect with the standpipe at the southern terminus of Phase I. Phase II has not been engineered, but design is anticipated to be similar in nature to Phase I.

The new PVC pipeline will connect with the existing Main Line Ditch approximately 1,700 feet downstream from the property line where irrigation water will be diverted into the pipeline via a new cast-in-place concrete pipeline heading structure within the ditch. The pipeline will then cross Harry Cash Road (a County roadway), connect with three (3) existing groundwater wells via new pipelines and fabricated steel standpipes, and parallel existing irrigation infrastructure (ditches and pipelines) which will be abandoned in place as practical. The pipeline will cross approximately three on-ranch gravel and earthen roads.

Three existing groundwater wells (Evans well, Hart well, and Big well) will be retrofitted with new PVC discharge pipelines that will connect to vertical steel standpipes located in-line with the new PVC mainline. The connection of the Evans well will require the pipeline to span the Montague Water Conservation District (MWCD) irrigation canal in a steel pipeline section. The standpipes are open-topped and allow for venting of air and also provide pressure regulation as inflows change and irrigation valves are adjusted. Other related infrastructure will include: a flow meter at the heading, butterfly valves, air vents, and 10-inch grazing valves to allow for continued flood irrigation of pastures. Pipelines will be buried and have a minimum of 2.5 feet of soil cover (30 inches). A working area approximately 14 feet wide will be cleared along the pipeline alignment to remove existing vegetation, and will be replanted following construction.

Construction of the mainline pipe will require medium-duty excavation equipment for trenching and installation of the pipelines, light earthmoving equipment for the clearing of the pipeline alignments, and hand crews for assembly of the pipelines, valves, and related appurtenances. Construction of the cast-in-place concrete heading structure will require medium-duty excavation equipment to excavate the 1.5 feet deep cutoff walls and to prepare the subgrade. The structure itself will require approximately 4 cubic yards of concrete, occupy approximately 70 square feet within the existing earthen channel, and an additional 150 square feet of existing earthen channel will be reshaped and transitioned to the existing structure. Existing barbed wire fencing may be removed as necessary during construction and replaced to pre-project conditions following construction. Backfill of pipe alignments and the new outlet control structure will utilize material from an on-ranch upland borrow pit and native soil. Any excess soil as a result of excavation will be stockpiled in uplands on site. All disturbed areas will be seeded and mulched following construction.

All staging of materials and equipment will be in upland areas utilized for ranch access and operation. Pipe material will be staged along the proposed alignment as it is delivered, and equipment staging areas will be arranged with the landowner to minimize disturbance to existing pasture areas and ranch operations. Access to the Project site will be arranged with the landowner, and vehicle and equipment impact areas will be limited to one staging site and to the pipeline alignments. Construction for each phase of the Main Pipeline replacement is expected to last approximately 45 working days and will be planned for the non-irrigation season(October-March).

FISH PASSAGE IMPROVEMENTS

Existing Conditions

The Hart Diversion Facility consists of a concrete diversion dam on the Little Shasta River located at RK 18.6, headgate, fish screen, fish bypass pipe, and a flow measurement device compliant with Senate Bill 88 along the Hart Ditch. The diversion provides water to the Hart ditch year round for irrigation and stockwater purposes for both the Hart and Cowley ranches pursuant to their existing legally adjudicated water rights. Flashboards are installed seasonally between March 1st and November 1st for diversion. The flashboards extend about 1 foot above the crest of the dam.

The diversion dam is located at the downstream end of a right trending bend and about 110 feet upstream of the Harry Cash Road Bridge across the Little Shasta River. Upstream of the dam, low to moderate flows are confined within the river by a 4 foot high berm along the right bank (looking downstream) and the hill slope along the left bank (**Figure 4a, Fish Passage Existing Conditions**).

The dam crest is 20 feet wide as measured perpendicular to the flow and about 6 feet long as measured along the direction of flow. Right of the dam crest (looking downstream) are two concrete walls that formerly contained a 4 foot wide fish ladder. The walls of the fish ladder extend downstream approximately 10.5 and 15 feet from the crest of the dam, respectively.

The dam impedes upstream movement of salmonids and native fishes. During low flows when flashboards are not in place, depths over the concrete sill do not meet National Oceanic and Atmospheric Administration (NOAA) and California Department of Fish and Wildlife (CDFW) fish passage criteria for adults and juvenile fishes and may delay or prevent fish from moving upstream. When flashboards are in place, the dam is a complete barrier to adult and juvenile salmonids.

Proposed Improvements

This component of the Project includes (1) removal of the existing concrete dam, fish screen, and old fish ladder walls; (2) construction of approximately 105 linear feet of roughened channel at about 3 percent grade that provides fish passage opportunities; (3) construction of a new cast-in-place concrete diversion structure with fish screen and fish return bypass that meets current NOAA and CDFW fish protection criteria to allow for the continued diversion of existing appropriated water rights to the Hart Ranch [2.130 cfs winter right; 17.428 cfs summer right] and Cowley Ranch [0.144 cfs winter right; 1.342 cfs summer right]; and (4) revegetation of the site. **Appendix A** includes summary of the Hart Ranch appropriated water rights as set forth in the 1932 Shasta River Judgement and Decree.

Site access is from Harry Cash Road on both the south and north of the Little Shasta River. Construction staging will be located in upland areas adjacent to the roadway north and south of the river. Precise location of these sites will be determined by the Project proponent (CalTrout), contractor, and landowners, and will be established in locations that minimize disturbance to valued vegetation and habitat consistent with all agency permit requirements. Staging areas will be located a minimum of 30 feet outside of the ordinary high water. Equipment will be refueled a minimum of 150 feet from the river. Spill kits will be maintained onsite and will be used to clean up any fuel, hydraulic fluid, and oil leaks or spills.

Prior to disturbance of the river channel, the active stream within the work area will be marked by the engineer. Stream diversion, dewatering, and aquatic organism capture and relocation activities as necessary, will be coordinated with CDFW and all necessary permits will be obtained prior to proceeding with this work. Handling and treatment of aquatic organisms will be conducted in accordance with CDFW and NMFS standards. Work will be conducted during the low flow period of June 15 to November 1. Stream flows during this period are anticipated to be less than about 3 cfs. Pumps will be used when necessary to remove ground water seepage into the isolated work area. Pumped groundwater seepage will be spread over existing floodplain areas and allowed to infiltrate into the ground without causing river turbidity to increase. River flows will be diverted around the roughened channel and diversion structure intake during construction, and will be returned to the newly constructed channel as soon as these portions of the work are complete. It is anticipated the Project reach will be dewatered for less than 6 weeks. Prior to grading activities the contractor will salvage and store existing vegetation cuttings and willow transplants to be replanted following the Project completion. Where possible, existing woody vegetation will be excavated with rootwad intact and immediately planted.

One to two excavators will be used to remove the existing concrete and steel structures and to excavate the channel for realignment. Concrete and steel will be disposed of at a licensed transfer station or landfill. Following excavation, roughened channel construction will consist of placement of downstream and upstream boulder buttress footer rocks and top rocks, placement of boulder clusters, placement of engineered streambed material, and seal of the roughened channel with silts, sands, and fine gravels to fill voids (See **Figure 4b** and **Appendix D**, Fish Passage Improvement Engineering). Rock for construction of roughened channel, rock bank protection, and rock buttresses will be imported, supplemented by existing rock salvaged on site. Rock placement for buttresses will be performed by placing individual rocks with at least 3 points bearing and will be made to form a stable mass within smaller rocks used to minimize void space. Filter fabric will not be utilized for construction of the roughened channel. Construction of the roughened is expected to take approximately one month.

The Project includes installation of log and boulder roughness along the outer channel reaches to add bank stability, hydraulic diversity, floodplain protection, and increase habitat heterogeneity. Anchoring of logs will be accomplished by drilling through logs, and placing epoxy cable and boulder anchors.

Following construction of the roughened channel the new diversion structure will be constructed. The concrete diversion structure will be cast-in-place and includes intake, fish screen, fish bypass return pipe, adjustable weir, water wheel and cleaning mechanism, and connection with the existing diversion conveyance ditch to allow for the continued diversion of existing appropriated water rights to the Hart Ranch and Cowley Ranch. A SWRCB compliant flow measuring device will be installed to measure and record diversion. The new diversion structure will be located out of the main channel, and is along the left bank, therefore not impeding flow or fish passage. Although the Musgrave diversion structure is located within proximity to the Project (a flashboard dam structure located 1,100 feet upstream) it provides partial temporal barrier to passage, and therefore, removal of the existing Hart Ranch flashboard dam, and replacement with an off-channel diversion structure will allow for fish passage to the foothills reach of the Little Shasta River [approximately 7 kilometers (km)], which currently provides high quality spawning and rearing habitat with gravel beds, deep pools, cold water temperatures, and a dense riparian canopy. The combined features of this reach provide high-quality habitat throughout the year, even during dry years (McBain & Trush, 2013).

The proposed diversion structure is approximately 8 to 14 feet wide, 125 feet long, and 4 to 9.5 feet high with appurtenances rising above the cast concrete structure. Concrete will be allowed to cure before water is returned to the channel and concrete wash water will be controlled, handled, and managed in accordance with applicable laws and permit requirements during construction. Excavation and fill of the slope to the east of the diversion structure will be required to match the new elevations as a result of the Project and slope drainage and revegetation are included in this project. Construction of the new diversion structure is anticipated to be complete within two months' time.

Approximately 15 alder and willow trees with diameter at breast height (dbh) less than 6 inches along the channel will be removed to accomplish channel roughening and realignment. Additional vegetation removal will include small riparian vegetation within the work area and approximately 20 junipers, to be used for large wood floodplain protection. Junipers will be removed from the Hart Ranch in upland areas and will be removed with their rootwad intact. Transport of large trees to the site, from upslope location, will likely be most effectively accomplished by flatbed trailer, backhoe, or excavator. Following completion of construction of the roughened channel and diversion structure, the site will be cleared of construction debris and erosion control measures will be installed. Planting will be completed in the fall and winter and in combination with additional erosion control measures which will consist of willow wattles, brush mattresses, willow transplants, and willow stakes.

WATER DIVERSION

Existing Conditions

The Hart Ranch currently holds decreed water rights on the Little Shasta River and streams and tributaries thereto consisting of maximum summer right (March to November 1) of 17.428 cfs at the Hart-Haight Diversion on the Little Shasta River and 2.376 cfs at the Evans Spring and Martin Spring for a total Ranch water right of 19.804 cfs. The Hart-Haight diversion rights are reduced to 2.130 cfs during the winter season (November to March 1), while the Evans Spring & Martin Spring rights are reduced to 2.355 cfs during the winter (**Appendix A**).

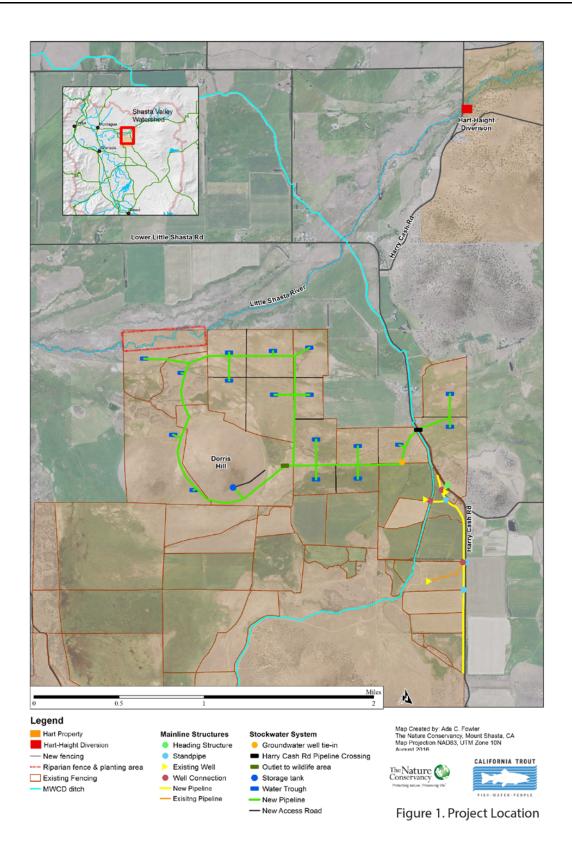
The Hart-Haight diversion serves both the Hart Ranch and the neighboring Cowley Family Ranch and was established prior to 1914 and is known to be in excess of 100 years old and is located on the Little Shasta River at RK 18.5. The existing diversion structure is as described above in the Fish Passage component of the Project. The Evans diversion solely serves the Hart Ranch and was established prior to 1914 and is known to be in excess of 160 years old. The existing Evans diversion structure consists of an earthen ditch along the toe of the spring.

Water rights are utilized for irrigation and stockwater needs for the existing cattle ranch and are for immediate use and do not require the use of a permanent or temporary reservoir. In general, irrigation begins in late March to early April and is typically suspended in October, however, stock water rights allow the continued diversion of surface water throughout the winter for livestock drinking water. The Ranch currently exercises it's entire right for irrigation and stockwater as needed.

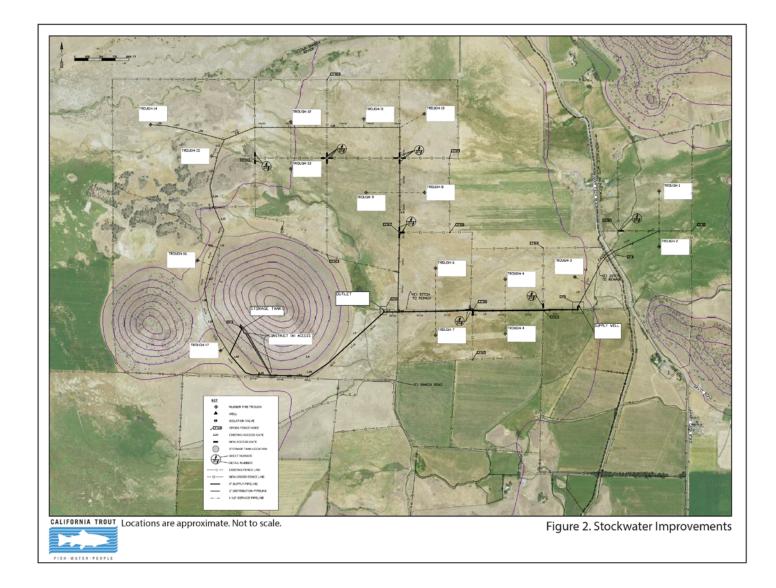
Proposed Improvements

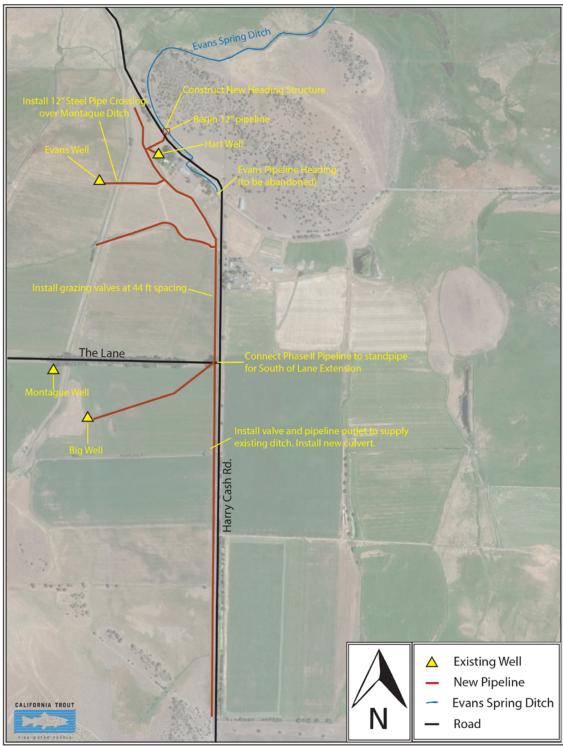
The proposed project will allow for continued operation, maintenance and repair of the two existing diversions that serve the Hart Ranch consistent with 1600 Notification as received by CDFW on July 7, 2016. The existing Hart-Haight diversion (Notification No 1600-2016-0314-R1 Hart Cattle LLC and Cowley Family Ranch) will be reconstructed as discussed above in the Fish Passage component of the Project. No modifications are planned for the Evans Spring diversion structure beyond ongoing maintenance and repair (Notification No. 1600-2016-0315-R1, Hart Cattle LLC).

The Project will support the execution of the proposed Draft Hart Ranch SHA which is currently under negotiation and potential approval by NOAA Fisheries (subject to NEPA at time of approval) & consistency determination by CDFW once Federally approved. The Project once funded and completed will allow for an initial contribution up to 1.5 cfs of cold water dedicated instream through long-term dedication under California Water Code Section 1707 of the Hart's existing water right. This water will enhance year round flows starting at the Hart Diversion Structure (RK 18.5) in the foothills reach of the Little Shasta River and could benefit the outmigration of juvenile coho salmon from April 1 through June 30, if and when coho salmon enter the foothills reach. This total instream dedication of up to 1.5 cfs will be achieved through a combination of on-farm water efficiency and water management improvements (0.5 cfs), and voluntary flow contributions (up to 1.0 cfs) from existing priority water rights held by the Hart Ranch. The Ranch's entire water right (19.804 cfs) will be modified to add instream use as an authorized purpose, and the entire right less the initial dedication of up to 1.5 cfs, will be available for potential permissive dedication as a result of the 1707 process, allowing the water to be legally dedicated and protected for fish and wildlife and riparian benefit on an as-needed basis (Appendix A includes a summary of the Hart Ranch legally appropriated water rights as set forth in the 1932 Shasta River Judgement and Decree). The Draft Hart Ranch SHA further describes these instream dedications of existing decreed water rights on the Little Shasta River (NOAA Fisheries, 2016).



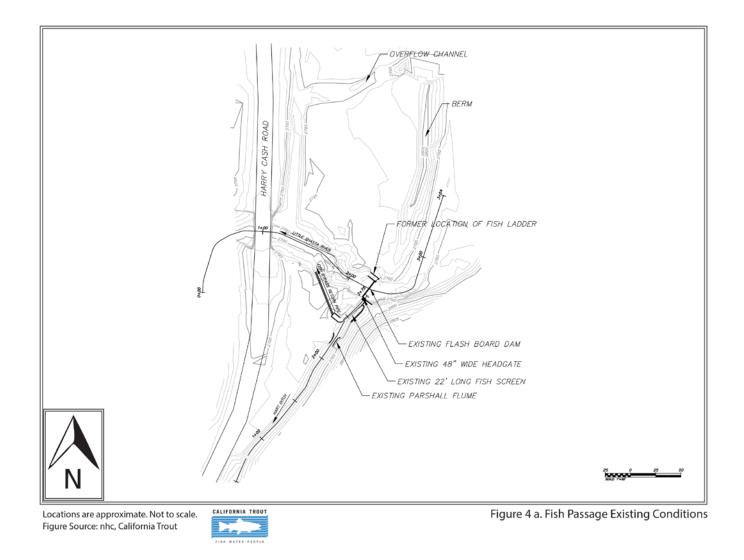
Hart Ranch Flow Enhancement Project Final Initial Study/Mitigated Negative Declaration

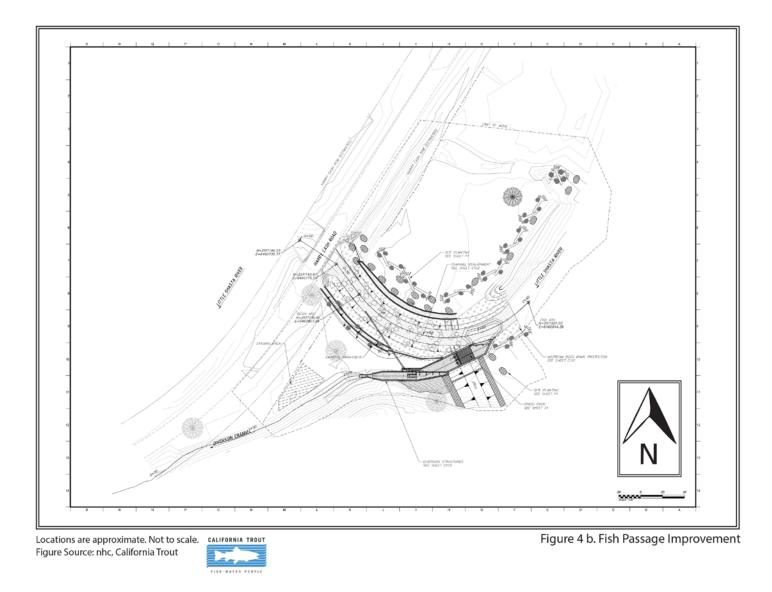




Locations are approximate. Not to scale.

Figure 3. Mainline Pipe Replacement





3.3 PROJECT MONITORING

Monitoring for this project will focus on quantifying pre-implementation baseline conditions, the response to implemented flow enhancement actions, and how the changes are protected for the project reach of the Little Shasta River. Monitoring activities provide the basis of long-term (e.g., 20-year) monitoring for project performance, and may be adapted given changes in stream conditions or water management activities.

Streamflow – Streamflow monitoring methods are designed to confirm compliance of instream flow dedications using measured data. Monthly measurements, with additional data collected on an event-based schedule, will be used to develop streamflow rating curves for each monitoring site. Streamflow time series records will be developed based on standard USGS streamflow monitoring protocols established in Rantz (1982). On-going research shows that channel changes due to winter flows may alter the stage-discharge relationship at priority locations; thus, streamflow measurements will be repeated each year of the project to update rating curves.

Geomorphology – Each year, topographic surveys will occur at the project site riffle crest to confirm that the project design meets passage requirements for applicable coho life stages, as established in *Critical Riffle Analysis for Fish Passage in California. California Department of Fish and Game Instream Flow Program Standard Operating Procedure DFG-IFP* (CDFG, 2012). Evidence of channel-altering flows, may result in event-based topographic monitoring as well. Using both topographic data and streamflow records generated during project implementation, a quantitative relationship between river discharge and percent of contiguous channel width at the project riffle will be developed.

Aquatic habitat – Prior to project implementation, aquatic habitat monitoring will be used characterize available habitat in the project reach using methods developed by the California Department of Fish and Wildlife (Flosi et al. 2010). Project implementation is not expected to alter the distribution of existing habitats.

Water temperature – Water temperature data will be collected using automated data loggers on a sub-hourly timestep for the duration of the project. Monitoring protocols will follow U.S. EPA guidelines (EPA, 2014). Water temperature conditions for coho salmon life stages will be evaluated using criteria established in EPA (2003).

Water quality (nutrients) – Water quality grab samples will be analyzed for a suite of nutrients, including TN, NO3, NH4, TP, PO4, DOC; as well as pH, turbidity, and EC. These constituents will be analyzed to inform linkages between physical, chemical, and ecological function in the Little Shasta River. Specifically, these linkages will be analyzed to qualitatively assess potential productivity for coho salmon in the project area. Sampling methods, including QA/QC procedures, will follow the guidelines established by the Surface Water Ambient Monitoring Program (SWAMP 2014, 2008).

Macroinvertebrates – Macroinvertebrate samples will be collected prior to and after project implementation above and below the project site. Sampling will follow standard operating procedures for the collection of benthic macroinvertebrate samples following the *Surface Water Ambient Monitoring Program Bioassessment Procedures for Wadeable Streams* (SWAMP, 2014). Stream macroinvertebrates will be collected using a 500 μ mesh D-frame net, preserved in ethanol and returned to the laboratory for processing. Macroinvertebrate samples will be subsampled in the laboratory and identified to lowest practical level. Trends in quantifiable metrics throughout the project period will be assessed to determine biological response of stream conditions to project implementation. Invertebrate sampling requires biological permitting; all permits are or will be secured prior to any biological monitoring associated with the project, and will be maintained for the duration of the project.

Fish presence/absence – Adult and juvenile presence/absence monitoring will be conducted prior to and after project implementation using non-intrusive methods at delineated reaches above and below the project site. Adult spawning surveys will occur twice monthly between September 1st and December 1st of each year to coincide with adult returns. Spawning surveys will be conducted along the length of the entire project reach upstream of the project site to assess adult presence. Walking the project reach, the presence and location of adult anadromous salmonids (live or carcasses) or redds will be recorded using a GPS and mapped following the methods of Gallagher (2001). Snorkel surveys will be conducted prior to and after project implementation at three reaches above the project site to

determine the presence or absence of juvenile fishes and habitat usage within each reach (e.g., pool, riffle, large woody debris). Monitoring reaches will be delineated based on geomorphic classes to include at least four riffle-pool sequences per monitoring reach. Snorkel surveys will be conducted twice monthly (depending on hydrologic conditions) between April and September, annually. Snorkel surveys will be conducted following the procedures of Apperson et al. (2015). Snorkel surveys require biological permitting; all permits are or will be secured prior to any biological monitoring associated with the project, and will be maintained for the duration of the project.

3.4 PROJECT CONSTRUCTION

CONSTRUCTION TIMING

Construction of the proposed Project is anticipated to be phased over the next five years with construction beginning in 2017 and the Project being complete by the end of 2021. Instream construction activities will be completed between June 15 and November 1 to reduce impacts to listed species known to occur in the Little Shasta River. However, the work timeline will be coordinated in advance with CDFW and NOAA Fisheries, and is subject to modification. Phases of construction may be accelerated or delayed based on design progress, environmental conditions, special status species presence, available funding, or other factors.

CONSTRUCTION METHODS

General construction will be performed between 7 am and 7 pm Monday through Saturday, excluding holidays. Project activities have existing two-track dirt road access routes, County road access routes, or are located in active agricultural areas. All instream work will be limited to June 15-November 1 and will be consistent with the Biological Opinion issued by the NOAA Fisheries (2012) and the SONCC Recovery Plan (NOAA, 2014). Dewatering for in-stream work is required and will be consistent with conditions of a new Lake and Streambed Alteration Agreement for work and the NOAA Biological Opinion, and is anticipated to require use of a temporary coffer dam and temporary diversion pipe. The stream channel is anticipated to be dewatered for approximately 6 weeks.

Construction equipment is anticipated to include, but is not limited to, backhoes, excavator, bulldozer, skip loader, dump truck, cement truck, pick-up trucks, welder, chainsaw, and hand tools. As the Project is located on active cattle ranches, all existing fencing will be replaced following construction, and cattle may be present during construction. Project contractors will work closely with land owners to coordinate livestock activities with construction activities.

3.5 REQUIRED PERMITS AND APPROVALS

The following permits and/or approvals may be required to implement the proposed Project:

U.S. ARMY CORPS OF ENGINEERS (ACOE)

The U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged or fill material into Waters of the United States, including wetlands, under Section 404 of the Clean Water Act. Modifications to wetland areas on the Project site that have been delineated under ACOE criteria are subject to the Section 404 permitting process.

The ACOE regulations describe two categories of permits: individual and general. A general permit means that the ACOE authorization is issued on a nationwide or regional basis for activities with minimal or cumulative environmental effects. The most well-known of the general permits are nationwide permits (NWP). Such permits can be issued in a shorter length of time than an individual permit. An individual permit means that the ACOE authorization is issued on a per-project basis for activities with a larger environmental effect. Such permits usually are issued in 6-24 months' time. Section 404 permits from the ACOE may be required for the Project and are anticipated to be satisfied through project partnership with the US Fish and Wildlife Service Partners Nationwide 27 or 31 Permit process.

REGIONAL WATER QUALITY CONTROL BOARD (RWQCB), NORTH COAST REGION

The RWQCB typically requires that a Construction Storm Water Permit (Construction General Permit) be obtained for projects which result in land disturbance of one acre or more. If obtained, typical conditions issued with such a permit include the submittal of and adherence to an erosion control plan, prohibitions on the release of oils, grease or other hazardous materials, and prohibition of sediment discharge. The Project is anticipated to require a Construction General Permit.

The RWQCB also issues a Water Quality Certification under authority of Section 401 of the Clean Water Act. After submittal of a Pre-Construction Notification Package to the ACOE, the project proponent would need to submit a copy of the Section 404 Notification and appropriate fees directly to the RWQCB to obtain the Section 401 Water Quality Certification or waiver. Section 401 permits from the RWQCB may be required for work associated with fish passage improvements along the Little Shasta River.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The Department of Fish and Wildlife is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the law requires any person, state or local governmental agency, or public utility to notify the Department before beginning an activity that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake (Fish and Game Code section 1602). If the Department determines that the activity could substantially adversely affect an existing fish and wildlife resource, including through diversion, a Lake or Streambed Alteration Agreement is required. A new Streambed Alteration Agreement will be secured for this Project, including construction, operation, and maintenance of the new water management infrastructure.

The California Endangered Species Act (CESA) Section 2081 subdivision (b) of the Fish and Game Code allows CDFW to issue an incidental take permit for a species listed as candidate, threatened, or endangered only if specific criteria are met. These criteria are reiterated in Title 14 of the California Code of Regulations, Sections 783.4 subdivisions (a) and (b). Measures to minimize the take of species covered by the permit and to mitigate the impacts caused by the take will be set forth in attachments to the permit, generally a mitigation plan prepared and submitted by the Permittee in coordination with CDFW staff. The mitigation plan should identify measures to avoid and minimize the take of CESA-listed species and to fully mitigate the impact of that take. These measures can vary from project to project. Currently, the Project is not anticipated to require a CESA incidental take permit.

Authorization for any take of coho salmon associated with the Project will occur via the Draft Hart Ranch SHA. Any person that prepares a SHA and obtains an enhancement of survival permit from NOAA Fisheries, in accordance with the procedural and substantive requirements of section 10(a)(1)(A) of the Endangered Species Act (ESA) of 1973, as amended, authorizing the incidental take of an endangered or threatened species that is also listed under CESAmay also request and obtain, a consistency determination, pursuant to Fish and Game Code section 2080.1. Because coho salmon are listed under both ESA and CESA, the Hart Ranch intends to seek and obtain an consistency determination from CDFW upon NOAA Fisheries approval of the Draft Hart Ranch SHA and issuance of an enhancement of survival permit. Because the Project is related to the Draft Hart Ranch SHA, it is anticipated that the CDFW consistency determination will be needed to complete the Project, pursuant to Fish and Game Code Sections 2089.6, 2089.22, and 2080.1.

No Section 2081(b) permit may authorize the take of "fully protected" species and "specified birds". If a project is planned in an area where a fully protected species or a specified bird occurs, an applicant must design the project to avoid all take; the Department cannot provide take authorization for the species under CESA. A Take Permit from the CDFW will probably not be required for relocation of special status species prior to and during project construction. Coho are currently not known to be present in this reach of the Little Shasta River. Prior to construction, a snorkel survey will be completed by a qualified biologist to determine coho presence. If coho are present, fish will be removed from the work area by CDFW, or by a permitted individual with authorization to take

coho, and block nets consisting of fine-meshed net or screen shall be installed in-channel above and below the work area.

STATE WATER BOARD SENATE BILL 88

In June 2015 Governor Brown signed Senate Bill (SB) 88 defining Emergency Regulation for Measuring and Reporting Water Diversions. In January 2016, the State Water Board adopted a Resolution to implement the new law and in March 2016, the regulation was submitted to the Office of Administrative Law (OAL) for review and approved. The measurement requirements of the regulation apply to all water right holders who divert more than 10 acre-feet of water per year. The annual reporting requirements in the regulation apply to all statement holders as well as persons authorized to appropriate water under a permit, license, registration (small domestic, small irrigation, or livestock stockpond), or certificate for livestock stockpond use). Key provisions of the regulation include (1) annual water use reporting requirements for water rights holders; (2) reporting requirements for water right holders during times of insufficient supply; (3) deadline for complying with measurement and reporting requirements; (4) required accuracy for measurement and frequency monitoring; (5) measurement methods; (6) alternative compliance; and (7) certification of water measurement devices.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

NOAA Fisheries is a division of the Department of Commerce, responsible for the stewardship of the nation's living marine resources and their habitat. NOAA's National Marine Fisheries Service is responsible for the management, conservation and protection of living marine resources within the United States' Exclusive Economic Zone (water three to 200 miles offshore). Using the tools provided by the Magnuson-Stevens Act, NOAA's National Marine Fisheries Service assesses and predicts the status of fish stocks, ensures compliance with fisheries regulations and works to reduce wasteful fishing practices. Under the Marine Mammal Protection Act and the Endangered Species Act, NOAA Fisheries recovers protected marine species without unnecessarily impeding economic and recreational opportunities.

In 2012 NOAA Fisheries finalized a programmatic Biological Opinion consistent with Section 7 of the Endangered Species Act, to fund, permit (or both), restoration projects within the NOAA Restoration Center's Northern California Office jurisdictional area for a ten year period (ending in 2022). The NOAA RC program includes the funding, permitting, or both, of restoration projects in Humboldt, Del Norte, Trinity, Siskiyou, and part of Mendocino counties. Proposed restoration projects are categorized as follows: instream habitat improvements, instream barrier modification for fish passage improvement, bioengineering and riparian habitat restoration, upslope watershed restoration, removal of small dams, creation of off-channel/side channel habitat features, development of alternative stockwater supply, tailwater collection ponds, water storage tanks, piping ditches, fish screens, and head gates, and water measuring devices. The proposed Project is consistent with the NOAA RC programmatic Biological Opinion.

U.S. FISH AND WILDLIFE SERVICE

The Endangered Species Act, with some exceptions, prohibits activities affecting threatened and endangered species unless authorized by a permit from the U.S. Fish and Wildlife Service (Service) or the NOAA Fisheries.

The Migratory Bird Treaty Act makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the Act are listed in 50 CFR 10.13. As authorized by the Migratory Bird Treaty Act, the U.S. Fish and Wildlife Service issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, educational, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The proposed Project is not expected to require a Biological Opinion from the U.S. Fish and Wildlife Service.

SISKIYOU COUNTY PUBLIC WORKS DEPARTMENT

The Public Works Department is responsible for the construction and maintenance of County facilities and grounds, including roadways and bridges, within the unincorporated areas of Siskiyou County. The Department of Public

Works also provides engineering and surveying services for The County. An encroachment permit is required for actions within County Right of Ways.

SISKIYOU COUNTY BUILDING DIVISION

The Building Division of the Siskiyou County Community Development Department has authority over projects within a flood zone as defined by Title 10, Chapter 10 of the Siskiyou County Municipal Code. Chapter 10 applies to all areas of special flood hazard within the jurisdiction of the County and identified by special flood hazard maps. The purpose of this Chapter of the Municipal Code is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions, modification of a flood zone, habitation of a flood zone, and other provisions, and therefore a Development Permit is required for actions within those areas defined in Chapter 10.

3.6 RELATIONSHIP OF PROJECT TO OTHER PLANS

SISKIYOU COUNTY GENERAL PLAN

The *Siskiyou County General Plan* [*General Plan*] is the fundamental document governing land use development within the unincorporated areas of the County, including the Project area. The majority of the General Plan was last updated in 1974, while the Land Use and Circulation Element of the *General Plan* was last updated and adopted in 1980.

The County's General Plan includes numerous goals and policies pertaining to Land Use, Circulation, Housing, Conservation, Open Space, Parks and Recreation, Noise, Public Health and Safety, and Public Facilities. The proposed Project will be required to abide by all applicable goals and policies included in the County's adopted General Plan.

The Land Use Element of the Siskiyou County General Plan is prepared differently from many contemporary approaches in land use planning, and involves the preparation of a series of overlay maps identifying development constraint areas, contrary to many general plans which identify Land Use designation. Therefore, the Siskiyou County General Plan does not assign land use designations, but rather through the utilization of overlay maps identifying development constraints, identifies areas where specific activities or developments would be inconsistent with county specified or natural constraints.

The majority of the Shasta Valley is unmapped by the Land Use and Circulation Element constraints maps, with the exception of some areas of the valley that are mapped for high septic tank limitations (General Plan Land Use and Circulation Element, maps 1 through 14). There are no inconsistencies between the Project and the County General Plan.

BASIN PLAN FOR THE NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD

The Project area is within the jurisdictional boundaries of the North Coast Regional Water Quality Control Board (RWQCB), one of nine regional boards in the state. The North Coast RWQCB, with an office in Santa Rosa, develops and enforces water quality objectives and implementation plans that safeguard the quality of water resources in its region. Specifically, the RWQCB identifies and assesses potential water quality problems, remedies existing problems through imposing or enforcing appropriate measures, and monitors problem areas to assess the effectiveness of remediation measures. Remedies for problems include their prevention or cleanup. Common means of prevention are the issuance of National Pollution Discharge Elimination System (NPDES) permits, waste discharge requirements (WDRs), and discharge prohibitions and restrictions. Cleanup is implemented through enforcement measures such as Cease and Desist Orders and Cleanup and Abatement Orders.

One of the duties of the RWQCB is the development of "basin plans" for the hydrologic area over which it has jurisdiction. In May 2011, the North Coast RWQCB issued the latest edition of its *Water Quality Control Plan for the North Coast Region*, also known as the Basin Plan. The Board periodically reviews and updates the Basin Plan as needed to address new or changing water quality issues; this review was most recently completed in 2014. The Basin Plan covers both the Klamath River Basin and the North Coastal Basin. It sets forth water quality objectives

3 PROJECT DESCRIPTION

for both surface and ground waters for the region, and it describes implementation programs to achieve these objectives. The Basin Plan provides the foundation for the regulations and enforcement actions of the North Coast RWQCB. This Project is consistent with the goals of the Basin Plan.

SHASTA RIVER TEMPERATURE AND DISSOLVED OXYGEN TOTAL MAXIMUM DAILY LOAD (TMDL) ACTION PLAN

The Shasta River Temperature and Dissolved Oxygen Total Maximum Daily Load (TMDL) Action Plan was adopted by the California Regional Water Quality Control Board, North Coast Region in June of 2008. The TMDL amends the Water Quality Control Plan for the North Coast Region to establish new requirements to improve water quality and stream conditions for beneficial uses including habitat for salmon and steelhead trout in the Shasta River watershed.

The Shasta River TMDL is a long term strategy to improve water quality and enhance salmon and steelhead habitat in the Shasta River. Currently, low dissolved oxygen levels and high stream temperatures are impacting fish habitat. Salmon and steelhead in the Shasta Basin need cold, clean water to thrive.

The TMDL Action Plan includes temperature and dissolved oxygen total maximum daily loads (TMDLs) and describes the implementation actions necessary to achieve the TMDLs and attain water quality standards in the Shasta River watershed. The goal of the Shasta River TMDL Action Plan is to achieve the TMDLs, and thereby achieve dissolved oxygen and temperature related water quality standards, including the protection of the beneficial uses of water in the Shasta River watershed.

The TMDL recognizes that ranching activities may impact water quality, and recognizes that there are a number of management activities and practices that can be undertaken to minimize impacts, including:

- Installing exclusionary fencing to prevent livestock from damaging streams and riparian vegetation.
- Planting/maintaining riparian vegetation to help shade streams to cool water temperatures.
- Reducing tailwater discharges.
- Minimizing water contact with animal manure.
- Dedicating cold water to the river where opportunities are available

The TMDL Action Plan contains measures for improving water quality in the Shasta River and asks that all landowners in the Shasta River watershed who graze livestock or irrigate their land submit annual progress reports to the North Coast Water Board. The proposed Project is consistent with the Shasta River TMDL Action Plan.

SHASTA RIVER WATERSHED PLAN

The *Shasta River Watershed Plan* was prepared by the Shasta River Coordinated Resource Management and Planning Committee (CRMP) and is implemented by the Shasta Valley Resource Conservation District. The plan includes the Shasta CRMP Riparian Zone and Anadromous Fish Action Plan, California Department of Fish and Game Anadromous Fish Biological Needs Assessment, Shasta CRMP Uplands Plan/RMAC Plan, Yreka Creek Greenway Plan, CRMP mid-term goals, work plan, original CRMP plan, Shasta River Remote Monitoring Station, Sport, tribal and commercial Salmon Harvest Information and a discussion of the unique Shasta Valley Geology.

The Shasta CRMP Riparian Zone and Anadromous Fish Action Plan was developed to identify opportunities to improve salmon and steelhead numbers in the Shasta River. The plan identifies problems as well as recommends action to alleviate problems associated with water, erosion, fish needs, fishery harvest, and the Klamath River. The proposed Project supports a number of the identified actions in the Shasta River Watershed Plan to address identified impacts to water quality.

4 Environmental Checklist

4 Environmental Checklist

Environmental Issues		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1.	AESTHETICS. Would the project:				
a)	Have a substantial adverse effect on a scenic vista?			\boxtimes	
b)	Substantially damage scenic resources, including, but not				\boxtimes
	limited to, trees, rock outcroppings, and historic buildings				
	within a state scenic highway?				
c)	Substantially degrade the existing visual character or quality of			\bowtie	
	the site and its surroundings?				
d)	Create a new source of substantial light or glare which would			\bowtie	
	adversely affect day or nighttime views in the area?				

Overview:

The Shasta Valley is an 800-square-mile basin drained by the Shasta River, located in central Siskiyou County in far northern California. The Shasta River drains northward through the valley to join the Klamath River near the Oregon border. A large high elevation plain comprises the valley which is surrounded by mountains in the Klamath National Forest on the west and north, the Mount Eddy range to the southwest, 14,179 foot Mt. Shasta, a dormant volcano, to the south, and the Cascade mountain range to the east. These mountains rise 300-11,000 feet above the valley, and provide a scenic backdrop throughout the Shasta Valley. The nearby mountain ranges are covered with pine forests and oak, while the higher slopes of Mt. Shasta are covered in glaciers which are visible from the valley. The higher slopes of the mountain are covered in snow throughout the winter months. These views are readily seen from the entire valley and are clearly visible from Interstate 5 which runs north-south through the western part of the valley. State Route 97, which is part of the Volcanic Legacy Scenic Byway All-American Road, traverses the southeastern edge of the valley. Land throughout the valley accommodates agricultural uses, mostly grazing and hay production.

Discussion of Checklist Answers:

- a) The Project will be located at an existing cattle ranch in the northern portion of the Shasta Valley, along the Little Shasta River. Project activities are limited to existing privately-owned agricultural lands, County roadway alignments, irrigation alignments, and along a limited reach of the Little Shasta River. Although temporary impacts will be present during construction, and some construction activity will be visible from County roads, all improvements and construction corridors will blend into the existing agricultural and riparian scenery within a few years of completion once annual and perennial grasses colonize the disturbed areas and Project riparian vegetation is established. While there will be temporary changes in views from roadways associated with construction these changes are not considered to be substantial or adverse, and no long term impacts to scenic vistas will occur. Within a few years after completion, the natural vegetation will have re-established itself and the resulting visual impact will be *less than significant*.
- b) The Project may include limited vegetation removal activities, primarily limited to generally non-native annual and perennial grasses within existing pastures. The Project may include felling of up to 20 juniper trees from uplands on the Hart Ranch. Riparian vegetation removal at the Fish Passage location along the Little Shasta River will be necessary to complete improvements, though planting and mulching of this area following construction is included as part of this Project. Riparian vegetation removal and post construction planting is discussed in Section 4, Biological Resources, of this document. Although Highway 97 is a Scenic Byway All-American Road, no designated scenic highways exist within the Project area, therefore there will be *no impact* to designated scenic highways (Caltrans, 2016).
- c) Please see a) above. This impact is considered *less than significant*.

4 Environmental Checklist

d) The project does not include any new lighting. New sources of glare may include two water tanks on the southeast side of Dorris Hill, though the new tanks will be painted earth tones to blend with the surrounding landscape and limit glare. This impact is considered to be *less than significant*.

Conclusions Relating to Aesthetics:

The proposed Project will have temporary impacts to the existing views within the immediate Project area due to ground cover removal, grading, and Project construction. Once the Project is complete, and with the passage of a few years, the vegetation will establish itself and the viewshed will be similar to that of today. As the visual impacts are considered temporary, and the project is located primarily on private lands with no public access, impacts to aesthetics is considered *less than significant*.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
2. AGRICULTURE & FOREST RESOURCES. In determining	-			
significant environmental effects, lead agencies may refer to the				
Assessment Model (1997), prepared by the California Department				
assessing impacts on agriculture and farmland. In determining whether				
are significant environmental effects, lead agencies may refer to info				
Forestry and Fire Protection regarding the state's inventory of forest				
Project and the Forest Legacy Assessment project; and forest carb Protocols adopted by the California Air Resources Board. Would the		ent methodolog	gy provided i	n Forest
a) Convert Prime Farmland, Unique Farmland, or Farmland of	nojeci.			
Statewide Importance (Farmland), as shown on the maps				\boxtimes
prepared pursuant to the Farmland Mapping and Monitoring				
Program of the California Resources Agency, to non-agricultural				
use?				
b) Conflict with existing zoning for agricultural use, or a Williamson				\boxtimes
Act contract?				
c) Conflict with existing zoning for, or cause rezoning of, forest land				
(as defined in Public Resources Code section 122200(g)),				
timberland (as defined by Public Resources Code section 4625),				\boxtimes
or timberland zoned Timberland Production (as defined by				
Government Code section 51104(g))?	_	_	<u> </u>	_
d) Result in the loss of forest land or conversion of forest land to			\boxtimes	
non-forest use?				
e) Involve other changes in the existing environment, which, due to				\bowtie
their location or nature, could result in conversion of Farmland, to				
non-agricultural use or conversion of forest land to non-forest use?				
uov:				

Overview:

Although the Project is located within existing agricultural lands, the Project is intended to improve irrigation efficiencies in an effort to enhance existing agricultural practices and protect the long-term viability of agriculture by helping agricultural landowners meet Clean Water Act and Endangered Species Act requirements. None of the Project components will result in the conversion of agricultural lands to non-agricultural uses. The Project footprint for each component is relatively small, and Project improvements largely consist of underground improvements all of which will improve agricultural water management and existing irrigation systems. None of these activities will result in changes to the environment which may result in conversion of Farmland to non-agricultural use. The Project is not located on or within the vicinity of any lands identified as forest land or timberland.

Discussion of Checklist Answers:

a) The Project is entirely within existing farmlands throughout the Shasta Valley, some of which are identified as Prime Farmland and Farmland of Statewide Importance by the CA Department of Conservation Farmland Mapping and Monitoring Program (FMMP, 2016). Although the Project activities include excavation and irrigation improvements, including the installation of underground pipelines and irrigation diversion and control modifications, project activities will not result in the conversion of any farmland to non-agricultural use. The Project is intended to improve agricultural water management efficiencies and opportunities in order to improve existing active farmland. The Project will not result in the conversion of Prime Farmland or Farmland of Statewide Importance to non-agricultural use; rather the Project will enhance existing agricultural lands. *No impact*.

- b) The Project is intended to improve water management efficiencies, opportunities, and fish passage within the Little Shasta River. The Project will not conflict with the existing zoning and will not conflict with a Williamson Act Contract. The Project will enhance existing agricultural lands. *No impact*.
- c) The Project is consistent with the existing agricultural zoning. No forest land or timberland exists within the Project vicinity. *No impact*.
- d) See c) above. The Project is not located within the vicinity of forest land, therefore no conversion of forest land to non-forest use will occur. The Project may include the removal of up to 20 juniper trees from uplands to be utilized for bank stabilization along the Little Shasta River and riparian vegetation removal. Tree removal will be isolated and is not considered to result in the loss of or conversion of forest land. *Less than significant*.
- e) The Project will not result in any other changes to the existing environment, which due to their location or nature, could result in the conversion of Farmland to non-agricultural. The Project is intended to improve water management efficiencies, thereby improving existing agricultural lands. No forest land will be converted as a result of the Project. *No impact*.

Conclusions Relating to Agricultural and Forest Resources:

Since the Project is located on agricultural lands and is intended to improve irrigation efficiencies and management, the Project will result in a net benefit to active agricultural lands, and will not result in the conversion of lands to non-agricultural or timber uses. There will be a net benefit to agricultural land as a result of the Project and impacts are considered *less than significant*.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3. AIR QUALITY. Where available, the significance criteria estab air pollution control district may be relied upon to make the following	•			ement or
a) Conflict with or obstruct implementation of the applicable air				\square
quality plan?				
b) Violate any air quality standard or contribute substantially to an		\boxtimes		
existing or projected air quality violation?	_		_	_
c) Result in a cumulatively considerable net increase of any		\bowtie		
criteria pollutant for which the project region is in non- attainment under an applicable federal or state ambient air				
quality standard (including releasing emissions, which exceed				
quantitative thresholds for ozone precursors)?				
d) Expose sensitive receptors to substantial pollutant		\boxtimes		
concentrations?	_	_	_	_
e) Create objectionable odors affecting a substantial number of				\bowtie
people?				

Overview:

The Shasta Valley is located in a region identified as the Northeastern Plateau Air Bain, which principally includes Siskiyou, Modoc, and Lassen Counties. The larger air basin is divided into local air districts, which are charged with the responsibility of implementing air quality programs. The local air quality agency affecting the Project area is the Siskiyou County Air Pollution Control District (SCAPCD). Within the SCAPCD, the primary source of air pollution is motor vehicles. In response to this source of pollutants, the state legislature adopted the California Clean Air Act, which requires local air districts to develop measures to reduce emissions from mobile sources, such as vehicles.

Air quality standards are set at both the state and the federal levels of government. The Federal Clean Air Act requires the Environmental Protection Agency (EPA) to establish ambient air quality standards for six criteria air pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and particulate matter less than 10 microns (PM_{10}) Areas that exceed a standard for a pollutant are classified as being in "non-attainment" for that pollutant and must prepare a plan to reach attainment. When the pollutants within an area are below the allowed standards, that area is considered to be in attainment of the standards.

Siskiyou County Air Pollution Control District air quality monitoring stations are located in Yreka and at the Siskiyou County Airport. The Yreka monitoring station, located on Foothill Drive, is the only station in the County that monitors levels for ozone and particulate matter as mandated by the State and Local Air Monitoring System. The Yreka monitor continuously analyses and records ambient ground-level ozone concentrations. Data is checked for errors, processed, and reported to the California Air Resources Board (CARB) quarterly. Precision checks are made and recorded regularly to insure data integrity. Particulate matter less than 2.5 microns (PM2.5) in diameter is monitored in Yreka. Once every six-days the District exposes pre-conditioned filters for 24-hours and returns the filters to the CARB PM analysis laboratory to calculate particulate mass concentrations and report to the Environmental Protection Agency (EPA). A continuous PM2.5 monitor in Yreka is under development that will eventually replace the 1-in-6-day monitor.

Siskiyou County has not been identified as having significant air quality problems and is considered to have attained all federal and state air quality standards. The County is considered to be in full attainment for all Federal and State standards for ambient air quality. The Siskiyou County Air Pollution Control District does not have an attainment plan or maintenance plan (Olson, 2016).

Offensive odors rarely cause any physical harm; however, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Odor impacts on residential areas and other sensitive receptors, such as daycare centers and schools, are of particular concern. Major sources of odor-related complaints by the general public commonly include wastewater treatment facilities, landfill disposal facilities, food processing facilities, agricultural activities, and various industrial activities (e.g., petroleum refineries, chemical and fiberglass manufacturing, painting/coating operations, feed lots/dairies, composting facilities, landfills, and transfer stations).

A sensitive receptor is a location where human populations, especially children, seniors, and sick persons are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals, and schools. The closest sensitive receptors are rural residences that are within proximity to agricultural operations.

Project Emissions

Short Term Impacts: Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but possess the potential to present an air quality impact. The construction and development of the proposed Project components would result in the temporary generation of emissions resulting from excavation, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment and materials. It is expected that the Project will be implemented with the use of standard construction equipment including, but not limited to excavators, backhoes, dump trucks, cement trucks, and hand tools. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities. The Project is anticipated to be phased over three (3) years with construction phases lasting between 6 and 8 weeks.

Long Term Impacts: The Project is primarily an infrastructure project, consisting of improvements to existing agricultural irrigation systems, and will result in temporary air quality impacts during construction. Long term impacts consist of the operation of a new booster pump, and regular operation of the associated well and pump to supply the stockwater system. The booster pump will be used to supply the new elevated storage tanks for the stockwater system. The electrical need of this pump is 480V and about 2 amps. Assuming the booster pump operates for approximately 9 hours per day, total estimated annual electrical usage is 1,800 kw-h. The booster pump will draw water from an intermediate storage tank that will be filled using the existing groundwater well. The well will also be plumbed to supply the wetland area northeast of Dorris Hill that is utilized by sandhill cranes (Ostrowski, 2016). The existing electrical service to this pump is sufficient to operate the existing well and the new booster pump. New flow meters for the stockwater, mainline, and diversion structure will be solar or battery operated and are not considered a potential source of long-term GHG emissions.

Discussion of Checklist Answers:

- a) Siskiyou County is part of the Northeast Plateau Air Basin. The Basin currently has no air quality plans by which jurisdictions within must abide (Olson, 2016). Therefore, the Project will have *no impact* on an air quality plan.
- b) Siskiyou County is currently in full attainment for all criteria pollutants (Olson, 2016). Implementation of the proposed Project may result in increases in short-term emissions pollutant concentrations at nearby receptors as a result of construction activities, including dust and construction vehicle emissions. The Project will result in minor long-term increases in emissions and pollutants from the new electric booster pump (additional 1,800 kw-hr per year), and flow meters which will be battery or solar operated. To minimize impacts from short-term emissions at nearby receptors during construction, MM 3.1, is provided. As Siskiyou County is in full attainment, with implementation of MM 3.1 impacts would be considered *less than significant with mitigation incorporated*.
- c) See b) above. The Project area is in full attainment for all criteria pollutants. **MM 3.1** will reduce project construction impacts to a level that is considered to be *less than significant with mitigation incorporated*.

- d) Portions of the proposed Project are located within proximity to single family residences. Air Quality impacts are considered to be minor and temporary in nature, as they are directly related to construction activities. Incorporation of **MM 3.1** will reduce impacts to sensitive receptors to levels that are considered to be *less than significant with mitigation incorporated*.
- e) The Project is located within the Shasta Valley on active agricultural lands, primarily utilized for cattle grazing. This use has odors associated with it, which are common throughout the Project area. The proposed Project will not result in any additional people being exposed to these existing odors. Nor will the Project result in any new odors. The Project will not impact the existing cattle grazing operations in the long term and therefore there will be no change in this source of odor as a result of the Project. *No impact.*

Mitigation Measures:

- **MM 3.1**: Depending on weather conditions, the Contractor shall implement dust control measures. Measures include, but are not limited to, the following:
 - The Contractor shall reestablish ground cover on disturbed areas of construction site through seeding, revegetating, and watering or mulching.
 - The Contractor shall suspend all grading and earth moving operations of a Project when winds (as instantaneous gusts) exceed 20 miles per hour or when winds create construction induced visible dust plumes moving beyond the Project site, in spite of dust control measures.
 - The Contractor shall water active construction sites at least twice daily as necessary to reduce dust.
 - The Contractor shall cover the beds of all trucks hauling dirt, sand, soil, or other loose materials on public rights-of-ways or shall maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the side of the trailer).

Timing/Implementation:	Prior to and during construction.
Enforcement/Monitoring:	Siskiyou County Air Pollution Control District.

Conclusions Related to Air Quality:

With implementation of mitigation measure **MM 3.1** impacts to air quality as a result of the Project will be *less than significant with mitigation incorporated.*

En	vironmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
4.	BIOLOGICAL RESOURCES . Would the project:				
a)	Have a substantial adverse effect, either directly or through		\boxtimes		
	habitat modifications, on any species identified as a candidate,				
	sensitive, or special status species in local or regional plans,				
	policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				
b)	Have a substantial adverse effect on any riparian habitat or other		\boxtimes		
0)	sensitive natural community identified in local or regional plans,				
	policies or regulations, or by the California Department of Fish				
	and Game or U.S. Fish and Wildlife Service?				
c)	Have a substantial adverse effect on federally protected wetlands,			\bowtie	
	as defined by Section 404 of the Clean Water Act (including, but				
	not limited to, marsh, vernal pool, coastal, etc.), through direct				
	removal, filling, hydrological interruption, or other means?	_		_	_
d)	Interfere substantially with the movement of any native resident		\boxtimes		
	or migratory fish or wildlife species or with established native				
	resident or migratory wildlife corridors, or impede the use of				
e)	native wildlife nursery sites? Conflict with any local policies or ordinances protecting				\boxtimes
0)	biological resources, such as a tree preservation policy or				
	ordinance?				
f)	Conflict with the provisions of an adopted Habitat Conservation				\boxtimes
,	Plan, Natural Community Conservation Plan, or other approved				
	local, regional or state habitat conservation plan?				

Overview:

A Biological Resources Report and Wetland Delineation for the Project were completed by Rabe Consulting in October and November of 2016, and are included as **Appendix C** and **Appendix D** to this document. The biological evaluations were completed utilizing database searches to identify a list of species with potential to exist within the Project area, site investigations completed on August 24, 2016, and topographic maps. The study includes review of plant and animal species observed within the Project area, as well as their potential for occurrence, and includes analysis of wetland resources. Additionally, CDFW has completed raptor, botanical, and bait camera surveys for mammals on the Ranch in 2014 and 2015.

The Project impact area is limited to the Project footprint as identified in design engineering plus a 25-foot buffer on either side, and totals 41.66 acres of the working ranch. The Project consists primarily of linear alignments along proposed pipe alignments with associated water management infrastructure in existing irrigated pastures and uplands with occasional irrigation ditch crossings, and modification of the existing agricultural diversion structure which poses a partial barrier to fish passage in the Little Shasta River. **Table 4.1** identifies habitat types, including Wetlands and Waters of the U.S., within the Project area by acreage as well as location within the Project area and character of the habitat.

Habitat Type	Component		Acreage
Flood irrigated	Stockwater & Main	Uplands consisting of flood irrigated pasture grasses or alfalfa fields	32.70
Pasture	Pipeline	used for hay production. Does not exhibit wetland soils, hydrology or	

		vegetation.	
Native sagebrush-scrub	Stockwater supply tanks on Dorris Hill	Scrub habitat species such as sagebrush, rabbit brush, pasture grasses and forbs. The area is rocky and exhibits areas of bare soil with limited bunch grass cover (< 25%).	8.49
Dense riparian shrub	Fish Passage Improvements Little Shasta River	Dense riparian shrub and tree growth with mature willows and little to no understory. The shrubs include multiple species of willows.	0.13
Wetland	Stockwater irrigation supply ditch segments	These wetlands are small irrigation supply ditches within the study area. The study area crosses portions of these ditches, so only the portion within the study area was delineated with the remainder extending outside of the study area. These ditches are well maintained and therefore well defined. They exhibit steep ditch banks which leave very little to no riparian vegetation before the waterway transitions from wetland to upland. The ditch banks are all considered upland and exhibit upland weedy species and pasture grasses. The wetland extends beyond the study area. (Wetland 1-10, Appendix F).	0.25
Waterway	Main Pipeline irrigation supply ditch segments	Existing irrigation supply ditches with width of 2-4 feet. The channel is excavated with disbands elevated above the adjacent agricultural fields and natural areas. The ditch banks are upland and exhibit upland weedy species and grasses. Within the channel, the banks are steep leaving little to no riparian vegetation. The feature boundary is marked by the Ordinary High Water line; therefore, these features are considered non- vegetated waterways instead of wetlands. (Evan's Wetland 1-4, Appendix F).	0.06
Wetland	Fish Passage Improvements Little Shasta River	This feature is a portion of the Little Shasta River where the diversion point intersects the river. The wetland is the active river channel and a narrow edge of vegetation along the ordinary high water margin. The upper bank of the river has mature willows. It is well defined by hydrologic indicators, topography, and vegetation. The wetland within the study area is at the site of the diversion, which will be installed at the bottom of the river channel, and the diversion intake structure which is at the end of the existing irrigation ditch. The wetland extends beyond the study area. (Wetland 11, Appendix F).	0.03
Total Project Are	69	,	41.66

A seven and a half (7.5) acre area along the eastern toe of Dorris Hill, exhibits bulrush and cattail marsh and is known habitat for sandhill cranes (**Figure 5**). This area is outside of the study area, and was not delineated, though due to its proximity to the Project area and known use by listed species, consideration of this habitat is included herein. This marsh area is wetland seasonally and in large part receives water from the irrigation ditch tailwater. The marsh does not exhibit open water areas. The marsh is about 95% wetland plant cover with 5-10% cover of litter. As part of the stockwater improvements in the vicinity of this feature, a new dedicated pipe with valve, and flow meter will be installed from the new regulating tank as part of the new stockwater system to ensure this feature is maintained in its current wetted condition (see Project engineering, **Appendix B**). This dedicated pipe to provide water to existing wildlife habitat will be plumbed at the lowest elevation on the new regulating tank (below the stockwater pipes) to provide water priority to this wildlife habitat in low water years.

The wetland delineation will be submitted to the U.S. Army Corps of Engineers prior to any work within potential wetland areas. All regulated work in jurisdictional waters and wetlands will be authorized by a permit from the Army Corps of Engineers. All Project impacts to wetlands are considered temporary, though determination has not been made by the Army Corps of Engineers. Any permanent impacts to jurisdictional wetland area shall be mitigated through enhancing wetland areas to improve their wetland functions and quality or through the payment of fees, as required under the permit.

Database search results

Prior to field reconnaissance surveys, database searches were completed to identify a list of special status species with potential to exist within the Project area. Two species of plant have potential to exist within the Project area including wheat sedge (*Carex atherodes*) and pendulous bulrush (*Scirpus pendulus*). One mammal including American badger (*Taxidea taxus*) and twelve species of special-status or migratory birds, the tricolor blackbird (*Agelaius tricolor*), Swainson's hawk (*Buteo swainsoni*), black tern (*Chlidonias niger*), Northern harrier (*Circus cyaneus*), sandhill crane (*Grus canadensis tabida*), rufous hummingbird (*Selasphorus rufus*), calliope hummingbird (*Stellula calliope*), loggerhead shrike (*Lanius ludovicianus*), olive-sided flycatcher (*Contopus cooperi*), willow flycatcher (*Empidonax traillii*), bald eagle (*Haliaeetus leucocephalus*) and bank swallow (*Riparia riparia*) potentially occur. Five aquatic species, including Western pond turtle (*Emys marmorata*) and Oregon spotted frog (*Rana pretiosa*), coho salmon (*Oncorhynchus kisutch*), steelhead (*Oncorhynchus mukiss irideus*), and chinook salmon (*Oncorhynchus tshawytscha*) potentially occur within the Project area as a result of database searches.

Field Survey Results

All those species identified as a result of the database search were specifically targeted for survey to determine presence of specific habitat or species within the Project area, and survey results are as follows:

<u>Plants:</u> Biologist identified that habitat for wheat sedge and pendulous bulrush is not present in the Project area and no individuals were observed.

<u>Terrestrial wildlife and birds</u>: Biologist determined that large galleries of willows or dense blackberry patches are not present in the study area for nesting tricolored blackbirds, and areas of freshwater wetlands with emergent vegetation are not present in the study area. Therefore, habitat for nesting tricolored blackbirds and black terns is not present in the study area. American badger, Swainson's hawk, northern harrier, and bald eagle foraging areas are present, but no badger dens, Swainson's hawk, northern harrier, or eagle nests were observed within 660 feet or 0.125 miles of the proposed Project site. The limited size of the riparian areas along the ditches and canals is not typical migratory bird habitat, because it is not large enough to provide adequate cover and/or forage. Cliffs greater than 80% slope consisting of clay soils are not present, therefore quality habitat for nesting bank swallow is not present in the study area. There is quality habitat along the Little Shasta River, which was not exhibited along the banks of the ditches and canals, for rufous and calliope hummingbirds, loggerhead shrike, olive-sided flycatcher, and willow flycatcher.

Hart Ranch has breeding habitat for sandhill crane in the wet-open meadows exhibiting bulrush and cattails which are adjacent to the stockwater system alignment (approximately 7.5 acres of habitat was identified).

Aquatic Wildlife Species

No Oregon spotted frogs were observed. No slow water or back water areas with breeding habitat components were present in the river adjacent to the proposed fish screen location or in the vicinity of the current diversion. The ditch banks are moderately steep without shelves and do not provide flat areas where breeding frogs can lay eggs. Vegetation along the ditch banks is grazed and there is not adequate thatch to provide surfaces for egg laying to occur. Therefore, the ditches are not breeding habitat.

No basking structures for western pond turtles were observed in the river adjacent to the proposed fish screen location or in the vicinity of the current diversion. The ditches are not habitat as the ditch banks are sloped at greater than 10:1 and do not exhibit basking sites.

Surveys were not conducted for fish; however, the Little Shasta River is known habitat for coho salmon, steelhead and chinook salmon.

The Little Shasta River contains a key population of coho salmon that is part of the *Final Recovery Plan for the Southern Oregon/Northern California Coastal Evolutionarily Significant Unit of Coho Salmon*. Specifically, the Plan is designed to guide implementation of prioritized actions needed to conserve and recover the species by providing an informed, strategic, and voluntary approach to recovery that is based on the best available science. Use of a recovery plan ensures that recovery efforts target limited resources effectively and efficiently. The Plan also provides recovery targets to work toward, as well as criteria by which progress toward recovery will be tracked (NOAA 2014).

Discussion of Checklist Answers:

a) Coho salmon, steelhead and chinook are present in the Little Shasta River. Fish passage improvements consisting of relocation and modification of the Hart irrigation diversion structure includes these components:
(1) removal of the existing concrete dam, fish screen, and old fish ladder walls along the Little Shasta River;
(2) construction of approximately 105 linear feet of roughened channel with large boulder clusters and buttresses, at a 2.5 to 3 percent grade, that provides fish passage opportunities;
(3) construction of a new cast-in-place concrete diversion structure with fish screen and fish return bypass that meets current NOAA and CDFW fish protection criteria; and (4) revegetation of the site.

All instream work will be limited to the low flow period of June 15-November 1, and restoration, construction, fish relocation, and dewatering activities within any wetted or flowing stream channel will occur within this period. The work will be completed outside of spawning, incubation, and rearing periods for listed fish, and will be consistent with the Biological Opinion issued by the NOAA Fisheries (2012) and the SONCC Recovery Plan (NOAA, 2014). Any impacts to fish habitat and species are temporary and of short duration, are limited to the duration of construction, and will result in long term benefits to the species by enhancing fish passage to potentially 7 km of upstream habitat and increased year-round flows to an additional approximately 2 km of the Little Shasta River downstream, thereby enhancing aquatic habitat. Protection measures consistent with the NOAA Biological Opinion (included in **Appendix D**) shall be implemented during construction to minimize impact to listed species and their habitat. Implementation of **MM 4.1** and **MM 4.2** will reduce impacts to coho during construction to less than significant with mitigation incorporated.

Oregon spotted frog breeding habitat is not present in the ditches at Hart Ranch or at the diversion on the Little Shasta River. However, when ditches are in use and full of water, frogs may use them for dispersal movements. All proposed work in or crossing the ditches will occur outside of the irrigation season in October-March when the ditches are dewatered. The proposed action will change the timing of future water delivery, however, will not directly impact frog habitat; therefore, impacts to the Oregon spotted frog are less than significant.

Hart Ranch supports potential nesting habitat for rufous and calliope hummingbirds, loggerhead shrike, olivesided flycatcher, and willow flycatcher at the Hart-Height diversion and in woody riparian vegetation along the Little Shasta River. These avian species are dependent upon riparian vegetation, such as alders and willows, which will be affected by the proposed Project as a result of riparian vegetation removal due to channel recontouring and diversion relocation (selective riparian vegetation removal within 0.13 acre along the Little Shasta River). Although post-construction riparian vegetation planting is included in the Project, short-term effects to riparian vegetation will result and are limited to the Project footprint. The Project will not create any obstructions to flight patterns and riparian vegetation is available immediately adjacent to the Project site. Construction activities are scheduled to occur immediately adjacent to the habitat that could result in disturbance to nesting individuals, mitigation measures **MM 4.3** and **MM 4.4** will be implemented, minimizing disturbance to riparian vegetation and nesting birds. Short-term impacts to listed ripariandependent species are less than significant with mitigation incorporated.

Hart Ranch supports sandhill crane nesting habitat (approx. 7.5 ac) in the wet, open meadows exhibiting bulrush and cattails within proximity to the stockwater system on the eastern toe of Dorris Hill. Nesting habitat will not be affected long-term by the Project as the new stockwater system includes a dedicated pipe and valve to keep this area wetted and in pre-project conditions with a maximum flow rate capacity of 65 gpm; however, construction activities are scheduled to occur immediately adjacent to the habitat that could result in disturbance to nesting individuals. Mitigation measures **MM 4.5** and **MM 4.6**, will be implemented, therefore, minimizing disturbance to nesting cranes. Any short-term impacts to sandhill cranes are less than significant with mitigation incorporated. **MM 4.7** will ensure long term maintenance of this wetland habitat following project construction. Project impacts to sandhill cranes are less than significant with mitigation incorporated.

As the location of juniper tree removal has not been identified, the potential exists to impact special status plant species during removal and transport of trees to the fish passage project area. Therefore **MM 4.8** will be

implemented, minimizing impacts to special status plant species to a level that is considered less than significant with mitigation incorporated.

The Project will not affect the continued operation, maintenance, and repair of two existing diversions that serve the Hart Ranch. However, the Project, in combination with the draft SHA currently being negotiated with NOAA fisheries, will provide for a permanent instream dedication of 0.5 cfs, with an additional long-term dedication of up to 1.0 cfs and potential permissive dedication of the remaining water right by the Hart Ranch to add instream flow as a beneficial use. This will allow the Ranch the flexibility and opportunity to leave their water rights instream for fish, wildlife, and riparian benefit.

With implementation of mitigation measure MM 4.1, through MM 4.7, impacts to special status species are considered *less than significant with mitigation incorporated*.

- b) Riparian habitat occurs along the Little Shasta River at Hart Ranch and at the diversion site. Approximately 7,500 linear feet of riparian grazing management fencing will be installed along the north and south of the Little Shasta River at Hart Ranch and will result in approximately 0.7 miles of the river being fenced. Riparian habitat will be affected by the proposed Project; however, the effects will be short-term in nature and will only occur within the Project footprint. The Project includes planting the riparian zone with native shrub and tree species (estimated 750 trees) after installing the fencing. Additionally, at the site of the fish passage improvements post Project planting is planned, and MM 4.4 will reduce impacts to *less than significant with mitigation incorporated*.
- c) The Project area contains 0.34 acres of wetlands and "waters of the U.S." as regulated by the U.S. Army Corps of Engineers (ACOE). The majority of wetlands consist of irrigation supply ditch segments (0.31 acres), while only 0.03 acres are associated with work along the Little Shasta River. Construction activities could result in the temporary disturbance of jurisdictional waters. The Project includes formal wetland delineation and necessary Section 404 permits from the U.S. Army Corps of Engineers. Compliance with delineation and US ACOE permit will ensure that there is no net loss of jurisdictional waters and will reduce impacts to *less than significant*.
- d) Habitat within the Project area provides suitable spawning and over-summer habitat for Coho salmon as well as riparian habitat for migratory bird species. Please see a) and b) above for discussion. Project protection measures consistent with the NOAA Biological Opinion and MM 4.1, through MM 4.6 will reduce potential impacts to migratory species to *less than significant with mitigation incorporated*.
- e) The proposed Project will not conflict with any policies or ordinances. No impact.
- f) There are no habitat conservation plans adopted in this area. No impact.

Mitigation Measures:

MM 4.1: The Contractor shall implement all protection measures identified in the 2012 Biological Opinion issued by the NOAA Fisheries pertaining to future US Army Corps of Engineers Permits within Siskiyou and other northern California counties, and specifically identified in the Biological Resources Report for this Project (**Appendix D**) to minimize impacts to listed fish species and their habitat.

Timing/Implementation: Enforcement /Monitoring:

Prior to and during construction activities. CDFW, NOAA Fisheries.

MM 4.2: Prior to instream work at Hart Ranch, a snorkel survey shall be completed by a qualified biologist, to confirm the presence of special status species. If special status fish are identified within the Project Area, and prior to instream work at Hart Ranch fish shall be removed from the work area by a qualified biologist permitted with authorization to capture and relocate fish, including coho if present, and block nets consisting of fine-meshed net or screen, shall be installed in-channel above and below the work area. Mesh will be no greater than 1/8-inch diameter. The bottom of a seine must

be completely secured to the channel bed. Screens must be checked twice daily and cleaned of debris to permit free flow of water. Block nets shall be placed and maintained throughout the dewatering period and/or instream channel work at the upper and lower extent of the areas where fish will be removed. Block net mesh shall be sized to ensure salmonids upstream or downstream do not enter the areas proposed for dewatering and construction between passes with the seine.

Timing/Implementation:	Prior to and during Following construction activities.
Enforcement /Monitoring:	CDFW, NOAA Fisheries.

MM 4.3: If possible, conduct all vegetation removal (including trees for large wood structures) outside of the migratory nesting season (February 1 to August 31). However, if clearing of any vegetation and/or construction activities occur during the avian breeding window, preconstruction surveys for nesting migratory birds shall be conducted no earlier than 7 days prior to removal by a qualified wildlife biologist. Surveys shall be conducted in accordance with CDFW or USFWS survey protocol for each species. Survey area shall include the construction zone, including all vegetation removal and transport areas, staging areas, and a 300-foot radius surrounding the construction zone to determine whether the activities taking place have the potential to disturb or otherwise harm any nesting migratory birds. If active nests are found, the Contractor shall not conduct work within 300 feet of the active nest (or smaller buffer as approved by CDFW) until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the Project.

Timing/Implementation:	Prior to construction activities within the migratory bird nesting
	season (February 1 to August 31).
Enforcement /Monitoring:	CDFW, USFWS.

MM 4.4 Prior to grading activities associated with the fish passage improvements, the contractor shall salvage and store existing vegetation cuttings and willow transplants to be replanted following the Project completion.

Timing/Implementation: Prior to grading activities associated with the fish passage improvements.

Enforcement/Monitoring: CDFW

MM 4.5 Migratory bird nesting surveys conducted in accordance MM 4.3 conducted prior to vegetation removal or construction activities shall be used to determine whether sandhill crane is nesting in the vicinity of Project activities. If CDFW determines that potential sandhill crane nesting habitat occurs within 500 feet of Project activities, any potential nesting habitat within the 500-foot radius shall also be surveyed for the presence of active sandhill crane nests. No construction activities shall occur during sandhill crane nesting season (March 1 to June 30) within 500 feet of the known sandhill crane nesting habitat identified on the eastern toe of Dorris Hill and identified in **Figure 5** or any other active sandhill crane nesting location identified during nesting bird surveys. If construction of the stockwater system occurs during this time period, temporary fencing shall be installed and regularly maintained to mark the 500-foot buffer and ensure construction exclusion from the known nesting area at Dorris Hill.

Timing/Implementation: During construction activities during the sandhill crane nesting season (March 1 to June 30).

Enforcement/Monitoring: CDFW

MM 4.6 Should construction occur during the nesting season for sandhill cranes (March 1 to June 30) a biological monitor shall be on site during all hours of construction to ensure cranes are not disturbed. If disturbance to sandhill cranes is observed, all construction shall cease and the CDFW shall be immediately notified.

Timing/Implementation: During construction activities during the sandhill crane nesting season (March 1 to June 30).

Enforcement/Monitoring:

MM 4.7 The wetland habitat at the toe of Dorris Hill shall be maintained by continuous flow, not less than 10 gpm, for the duration of the growing season, approximately from March through September, to mimic subsurface flow previously from the ditch. Wetland habitat shall be monitored by visual inspection two times per month during the growing season and shall consist of visual check for presence of soil saturation at the surface and presence and condition of bulrush plants. Soil shall be saturated to the surface during 4 out of 6 months of the growing season. Bulrush shall be present and covering at least 75% of the area. The plants shall be in healthy condition during the growing season. If plants are in poor condition or soil is not saturated, additional water shall be added to the wetland.

CDFW

Timing/Implementation: During the growing season (March through September).

Enforcement/Monitoring: CDFW

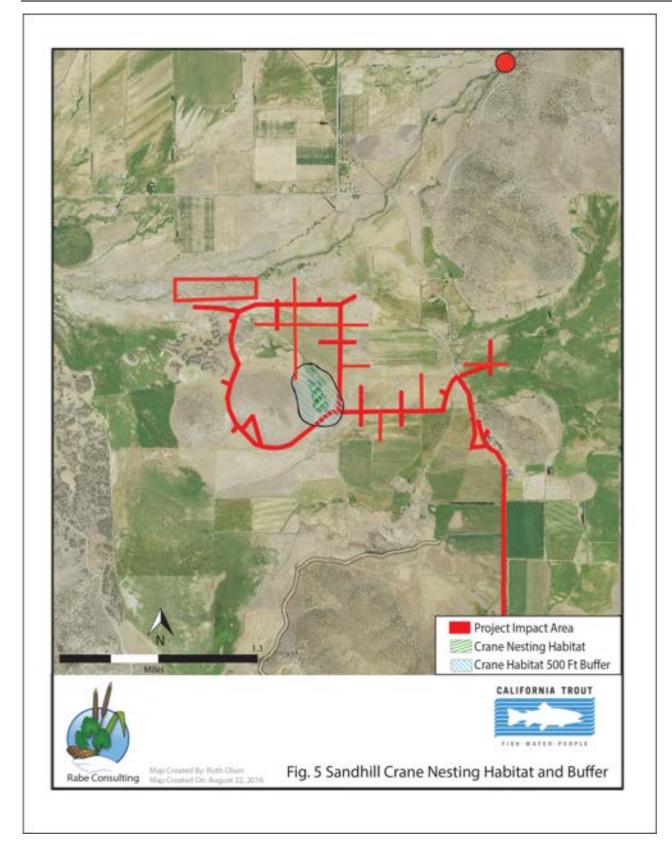
MM 4.8 Prior to removal of juniper trees, the area of disturbance, including route of transport from trees to the construction site at the Little Shasta River, shall be surveyed for special status plant species and shall occur prior to any vegetation removal. Surveys shall be conducted by a qualified biologist according to the CDFW 2009 Protocols for *Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. Results of these surveys shall be sent to the following address: California Department of Fish and Wildlife, Attn: CEQA, 601, Locust Street, Redding, CA 96001.

Timing/Implementation: Prior to any vegetation removal.

Enforcement /Monitoring: CDFW.

Conclusions Related to Biological Resources:

The Project will have a *less than significant impact with mitigation incorporated* on biological resources with the implementation of **MM 4.1** through **MM 4.8**. It is anticipated the Project will increase available aquatic habitat for coho salmon, steelhead, and chinook by enhancing fish passage to potentially 7 km of upstream habitat and increase year-round flows to an additional approximately 2 km of the Little Shasta River downstream.



En	vironmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.	CULTURAL RESOURCES. Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?		\boxtimes		
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		\boxtimes		
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		\boxtimes		
d)	Disturb any human remains, including those interred outside of dedicated cemeteries?		\boxtimes		

Overview:

A Cultural Resources Survey for the Project was completed by Native-X, Inc. Archaeological Services in November, 2016 (**Appendix F**). Investigation included a pre-field records search at the Northeast Information Center (NEIC) at California State University, Chico, and a complete coverage pedestrian surface survey of the Project area. The Cultural Resources review was completed in compliance with Section 106 of the National Historic Preservation Act standards, guidelines and principles.

The records search did not identify any sensitive cultural resources in the Project area. The records search results indicate that no previous cultural resource surveys have occurred within the current Project area and that there are no prehistoric or historic-period sites or features formally recorded or otherwise documented within the Project area. However, one geoarchaeological overview and three previous surveys have been completed, and three sites have been recorded, within one mile of the Project area.

The pedestrian surface survey completed on September 30, 2016, identified two sites: a segment of rock wall fence (HR01) located north of the Dorris Hill saddle and a water diversion structure (HR02) located at the origin of the Haight/Hart irrigation ditch on the Little Shasta River (existing Hart Ranch diversion structure). The rock wall fence (HR01) is likely historic, however, it has been used and maintained through the modern era. It is fitted with a post and wire gate. The Project calls for the installation of pipe through the rock wall fence, however, the proposed route is through the existing post and wire gate. It would not disturb the linear rock feature, and therefore, will not affect the site. The rock wall fence (HR01) remains unevaluated by the National Register of Historic Places (NRHP) because it continues for an unknown distance beyond the Project area and thus remains not fully recorded.

The water diversion structure (HR02) is likely historic in nature; however, it appears to have been in use through the modern era, with maintenance and modifications occurring as needed since its original construction. The Project calls for removal of the water diversion structure and construction of a new diversion structure a short distance upstream that meets current NOAA and CDFW fish protection criteria, allowing for improved fish passage along the Little Shasta River. While the structure (HR02) fulfills a historic function, and has historic concrete elements, the integrity of the site has been seriously compromised and is therefore not recommended as eligible to the National Register of Historic Places (NRHP).

The findings identified in **Appendix F** lead to the recommendation that the existing environment comprising the proposed Project is not eligible or potentially eligible for inclusion on the NRHP under any of the relevant criteria, nor significant per CEQA. Although the sites are identified as not eligible for inclusion on the NRHP, actual determination for these historic sites must be made by public agencies in consultation with the California State Historic Preservation Office (SHPO). No prehistoric sites were identified within the Project area.

Public Resources Code (PRC) §21083.2 requires planning agencies to determine if a Project may have a significant effect on historical resources or unique archaeological resources. The California Code of Regulations (CCR) §15064.5

defines a significant effect on historical resources. CCR §15064.5 (a)(3) describes an "historical resource" and PRC §21083.2(g) presents criteria for identifying a unique archaeological resource.

Discussion of Checklist Answers:

- a) Cultural resources investigation identified two sites of historic significance within the Project area: a segment of rock wall fence (HR01) and a water diversion structure (HR02). The rock wall fence remains unevaluated by the NRHP because it continues for an unknown distance beyond the Project area and thus remains not fully recorded. The Project alignment goes through an existing gap (or gate) in the wall and therefore will not result in disturbance to the rock wall fence. The water diversion structure (HR02) is recommended as not eligible for the NRHP due to the integrity of the site being seriously compromised. Regardless of this finding, unanticipated and accidental historical discoveries are possible during Project implementation and have the potential to impact unique historical resources, therefore mitigation measures MM 5.1 and MM 5.2 have been incorporated into the Project. Project impacts to historical resources are considered to be *less than significant with mitigation incorporated*.
- b) Cultural resources investigations identified no sites of archeological significance within the Project area. Regardless of this finding, unanticipated and accidental archaeological discoveries are possible during Project implementation and have the potential to impact unique archaeological resources, therefore mitigation measures MM 5.1 and MM 5.2 have been incorporated into the Project. This is considered a *less than significant impact with mitigation incorporated*.
- c) A records search of the Northeast Information Center at California State University, Chico did not identify any documented paleontological sites within the Project area. Regardless of this finding, unanticipated and accidental discoveries of paleontological resources are possible during Project implementation and have the potential to impact paleontological resources. Mitigation measure MM 5.3 has been incorporated to reduce potential impacts and therefore the Project is considered to have a *less than significant impact with mitigation incorporated*.
- d) Cultural resources investigations did not identify any Native American archaeological sites or evidence to suggest that human remains may be present within the Project area. Regardless of this finding, there is a possibility of the unanticipated and accidental discovery of human remains during ground-disturbing Project-related activities. With implementation of **MM 5.3**, this impact is considered a *less than significant impact with mitigation incorporated*.

Mitigation Measures:

MM 5.1: If, during the course of Project implementation, cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features) are discovered work shall be halted immediately within 50 feet of the discovery, the CDFW shall be immediately notified, and a professional archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to determine the significance of the discovery. The CDFW shall consider mitigation recommendations presented by the professional archaeologist and implement a measure or measures that the SVRCD deems feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.

Timing/Implementation: Enforcement/monitoring: During construction activities. CDFW

MM 5.2: Prior to the commencement of Project ground disturbing activities, all construction personnel shall be informed of the type(s) of cultural resources that might be inadvertently uncovered in the area and protocols to be implemented to protect Native American human remains and any subsurface cultural resources.

Timing/Implementation:	Prior to construction activities.
Enforcement/monitoring:	CDFW

MM 5.3: If, during the course of Project implementation, human remains are discovered all work shall be halted immediately within 50 feet of the discovery, the CDFW shall be immediately notified, and the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in the CCR §15064.5(d) and (e) shall be followed.

Timing/Implementation:	During Project construction activities.
Enforcement/monitoring:	CDFW

Conclusions Related to Cultural Resources:

The Project will have a *less than significant impact with mitigation incorporated* on cultural resources with the implementation of **MM 5.1** through **MM 5.3**.

En	wironmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
6.	GEOLOGY AND SOILS. Would the project:				
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:				
	 Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to 				
	Division of Mines and Geology Special Publication 42.ii) Strong seismic ground shaking?iii) Seismic-related ground failure, including liquefaction?			\boxtimes	
	iv) Landslides?			\square	
b)	Result in substantial soil erosion or the loss of topsoil?			\boxtimes	
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			\boxtimes	
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				\boxtimes

Overview:

Several earthquake faults exist around the Shasta Valley area as indicated on the *Fault Activity Map of California*. Some notable faults in the Project vicinity include the Yellow Butte Fault to the southeast of the Project area near Sheep Rock, and a Quaternary age fault that runs through Mt. Shasta, located to the south of the Project area. Additionally, a number of pre-Quaternary (older than 1.6 million years) faults exist near Yreka and north of Montague, west and north of the Project area. None of these faults have shown evidence of any activity within the last 1.6 million years. The nearest recently active faults are the Cedar Mountain Fault Zone 25 miles east in the Hebron-Macdoel area and faults located 90 miles east in the Klamath Falls area (California Department of Conservation, California Geologic Survey, 2016).

The Seismic Safety and Safety Element of the Siskiyou County General Plan states that over a 120-year period, only nine or ten earthquakes capable of "considerable damage" have occurred in the Project vicinity. No deaths have been reported from these quakes and building damage was considered minor. No known damage has resulted from an earthquake in the Shasta Valley area. Regardless, the *California Building Code* places the Project area in Seismic Zone 3, defined as an area of potentially major damage from earthquakes corresponding to intensity VII on the Modified Mercalli Scale.

Landslides are not prominent in the area, since the mountains of the region consist of stable bedrock material with little likelihood of sliding. While the Shasta Valley is in a hilly region, normal construction practices limit the amount of potential erosion, and the Building Code addresses necessary construction techniques to accommodate some of the soils in the area with expansive characteristics. Additionally, Project activity is primarily located in the areas utilized for agriculture, areas with slopes less than 10%, with the exception of the new water tanks and access road to be located on Dorris Hill. Existing slopes on Dorris Hill are between 10% and 50%. The elevated storage tanks will be installed on a newly constructed gravel pad on Dorris Hill that will require excavation, material placement, and compaction over an area of approximately 2,400 square feet. It is estimated that cut and fill quantities will be 1,500 cubic yards. A 14-foot-wide by 750 feet long graveled road with a slope of approximately 8% will be constructed to

access the tanks from the existing ranch road. All cut and fill will be balanced with no need to export material. Imported engineered fill or gravel for the pad will be from a permitted source or from the existing on-ranch borrow pit. **Appendix A** includes 75% design stage plans for the stockwater system improvements which include the new water tanks, pad, and access road.

Most of the Project area consists of alluvial or glaciofluvial soils which consist primarily of poorly to well drained sandy loams underlain with hardpan. Typically, these soils have minimal shrink-swell characteristics, have slight to moderate erosion hazard potential, and contain slopes which range from 0-9 percent. Only those soils on Dorris Hill associated with the new water tanks and access road have slopes greater than 9 percent. Final grading of the access road will be not more than 8%.

Discussion of Checklist Answers:

- a)
- i) There are no known active or potentially active faults within the Project area, although a north-south trending fault runs through the top of Mount Shasta and there are older faults in the Sheep Rock area to the southeast of the Project area. There are no known earthquake faults within the Project area, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map and this impact is considered *less than significant*.
- ii) The Project area, along with all of Siskiyou County, is located in Uniform Building Code (UBC) Seismic Zone 3. This indicates that the area is subject to earthquakes that may cause minor to moderate structural damage. Earthquakes centered about 20 miles east of Mt. Shasta were recorded in 1978 with Richter magnitudes of 4.0 to 4.6. However, an earthquake history compiled for the Seismic Safety and Safety Element of the Siskiyou County General Plan indicated that over a 120-year period, no deaths related to earthquakes have been recorded, and reported building damage has never been more than "minor." All construction will occur pursuant to the California Building Code. This impact is considered less than significant.
- iii) Liquefaction usually occurs when saturated granular soil deposits lose their strength due to sudden excess in water pressure induced by a seismic event. Since seismic activity is uncommon in the Project area, liquefaction is not likely. This impact is considered to be *less than significant*.
- iv) Landslides typically will not be a problem in the Project area as the area generally consists of slopes less than 10 percent, with the exception of the new pad and access road for the new water tanks located on Dorris Hill. Construction of the access road and excavated pad for the new water tanks will be overseen by the Project engineer, and design includes compaction and maximum slope parameters in order to minimize potential landslides or earth moving following construction. Further, the Project contains measures as defined in the Project Description to reduce effects of erosion and potential landslide to a *less than significant* level.
- b) Construction activities will include earth moving in the form of trenching, excavating, backfilling, and associated irrigation improvements, and habitat enhancement. The proposed project may be required to obtain a Storm Water Pollution Prevention Permit, and prepare a Storm Water Pollution Prevention Plan, which will include best management practices (BMPs) to reduce impacts to water quality which will minimize impacts to soil erosion. This impact is considered to be *less than significant*.
- c) See a) above. *Less than significant*.
- d) The project is primarily located in uplands with poor to well drained soils that do not have shrink-swell characteristics. Project area soils are primarily underlain with hardpan, affecting drainage characteristics. Construction activities will be required to conform to the California Building Code, therefore the project will have a *less than significant impact*.

e) The project does not involve the use of septic tanks or alternative wastewater disposal. *No impact*.

Conclusions Related to Geology and Soils:

Conformance with state building code regulations and project engineering of all physical structures that may be affected by geotechnical stability will reduce any impacts related to geology and soils. Therefore, impacts are considered to be *less than significant*.

En	vironmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
7.	GREENHOUSE GAS EMISSIONS. Would the project:				
a)	Generate greenhouse gas emissions, either directly or indirectly,			\boxtimes	
	that may have a significant impact on the environment?				
b)	Conflict with an applicable plan, policy or regulation adopted				\boxtimes
	for the purpose of reducing the emissions of greenhouse gases?				

Overview:

The project is an irrigation improvement and aquatic habitat restoration project and will result in temporary greenhouse gas (GHG) emissions during construction and associated earth moving activities. Long term, the project will result in one new booster pump which will result in an annual electrical usage of 1,800 kw-h above existing electrical use (see Section 4.3, Air Quality for additional discussion). Two new solar panels will be installed to operate electronic fish screen controls and flow meters. No additional new electrical needs will result from the project, as the existing electrical supply is anticipated to satisfy all other needs of the project. The project has no other long term impacts to GHG emissions. Siskiyou County has been designated as an attainment area for all state and federal standards (Olson, 2016).

Discussion of Checklist Answers:

- a) The project is a river restoration and water management project related to ranching irrigation improvements and will result in temporary GHG emissions during construction. The project will have minor short term air quality and GHG emissions associated with construction. In order to reduce the potential for particulate matter resulting from construction, this initial study includes MM 3.1. Long term, the project will result in 1,800 kw-hr of annual electrical use to operate the new booster pump, the equivalent of approximately 3,000 miles driven by an average passenger vehicle (EPA, 2016). This impact is considered to be *less than significant*.
- b) The project will not conflict with any adopted plans, policies or regulations adopted for the purpose of reducing emissions of greenhouse gases. *No impact*.

Conclusions Related to Greenhouse Gas Emissions:

The proposed project will have a *less than significant* impact on greenhouse gas emissions either directly or indirectly.

En	vironmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
8.	HAZARDS AND HAZARDOUS MATERIALS. Would the	project:			
a)	Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?				\boxtimes
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				\boxtimes
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?				\boxtimes
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				
e)	For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?				
f)	For a project area? For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				\boxtimes
g)	Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?				\boxtimes
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				

Overview:

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations (CCR) as follows:

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed. (California Code of Regulations, Title 22, Section 662601.10)

Chemical and physical properties cause a substance to be considered hazardous. Such properties include toxicity, ignitability, corrosivity, and reactivity. CCR, Title 22, Sections 66261.20-66261.24 define the aforementioned properties. The release of hazardous materials into the environment could potentially contaminate soils, surface water, and groundwater supplies.

Large cases of hazardous materials contamination or violations are handled by the North Coast Regional Water Quality Control Board (RWQCB) and the State Department of Toxic Substances Control (DTSC). It is not at all uncommon for

other agencies to become involved when issues of hazardous materials arise, such as the Air Pollution Control District, and both the federal and state Occupational Safety and Health Administrations (OSHA).

Under Government Code Section 65962.5, the California Department of Toxic Substances Control (DTSC) maintains a list of hazardous substance sites. This list, referred to as the "Cortese list", includes CALSITE hazardous material sites, sites with leaking underground storage tanks, and landfills with evidence of groundwater contamination. The most recent Cortese list, accessed via the internet database in December 2010, does not identify any hazardous materials sites within the project area.

Discussion of Checklist Answers:

- a) No transport, use or disposal of hazardous materials will occur as a result of the proposed project. *No impact*.
- b) No known hazardous materials are present within the project site and no hazardous materials will be released into the environment from this project. Therefore, the project will not result in the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. *No impact*.
- c) There will be no hazardous emissions from the project, and therefore the project will not have any affect on a school site. There is no school located within one-quarter mile of the project area. *No impact*.
- d) The project is not located on a site known or listed as having hazardous material as noted by the most recent Cortese list (CA Department of Toxic Substances Control, 2016). *No impact*.
- e) The project is not located within an airport land use plan area. *No impact*.
- f) The project is not located within the vicinity of a private airstrip. *No impact.*
- g) The proposed project will not likely cause road closures or detours as the project is primarily located within private properties, and access to such will not interfere with traffic patterns on public rights-of-way. Work within the public right-of-way will maintain one-way traffic at all times, and no road closures are anticipated. *No impact.*
- h) Being an agricultural project and not near vegetation typically associated with wild land fires, the project will not expose persons to injury from such a fire. *No impact*.

Conclusions Related to Hazardous Materials:

The proposed project will have *no impact* on hazards and hazardous materials.

En	vironmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
9.	HYDROLOGY AND WATER QUALITY. Would the project:				
a)	Violate any water quality standards or waste discharge requirements?			\boxtimes	
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses for which permits have been granted)?				
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			\boxtimes	
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?				
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			\boxtimes	
f) g)	Otherwise substantial additional sources of pointed runoi? Otherwise substantially degrade water quality? Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			\boxtimes	
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or dam?			\boxtimes	
j)	Inundation by seiche, tsunami or mudflow?				\boxtimes

Overview:

The project is located in the Shasta Valley, within the Klamath River Hydrologic Basin. The mean annual precipitation in the Shasta Valley is approximately 11 to 17 inches. The climate in this region is characterized by dry summers with high daytime temperatures and wet winters with moderate to low temperatures. About 75 percent of the annual precipitation falls between October and March and generally produces an adequate snowpack in the higher mountain ranges.

The Little Shasta River flows through the project area, with a watershed area of approximately 330 square kilometers. The Little Shasta River flows generally westward for approximately 39 kilometers from an elevation of 8,277 on the western slopes of the Cascade Mountain Range to the confluence with the Shasta River at an elevation of 2,730. The river exhibits three distinct channel reaches: a steep headwaters reach, a moderate-gradient reach in the foothills section, and a low-gradient reach across the Little Shasta River Valley. Streamflow is derived from both surface runoff (snowmelt and rainfall) and groundwater (springs and seeps). Surface runoff derived from seasonal rainfall and snowmelt augments spring-fed baseflows in the Little Shasta River. Surface water and groundwater are used to support domestic, agricultural, municipal, and ecosystem water uses in the Little Shasta River Valley (Nichols A, et al, 2016) including use as a migration route for salmon and steelhead and provides spawning and rearing habitat for these fish (McBain & Trush, 2013).

Development of water resources in the Little Shasta River watershed has been ongoing since 1855, with the oldest water rights pertaining to the appropriation of surface waters from the Little Shasta River and nearby springs. The amount and priority date of each surface water right is formalized in the Shasta River Adjudication Proceeding Judgement and Decree, and a Watermaster organizes the diversion priorities. Summer water rights to the Little Shasta River and its tributaries and springs extend from March 1 through October 31, while winter rights occur during the remaining months of the year (Nichols A, et al, 2016).

The highest priority summer water rights in the Little Shasta River Basin are all located upstream from the Hart Ranch diversion structure (river kilometer 18.5). These water rights permit the diversion of surface water from both offchannel springs and the Little Shasta River. During periods of low streamflow (e.g. summer), the cumulative total of these highest priority water rights can exceed the amount of available surface water. With minimal surface or groundwater inflows to the Little Shasta River below RK 18.5, the lower reaches of the river can run dry during low streamflow periods. During 2015, a dry year, streamflow at RK 4.3 ceased in June and the river remained dry until the middle of November (Nichols A, et al, 2016).

The Project lies within areas mapped by the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Mapping program (Community Panel Number 06093C1650D). The majority of the Project area lies above the 100-year flood event elevation (FEMA Zone X), while a few areas immediately along the Little Shasta River lie within the 100-year flood event elevation (FEMA Zone A). Those components of the Project that are within FEMA Zone A include the work associated with the fish passage improvements and the riparian planting along the Little Shasta River. All other work associated with the Project is entirely outside of 100-year flood elevation.

Hydraulic Assessment of the fish passage component of the Project was completed by Cascade Stream Solutions in October 2016 to identify the Project effect on flows within the Little Shasta River (**Appendix G**). The Project includes recontour of the stream channel, removal of the exiting diversion structure, and construction of a new diversion structure. A County bridge crosses the Little Shasta River immediately downstream of the proposed Project area. Existing flood flows exceed the conveyance capacity of the primary channel and are conveyed across the floodplain as shallow overland flow. Existing and post-project conditions were compared for a range of flows utilizing standard computer modeling analysis for hydraulics of water flow (HEC-RAS). Hydraulic characteristics were computed for steady state flows of 750, 1,000, 1,500, and 1,700 cfs (Howard, 2016).

Discussion of Checklist Answers:

- a) CalTrout or the project contractor will prepare a Storm Water Pollution Prevention Plan (SWPPP) pursuant to Regional Water Quality Control Board standards and subject to RWQCB review. The proposed Project will include instream work associated with construction of the fish passage improvements and irrigation diversion structure. Short term construction activities may temporarily impact water quality, though CalTrout will work closely with regulatory agencies to minimize all potential water quality impacts. Habitat and water quality protection measures identified in the NOAA Biological Opinion will be implemented to minimize impacts to listed species and water quality (see **MM 4.1**). Additionally, the Project is subject to 401 permit from the Regional Water Quality Control Board, and conditions therein will ensure water quality impacts are minimal during and following construction. One of the overall goals of the Project is to improve water quality in the Little Shasta River through an initial permissive instream dedication of up to 1.5 cfs and an additional permissive dedication up to the remainder of the right of 19.804 cfs upon approval of the SHA which is currently being negotiated. Project impacts to water quality are considered to be *less than significant*.
- b) The Project includes improvements to existing agricultural irrigation infrastructure in an effort to improve water management efficiencies and instream flows in the Little Shasta River, thereby improving water quality. The Project includes the addition of a booster pump to an existing agricultural well and pump and connection of the Mainline pipe system which irrigates the eastern portion of the ranch to three existing groundwater wells. The retrofit of the stockwater well and construction of the stockwater component of this Project will allow for the ranch to utilize groundwater (instead of river water) for stock in the northern portion of the ranch. This component of the Project will result in minimal increases in groundwater pumping to supply the new stockwater system. At peak demand, the stockwater system will operate at a flow rate of 11 GPM (0.02 cfs) to supply the troughs, with an additional 65 GPM (0.14 cfs) available to supply the consumptive needs of

the seasonal wildlife habitat near the base of Dorris Hill. A total post-project flow rate of approximately 0.16 cfs will be required year round for the stockwater system. The Main Pipeline replacement is not anticipated to increase annual groundwater withdrawal. *Less than significant impact.*

c) The Project will result in the alteration of existing irrigation infrastructure in the Shasta Valley. Although the Project does include work within the Little Shasta River at the location of the diversion, habitat and water quality protection measures identified in the NOAA Biological Opinion will be implemented to ensure that temporary impacts to erosion or siltation associated with construction are minimized. The SWPPP and habitat and water quality protection measures identified in the NOAA Biological Opinion will ensure that temporary impacts to erosion or siltation associated with construction are minimized. The SWPPP and habitat and water quality protection measures identified in the NOAA Biological Opinion will ensure that temporary impacts associated with construction are minimized. Long term impacts as a result of improvements to fish passage along the Little Shasta River include recontour of the channel and replacement of the existing diversion structure. Hydraulic modeling concludes that although post project conditions result in minor change to the immediate Project channel reach, no change in hydraulic conditions at the existing County Bridge, immediately downstream of the project area result. Deposition and scour near the bridge are not anticipated to change significantly due to the Project because the Project is of limited size, will be constructed to remain stable during extreme flows, and will not change sediment transport potential upstream or downstream of the Project area. Sediment that reaches the Project reach will be conveyed through the reach (**Appendix G**).

Upon completion of the Project, up to 1.5 cfs of water will be available to be permanently dedicated to instream flows, a beneficial management activity included in a draft Safe Harbor Agreement currently being negotiated. The hydraulic assessment of the Project evaluated flows up to 1,700 cfs (between a 10 and 25-year peak flow event) with no effect on downstream water elevations (Howard, 2016). The addition of 1.5 cfs, as potentially resulting following Safe Harbor Agreement, is negligible on downstream flood elevations. Therefore, Project impacts to the existing drainage pattern is considered to be *less than significant*.

- d) See c) above. Work along the Little Shasta River is within the 100-year flood zone. All improvements have been designed and engineered to have a negligible impact on flood flows as is modeled by the *Little Shasta River Fish Passage Project: Bridge Impact Hydraulic Assessment* (Appendix G). This impact is considered to be *less than significant*.
- e) The proposed Project does not include new impervious surfaces or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems. As the Project consists of irrigation infrastructure and instream habitat improvements, there will be no additional sources of polluted runoff as a result; therefore, this impact is considered to be *less than significant*.
- f) See a), c) and e) above. *Less than significant*.
- g) The Project does not include the construction of housing and therefore will not place housing within the 100year flood zone. The Project will therefore have *no impact*.
- h) The Project components that will be within the 100-year flood elevation include the channel realignment and replacement of the existing diversion structure along the Little Shasta River. All structures have been designed and engineered to minimize impacts to flood flows, and will not impede or redirect flood flows. This impact is considered to be *less than significant*.
- i) Please see c), g) and h) above. The Project will not result in the failure of a levee or dam, nor will it expose people or structures to a significant risk of loss, injury or death involving flooding. This impact is considered to be *less than significant*.
- j) The Project will not result in, or be subject to impacts associated with, inundation by seiche, tsunami, or mudflow. Please see Section 4.6, Geology and Soils. *No impact*.

Conclusions Related to Hydrology and Water Quality:

By increasing instream flows, fencing riparian habitat, managing grazing, and reestablishing woody riparian vegetation, the Project is expected to have a positive impact on the Little Shasta River with regard to water quality and improved agricultural water management opportunities. Although short-term water quality issues may be present during construction, impacts associated with hydrology are considered to be **less than significant**.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
10. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?b) Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or				\boxtimes
mitigating an environmental effect).c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				\boxtimes

Overview:

The Project is located in the northern portion of the Shasta Valley, an area characterized by large-acreage agricultural operations, primarily cattle grazing, alfalfa, and other mixed grains. The Shasta Valley encompasses approximately 340 square miles. The Shasta River, a perennial tributary to the Klamath River, flows from south to north, and along with its tributaries (including the Little Shasta River) provides much of the irrigation water to properties adjacent to and within proximity to the Shasta River, Little Shasta River, and major tributaries. Interstate 5 is situated along the west-central part of the valley running north to south, and State Route 97 is situated in the southeast portion of the valley running from Interstate 5 south of the valley towards the northeast. The Shasta Valley is surrounded by open range land managed by the BLM, National Forest Lands, and private timber lands.

The Land Use Element of the Siskiyou County General Plan is prepared differently from many contemporary approaches in land use planning, and involves the preparation of a series of overlay maps identifying development constraint areas, contrary to many general plans which identify Land Use designation. Therefore, the Siskiyou County General Plan does not assign land use designations, but rather through the utilization of overlay maps identifying development constraints, direct the appropriate land use for each property, or area of the County.

The majority of the Shasta Valley is unmapped by the Land Use and Circulation Element constraints maps, with the exception of some areas of the valley that are mapped for flood hazard, wildfire hazard, and prime agricultural soils (General Plan Land Use and Circulation Element, maps 1 through 14). As described in **Section 3, Project Description**, of this document, the Project involves improvements to irrigation systems and fish passage in an effort to improve water management efficiencies and to improve flows and water quality in the Little Shasta River. The Project will not require any changes in land use, either directly or indirectly.

Discussion of Checklist Answers:

- a) The Project is located on large acreage private agricultural lands primarily utilized for cattle grazing and will not result in the division of any existing community. *No impact* is expected.
- b) The Project will not conflict with any applicable plans that have jurisdiction over the Project area. The Project is consistent with the County's General Plan and Zoning Ordinance. Additionally, the Project is consistent with the Basin Plan for the North Coast Regional Water Quality Control Board and the Shasta River TMDL Action Plan. The Project will be consistent with applicable land use plans and will have *no impact*.
- c) See Section 4.4, Biological Resources. There are no habitat conservation or natural community conservation plans that are applicable to the site. *No impact*.

Conclusions Related to Land Use and Planning:

The proposed Project will have *no impact* on land use within the unincorporated area of Siskiyou County.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
11. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that				\boxtimes
would be of value to the region and the residents of the state?				
b) Result in the loss of availability of a locally important mineral				\boxtimes
resource recovery site delineated on a local general plan, specific				
plan or other land use plan?				

Overview:

Historically, gold mining was responsible for the establishment of the City of Yreka located to the west of the Project area, though little or no mining was done along the Little Shasta River within the Project vicinity. Although some dredge mining still takes place on the lower Shasta River and Klamath River north of the Project, as well as a small amount of panning for gold, the resource is essentially depleted, and no longer plays a direct role in the area's economy.

The State Mining and Geology Board has the responsibility to inventory and classify mineral resources and could designate such mineral resources as having a "statewide" or "regional significance" and then the local agency must adopt a management plan for such identified resources. At this time, there are no plans to assess local mineral resources for the Project area or Siskiyou County.

Mining within the County is subject to approval by the Siskiyou County Board of Supervisors through a Conditional Use Permit based upon the benefits and impacts to the County, and preparation and approval of a Reclamation Plan is required consistent with the California Surface Mining and Reclamation Act (SMARA).

Discussion of Checklist Answers:

- a) The Project does not include any mining activities or other activities that would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. All materials for fill requirements will be sourced from existing permitted operations, or an on-ranch borrow pit. The Project is a water management, irrigation improvement, and fish passage project and will have *no impact* on mineral resources.
- b) See a) above. There are no locally important mineral resources delineated on the County General Plan within the Project Area. Therefore, there will be *no impact* on mineral resources.

Conclusions Related to Mineral Resources:

The project will have *no impact* on mineral resources within the area.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
12. NOISE. Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?			\boxtimes	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			\boxtimes	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			\boxtimes	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			\boxtimes	
e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels?				
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				\boxtimes

Overview:

Noise sources in the Shasta Valley include agricultural operations, including the operation of tractors, trucks, livestock, frost protection operations, and other agricultural noises. The Shasta Valley is also affected by noise from Interstate 5, SR 97, operations of the Central Oregon and Pacific Railroad, and the Siskiyou County and Weed Airports. All of these noise sources are located more than two (2) miles from the project, and are not prominent noise sources in the project area. Generally, the project area noise environment is characterized by rural agricultural operations. Surrounding uses include agriculture and open space.

Discussion of Checklist Answers:

- a) The project will generate temporary noise during construction that may affect the private property owners whose property the project is located on and adjacent to for access. Construction traffic noise would be limited in frequency and duration and would be similar to other recurring sources of noise from ongoing agricultural operations. No other noise sensitive receptors are located in the vicinity of the project, except for adjacent agricultural residences, which are typically separated by large acreage. This impact is considered to be *less than significant*.
- b) During grading and construction operations the project would generate ground-borne vibration. However, this will be a temporary impact for the duration of construction, and will be isolated to the immediate construction area, and is therefore considered to be *less than significant*.
- c) See a) above. The project will not result in the long-term increase in ambient noise levels within the project area, with the exception of the occasional operation of one new electrical irrigation booster pump, which is located more than ¹/₄ mile from the closest residence. The resultant increases in ambient noise levels are considered to be *less than significant*.
- d) See a) above. This impact is considered *less than significant*.
- e) The project is not located within an airport land use plan area. *No impact*.

f) The project is not located within the vicinity of a private airstrip. *No impact.*

Conclusions Related to Noise:

The project is located in the Shasta Valley, an area characterized by rural agriculture, with associated agricultural noise sources. The project will have a *less than significant* impact on ambient noise levels in both the short and long term.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
13. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?				\boxtimes
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				\boxtimes
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				

Overview:

The population of the Shasta Valley is approximately 5,000 people. There is not one defined census tract for the Shasta Valley, therefore this population count is an estimate based upon various census tracts that are included partially, or entirely, within the Shasta Valley (U.S. Census Bureau, 2016). The project will not add directly or indirectly to the housing stock or population in the region. The proposed project includes improvements to a number of existing agricultural irrigation facilities, and will have no impact on population and housing in the region.

Discussion of Checklist Answers:

- a) The proposed project consists of improvements to a number of existing agricultural irrigation facilities in the Shasta Valley and will not directly or indirectly induce population growth within the region. The project will have *no impact* on the population of the region.
- b) The project is located on existing agricultural acreages that are primarily utilized for grazing cattle. The project will not displace any housing or people. *No impact*.
- c) See b) above. *No impact*.

Conclusions Related to Population and Housing:

The proposed project does not include the creation of or the displacement of housing units and will not directly or indirectly impact the population of the region. The project will have *no impact* on population and housing.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
14. PUBLIC SERVICES. Would the project result in substantial ac				
of new or physically altered governmental facilities, need for new construction of which could cause significant environmental impa- response times or other performance objectives for any of the follow	icts, in order to	o maintain acc		
a) Fire protection?				\boxtimes
b) Police protection?				\square
c) Schools?				\square
d) Parks?				
e) Other public facilities?				\boxtimes

Overview:

FIRE PROTECTION

Fire protection services for the project area are provided by a number of volunteer fire departments primarily located within the communities of Montague, Mayten, Yreka, and Grenada. These departments are primarily, or entirely, staffed by volunteers. Additionally, CalFire provides fire protection services to the project area, with stations in Weed and Yreka. CalFire and the volunteer fire departments operate with mutual aid agreements in order to fully serve the unincorporated areas of Siskiyou County, including the project area. The landscape of the project area is primarily grasslands that are regularly grazed, and the threat of fire is not common with the exception of the occasional structure fire.

POLICE PROTECTION

Police protection services within the project area are provided by the Siskiyou County Sherriff's Department, which operates from the main station located at 305 Butte Street, Yreka. The Department anticipates that the current police force will be adequate to provide police protection needs to County residents at the same level of service into the foreseeable future, barring a large increase in population due to a major change such as a large employer locating in the County.

SCHOOLS

The project area is served by a number of elementary schools (K-8), located within the communities of Montague, Grenada, Big Springs, and Yreka. The area is served by the Yreka Union High School District.

RECREATION

The project area is characterized by rural agricultural lands, and recreation centers are located in rural towns that surround the project area, including Montague, Big Springs, Grenada, and Yreka. These communities have community parks, community centers, as well as organized recreational opportunities, such as gymnasiums, pools, sports leagues, and other facilities.

Discussion of Checklist Answers:

- a) The project will have no impact on fire protection services within the project area. *No impact*.
- b) The project is an agricultural water management project and will have *no impact* on police protection services.

- c) The project will not result in any population change, nor will the project impact school operations or enrollment levels. See section 4.13 for further discussion of project impacts to population growth. *No impact.*
- d) The project will not impact any parks, nor will it result in a population change that would indirectly impact parks and recreational services. *No impact*.
- e) The project will have *no impact* on other governmental services.

Conclusions Related to Public Services:

The project is limited to agricultural irrigation improvements on existing agricultural lands. The project will not result in either a direct or indirect impact to public services. *No impact.*

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
15. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				
 b) Does the project include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? 				

Overview:

The majority of the land within the project vicinity is privately owned and public recreational opportunities are limited. Public recreational opportunities exist within the communities and cities that surround the project area, including Montague, Big Springs, Grenada, and Yreka. Between the communities, cities, schools, and private recreational facilities in and around the project area, there is a well-rounded provision of programs and activities available to project area residents. Recreational facilities include playgrounds, parks, pools, ball fields, trails, theaters, fitness centers, and sports leagues. Additionally, opportunities for dispersed recreational activities exist on US Forest Service, Bureau of Land Management lands, and public right-of-way's that are in the vicinity of the project.

As identified in **Section 4.14, Public Services,** the proposed project work is limited to water management improvements on existing agricultural lands. Project work is not anticipated to have an effect on recreational opportunities either directly or indirectly.

Discussion of Checklist Answers:

- a) The project will not result in increased use of existing recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. *No impact.*
- b) The project does not include recreational facilities, nor does the project require the construction or expansion of recreational facilities. The project will not interrupt traffic flow on public rights-of-way, and therefore dispersed recreation that utilizes these facilities will not be impacted. *No impact.*

Conclusions Related to Recreation:

Please see Section 14, Public Services for further discussion of recreational facilities. The project is limited to water management improvements on existing agricultural lands, and will not impact, either directly or indirectly, recreational facilities. *No impact*.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
16. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and biguals as the ord mass transit?				
bicycle paths, and mass transit?b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				
 c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? 				\boxtimes
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g.,			\boxtimes	
farm equipment)?e) Result in inadequate emergency access?f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				

Overview:

The project is located in central Siskiyou County and is served by Interstate 5, State Routes (SR) 3 and 97. Within the project area County roadways, including Lower Little Shasta Road, Harry Cash Road, and Hart Road, provide traffic circulation and connectivity to the larger roadways.

The County of Siskiyou provides a public bus system, Siskiyou Transit and General Express (STAGE) providing transportation to the communities in Siskiyou County generally along I-5. The project area is rural in nature, and roadways which access the project area are favorable for recreational road bicycling. Pedestrian transportation is not typically a viable means of transportation in the project area due to the rural nature.

Discussion of Checklist Answers:

- a) Implementation of the proposed Project may cause a short-term, isolated increase in traffic on Project area roadways during construction which is not substantial in relation to the existing traffic load and capacity of project area roadways. Traffic increases will include up to 5 additional employees to implement the Project for each phase, resulting in 10 daily trips. Project components are expected to be implemented in sequence. Therefore, the Project is expected to result in up to 10 additional trips per day during construction, plus additional trips for deliveries of supplies and materials, which are not expected to be more than 8 trips per day and will be intermittent in nature and isolated to those times of materials delivery. The Project will not result in a long-term increase in traffic. The Project will not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of circulation systems in the Project area. This impact is considered to be *less than significant*.
- b) As identified in a) there will be no cumulative traffic impact associated with the proposed Project, and the Project will not result in congestion. Therefore, the Project impact is considered to be *less than significant*.

- c) There will be no affect on air traffic patterns as a result of the Project. *No impact.*
- d) The Project will require two pipe alignment crossings of Harry Cash Road, both of which will utilize standard trenching methods. One way traffic will be maintained at all times during construction. Following construction, roadways will be patched and paved to match pre-Project conditions, and therefore will not increase hazards due to a design feature. Additionally, there will be no change in uses as a result of the Project and therefore the Project will not result in incompatible uses. *Less than significant impact.*
- e) The Project is located on private properties, all of which are accessed via public rights-of-way. The Project may result in a short-term increase in traffic on area roadways associated with construction activities as described in a) above. This increase in traffic will be minimal in nature, short-term, and isolated to the immediate access locations for the Project area and is not anticipated to result in an impact to emergency access. This impact is considered to be *less than significant*.
- f) The Project will not impact any existing public transit, bicycle or pedestrian facilities or otherwise decrease the performance or safety of such facilities. *No impact.*

Conclusions Related to Transportation and Circulation:

Project impacts to transportation and circulation will be short-term in nature and will be isolated to the immediate access points to the Project location, and will be limited to the time of construction. Impacts to traffic and circulation as a result of the proposed Project will be *less than significant*.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
17. TRIBAL CULTURAL RESOURCES. Would the project cause	a substantial	adverse change	e in the signifi	icance of
a tribal cultural resource, defined in Public Resources Code section	n 21074 as (either a site, fo	eature, place,	cultural
landscape that is geographically defined in terms of the size and sco	ppe of the lar	ndscape, sacred	place, or ob	ject with
cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of			\boxtimes	
Historical Resources, or in a local register of historical resources				
as defined in Public Resources Code section 5020.1(k), or?				
b) A resource determined by the lead agency, in its discretion and		\boxtimes		
supported by substantial evidence, to be significant pursuant to				
criteria set forth in subdivision (c) of Public Resources Code				
Section 5024.1. In applying the criteria set forth in subdivision				
(c) of Public Resources Code Section 5024.1, the lead agency				
shall consider the significance of the resource to a California				
Native American tribe?				

Overview:

On September 23, 2016, in compliance with PRC § 21080.3.1 and the CDFW Tribal Communication and Consultation Policy, the Department provided official notification of the Hart Ranch Flow Enhancement Project to those Tribal contacts that are federally recognized tribes in California and/or have requested CEQA notification, within the 6 counties in and around the Project area. Official notification was made to Elk Valley Rancheria, Resighini Rancheria, Yurok Tribe of California, Tolowa Dee-ni Nation – Smith River Rancheria of California, Blue Lake Rancheria, Hoopa Valley Tribe, Bear River Band of Rohnerville Rancheria, Wiyot Tribe, Big Lagoon Rancheria, Cher-Ae Heights Indian Community of Trinidad Rancheria, Cedarville Rancheria, Quartz Valley Indian Community, Karuk Tribe, and Middletown Rancheria. Formal consultation was not requested by Tribal contacts with the exception of Middletown Rancheria if human habitation is found, as identified in their letter dated October 5, 2016.

Upon completion of the Cultural Resources Survey, contact was made by phone calls on December 22, 2016, and January 3, 2017, and an email on January 5, 2017, to Middletown Rancheria to discuss steps forward. On January 13, 2017, after reviewing the Cultural Resources Survey, Middletown Rancheria responded they did not have any additional comments or interest in the Project.

Discussion of Checklist Answers:

- a) The cultural resources survey for the Project did not identify any historical resources which are listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources. See Section 5, Cultural Resources, of this Initial Study for further discussion. This impact is considered to be *less than significant*.
- b) As identified in Section 5, Cultural Resources, of this Initial Study, no cultural resources of significance have been identified within the Project area. Mitigation MM 5.1 through MM 5.3 included in that section identify actions to be taken, should resources be found during construction activities, as cultural surveys were limited to surface surveys. Therefore, the Project impact is considered to be *less than significant with mitigation incorporated*.

Conclusions Related to Tribal Cultural Resources:

Project impacts to tribal cultural resources will be short-term in nature and will be isolated to the immediate access points to the Project location, and will be limited to the time of construction. Impacts to traffic and circulation as a result of the proposed Project will be *less than significant*.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
18. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				\boxtimes
 b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? 				
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				\boxtimes
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			\boxtimes	
 e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments? 				
f) Be served by a landfill with sufficient permitted capacity to			\boxtimes	
accommodate the project's solid waste disposal needs?g) Comply with federal, state and local statutes and regulations related to solid waste?				\boxtimes

Overview:

Potable water within the Project area is supplied by private groundwater wells. Agricultural irrigation water is supplied by a combination of surface water, primarily diverted from the Little Shasta River and area springs, and groundwater wells. No municipal water service is located within the Project area. Water usage varies depending upon the crops being irrigated, and the livestock demands. The Project will result in reduction of the total amount of water diverted from the Little Shasta River for irrigation purposes due to increased irrigation and stockwater efficiencies gained by replacing ditches with buried pipe. The Project will result in modification to an existing water rights through a California Water Code Section 1707 petition process which will result in long-term instream dedication of up to 1.5 cfs and potential permissive dedication of their remaining water right by the Hart Ranch while maintaining viable agricultural lands.

The Project area is served by private septic systems. There are no public wastewater treatment facilities within the Project area. Storm drainage in the Project area is primarily comprised of roadside ditches and overland flow to area waterways including the Little Shasta River and its tributaries. There is no developed storm drain management infrastructure within the Project area with the exception of roadside ditches and culverts.

The County of Siskiyou owns and operates a transfer site for solid waste southeast of the City of Yreka off Oberlin Road. This transfer station serves much of the County, and the station is open to County residents to drop off solid waste. Any solid waste generated as a part of this Project would go to the Oberlin Road Transfer Station. The Oberlin Road Transfer Station accepts solid waste including household waste, construction waste, (concrete, wood, metal), white goods (appliances, including refrigerators), yard waste, and recyclable materials. Fees are charged on a volume and weight basis, with the exception of white goods which are charged on an individual basis. The Oberlin Road Transfer Station is estimated to have capacity to serve the county for 30 years.

Discussion of Checklist Answers:

- a) The proposed Project will have no impact on wastewater treatment. *No impact*.
- b) The Project will have *no impact* on water or wastewater facilities.
- c) The Project will have no impact on stormwater drainage facilities. *No impact*.
- d) The Project will result in a net decrease in the amount of water diverted from the Little Shasta River for irrigation and stockwater, therefore decreasing the demand on water supplies. There will be no net increase in water supply and existing entitlements and resources are adequate to serve the Project. The Project will not result in any expanded entitlements or water rights. *Less than significant.*
- e) See a) and b) above. *No impact*.
- f) The Project will generate solid waste as a result of removal of the existing diversion structure which includes the removal of concrete and steel. If solid waste is generated it will be disposed of at the Oberlin Road Transfer Station, which has capacity to serve the County for the next 30 years. The Project will have a *less than significant impact* on landfills and solid waste.
- g) The Project will have *no impact* on solid waste.

Conclusions Relating to Utilities and Service Systems:

The Project will have a *less than significant impact* on Utilities and Service Systems.

Environmental Issues	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
19. MANDATORY FINDINGS OF SIGNIFICANCE				
 a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animal, or eliminate important examples of the major periods of California history or prehistory? b) Does the project have impacts that are individually limited, but 				
cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?				\boxtimes

Discussion of Mandatory Findings of Significance:

- a) The proposed Project may have impacts on biological and cultural resources as discussed in Section 4.4, Biological Resources and Section 4.5, Cultural Resources. Mitigation measures MM 4.1 through MM 4.8 and MM 5.1 through MM 5.3 will reduce impacts to be *less than significant with mitigation incorporated*.
- b) The proposed Project has cumulative impacts associated with construction of the Project which are primarily limited to impacts associated with in-stream work and earth moving activities. The Initial Study and Mitigated Negative Declaration for the proposed Project has evaluated the potential impacts of construction of the Project and has incorporated mitigation that will reduce impacts to a level that is considered to be less than significant. The proposed Project is intended to improve flows, fish passage, and water quality in the Little Shasta River, and improve irrigation management opportunities and efficiencies. The proposed Project includes revegetation in locations where vegetation removal is necessary for Project's incremental effects, when considered in connection with the effects of past projects, current projects, and the effects of probable future projects, are considered to be minimal in nature and will actually result in an overall improvement to aquatic habitat and water quality in the Little Shasta River watershed in the long term. The volume of agricultural diversions will be reduced below current levels by up to 1.5 cfs, reducing cumulative impacts to listed species and riverine habitats. Therefore, cumulative impacts are minimized and are considered to be *less than significant with mitigation incorporated*.
- c) The proposed Project does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. *No impact.*

5 Special Studies and References

5.1 Documents Referenced in Initial Study and/or Incorporated by Reference

The following persons and documents were used to determine the potential for impact from the proposed project. Compliance with federal, state and local laws is assumed in all projects.

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5.0 SPECIAL STUDIES AND REFERENCES

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APPENDICES

APPENDIX A

Hart Ranch Legally Appropriated Water Rights

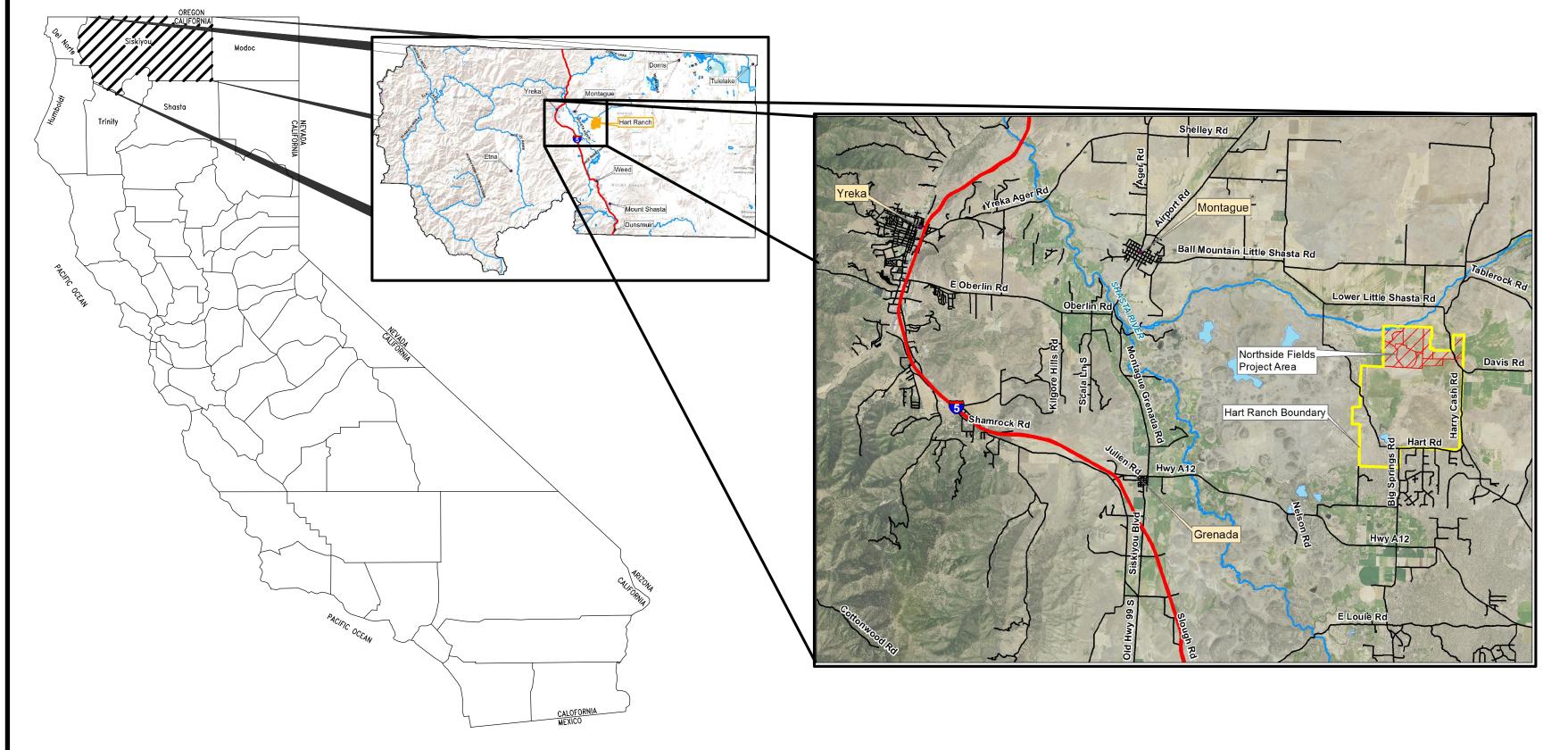
DIVERSION #	WATER RIGHT TYPE	PRIMARY OWNER	DIVERSION LOCATION	DIVERSION SEASON	DIVERSION AMOUNT (Acre Feet)	DIVERSION RATE (cfs)	Decree Paragraph	Total Summer Diversion (cfs)	Total Winter Diversion (cfs
471	Appropriative	Rabbit Hill, LLC	Hart-Haight (LSR: RK 18.5)*	3/1-11/1	258	0.529	163		2110101011 (010
471	Appropriative	Blair Hart	Hart-Haight (LSR: RK 18.5)*	3/1-11/1	9	0.021	163	0.55	
471	Appropriative	Rabbit Hill, LLC	Hart-Haight (LSR: RK 18.5)*	11/1-3/1	70	0.144	163		
471	Appropriative	Blair Hart	Hart-Haight (LSR: RK 18.5)*	11/1-3/1	2	0.006	163		0.15
472	Appropriative	Rabbit Hill LLC	Hart-Haight (LSR: RK 18.5)*	3/1-11/1		0.255	88-13	0.255	
472	Appropriative	Rabbit Hill LLC	Hart-Haight (LSR: RK 18.5)*	11/1-3/1		0.027	88-13		0.027
474	Appropriative	Rabbit Hill, LLC	Hart-Haight (LSR: RK 18.5)*	3/1-11/1	4,712	9.659	152		
474	Appropriative	Soda Springs, LLC	Hart-Haight (LSR: RK 18.5)*	3/1-11/1	1940	3.981	152	13.64	
474	Appropriative	Rabbit Hill, LLC	Hart-Haight (LSR: RK 18.5)*	11/1-3/1	492	1.029	152		
474	Appropriative	Soda Springs, LLC	Hart-Haight (LSR: RK 18.5)*	11/1-3/1	207	0.425	152		1.454
478	Appropriative	Rabbit Hill, LLC	Hart-Haight (LSR: RK 18.5)*	3/1-11/1	1,455	2.983	165	2.983	
478	Appropriative	Rabbit Hill, LLC	Hart-Haight (LSR: RK 18.5)*	11/1-3/1	243	0.499	165		0.499
otal I ittle Shae	ta River Diversion	(RK 18 5)						17.428	2.13
		(10.3)						17.420	2.15
461/461/463	Appropriative	Soda Springs, LLC	Martin Spring	3/1-11/1		0.021	249	0.021	
467	Appropriative	Blair Hart	Evans Spring	3/1-11/1	190	0.388	164		
467	Appropriative	Rabbit Hill, LLC	Evans Spring	3/1-11/1	960	1.967	164	2.355	
467	Appropriative	Blair Hart	Evans Spring	11/1-3/1	190	0.388	164		
467	Appropriative	Rabbit Hill, LLC	Evans Spring	11/1-3/1	960	1.967	164		2.355
tal Spring Div	ersion (Evans & M	artin Enring)						2.270	2 255
nai Spring Dive		artin Spring)						2.376	2.355
	ICH WATER RIGHT I							19.804	4.485

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APPENDIX B

Hart Ranch Northside Stock Watering Facilities, 75% Design Davids Engineering, Inc. August 2016

Northside Stock Watering Facilities



Location Map

Scale: Not to Scale

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HART RANCH

75% DESIGN NOT FOR CONSTRUCTION

Abbreviations

2.5 : 1	HORIZONTAL : VERTICAL SLOPE	INV
AB	AGGREGATE BASE	L=
AC	ACRE	LAT
AF	ACRE-FEET	LCW
AP	ANGLE POINT	MAX
APP	APPROVED	MIN
APPROX	APPROXIMATE	MISC
BC	BEGINNING OF CURVE	(N)
BM	BENCH MARK	N.
CFS	CUBIC FEET PER SECOND	NTBL
CJ	CONSTRUCTION JOINT	0.C.
C	CENTERLINE	0.D.
CL	CLASS	OH
CLSM	CONTROLLED LOW-STRENGTH MATERIAL	PCC
CLR	CLEARANCE	PRC
CONC	CONCRETE	PSI
CSP	CORRUGATED STEEL PIPE	PVC
CTR	CENTER	REV
CTD	CENTERED	RCP
DEG	DEGREE	S=
DIA	DIAMETER	SCH
DWG	DRAWING	SE
(E)	EXISTING	SIM
E	ELECTRIC LINE	SST
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EA	EACH	TBR
EC	END OF CURVE	TOB
EF	EACH FACE	TOC
ĒG	EXISTING GROUND	TOL
ELEC	ELECTRIC	TOW
ELEV	ELEVATION	TYP
EW	EACH WAY	UNO
F&I	FURNISH AND INSTALL	USBI
FG	FINISHED GRADE	WSE
FL	FLOWLINE	
FT	FEET	
FTO	FARMER TURNOUT	
GALV	GALVANIZED	
GB	GRADE BREAK	
HDPE	HIGH DENSITY POLYETHYLENE	
HWM	HIGH WATER MARK	



			BREAK LINE
			CENTERLINE
o		— ə	HANDRAIL
			SLOPE LINES
	· · · · ->		DRAINAGE DITCH
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<u>OWNER:</u> HART RANCH *CONTACT INFO*

ENGINEER: DAVIDS ENGINEERING, INC TOMMY OSTROWSKI, PE 1772 PICASSO AVENUE, DAVIS, CA SUITE A 530-757-6107 EXT.108

INVERT LENGTH = LATERAL LONG CRESTED WEIR MAXIMUM MINIMUM MISCELLANEOUS NEW NORTH (COORDINATE) NOT TO BE DISTURBED ON CENTER OUTSIDE DIAMETER OVERHEAD POINT OF COMPOUND CURVATURE POINT OF REVERSE CURVATURE POUNDS PER SQUARE INCH POLYVINYL CHLORIDE REVISION REINFORCED CONCRETE PIPE SLOPE = SCHEDULE STRAIGHT EMBEDMENT SIMILAR STAINLESS STEEL THICKNESS TO BE REMOVED TOP OF BANK TOP OF CONCRETE STRUCTURE TOP OF LINING TOP OF WEIR WALL TYPICAL UNLESS NOTED OTHERWISE UNITED STATES BUREAU OF RECLAMATION WATER SURFACE ELEVATION

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294	CONTOUR

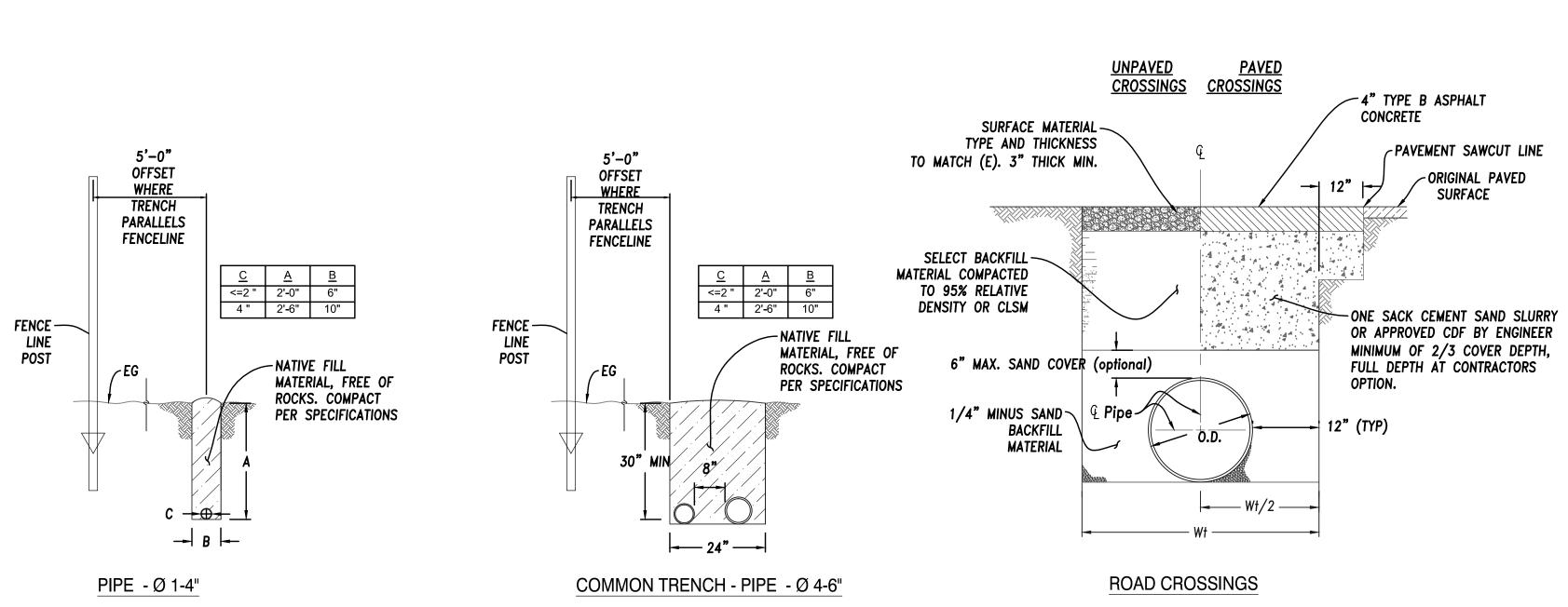


Know what's **below. Call** before you dig. **General Notes:**

To Be Added

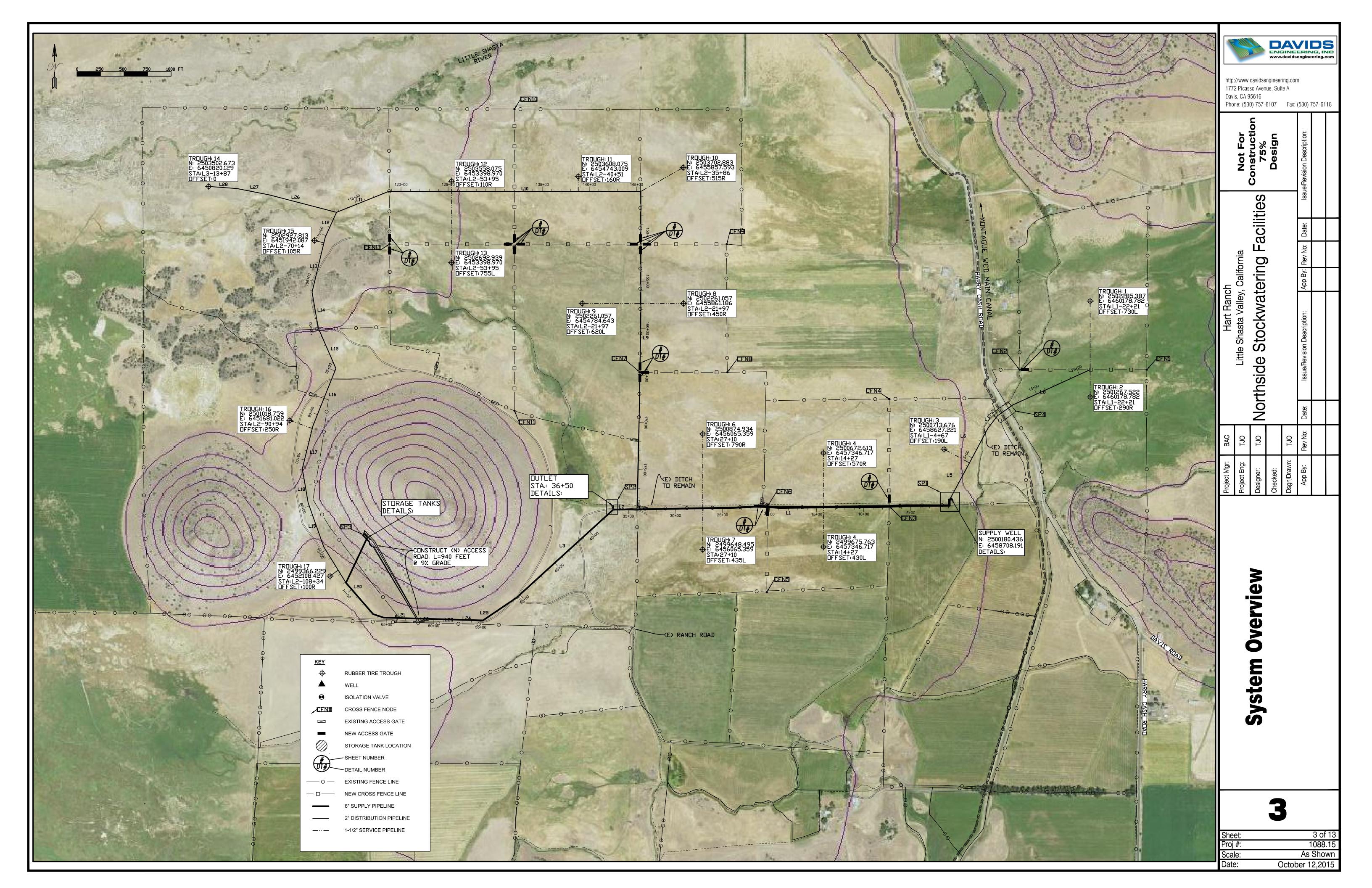
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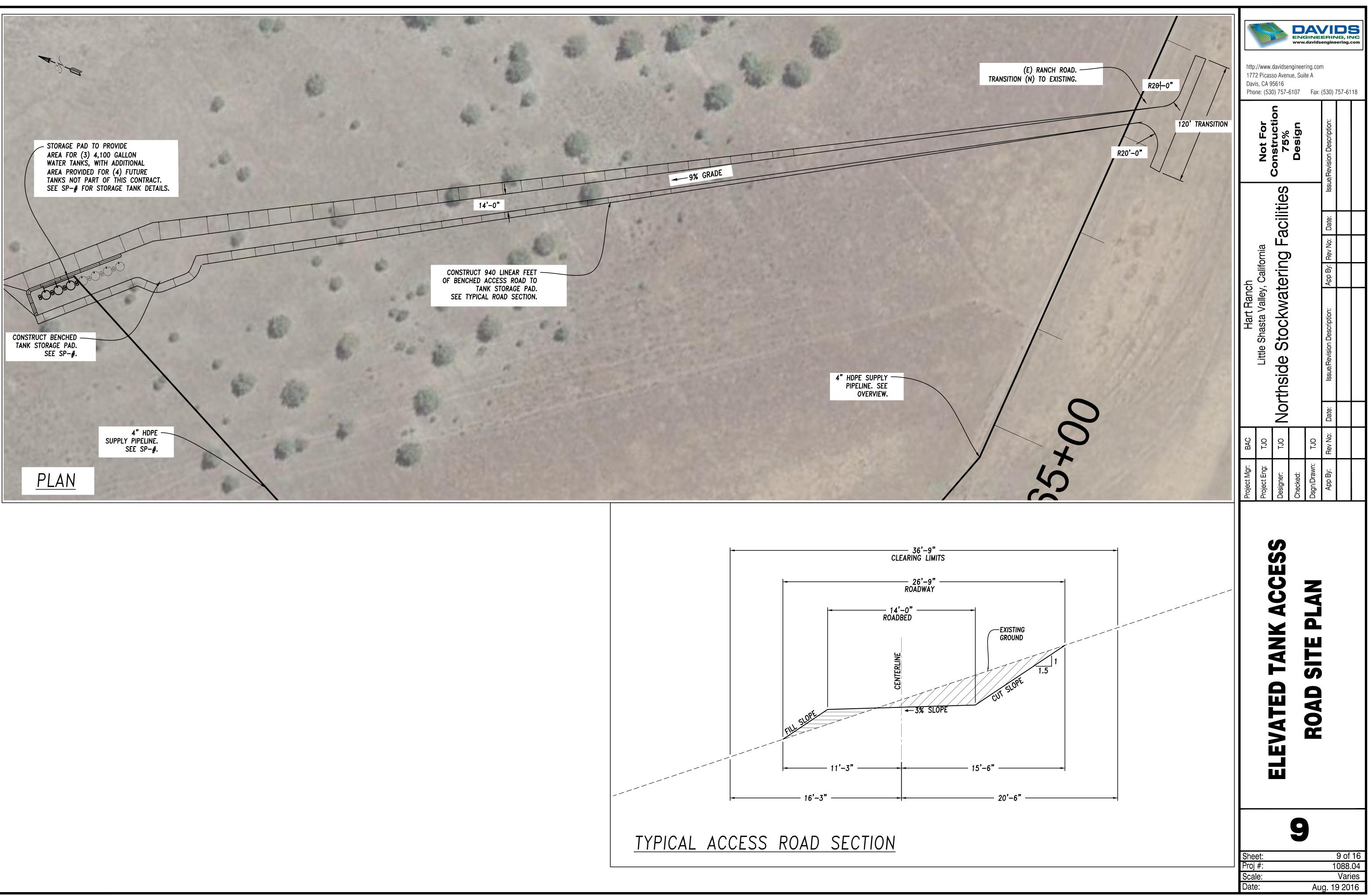
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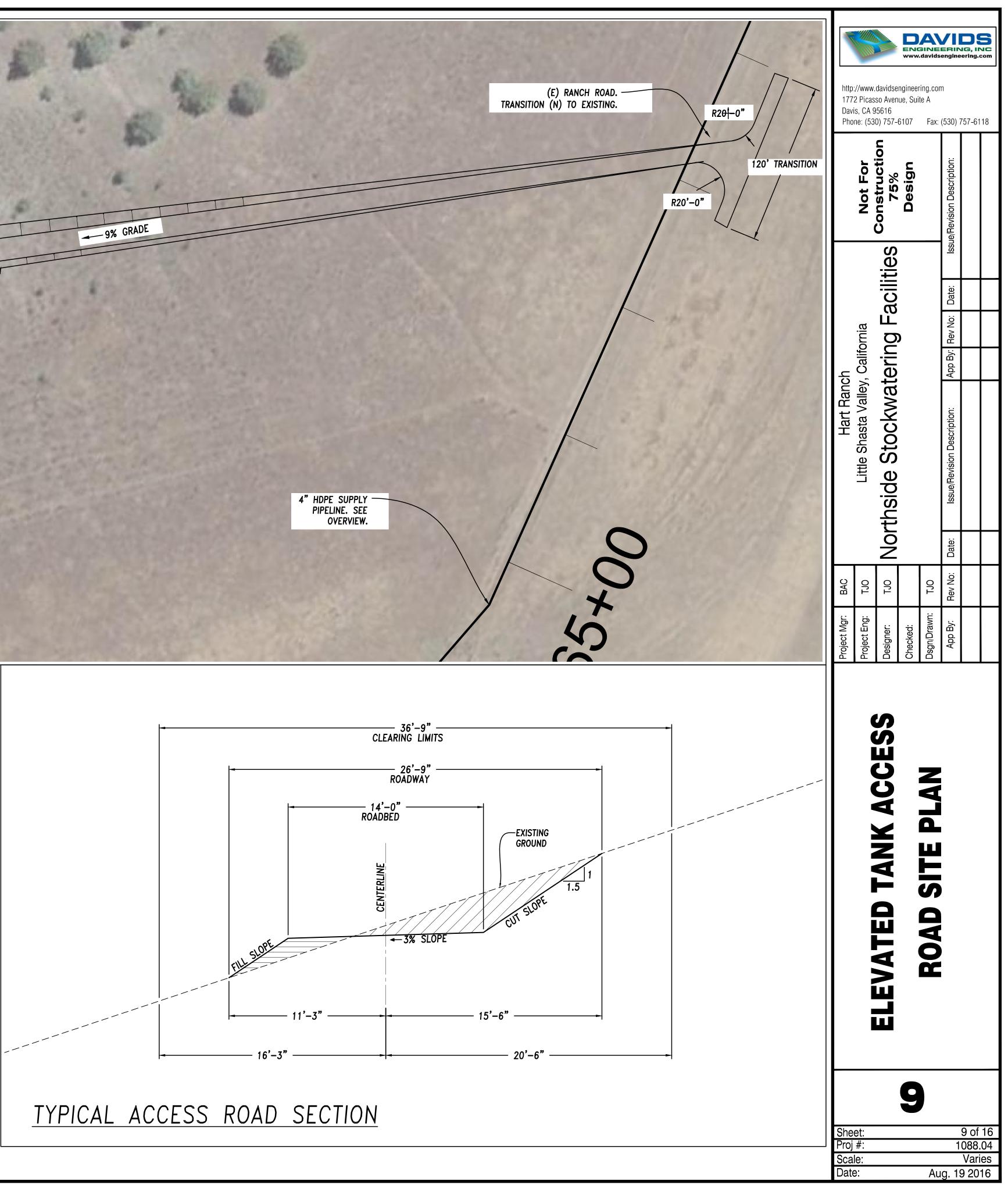


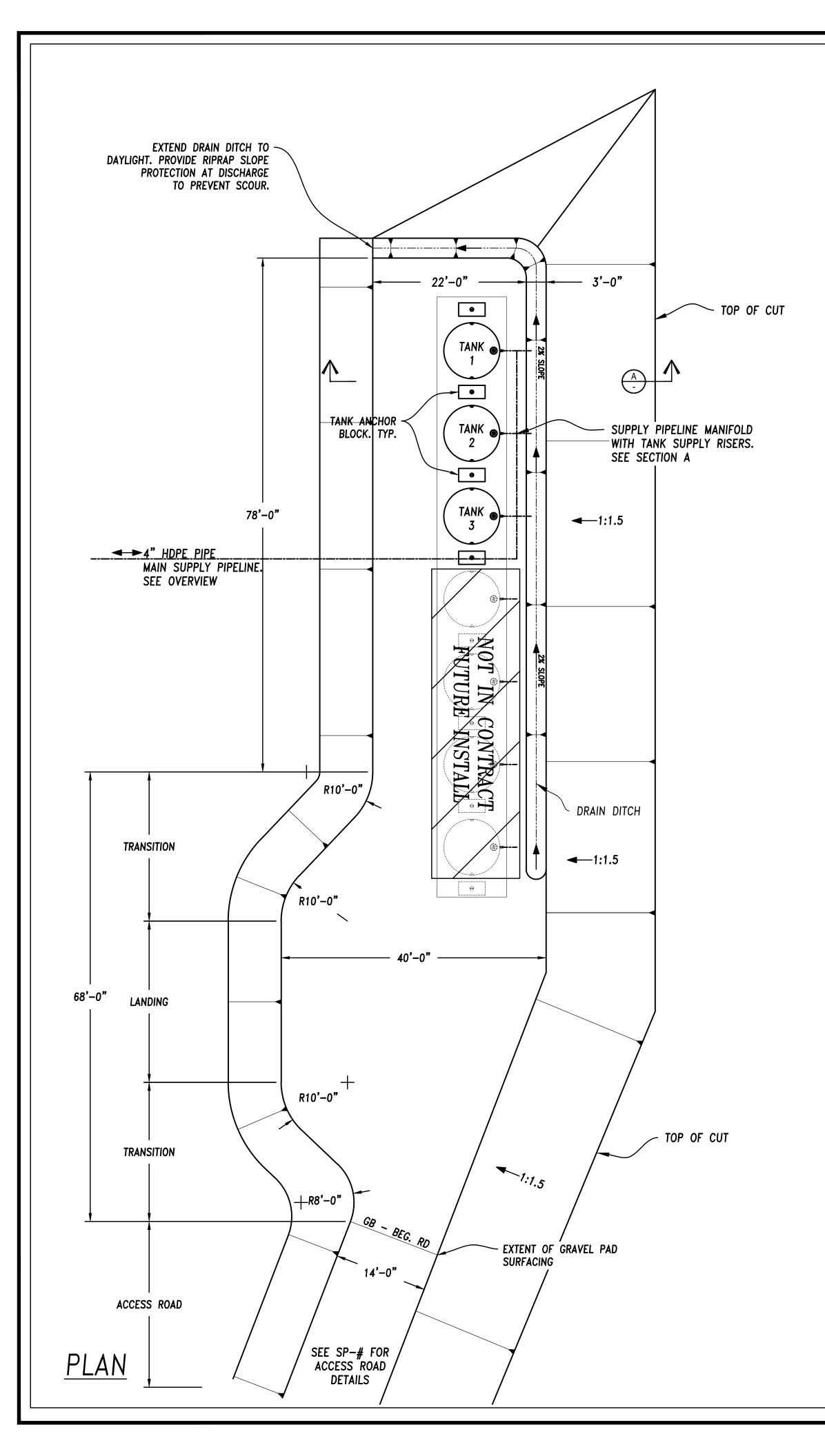
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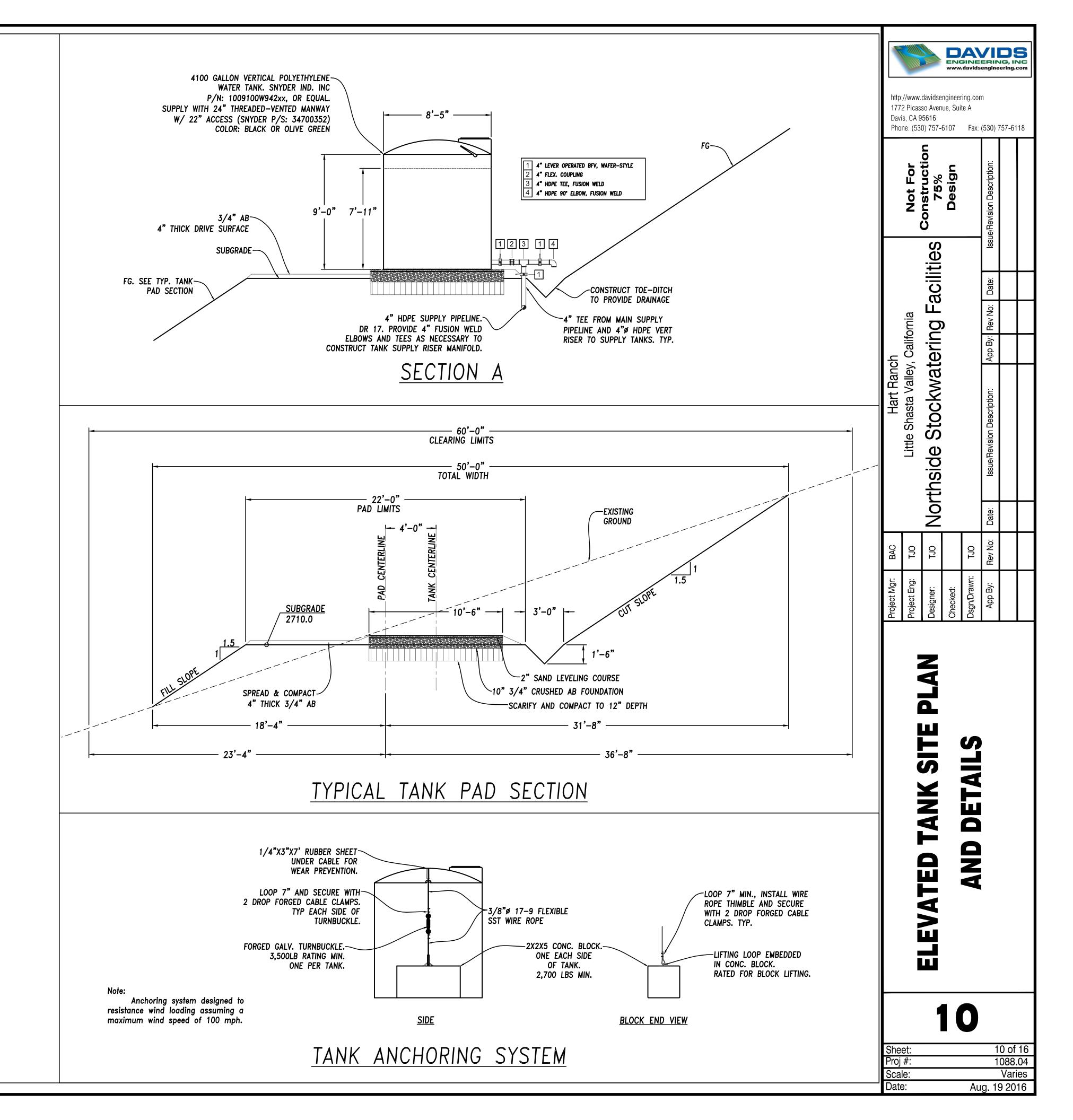
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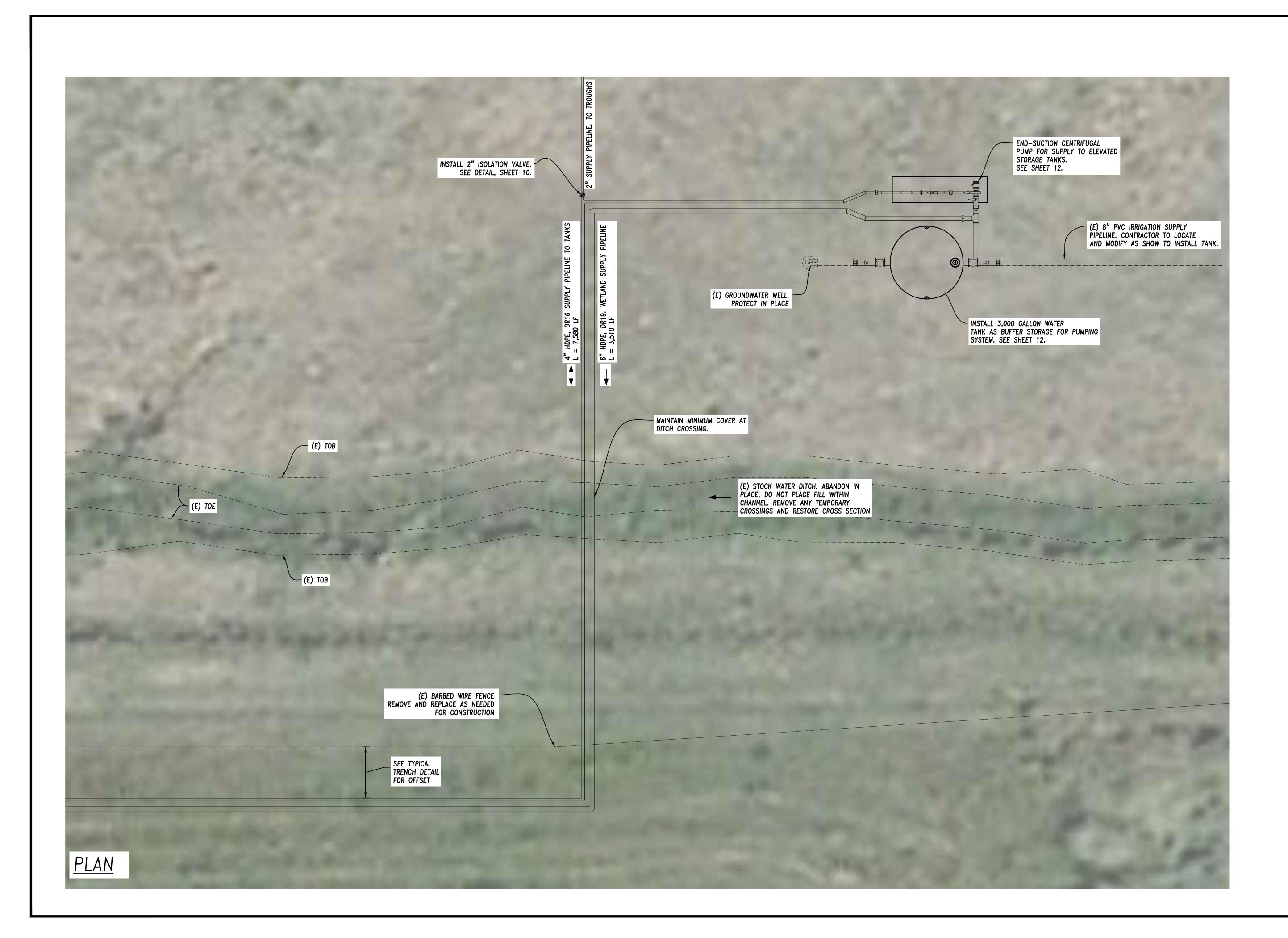




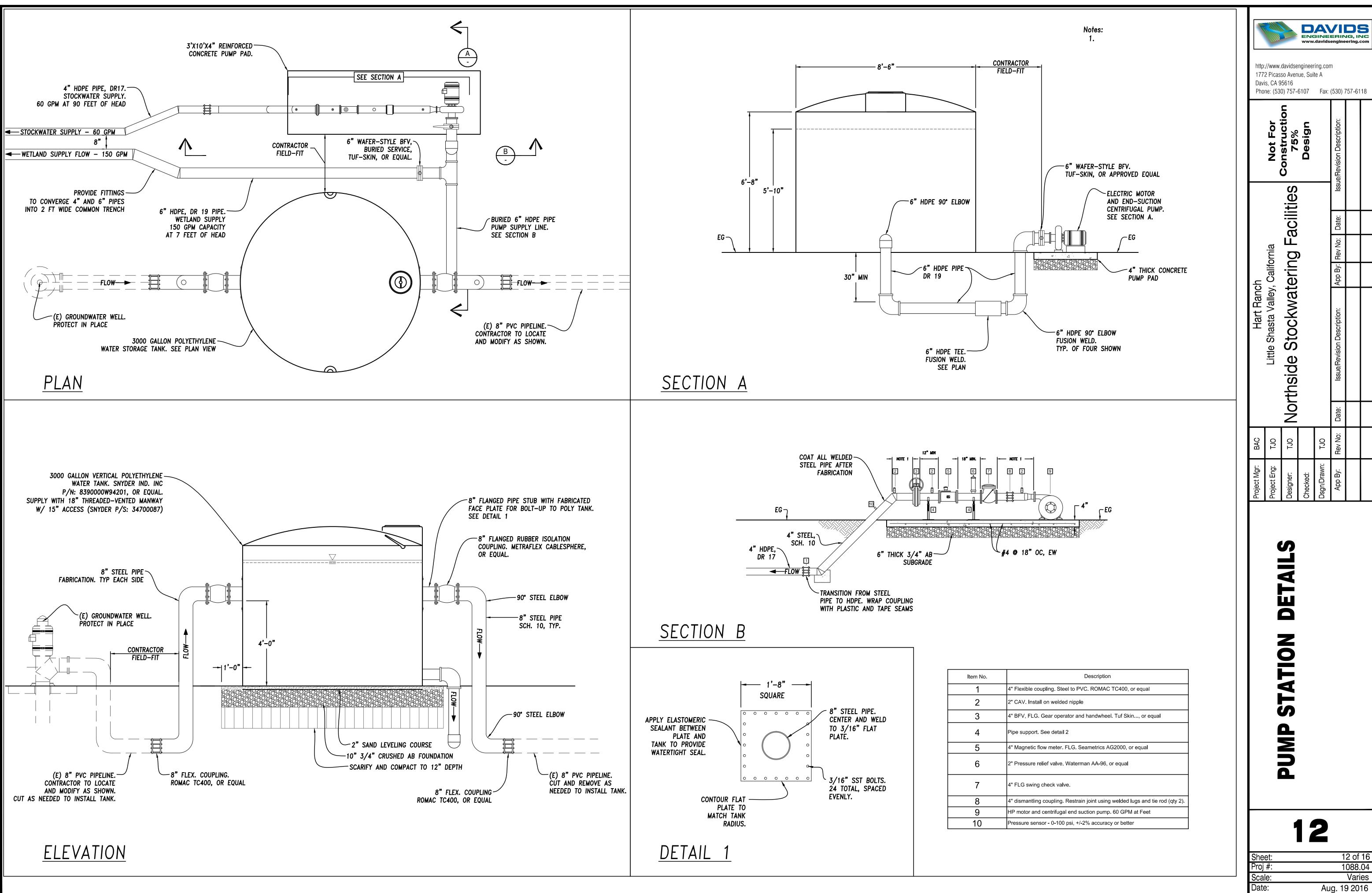


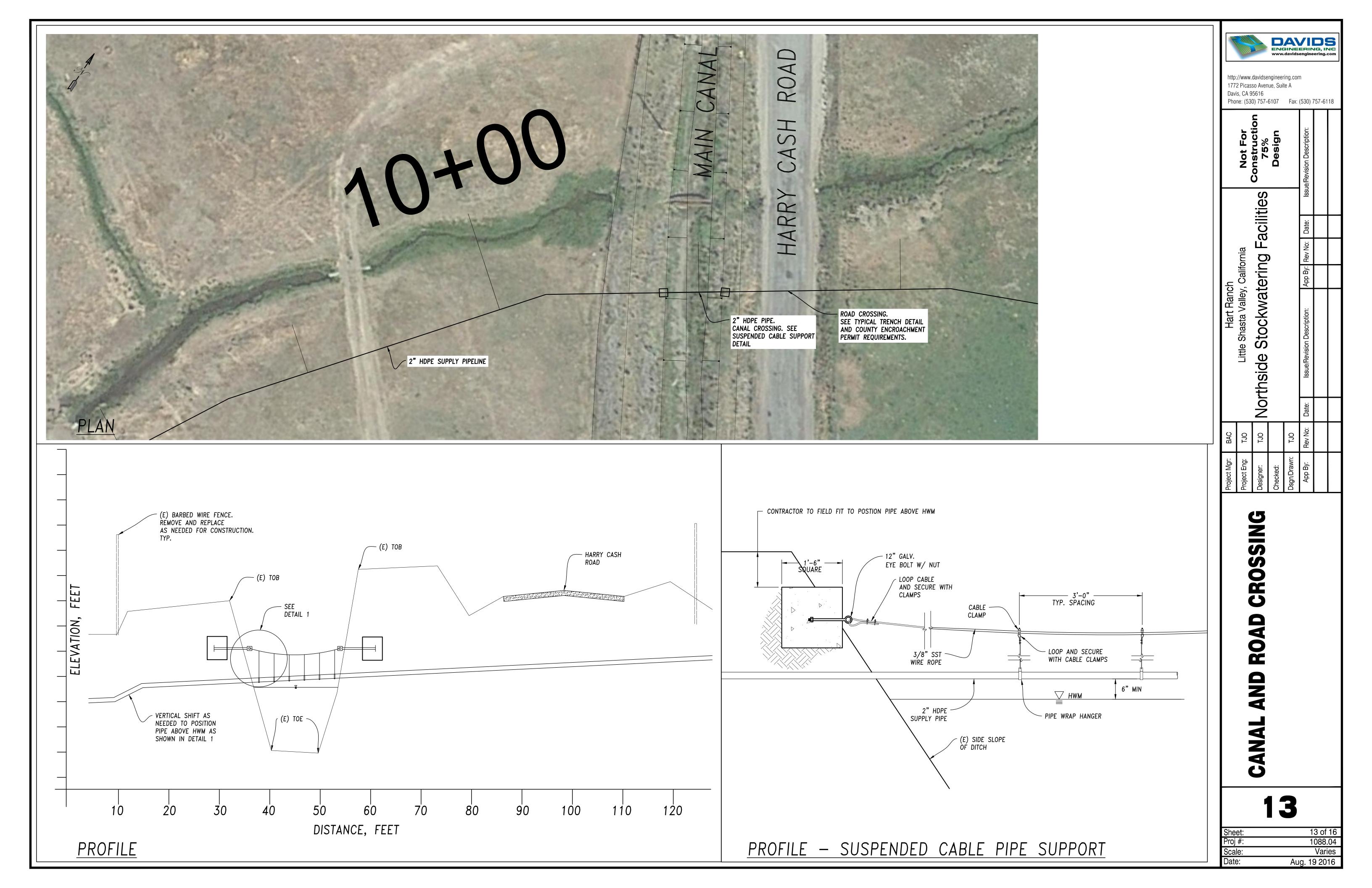


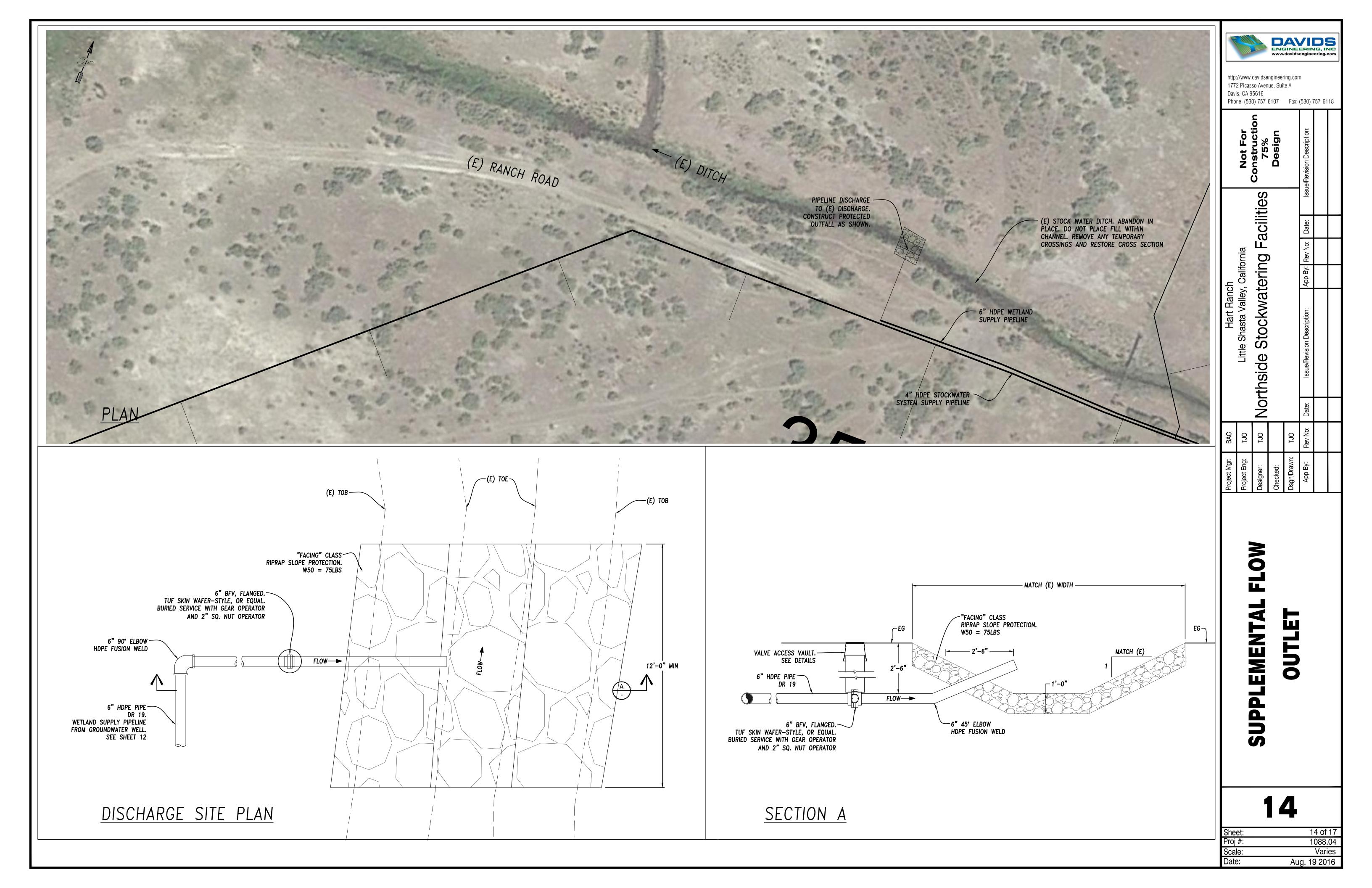


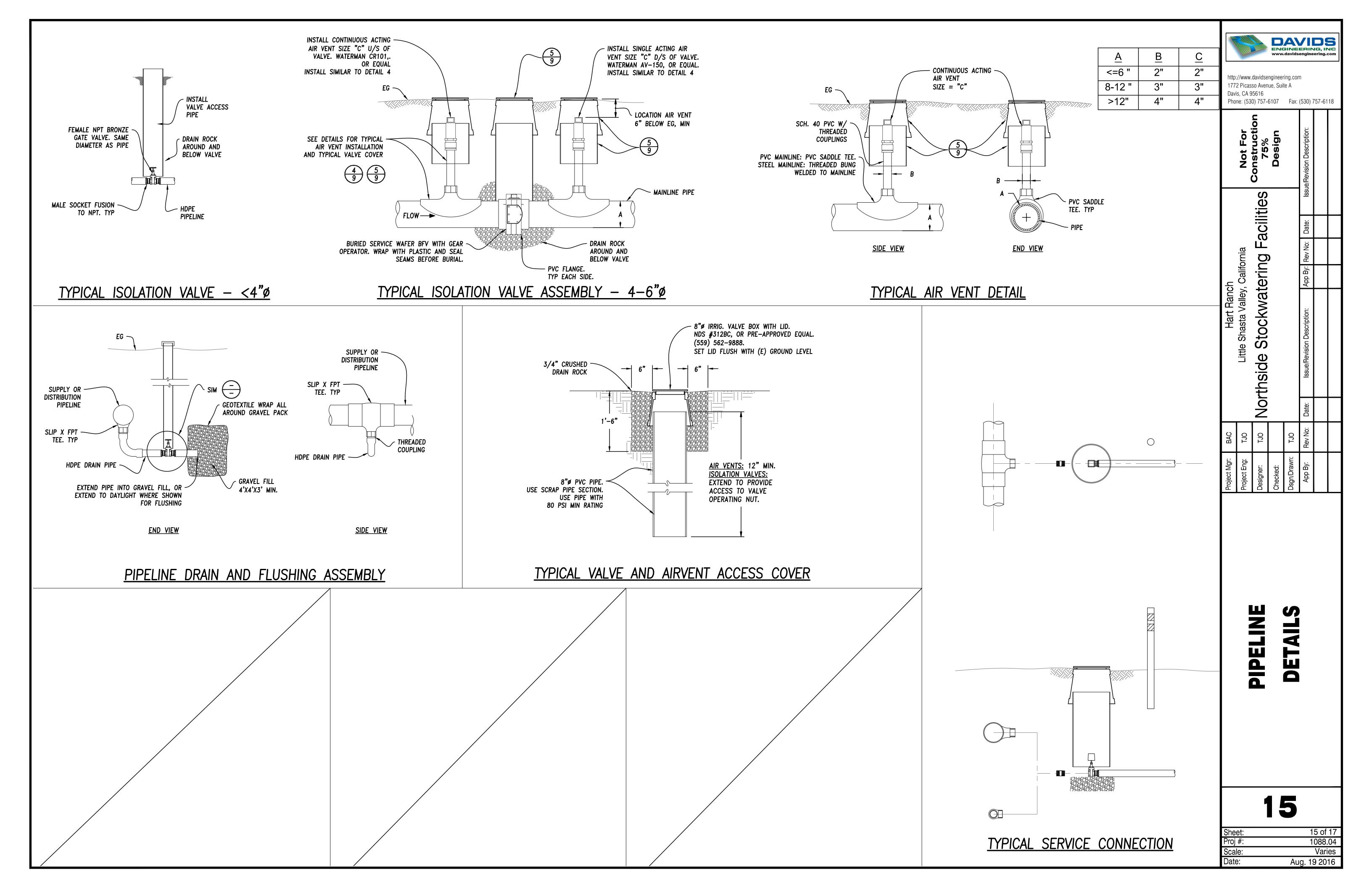


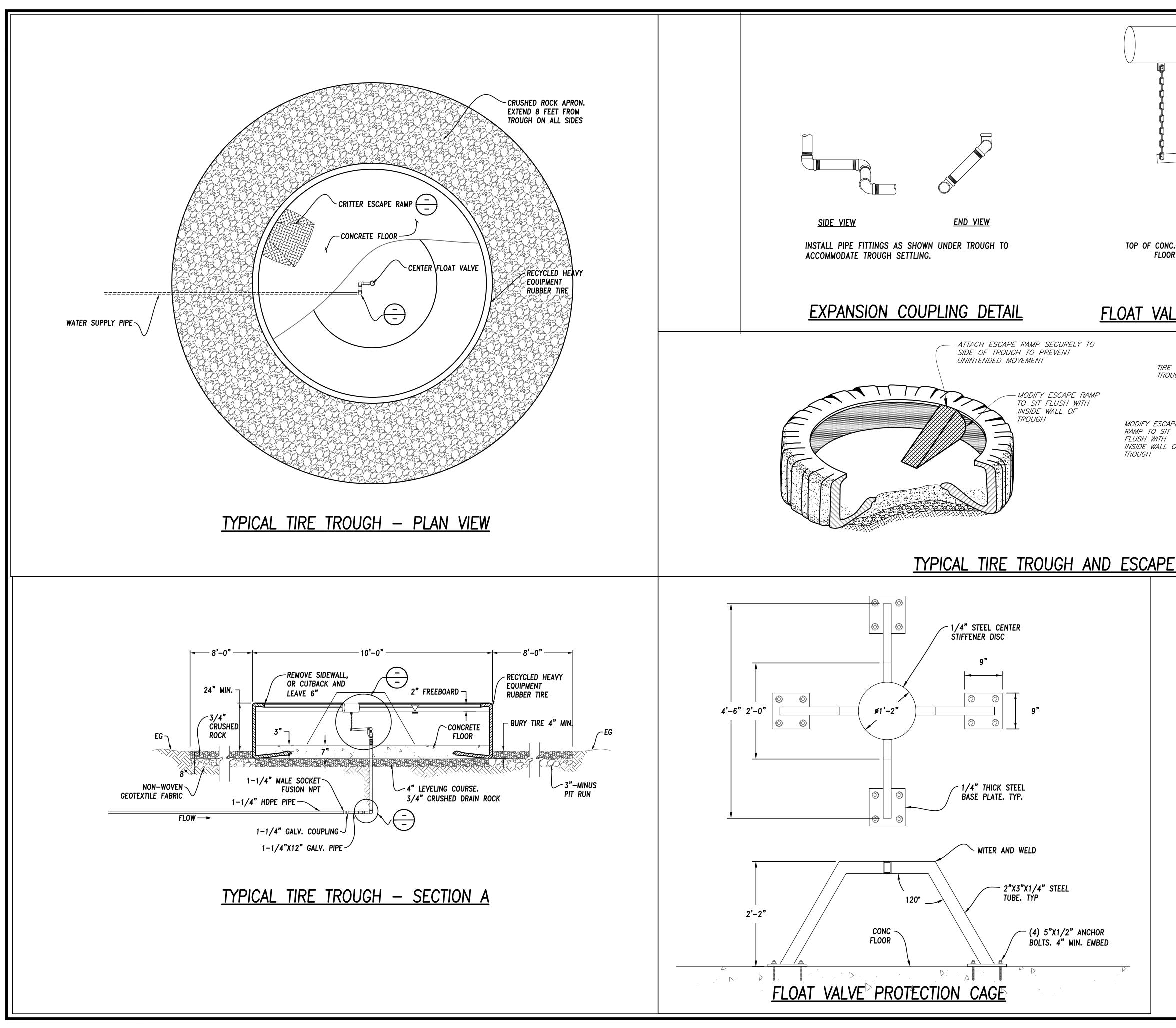
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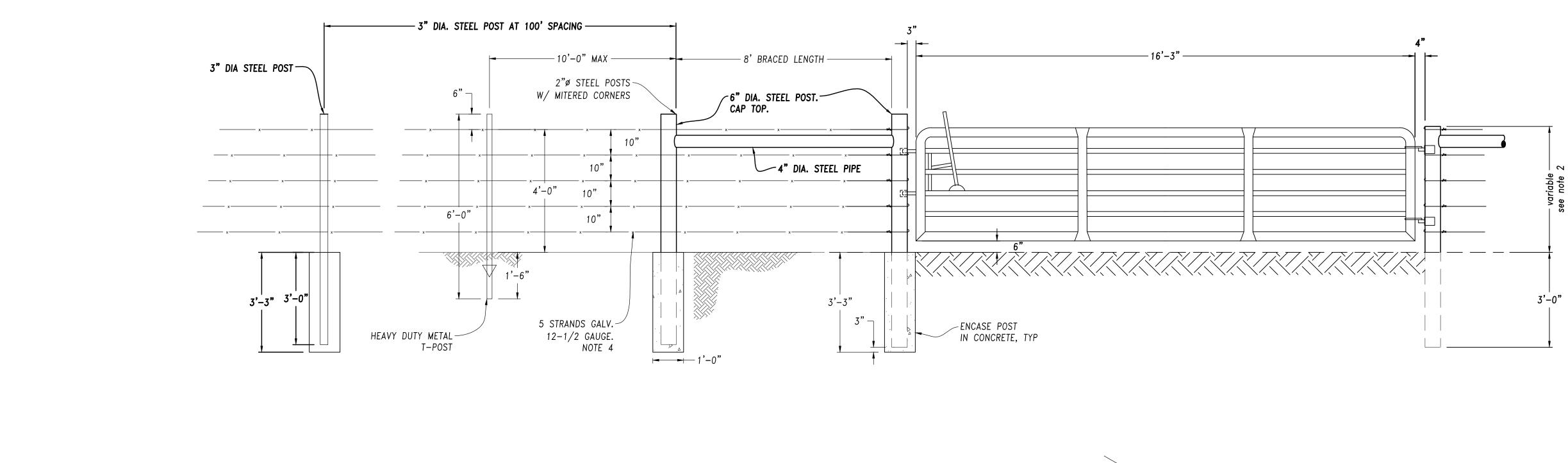


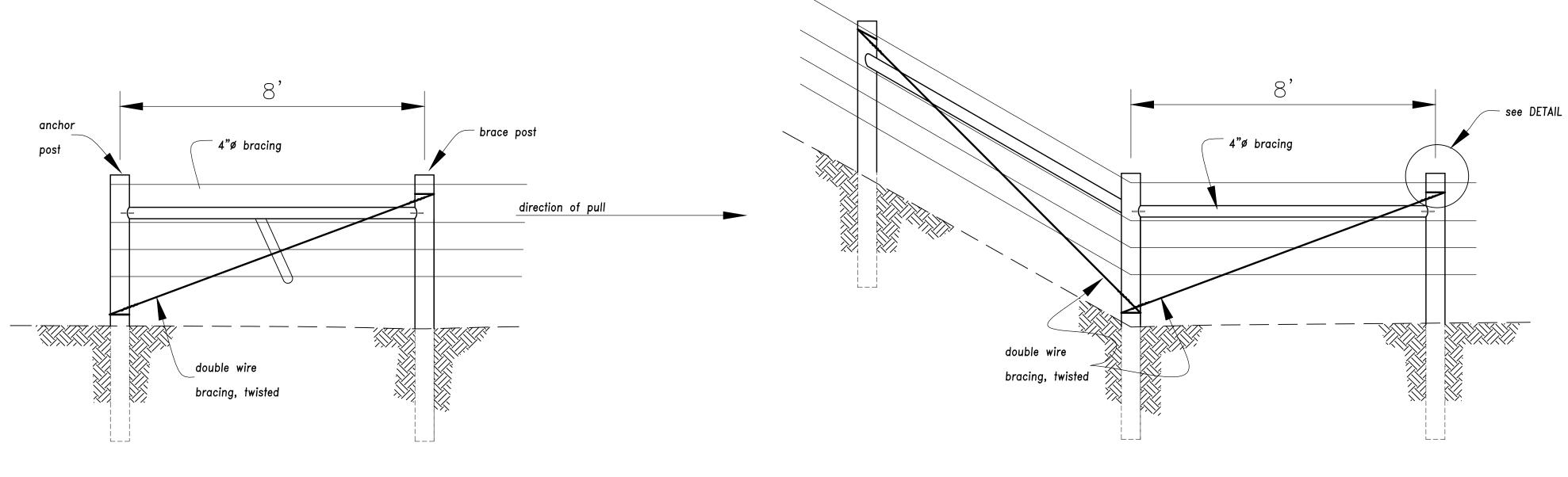


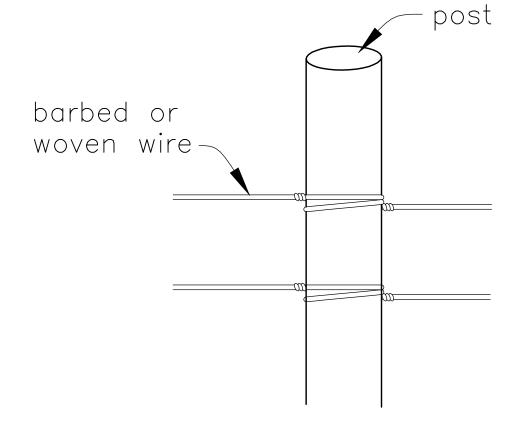




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) 18" HOT DIPPED GALV. LEVER AND			.davidse	enginee	ring.co		DS G, INC ering.cor	n n
	8" X 12" SS FLOAT WITH CHAIN.	1772 Picasso Avenue, Suite A Davis, CA 95616 Phone: (530) 757-6107 Fax: (530) 757-6118							
	1−1/4" FLOAT VALVE WITH BRASS SEAT. HIGH VOLUME VALVE. 1−1/4"X2" GALV. NIPPLE		Not For	ပိ	Design		Issue/Revision Description:		
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-	1-1/4" GALV PIPE. LENGTH AS NEEDED. EXTEND THROUGH CONC. FLOOR.		ornia	Ц Д)		Rev No:		
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F	RAMP	Projec	Proje(Designer:	Checked:	Dsgn,	Ap		
	<u>REQUIREMENTS</u>								
	Escape ramps shall extend to bottom of trough and be flush with inside wall of the trough to provide safe and easy egress at low water levels. Escape ramps shall be sloped no steeper			TROUGH		5			
	than 45 degrees, to allow animals to climb out without slipping back into the water.								
3.	Escape ramps shall be built of tractive, long lasting materials, such as painted or coated metal grating, or high-strength plastic composites. Expanded metal escape ramps shall be 11 or 13 gauge with 1/2 inch mesh and shall be finished with a rust-inhibiting paint or coating.			RUBBER TIR		DETAIL			
4.	Escape ramps shall be securely attached to the trough rim. Recommend attaching ramp with metal-tapping screw and washer, or a bracket with a bolt and wing nut for easy removal during trough maintenance. Secured attachment shall keep ramp from being moved loose by livestock, animals or freezing water.	She	et: #:			6		6 of 1 088.1	5
	being moved loose by livestock, animals or		#: le:					088. Vari	1: es

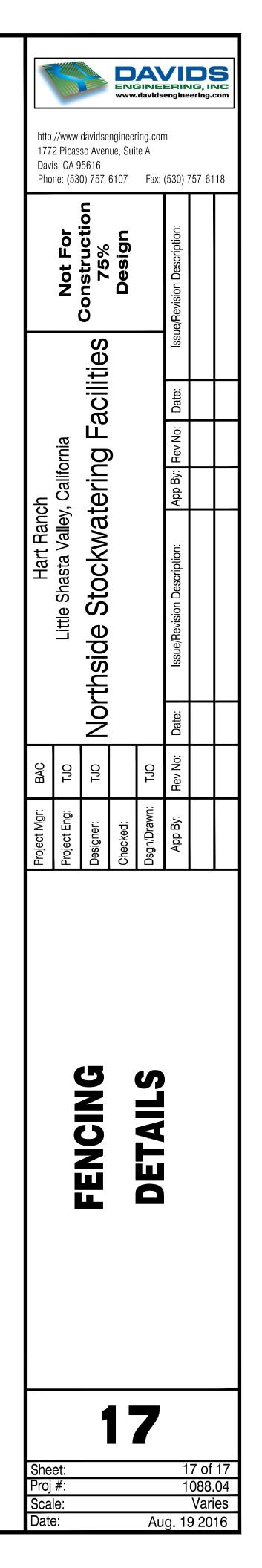






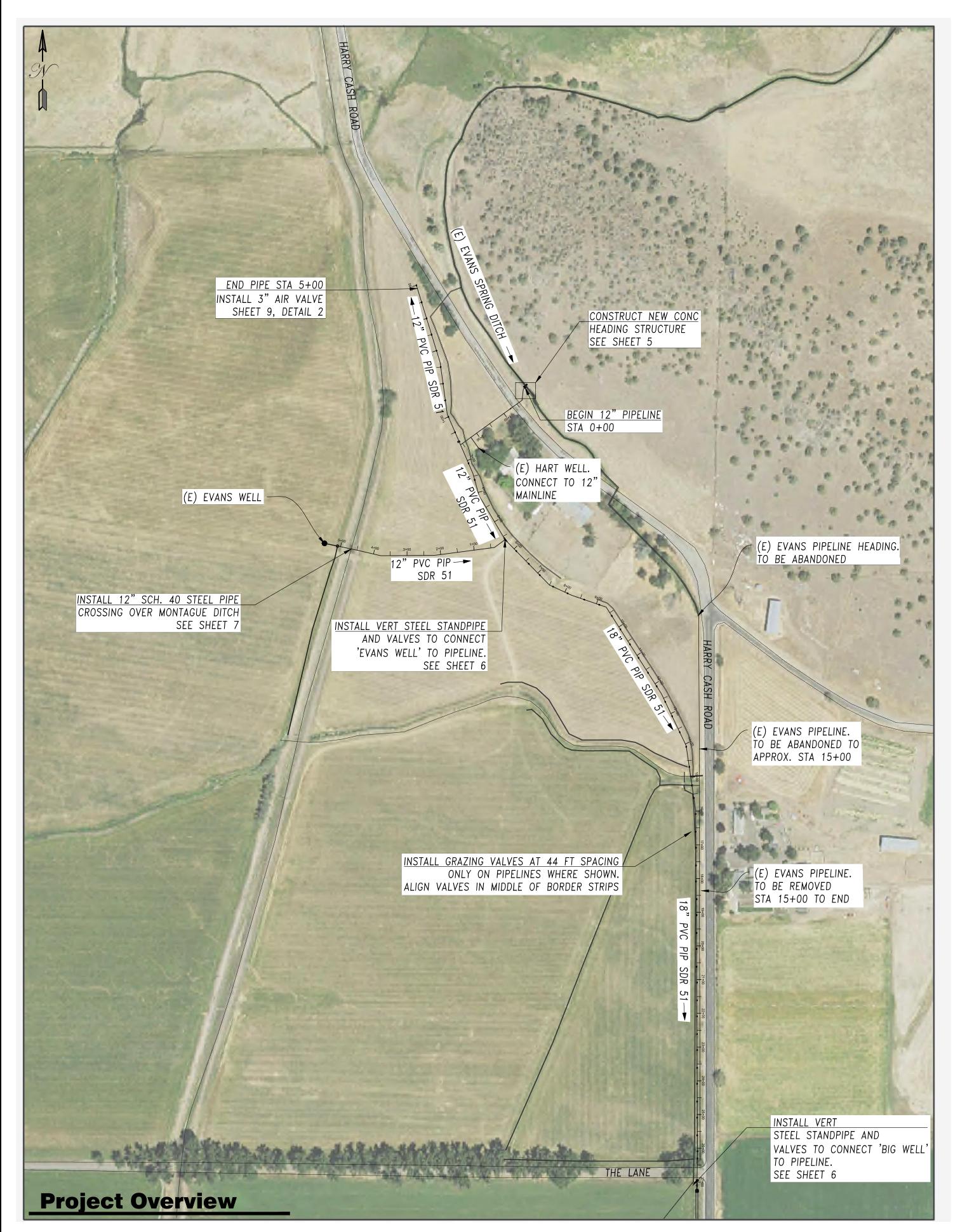
1-SPAN END

CORNER BRACE



APPENDIX C

Hart Ranch Main Pipeline Replacement 100% Design Davids Engineering, Inc. July 2016



RECORY MOUNTAIN

River



RELEASED FOR BIDDING ONLY 12/31/16

Sheet Index:

- Project Overview
- Plan and Profile Mainline 1
- Plan and Profile Mainline 2
- Plan and Profile Lateral 1 & Evans Well Connection
- Pipeline Heading Structure Sections and Details Stand Pipe Sections and Details Montague Ditch Crossing Details Irrigation Division Site Plan General Details 1
- 6
- 7 8
- 9
- 10 General Details 2

Notes

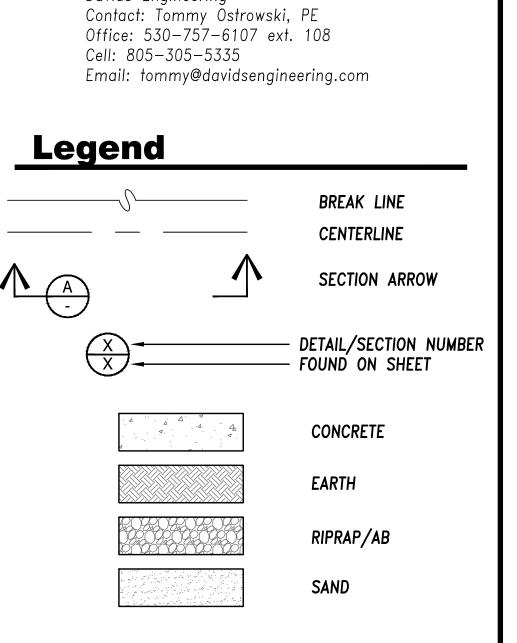
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- 1. All construction shall be in accordance with these drawings and the specifications bearing the project name
- "Hart Ranch Evans Spring Pipeline Replacement Project". 2. Landowner shall be responsible for obtaining any needed
- permits, easements, and/or right-of-ways.
- 3. Contractor will be responsible for locating and protecting all utilities. Special safety precautions to be taken when working in the vicinity of gas, oil, and electrical lines (buried and overhead).
- 4. Cal-OSHA safety requirements shall be in effect during all construction.
- 5. All lines and grades shown on these drawings are approximate. The proposed structure location shall be staked by the contractor and verified by the Engineer prior to construction.
- 6. Contact the Owner and the Engineer at least 7 days prior to construction. Owner:
 - Hart Ranch Contact: Blair Hart

Cell: 530-598-1051

Engineer: Davids Engineering



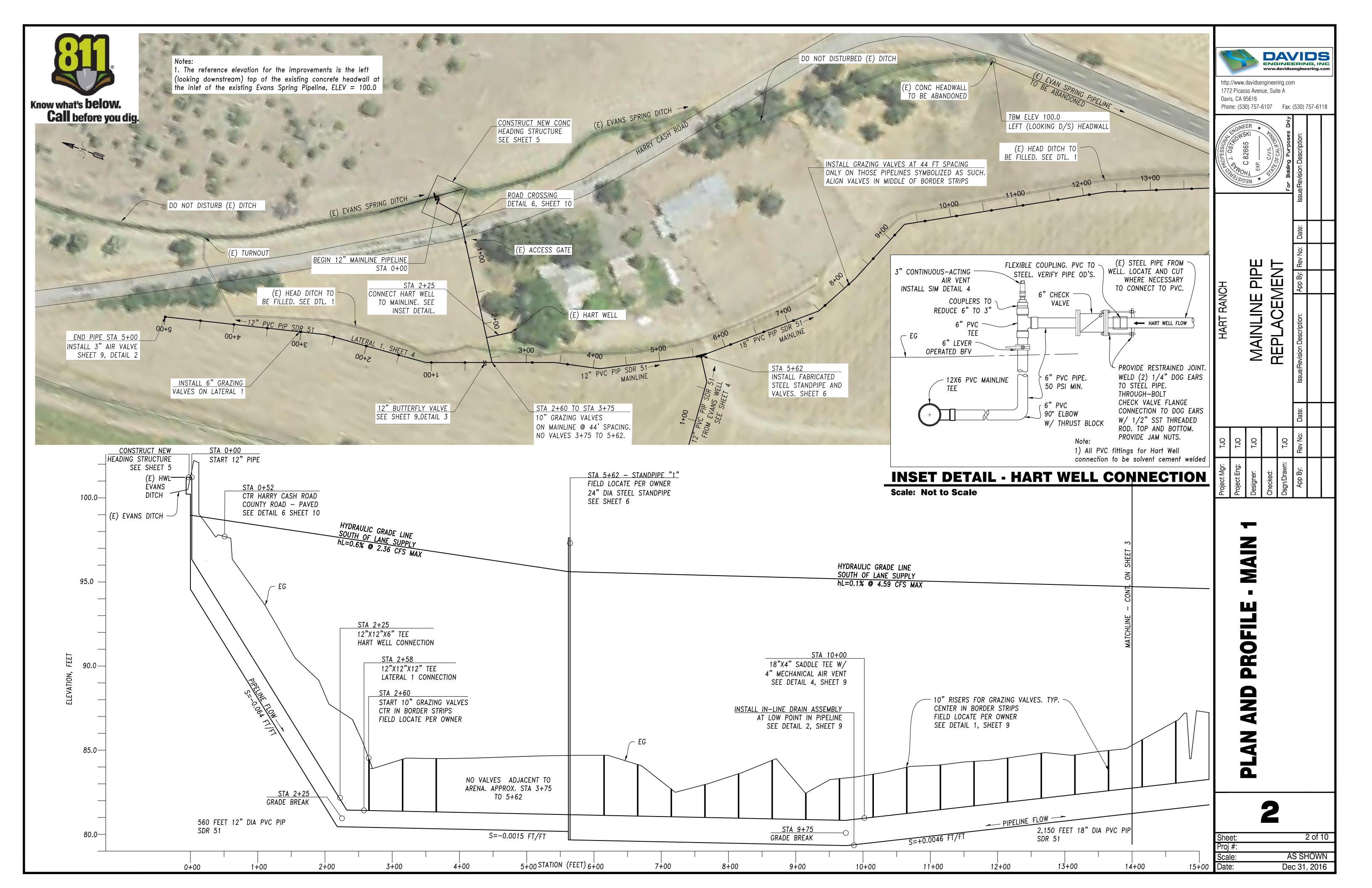
PIPELINE SUMMARY

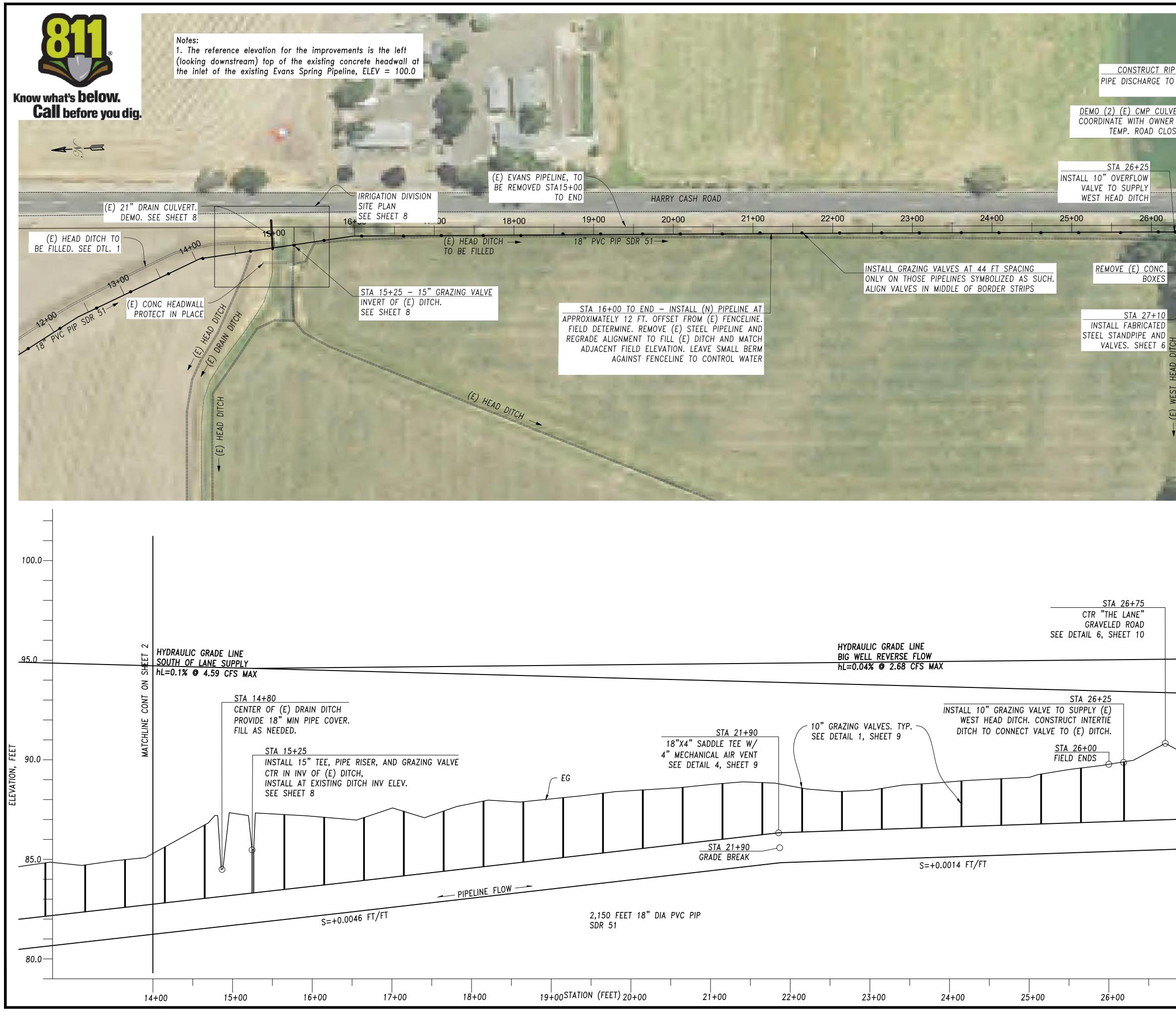
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6"	PVC PIP	65
	SDR 51	
12"	PVC PIP	1562
	SDR 51	
18"	PVC PIP	2150
	SDR 51	

Project Location Approximate Street Address: Shasta 3000 Harry Cash Road DISTEAMEDAT MOUNTAIN Montague, CA 96064

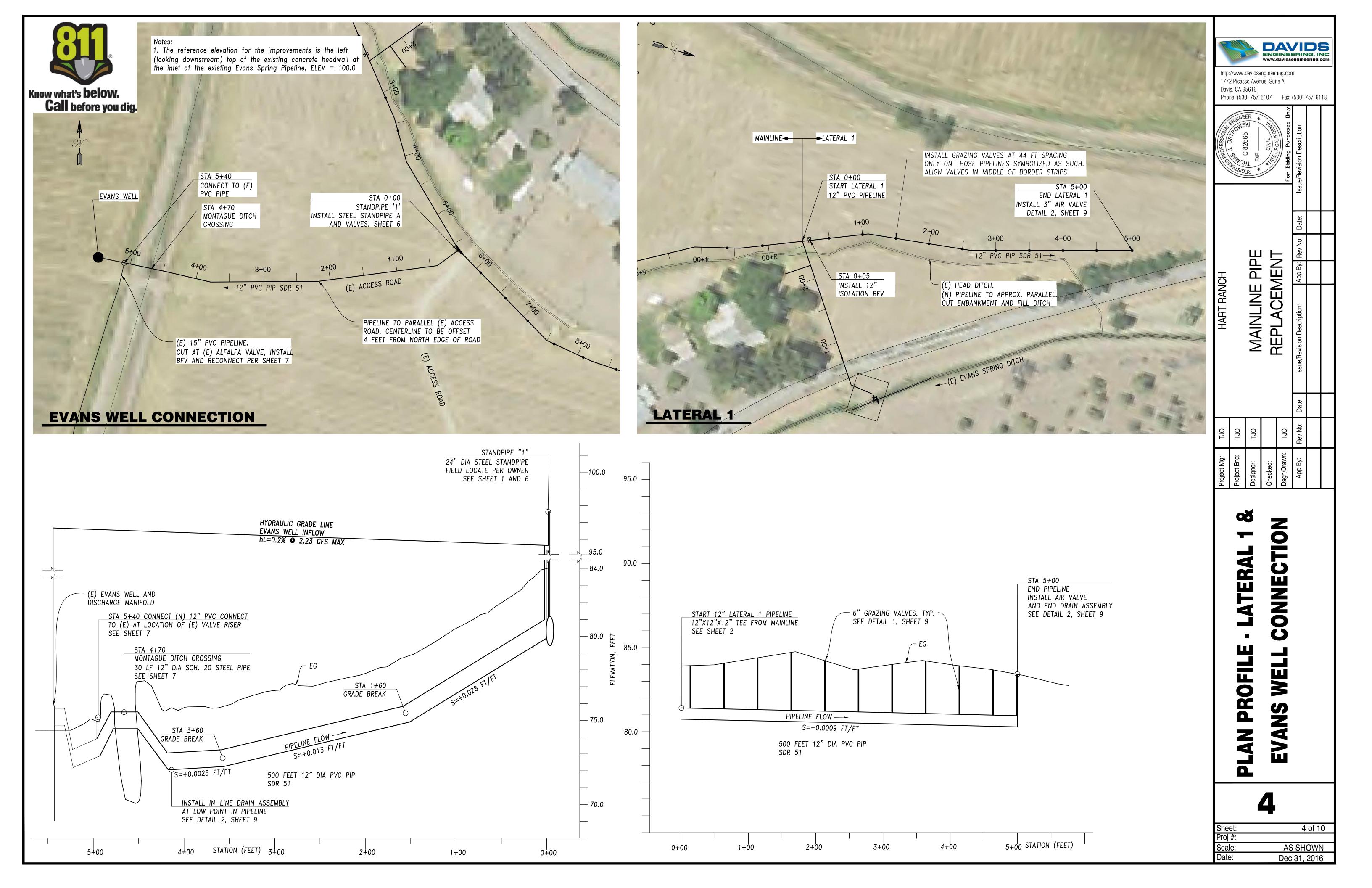
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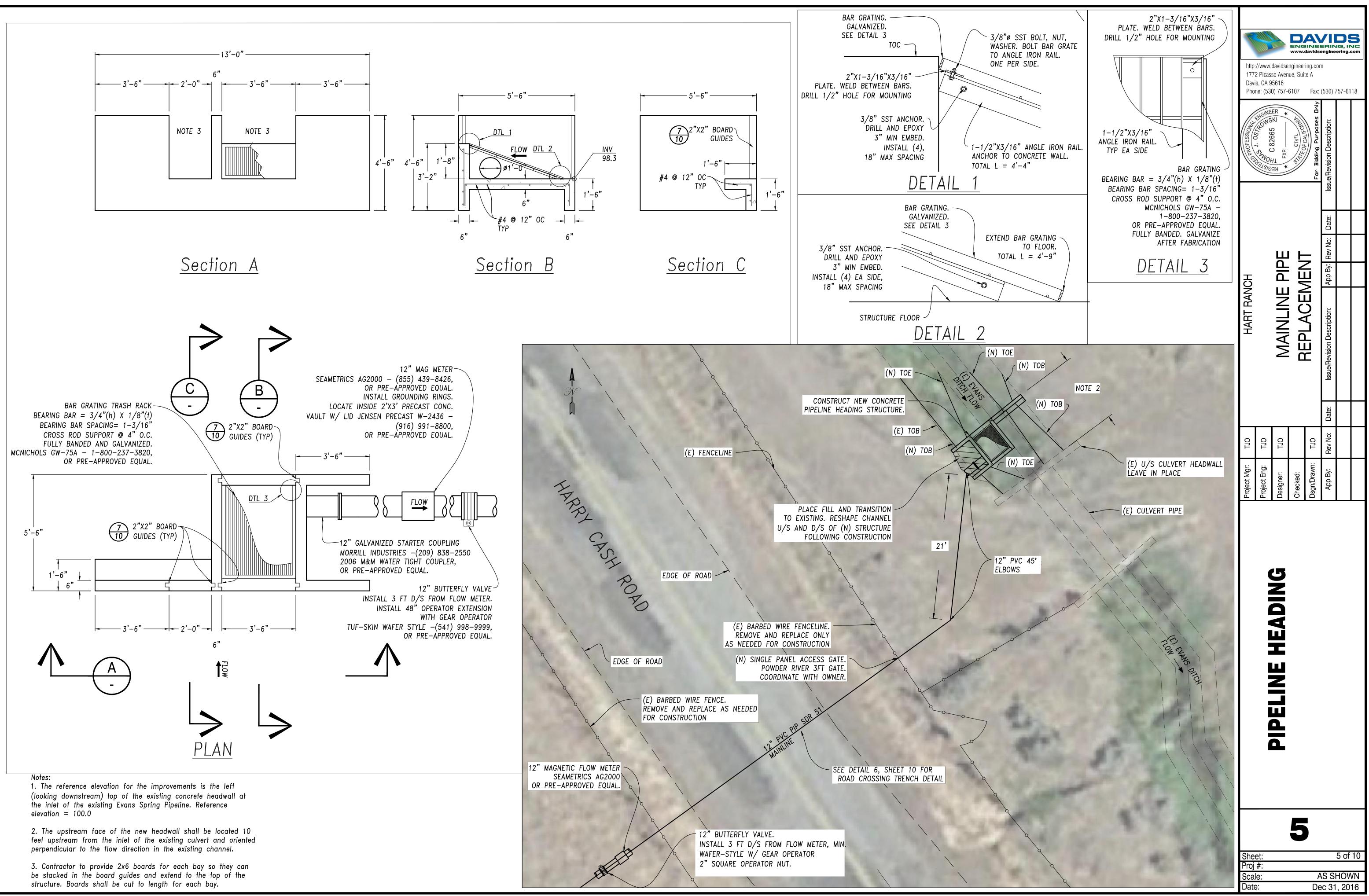
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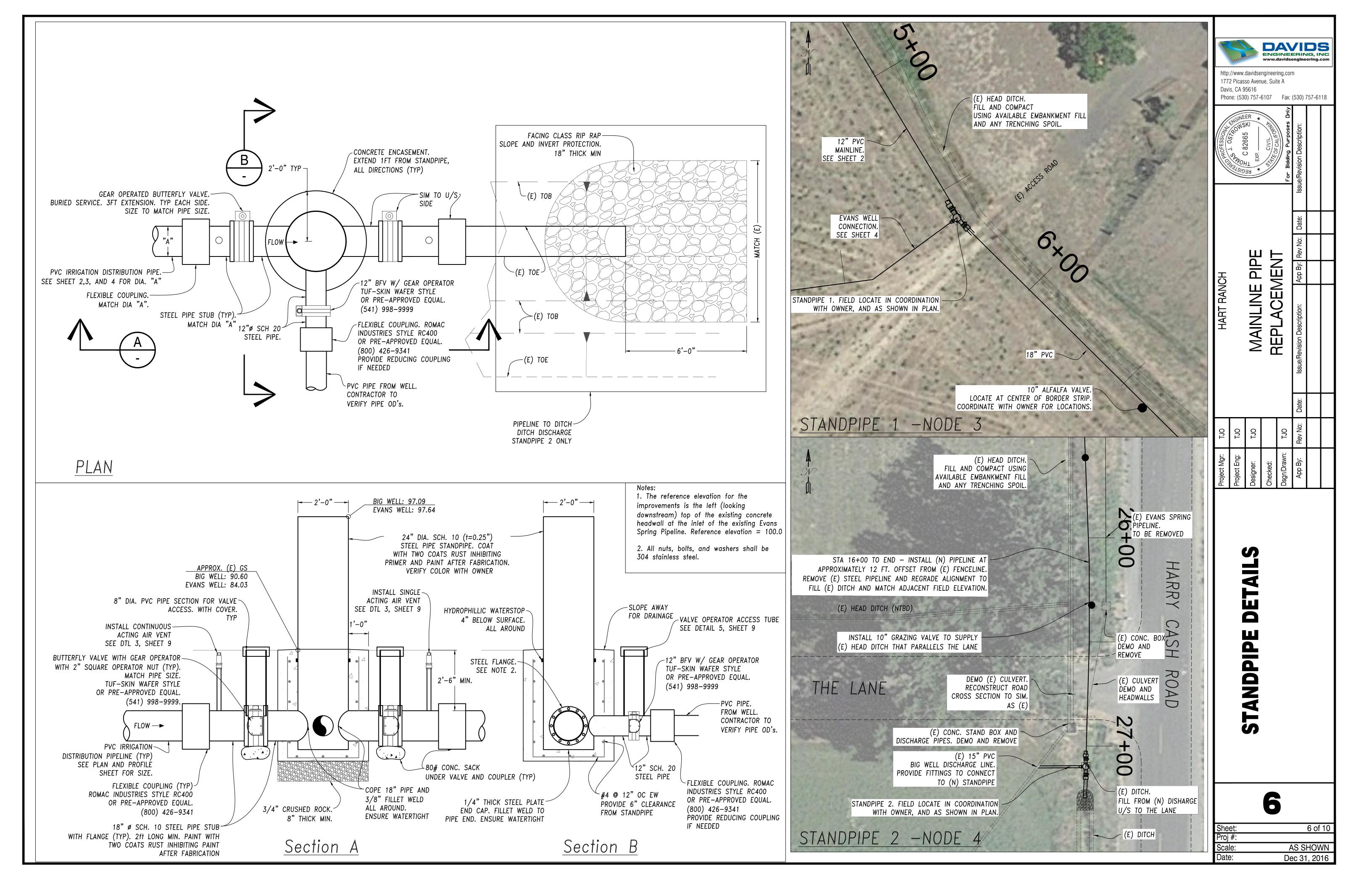


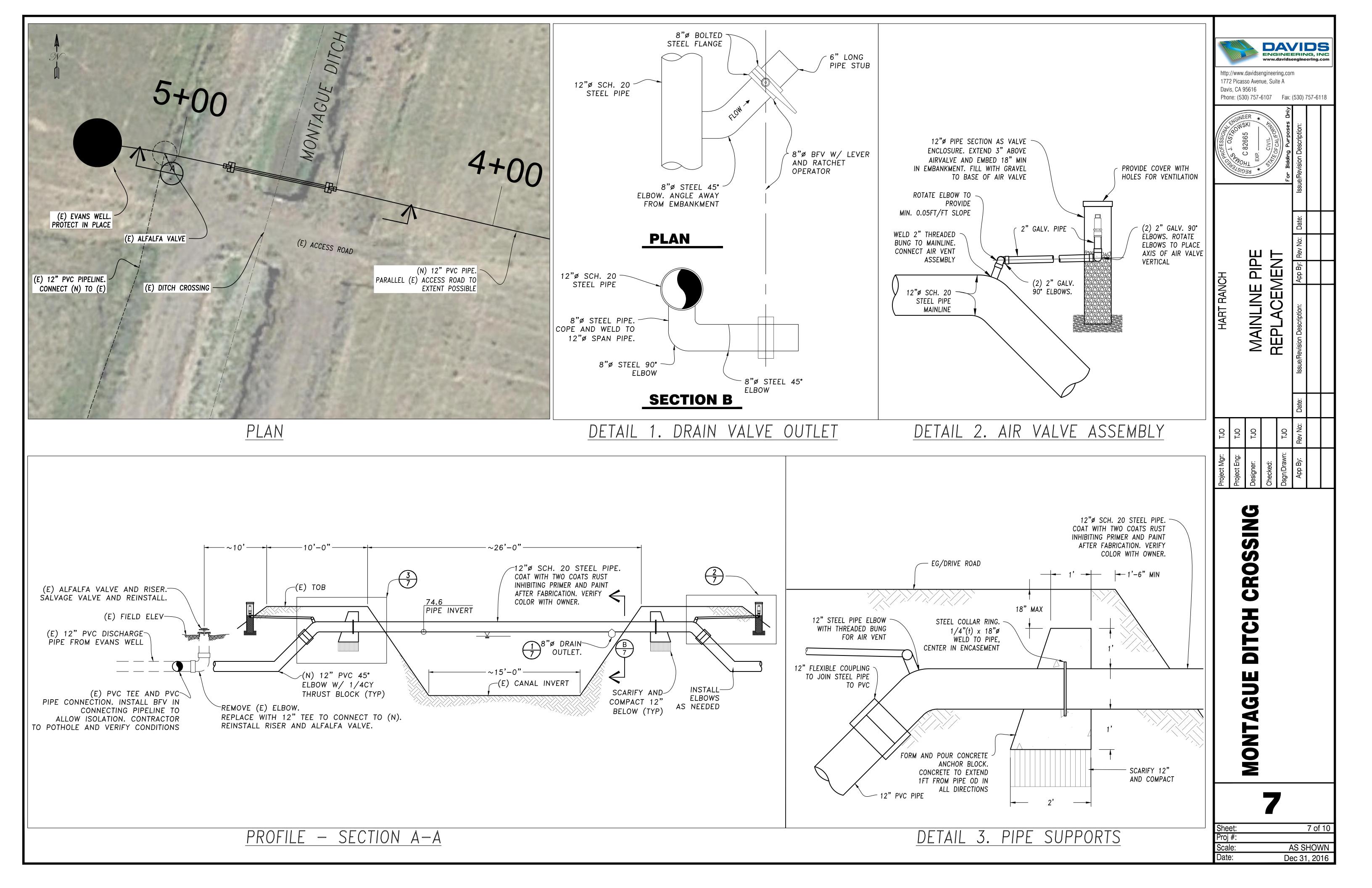


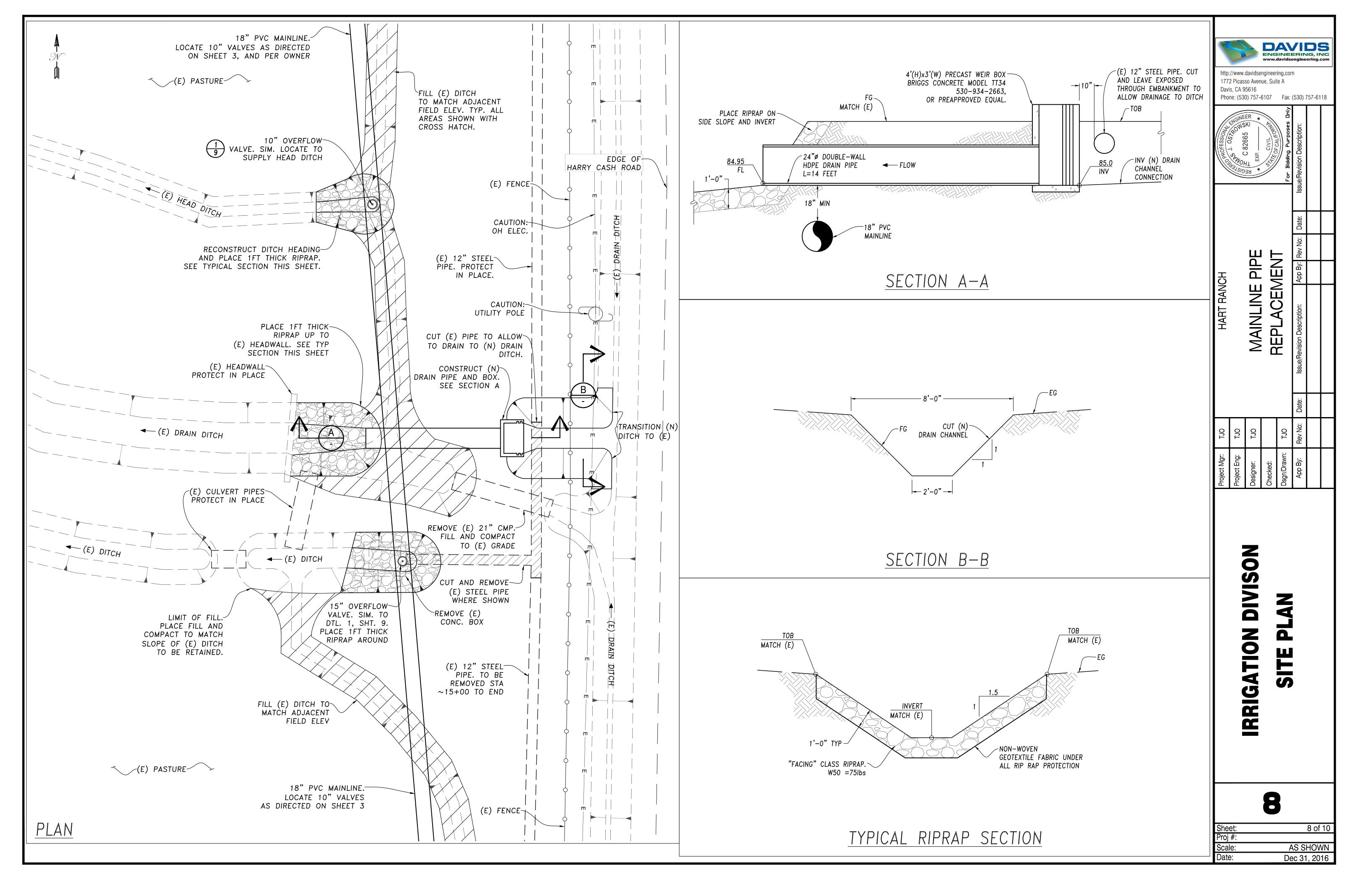
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19+00 20+00 21+00 18" PVC PIP SDR 51 STA 16+00 TO END - INSTALL (N) PIPELINE AT PPROXIMATELY 12 FT. OFFSET FROM (E) FENCELINE. FIELD DETERMINE. REMOVE (E) STEEL PIPELINE AND REGRADE ALIGNMENT TO FILL (E) DITCH AND MATCH ADJACENT FIELD ELEVATION. LEAVE SMALL BERM AGAINST FENCELINE TO CONTROL WATER	22+00 23+00 24+00 25+00 26+00 27+00 INSTALL GRAZING VALVES AT 44 FT SPACING ONLY ON THOSE PIPEINES SYMBOLIZED AS SUCH. ALIGN VALVES IN MIDDLE OF BORDER STRIPS STA 27+10 INSTALL FABRICATED STEL STANPIPE AND VALVES. SHEET 6 STEL STANPIPE 72" FIELD LOCATE PER OWNER	Project Mgr: TJO Project Eng: TJO Project Eng: TJO Project Eng: TJO Designer: TJO Designer: TJO Designer: TJO Designer: TJO Designer: TJO Designer: TJO Ohecked: Date Project Eng: TJO Ohecked: TJO Designer: TJO Ohecked: TJO App By: Rev No: App By: Rev No: App By: Rev No: App By: Rev No:
STA 21+90 18"X4" SADDLE TEE W/ 4" MECHANICAL AIR VENT SEE DETAIL 4, SHEET 9 STA 21+90 GRADE BREAK 2,150 FEET 18" DIA PVC PIP SDR 51	SEE SHEET 6 SEE SHEET 6 SEE SHEET 6 PPE TO DITCH TRANSITION PROTECT OUTFALL WITH RIP RAP. FILL EXISTING DITCH BETWEEN THE LANE" AND PIPE OUTLET. SEE SHEET 6 HYDRAULIC GRADE LINE SOUTH OF LANE SUPPLY -FUTURE OTCH TO CONNECT VALVE TO SUPPLY (E) DITCH TO CONNECT VALVE TO (E) DITCH. SEE DETAIL 1, SHEET 9 STA 26+25 NL=0.08% Ø 6 CFS MAX SEE DETAIL 1, SHEET 9 SEE DETAIL 1, SHEET	
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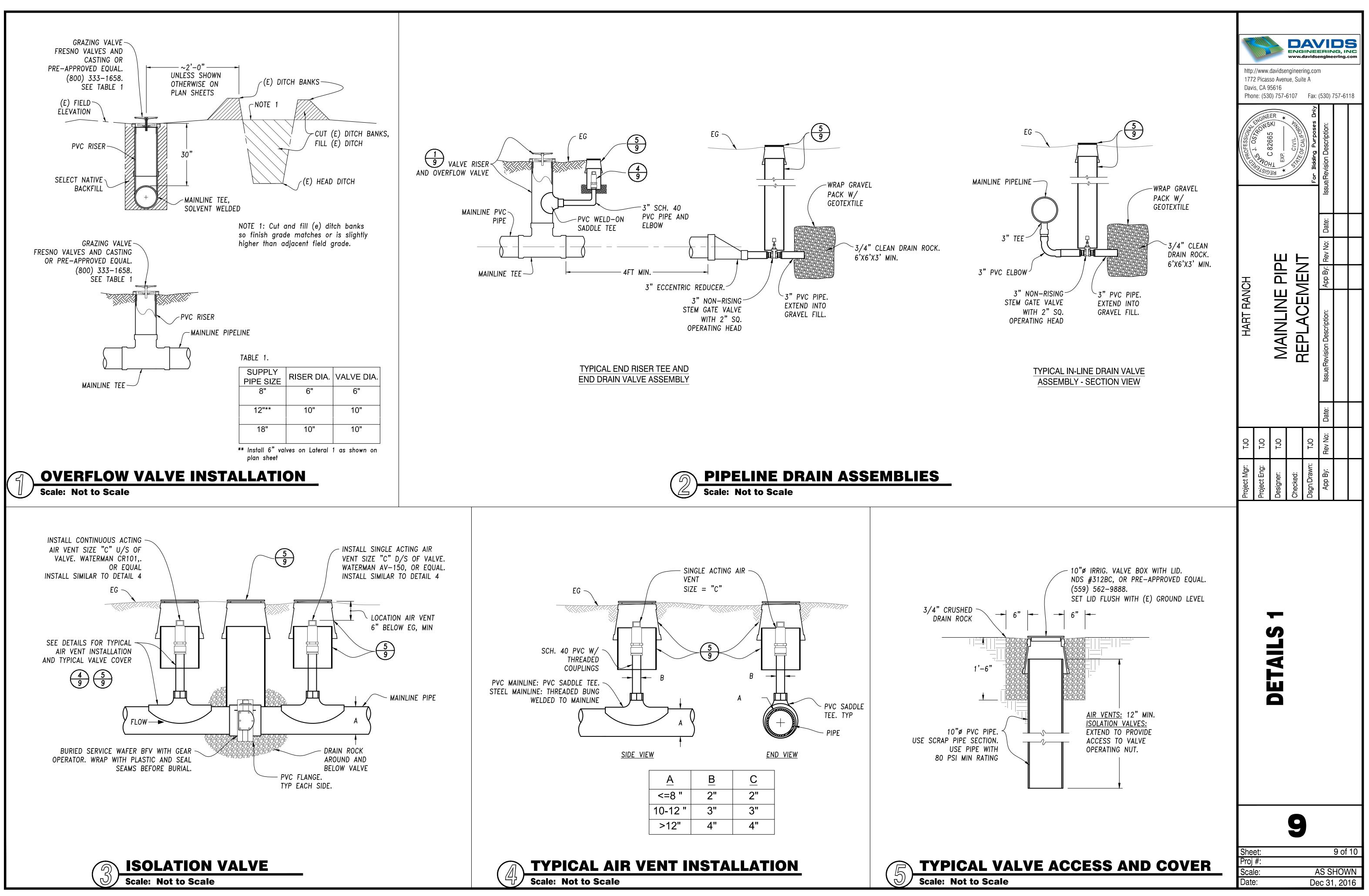


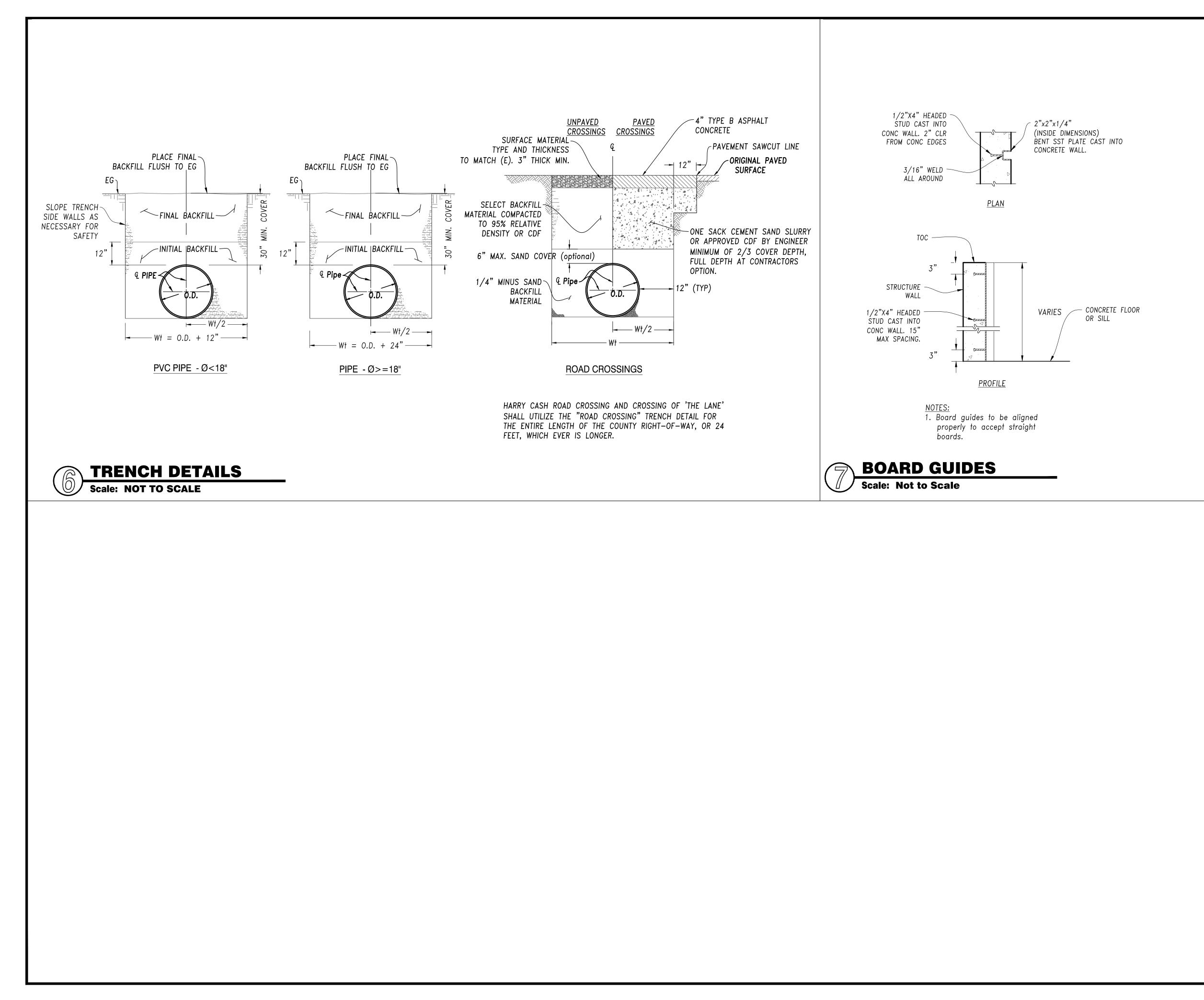




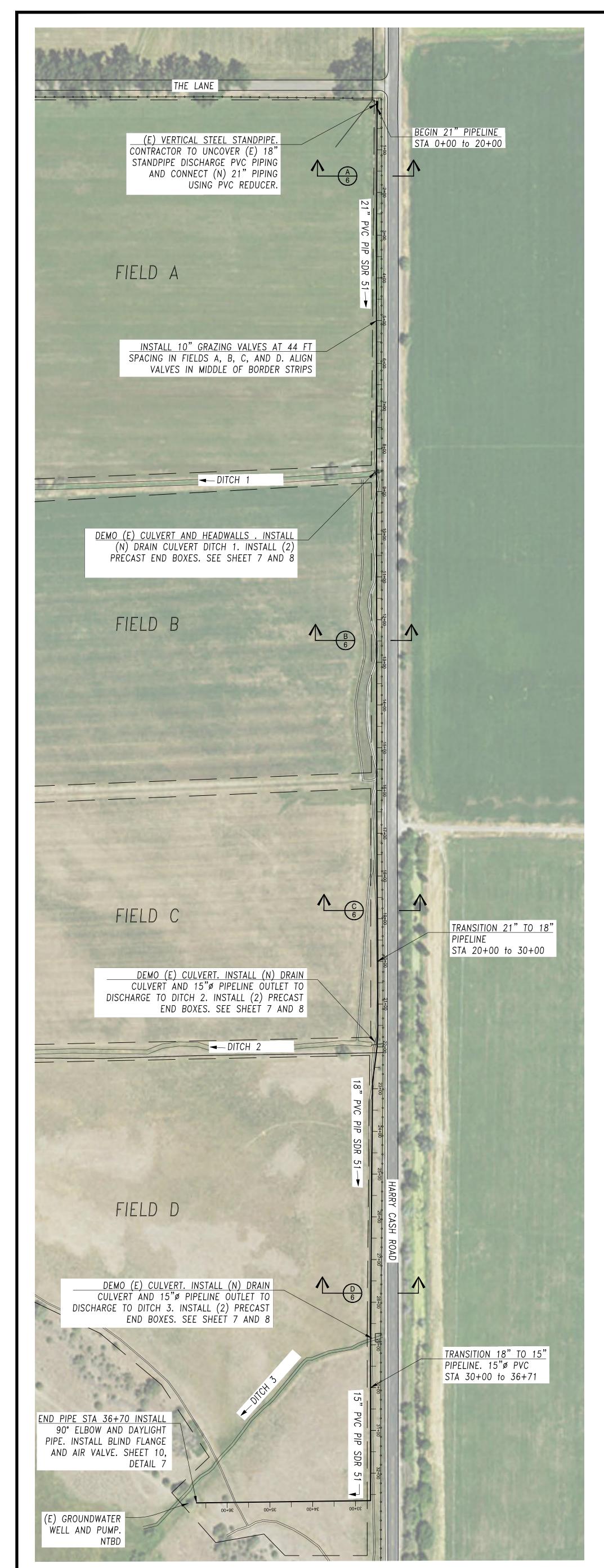








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Sheet Index:

Project Overview

- Plan and Profile Mainline South 1
- Plan and Profile Mainline South 2 3
- Plan and Profile Mainline South 3
- Plan and Profile Mainline South 4 5
- Typical Pipe Installation Sections 6
- Typical Culvert Installation and Pipe Outlet Plan 7 8
 - Typical Culvert Installation and Pipe Outlet Sections General Details 1
- 9
- 10 General Details 2

Notes

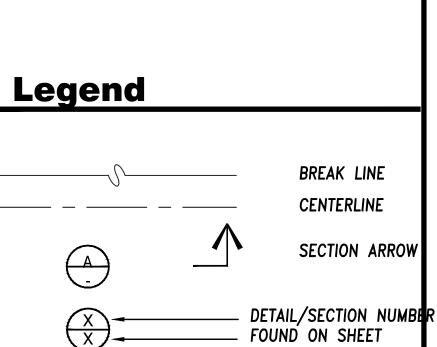
- 1. All construction shall be in accordance with these drawings and the specifications bearing the project name "Hart Ranch Mainline Pipe Replacement Project".
- 2. Landowner shall be responsible for obtaining any needed permits, easements, and/or right-of-ways.
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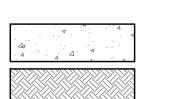
Cell: 805-305-5335

Engineer:

Davids Engineering Contact: Tommy Östrowski, PE Office: 530-757-6107 ext. 108

Email: tommy@davidsengineering.com







RIPRAP/AB SAND

CONCRETE

EARTH

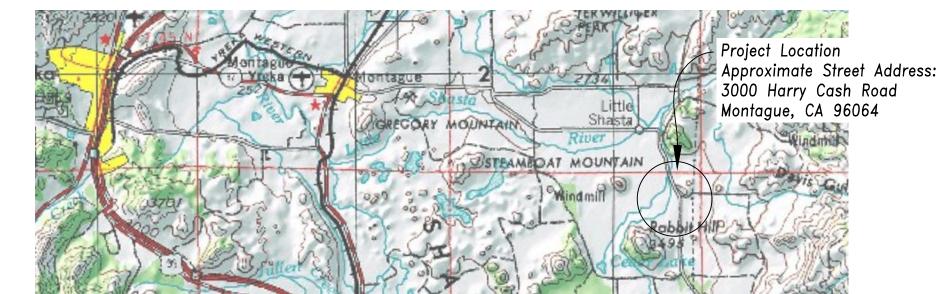
Know what's **below. Call before you dig**.

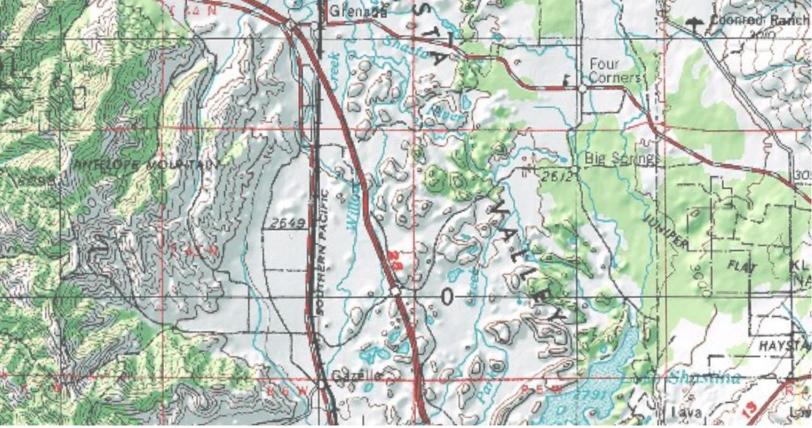
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	SDR 51	
18"	PVC PIP	1000
	SDR 51	
21"	PVC PIP	2000
	SDR 51	

PIPELINE SUMMARY

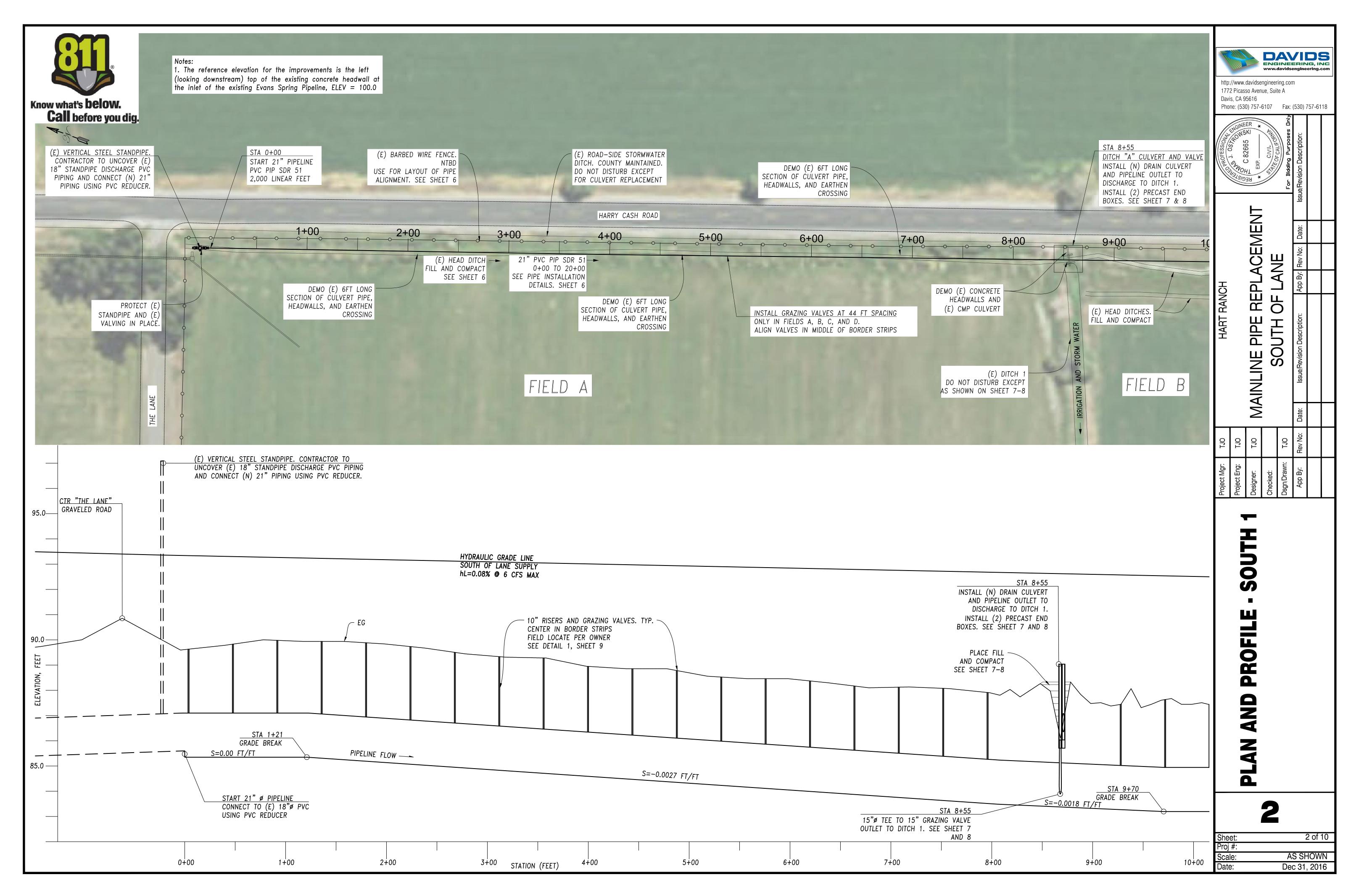
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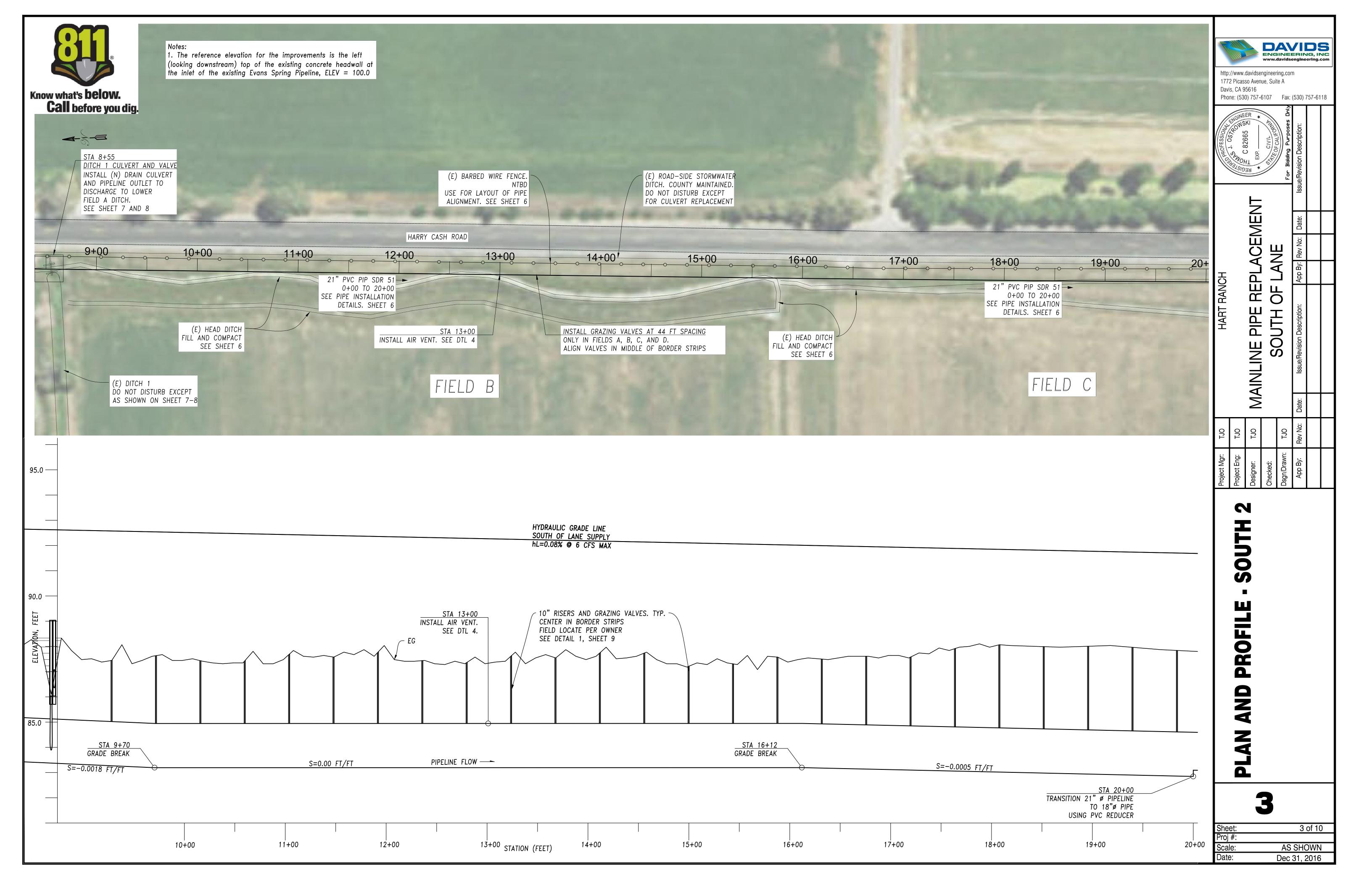
2.5 : 1	HORIZONTAL : VERTICAL SLOPE	INV	INVERT
AC	ACRE	L=	LENGTH =
AF	ACRE-FEET	MAX	MAXIMUM
APPROX	APPROXIMATELY	MIN	MINIMUM
BFV	BUTTERFLY VALVE	(N)	NEW
BM	BENCH MARK	ŇŤBD	NOT TO BE DISTURBED
CFS	CUBIC FEET PER SECOND	0.C.	ON CENTER
CL	CLASS	0.D.	OUTSIDE DIAMETER
CLEAR.	CLEARANCE	PIP	PLASTIC IRRIGATION PIPE
CONC	CONCRETE	PSI	POUNDS PER SQUARE INCH
CTR	CENTER	PVC	POLYVINYL CHLORIDE
CTD	CENTERED	REV	REVISION
DEG	DEGREE	S=	SLOPE =
DIA	DIAMETER	SCH	SCHEDULE
DTL	DETAIL	SHT	SHEET
(E)	EXISTING	SDR	STANDARD DIMENSION RATIO
EA	EACH	SIM	SIMILAR
EF	EACH FACE	STA	STATION
EG	EXISTING GROUND	SST	STAINLESS STEEL
ELEV	ELEVATION	t	THICKNESS
EW	EACH WAY	TBR	TO BE REMOVED
FG	FINISHED GRADE	тов	TOP OF BANK
FL	FLOWLINE	тос	TOP OF CONCRETE STRUCTURE
FT	FEET	ΤΟΨ	TOP OF WEIR WALL
GALV	GALVANIZED	TYP	TYPICAL
Н₩М	HIGH WATER MARK	UNO	UNLESS NOTED OTHERWISE
HWL	HIGH WATER LEVEL	VERT	VERTICAL
		WSE	WATER SURFACE ELEVATION

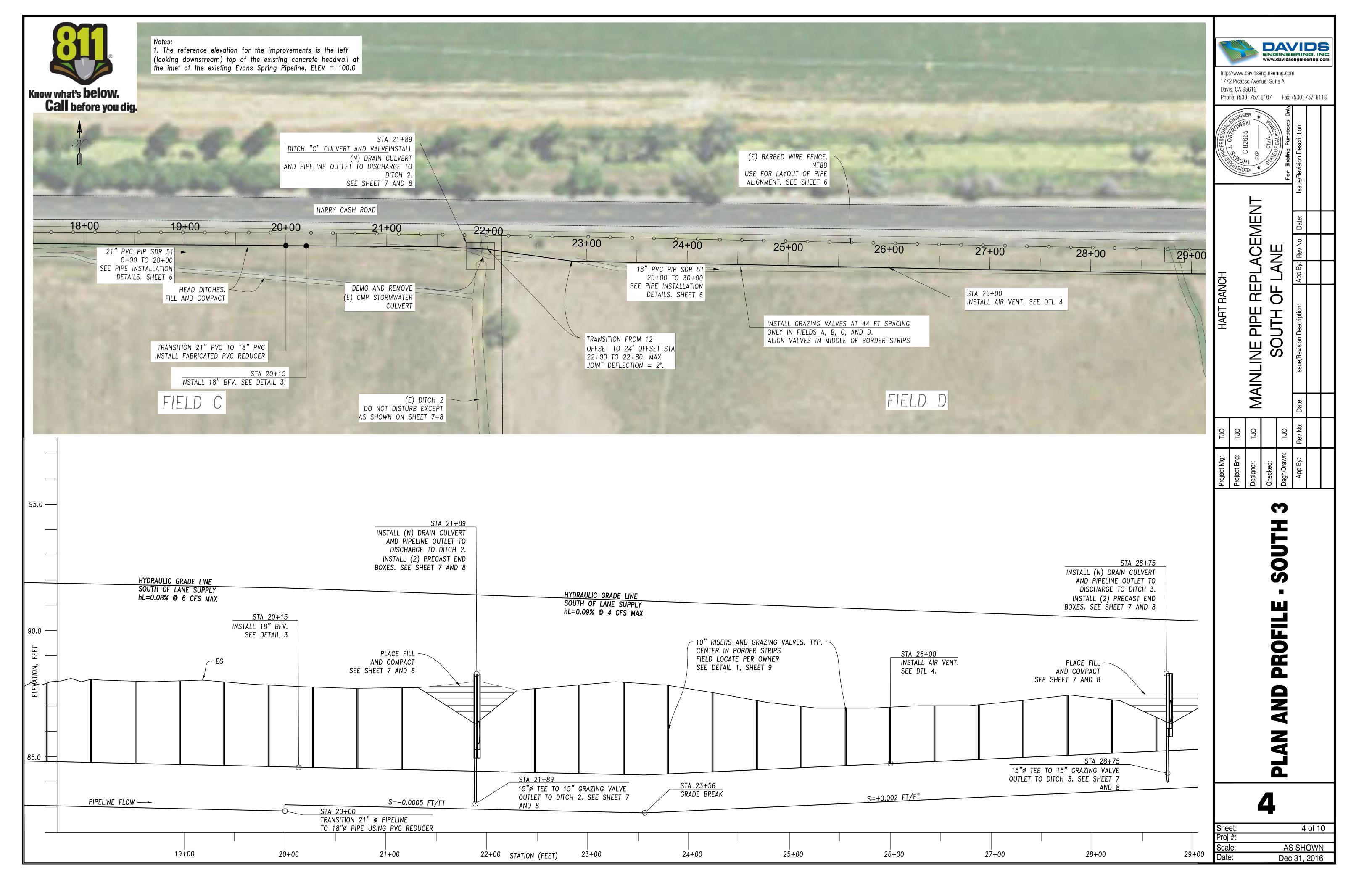


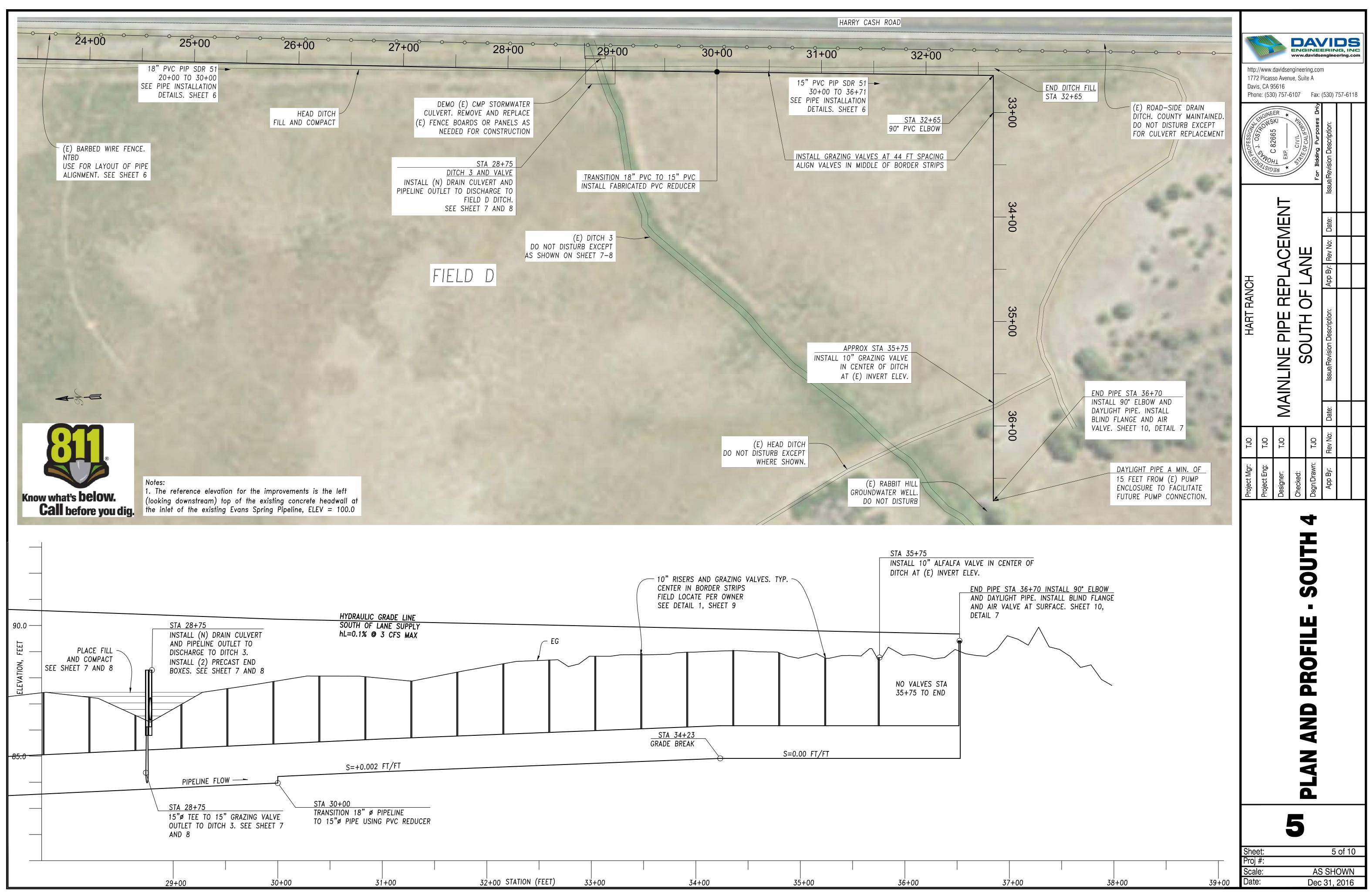


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		Designer:	TJO	M	MAINLINE PIPE REPLACEMENT				DAVIDS ENGINEERING, INC www.davidsengineering.com	
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		Dsgn/Drawn:	TJO	SOUTH OF LANE			For Bidding Purposes Only	1772 Picasso Avenue, Suite A Davis, CA 95616		
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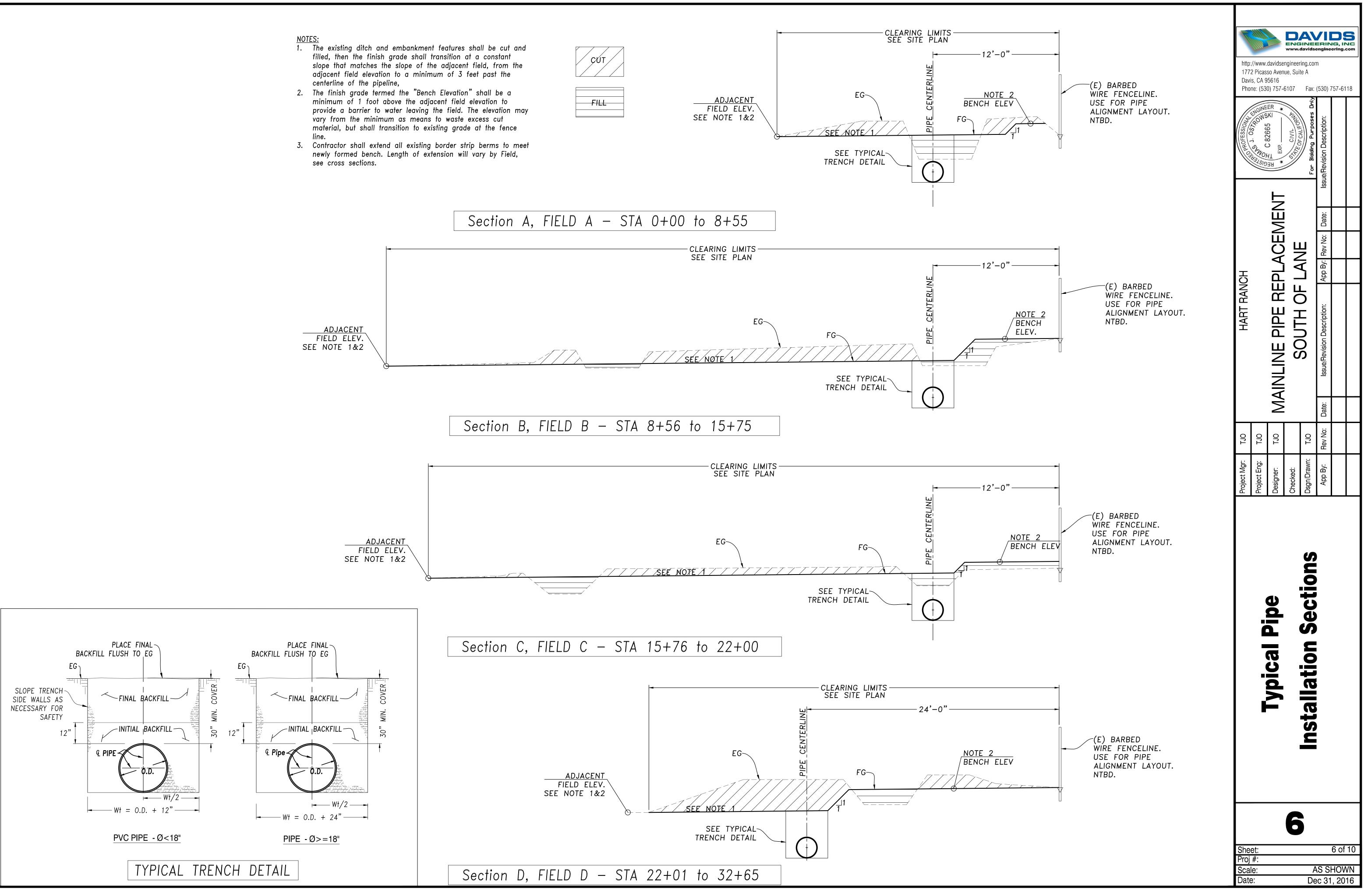


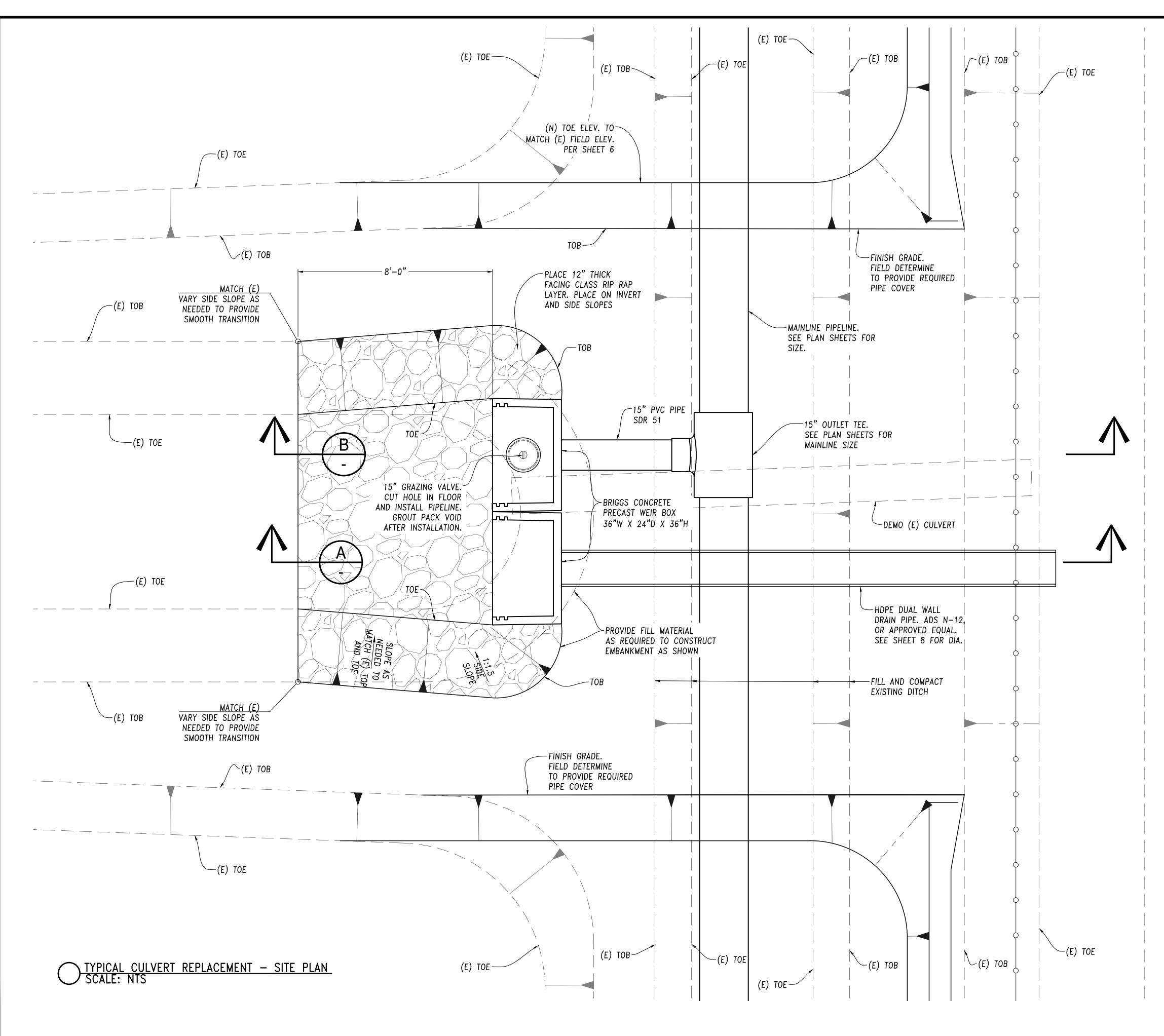
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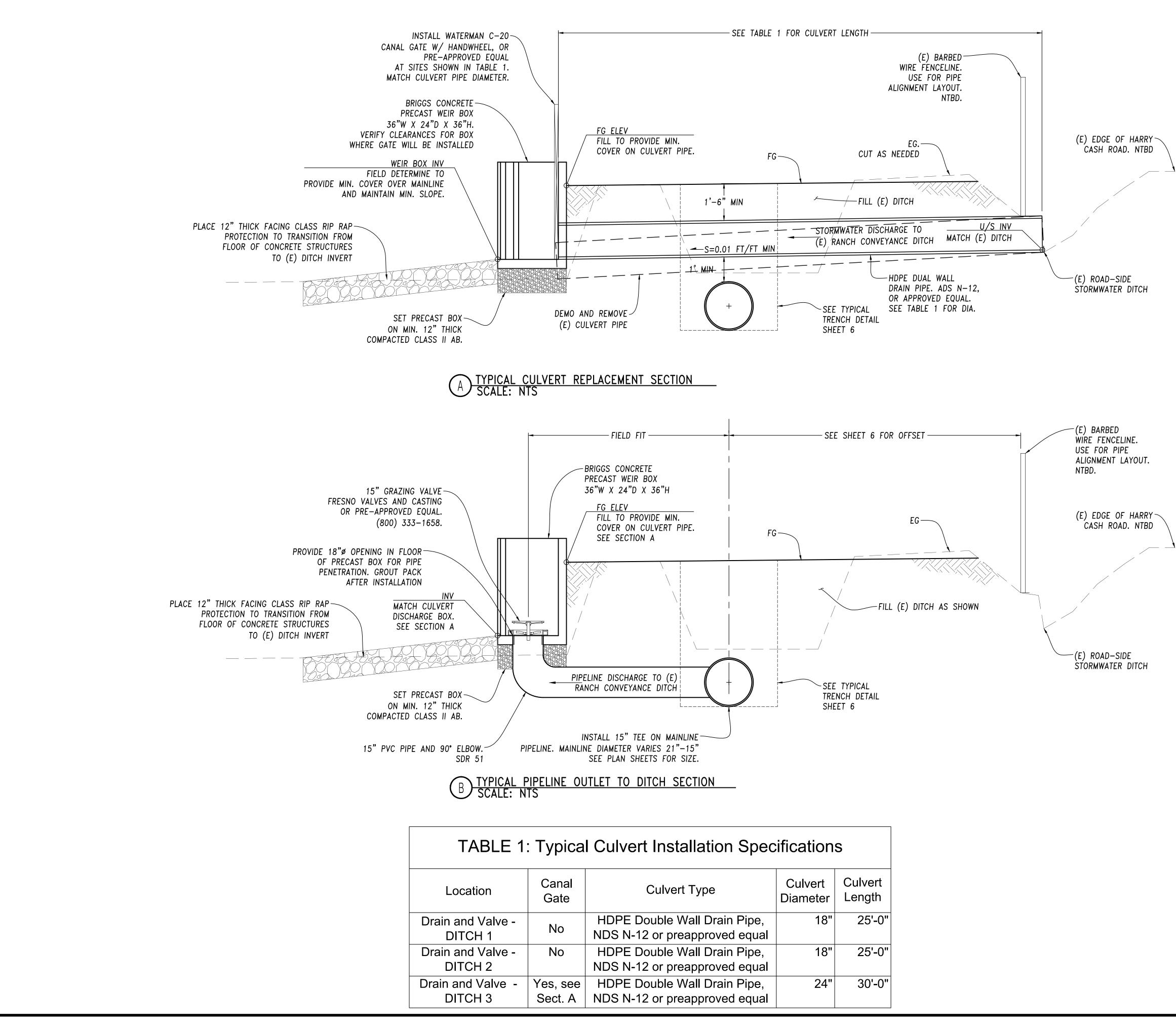
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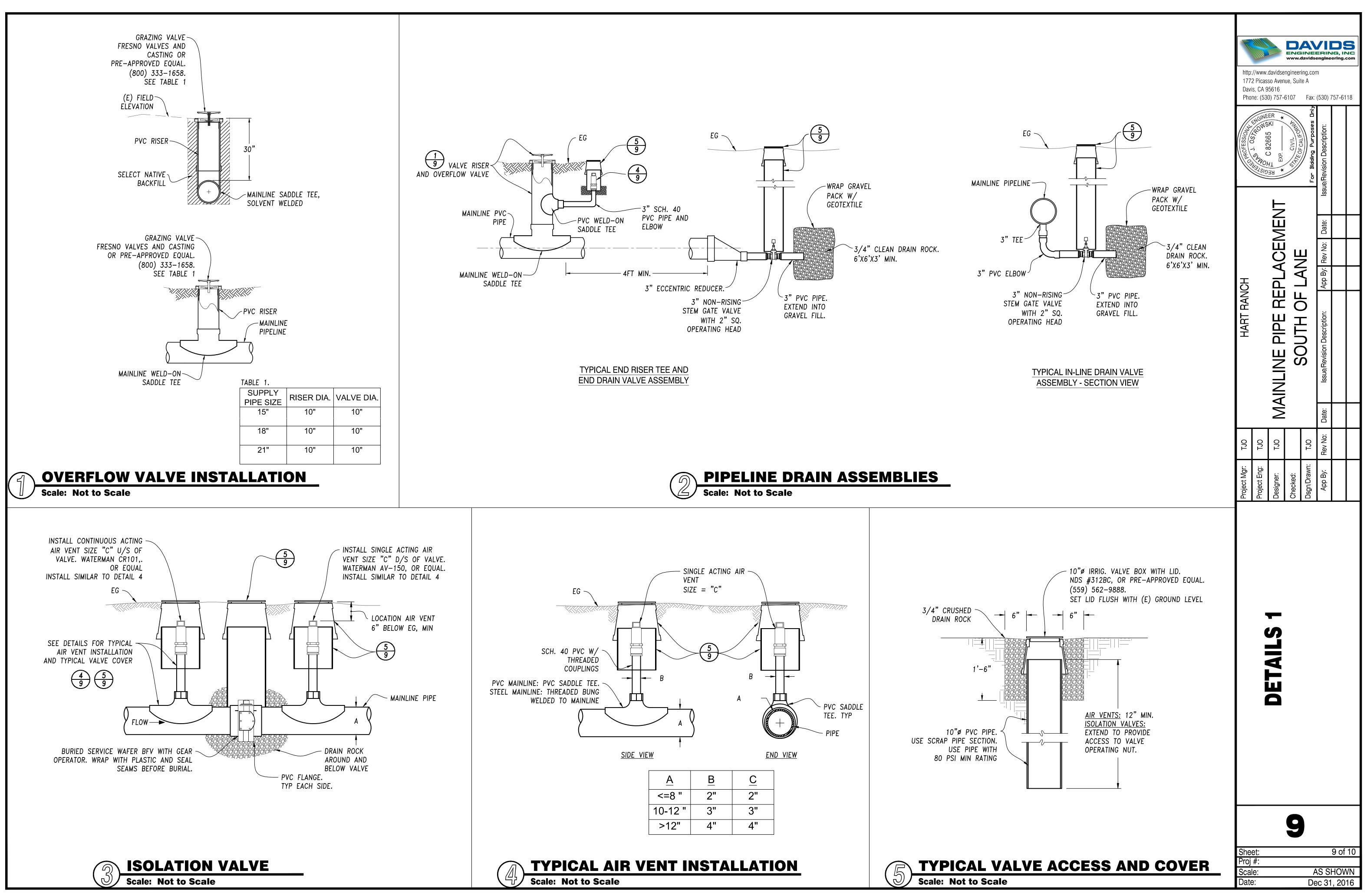


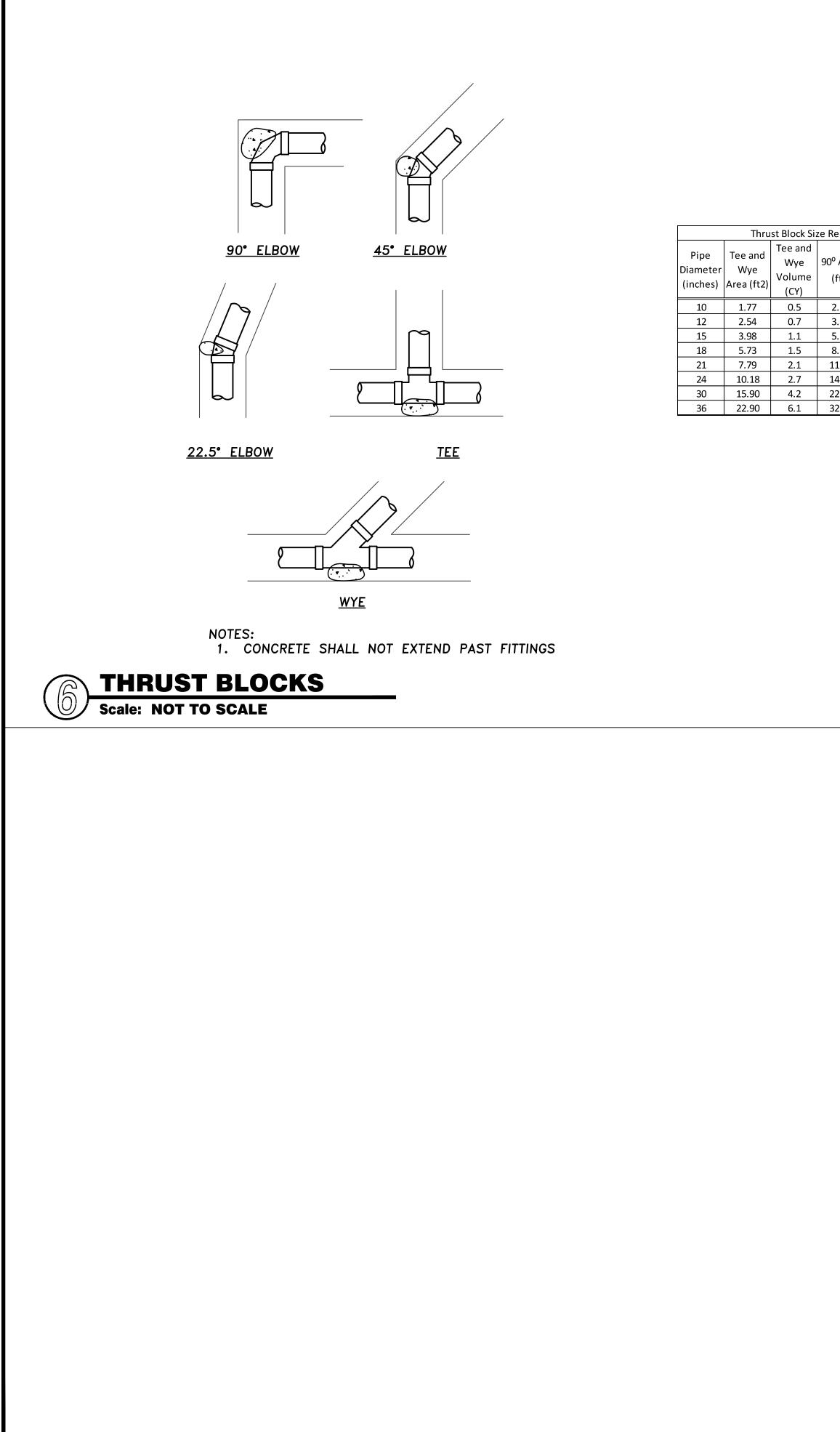
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INSTALL END DRAIN VALVE ASSEMBLY SEE DETAIL 2	RANCH REPLACEMENT OF LANE App By: Rev No: Date:
EG	www.davidsengineering.com http://www.davidsengineering.com 1772 Picasso Avenue, Suite A Davis, CA 95616 Phone: (530) 757-6107 Fax: (530) 757-6118 Phone: (530) PST-6107 Fax: (530) 757-6118 Phone: (530) PST-6107 Fax: (530) PST-6118 Phone: (530) PST-6107 Fax: (530) PST-6118

APPENDIX D

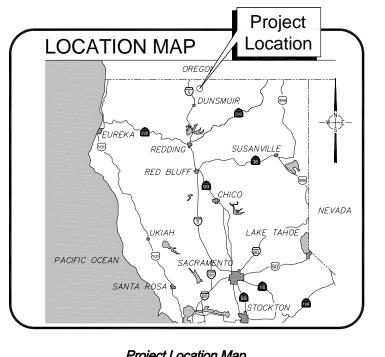
Construction Plans for Little Shasta River Hart Water Diversion Eco Logic and NHC February 2011

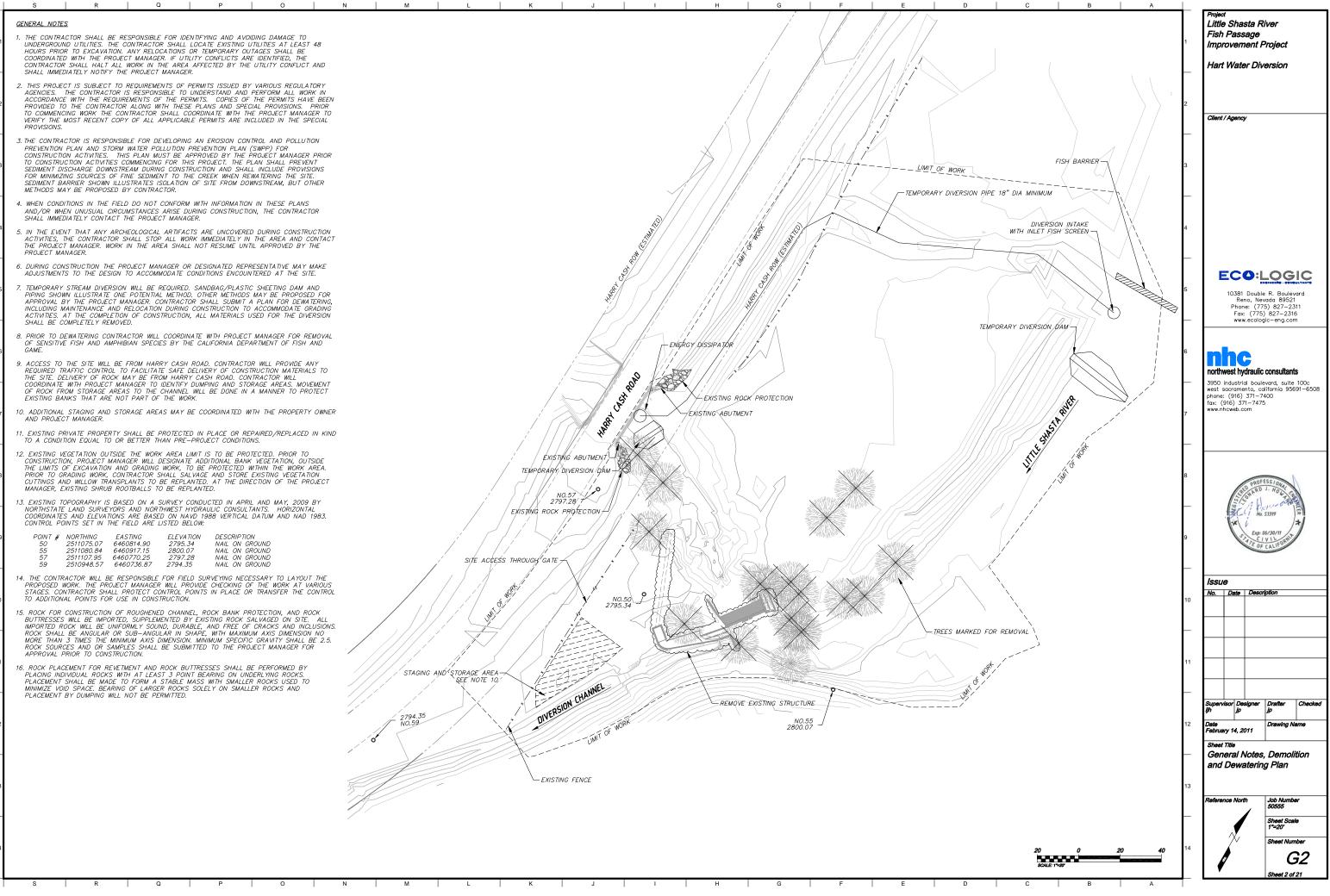
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		LITTLE SHASTA	Sheet Number
		LITTLE SHASTA / SCHOOL	Date February 14, 2011 Job Number Supervisor Designer lijh lijh lijh trs/jp
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FILTER LAYER			No. Date Description
BRUSH MATTRESS		See Willie Case	Issue
ROCK BANK PROTECTION	***********************		
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2-3 DIA BOUNDER 1 GALLON CONTAINER COTTONWOOD			STOCKTON
2-3' DIA BOUNDER	61		SANTA ROSA
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WILLOW TRANSPLANT			
PROPOSED EARTHWORK CONSTRUCTION BASELINE			
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EXISTING TREES		TA BD	
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NHC SURVEY CONTOUR LINES	60		
LEGEND			LOCATION MAP Location
			Project
			northwest hydraulic consultants
		HART WATER DIVERSION REPRESENTATIVE (date)	CALFORNIA REGISTERED PROFESSIONAL ENGINEER NO. # 53319
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PLANTING SHEET PLANTING AND BOULDER PLACEMENT DETAI	P1 AILS P2		phone: (916) 371–7400 fax: (916) 371–7475 www.nhcweb.com
STRUCTURAL PLAN AND PROFILE CONCRETE CHANNEL SECTIONS	\$101		3950 industrial boulevard, suite 100c west sacramento, california 95691-6508
MISCELLANEOUS STRUCTURAL DETAILS	53 5100		northwest hydraulic consultants
TRASH RACK AND SLIDE GATE DETAILS MISCELLANEOUS STRUCTURAL DETAILS	S1 S2		nhc
WATER WHEEL ELEVATIONS AND DETAILS	М5		_
MECHANICAL DETAILS MECHANICAL DETAILS	M3 M4		www.ecologic-eng.com
MECHANICAL DETAILS MECHANICAL DETAILS	M1 M2		Reno, Nevada 89521 Phone: (775) 827–2311 Fax: (775) 827–2316 www.ccologic-eng.com
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GENERAL NOTES, DEMOLITION, & DEWATERII SITE PLAN	ING PLAN G2 C100	CONSTRUCTION PLANS FOR	
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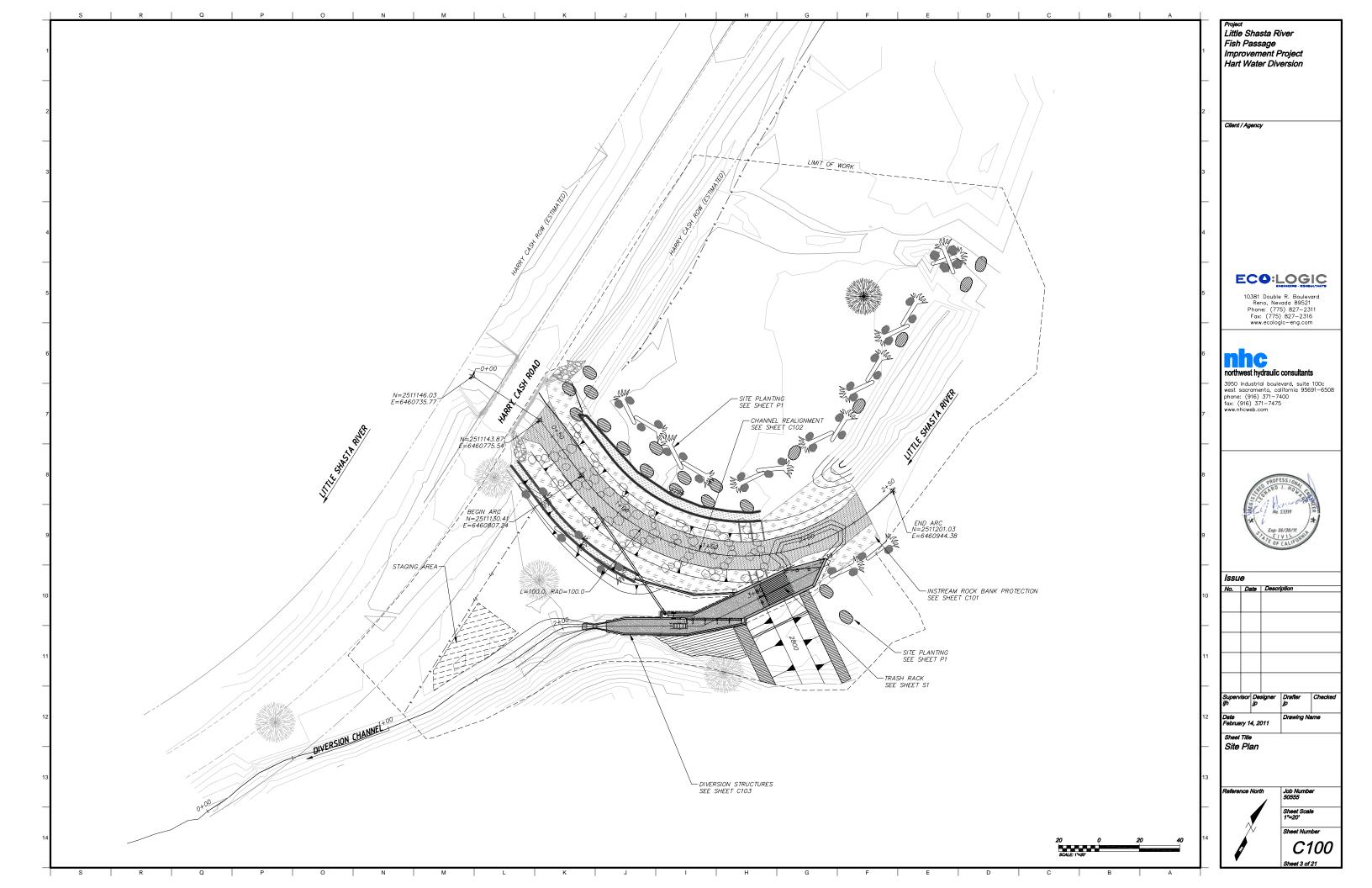


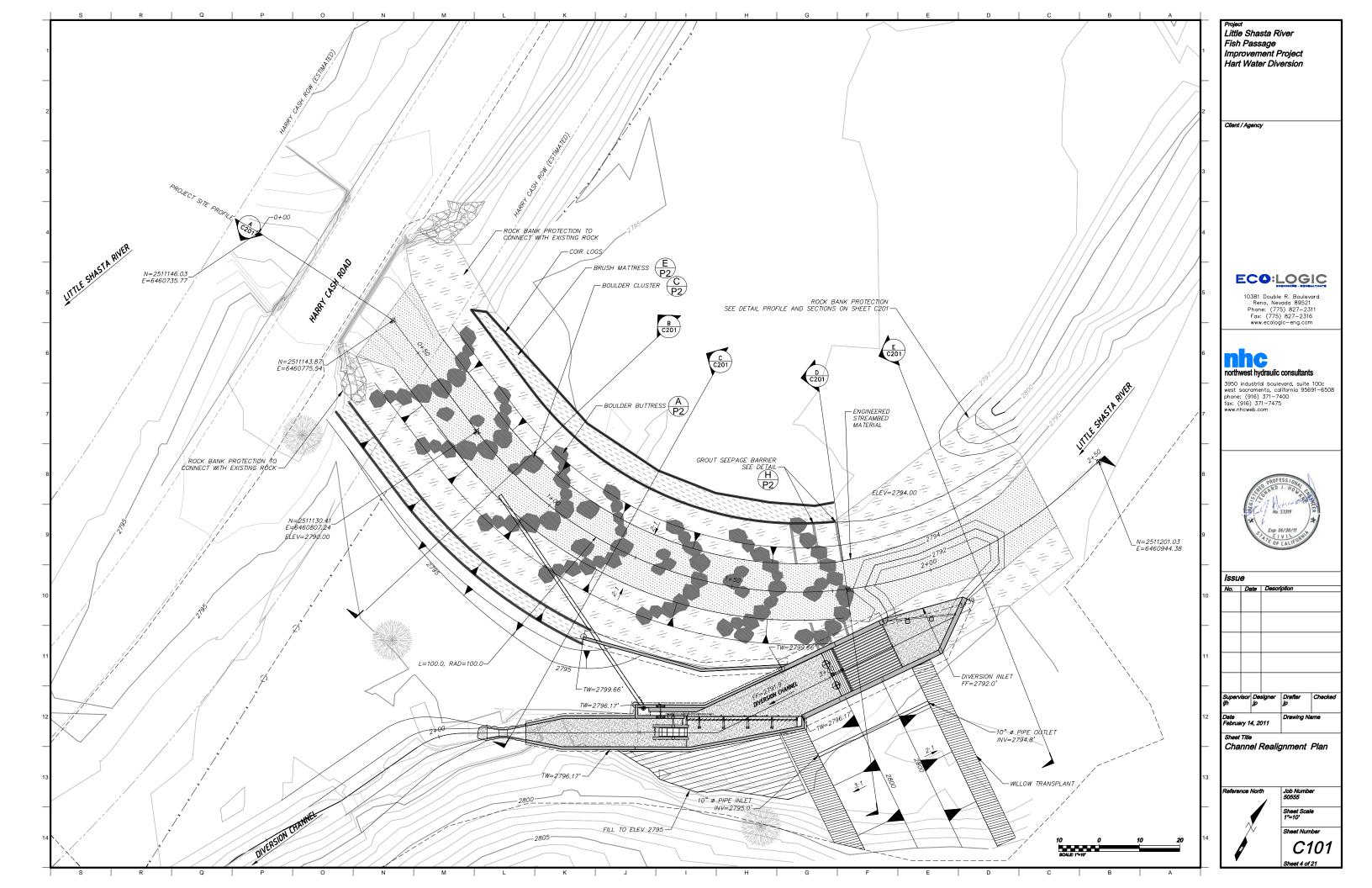


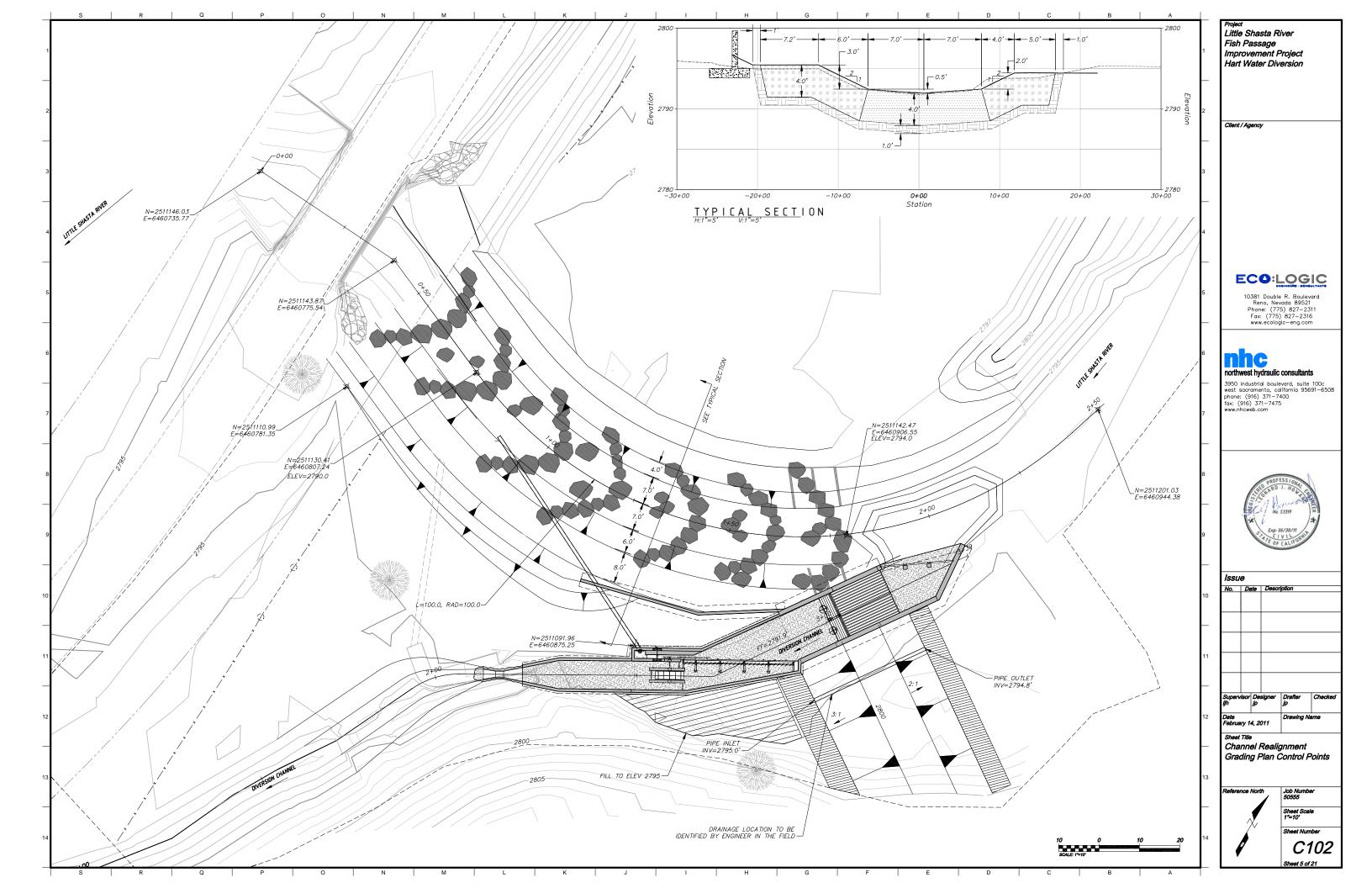


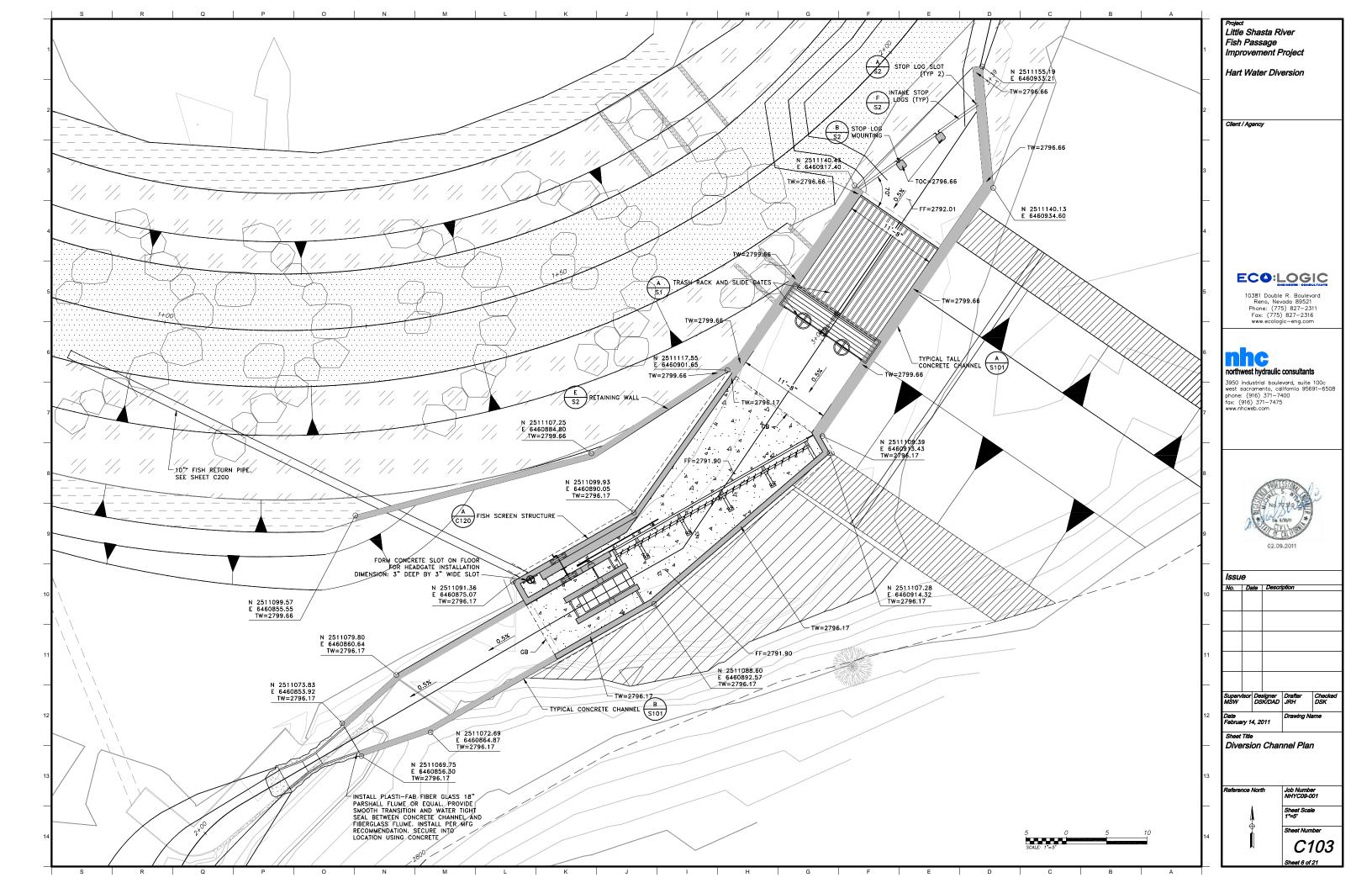


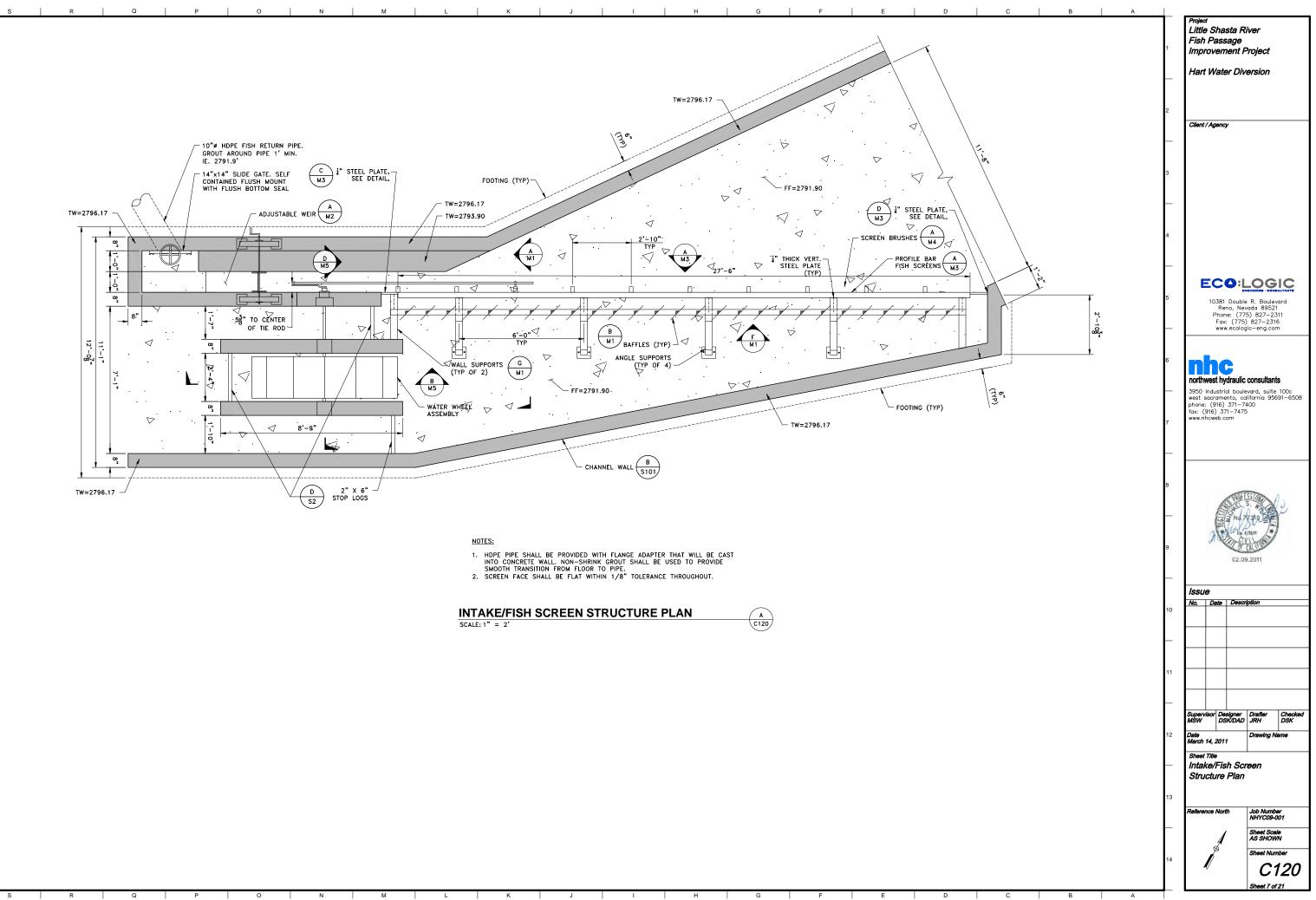


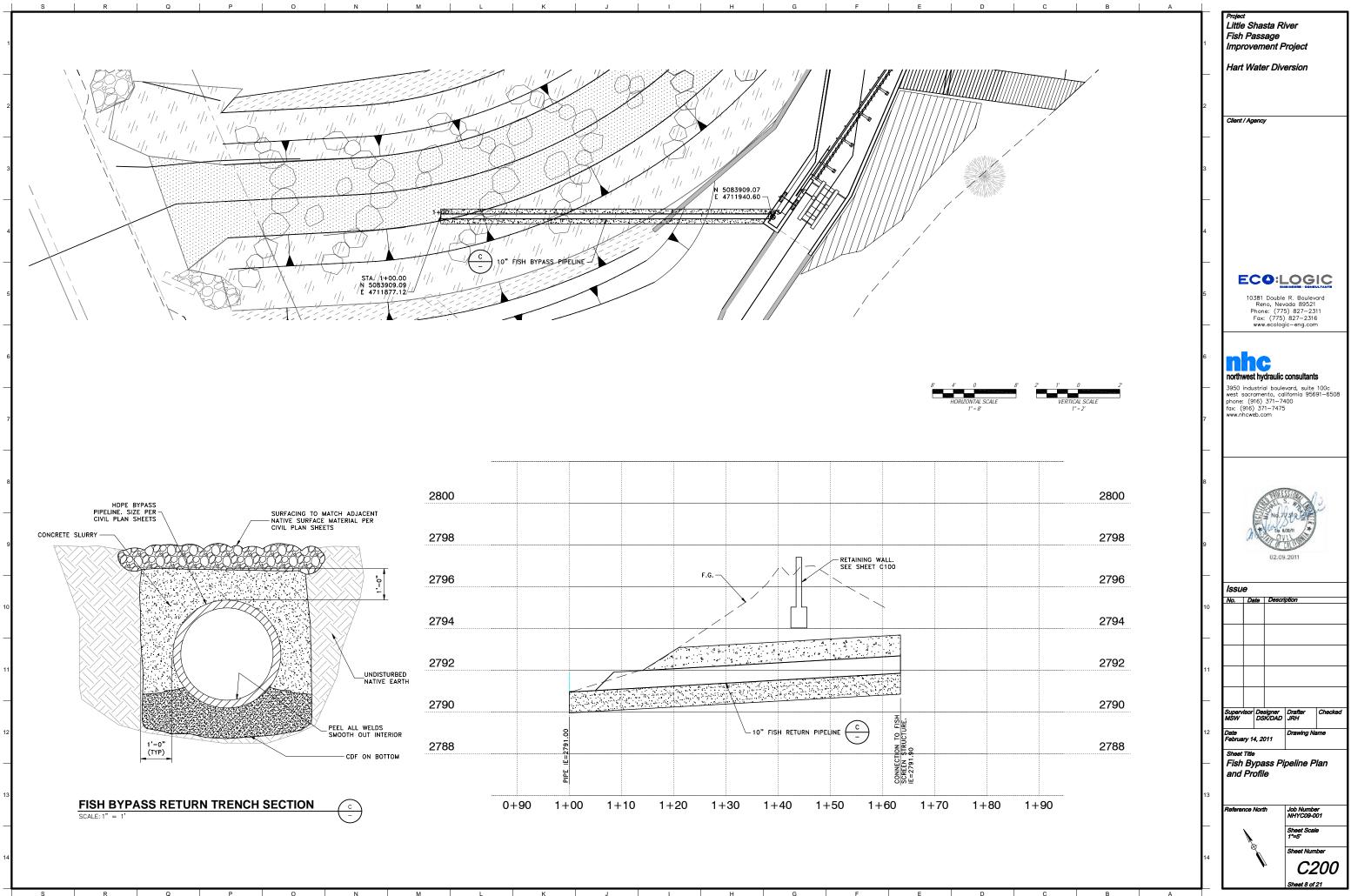




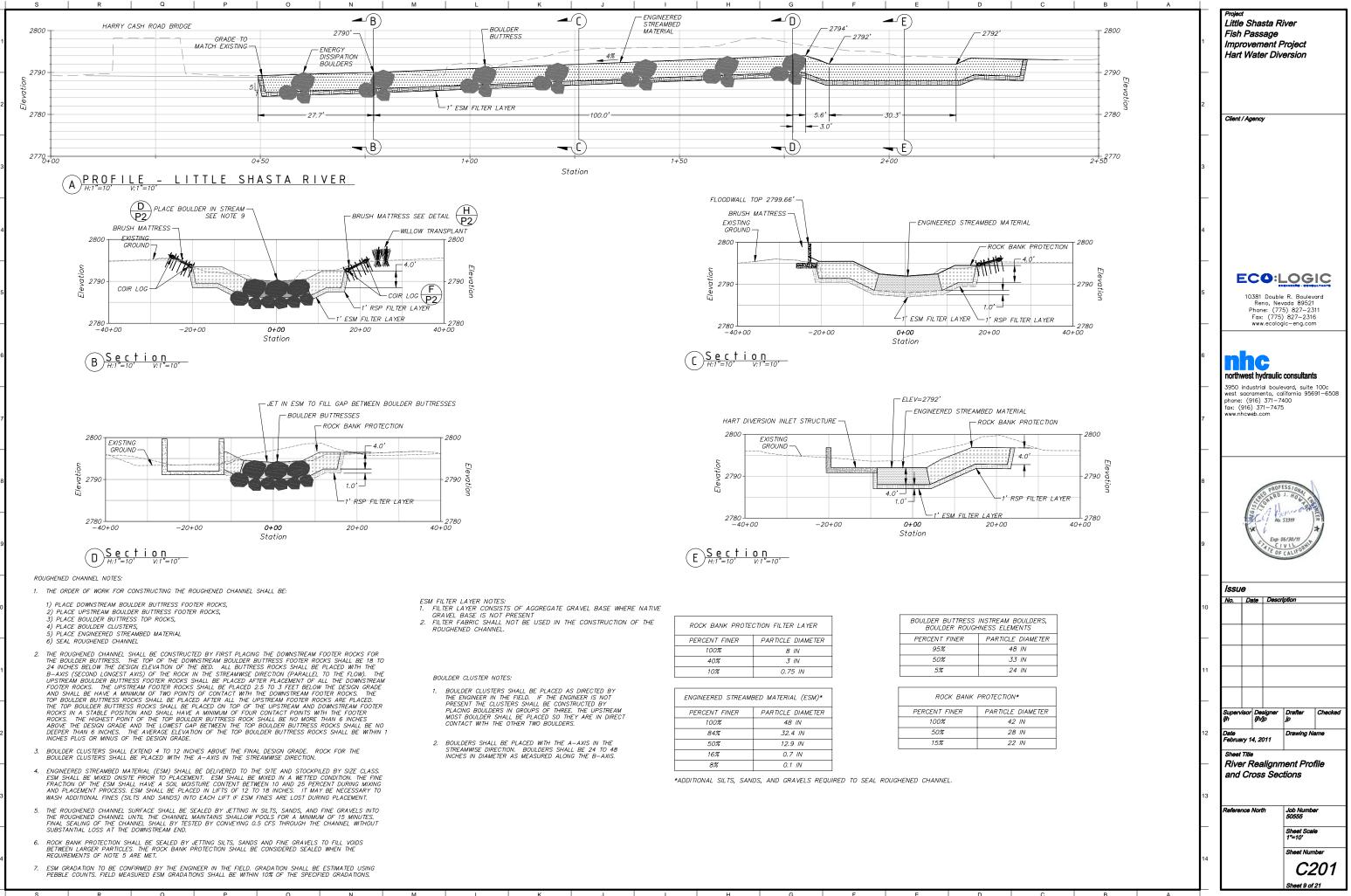




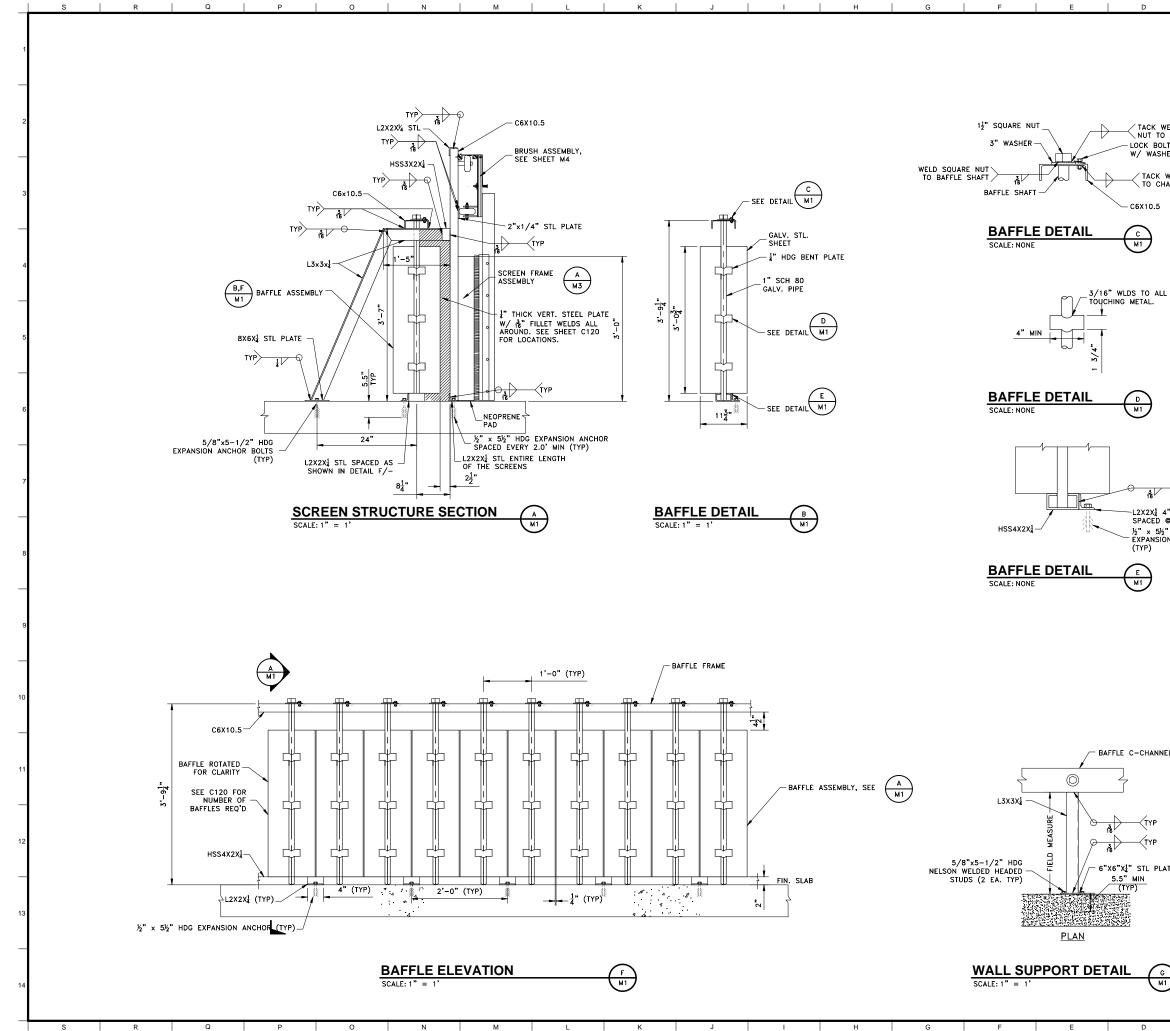




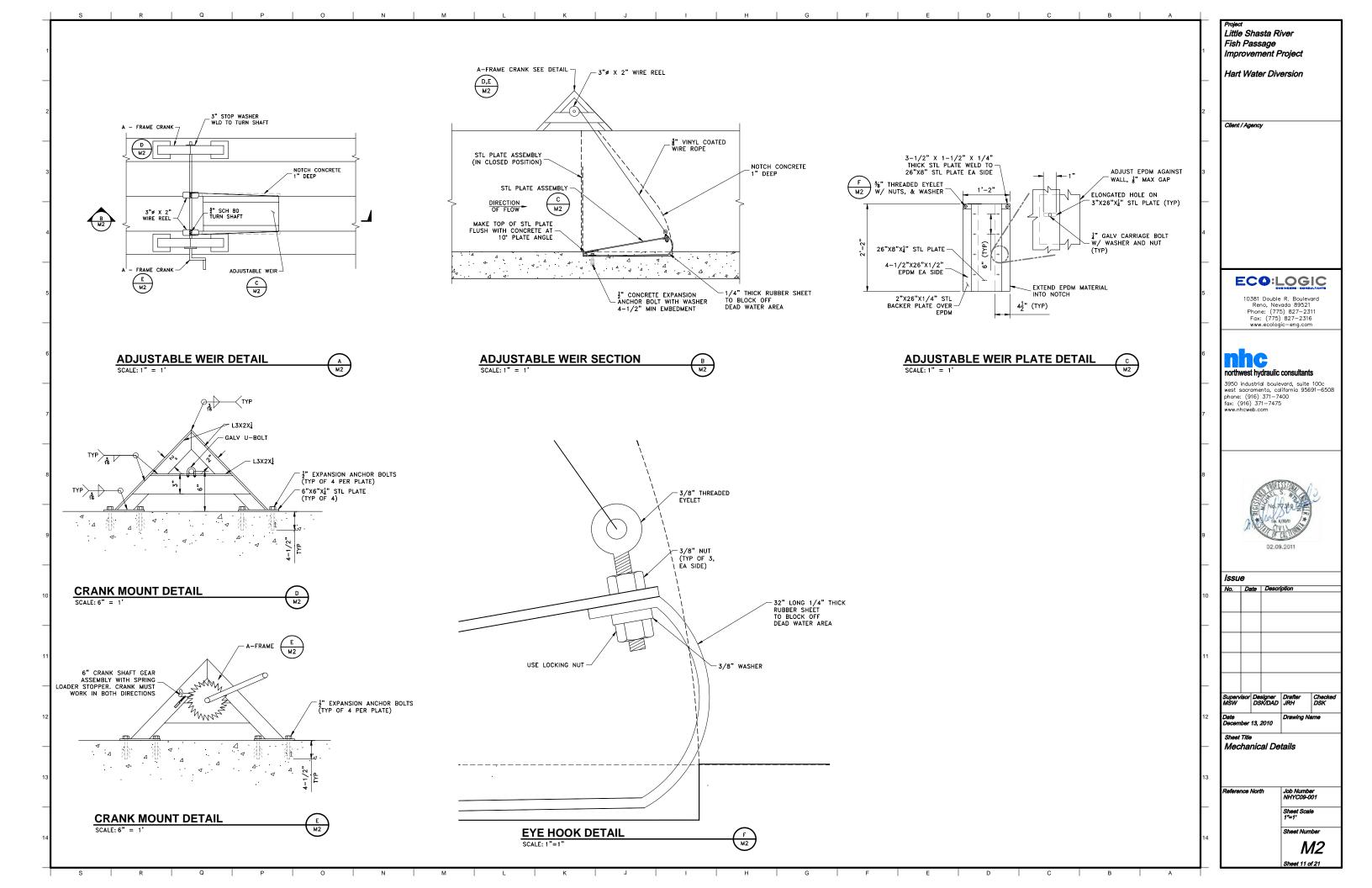
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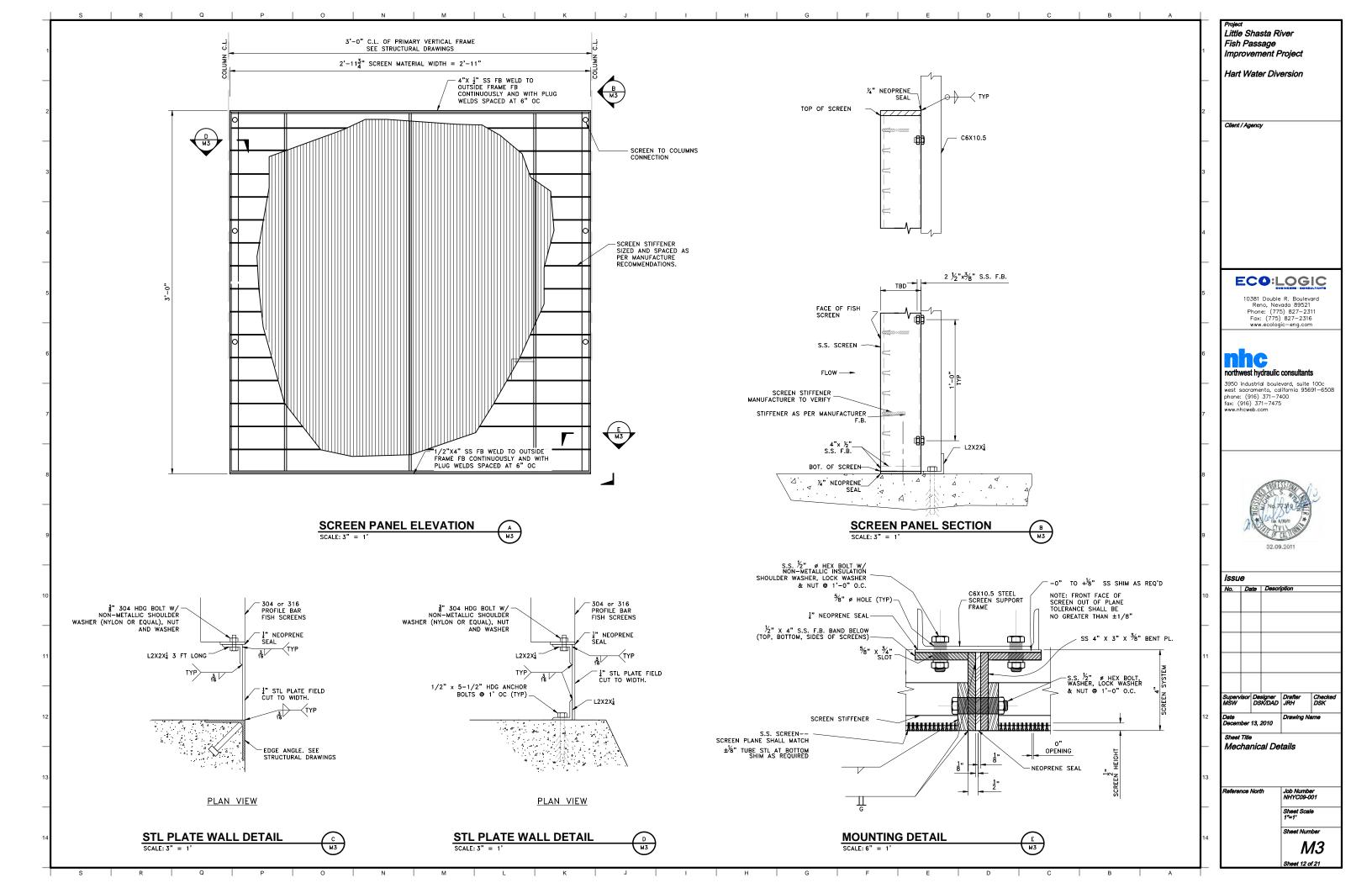


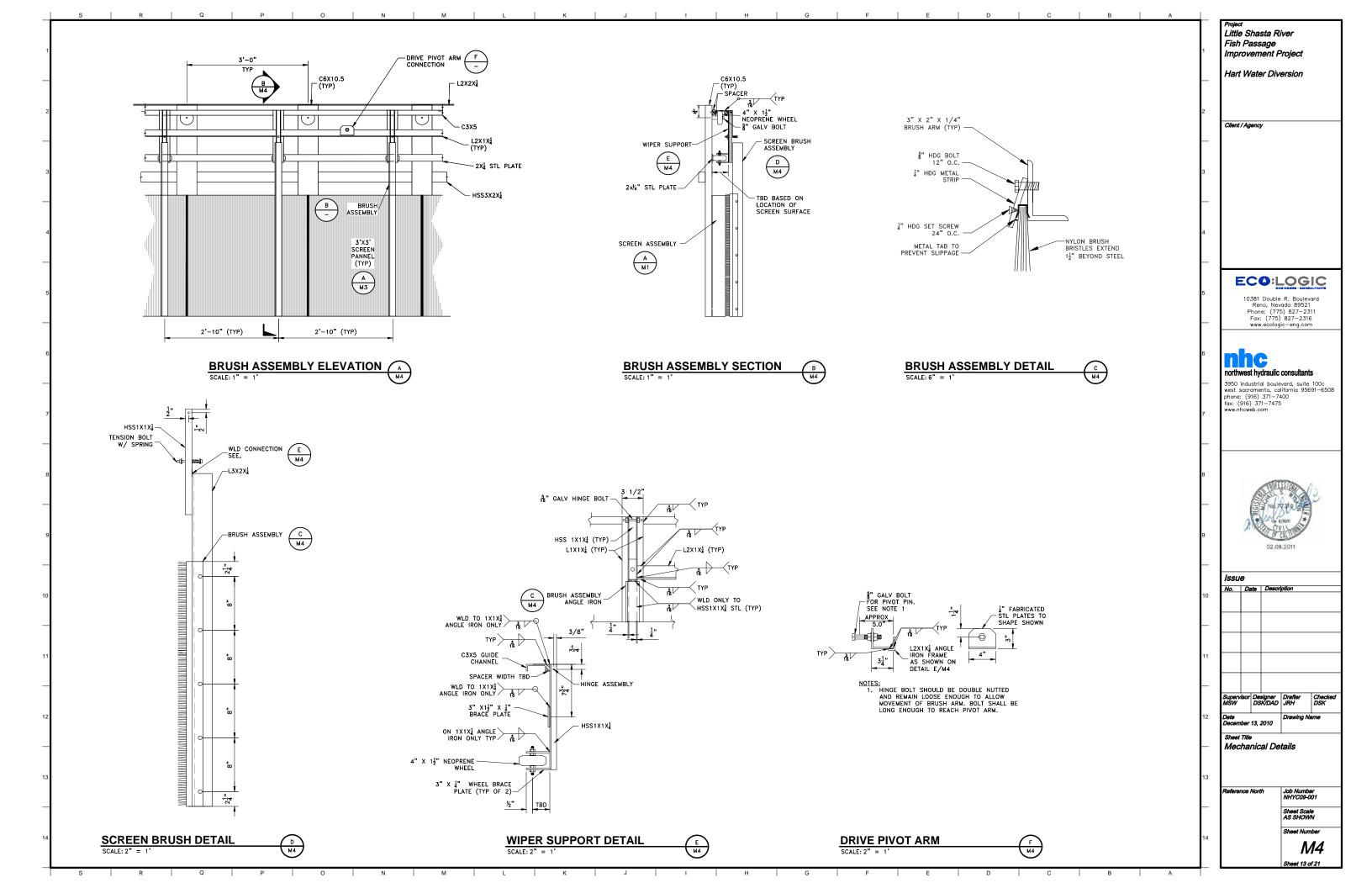
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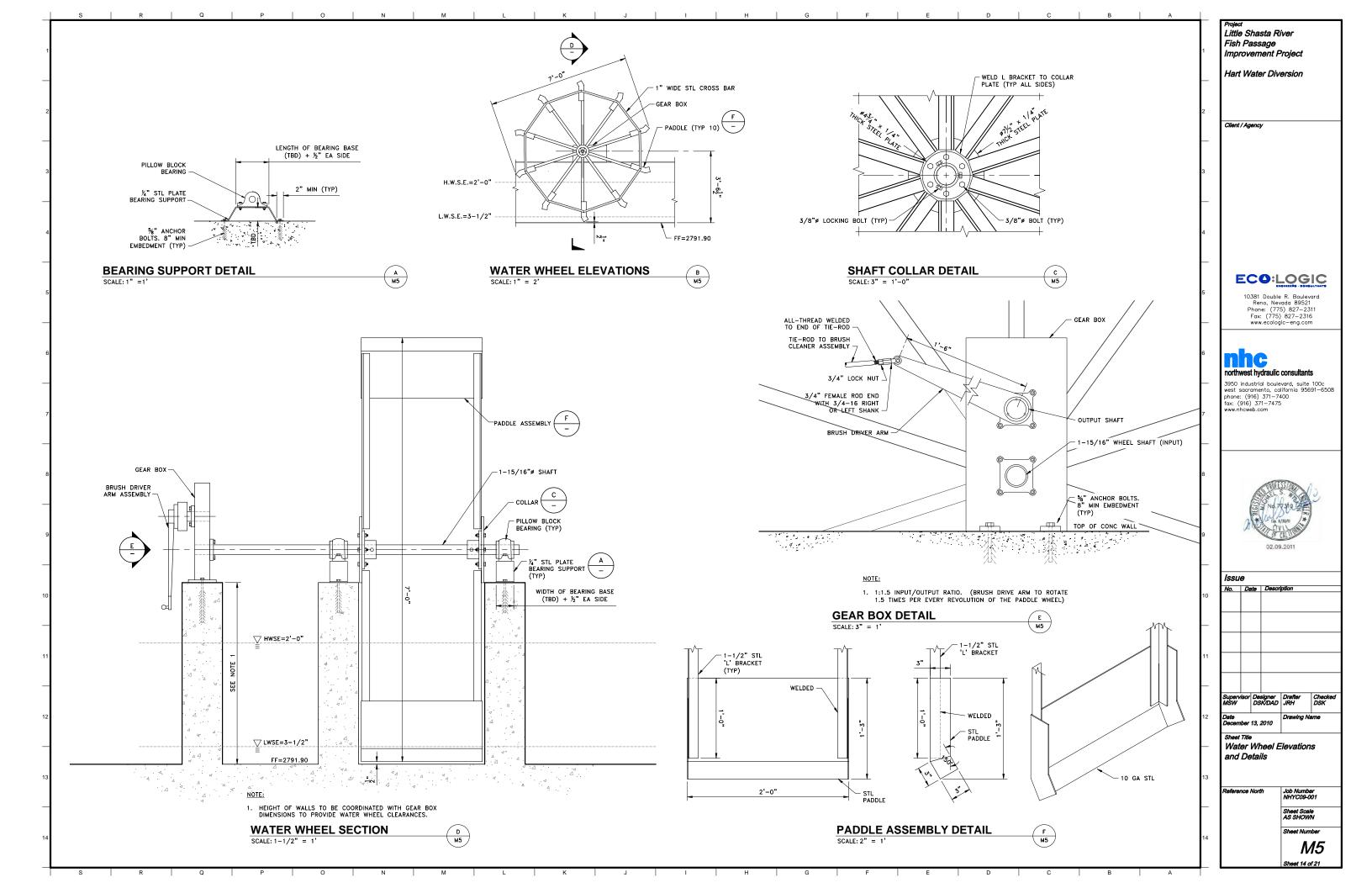


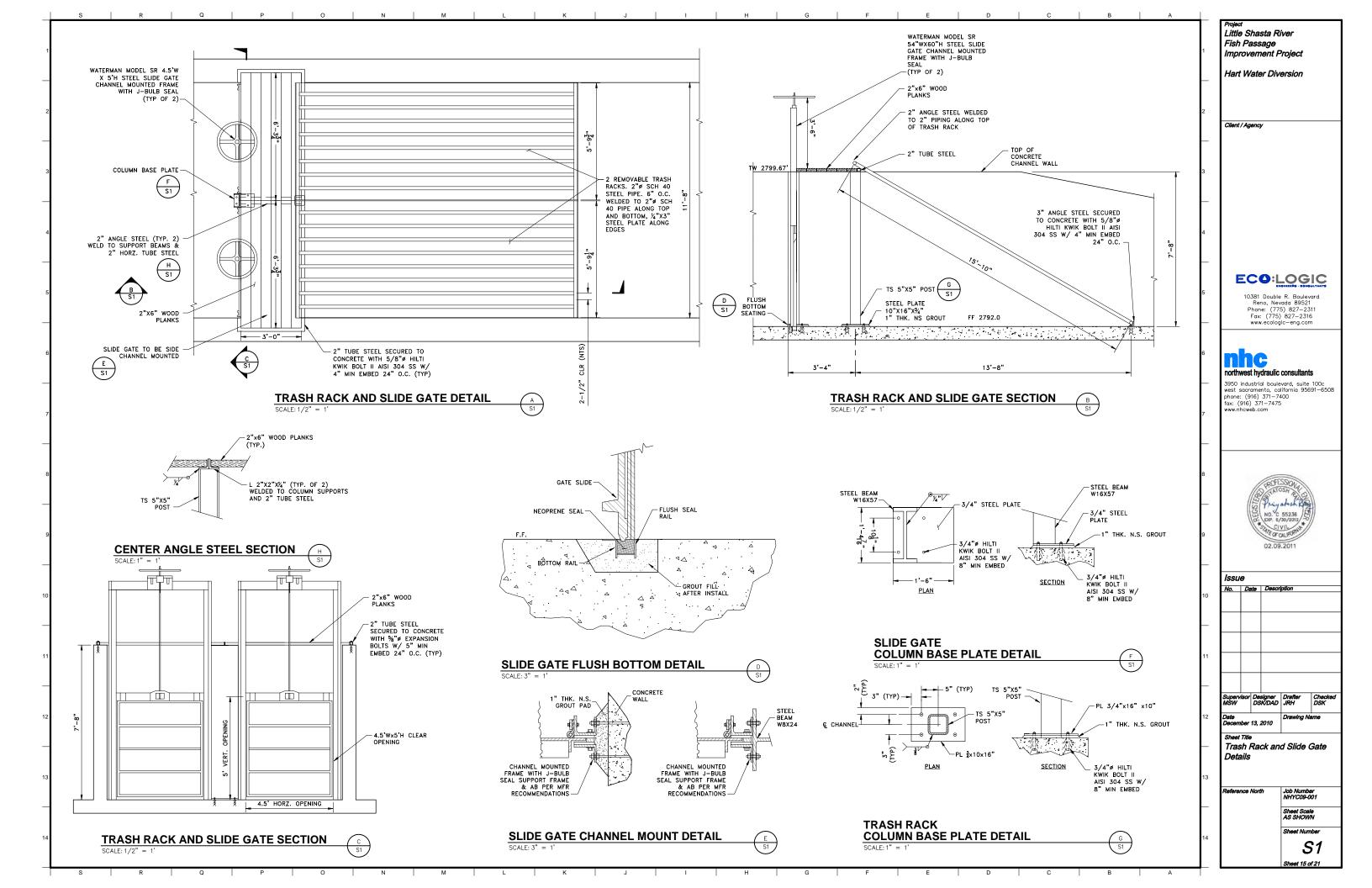
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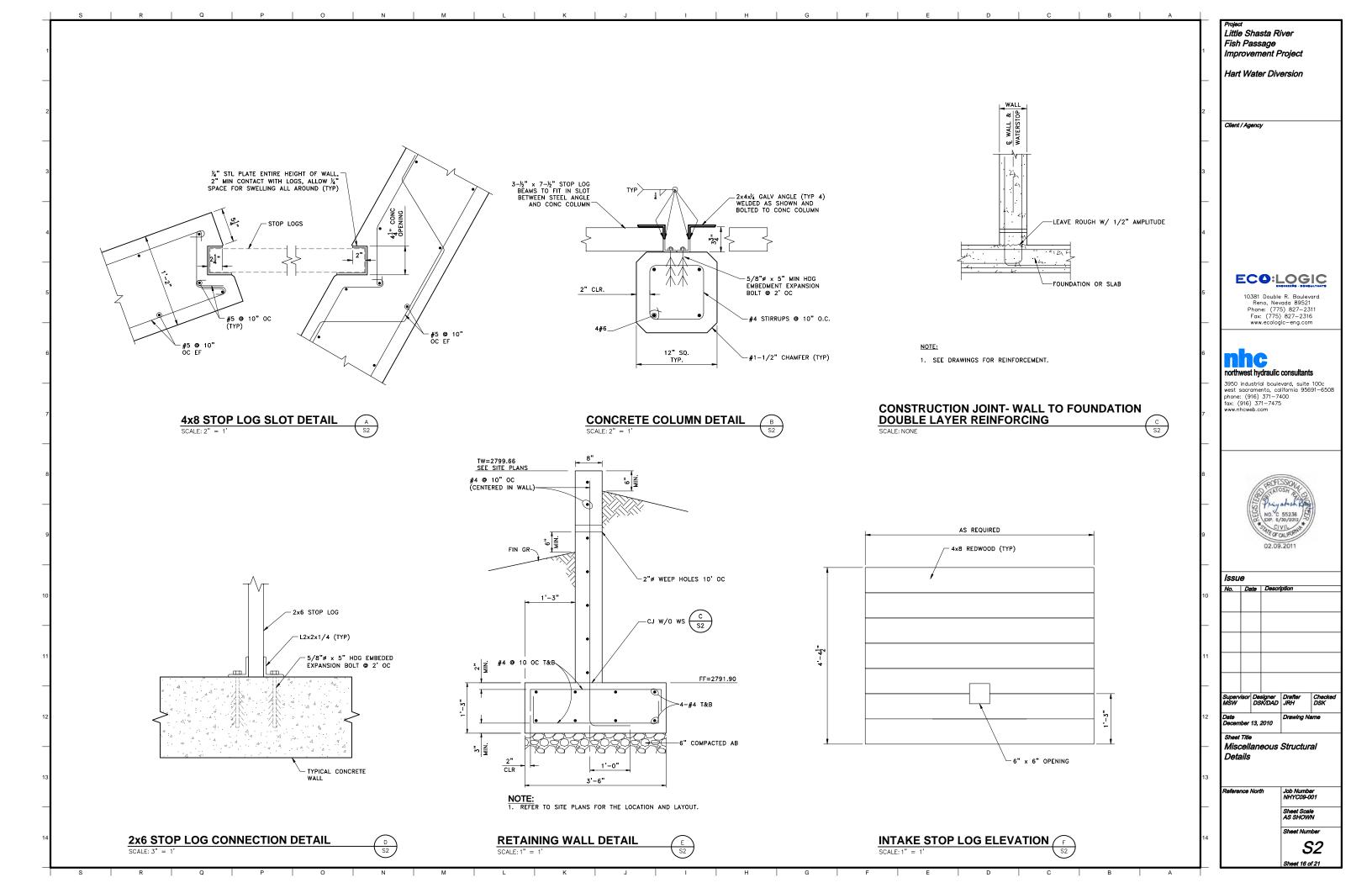












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#9		81"			
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- 1. THIS DETAIL TO BE USED EXCEPT WHEN NOTED OTHERWISE ON STRUCTURAL DRAWINGS. 2. NORMAL REINFORCEMENT CUT AT OPENING:
- $AS_1 = 1/2$ TOTAL AV CUT BARS $AS_2 = 1/2$ TOTAL AN CUT BARS TO BE ADDED ON EACH SIDE OF OPENING.
- 3. DIAGONAL BARS TO BE PLACED:
 a) AT & OF WALL OR SLAB WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED.
 b) AT EACH FACE OF WALLS OR SLABS WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED.
- PROVIDE DIAGONAL DOWEL FOR EACH LAYER OF REINFORCEMENT (#4 x 3'-0") U.N.O.
- 5. LOCATE ADDITIONAL BARS AT MID SPACING BETWEEN CONTINUOUS BARS THAT ARE NOT CUT.

NOTES FOR ADDITIONAL REINFORCEMENT AT OPENINGS

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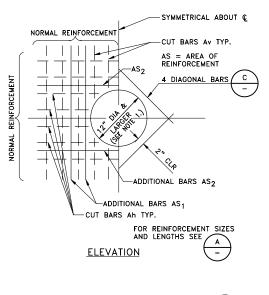
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NOTE: 1. FOR CIRCULAR OPENINGS LESS THAN 12"ø, SEE

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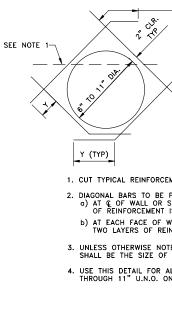
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ADDITIONAL REINFORCEMENT AT CIRCULAR OPENINGS

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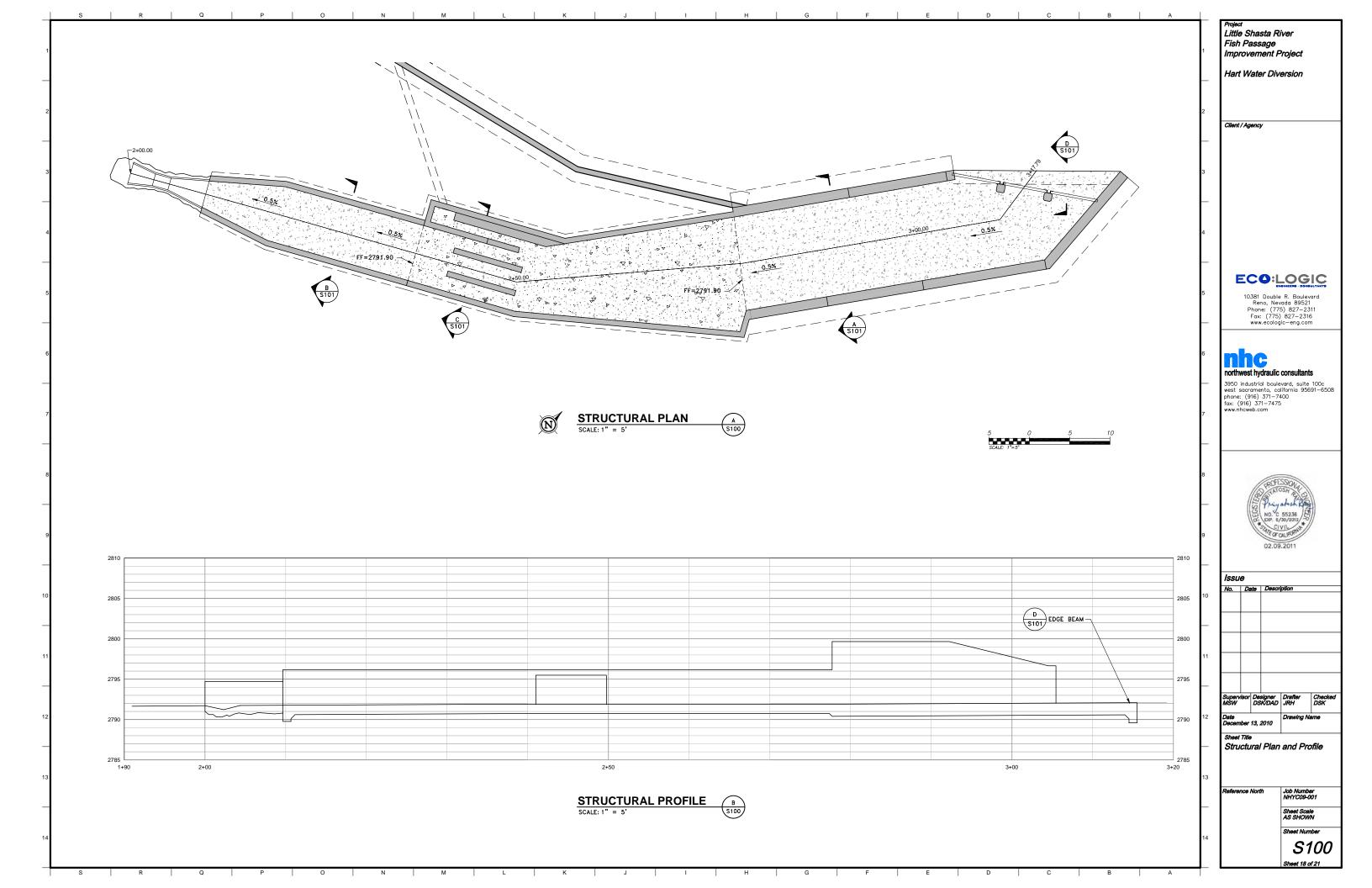
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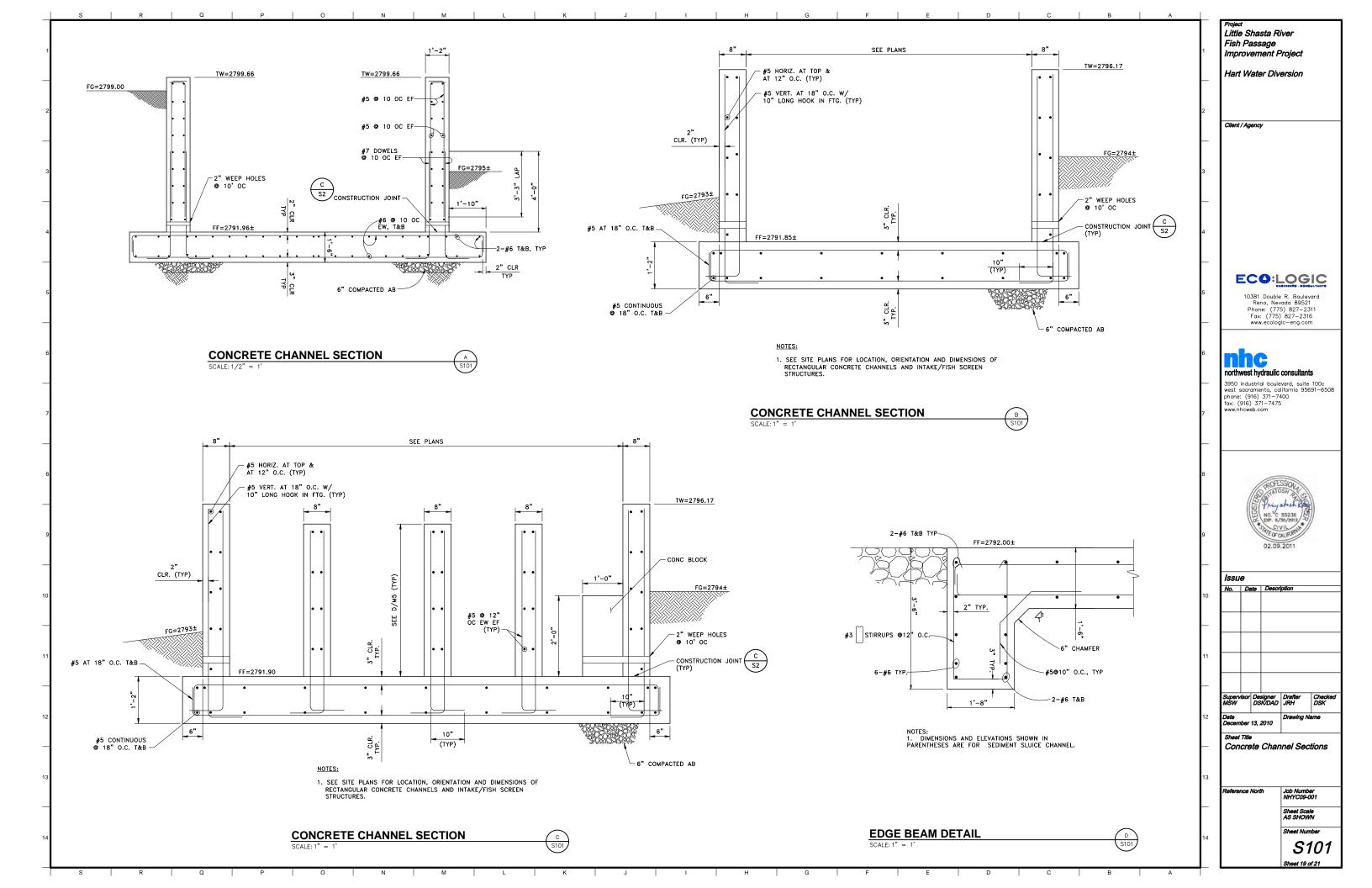


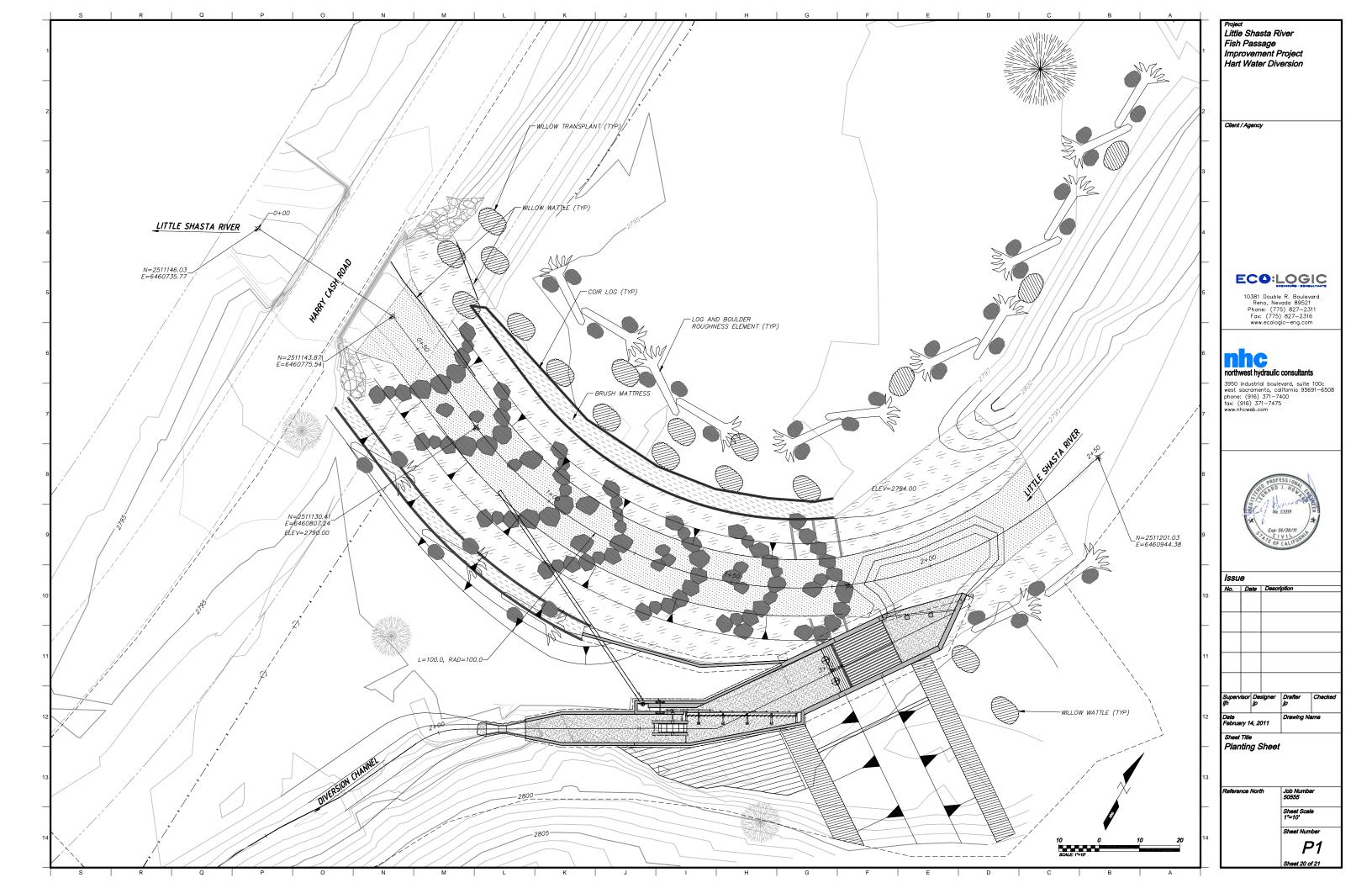
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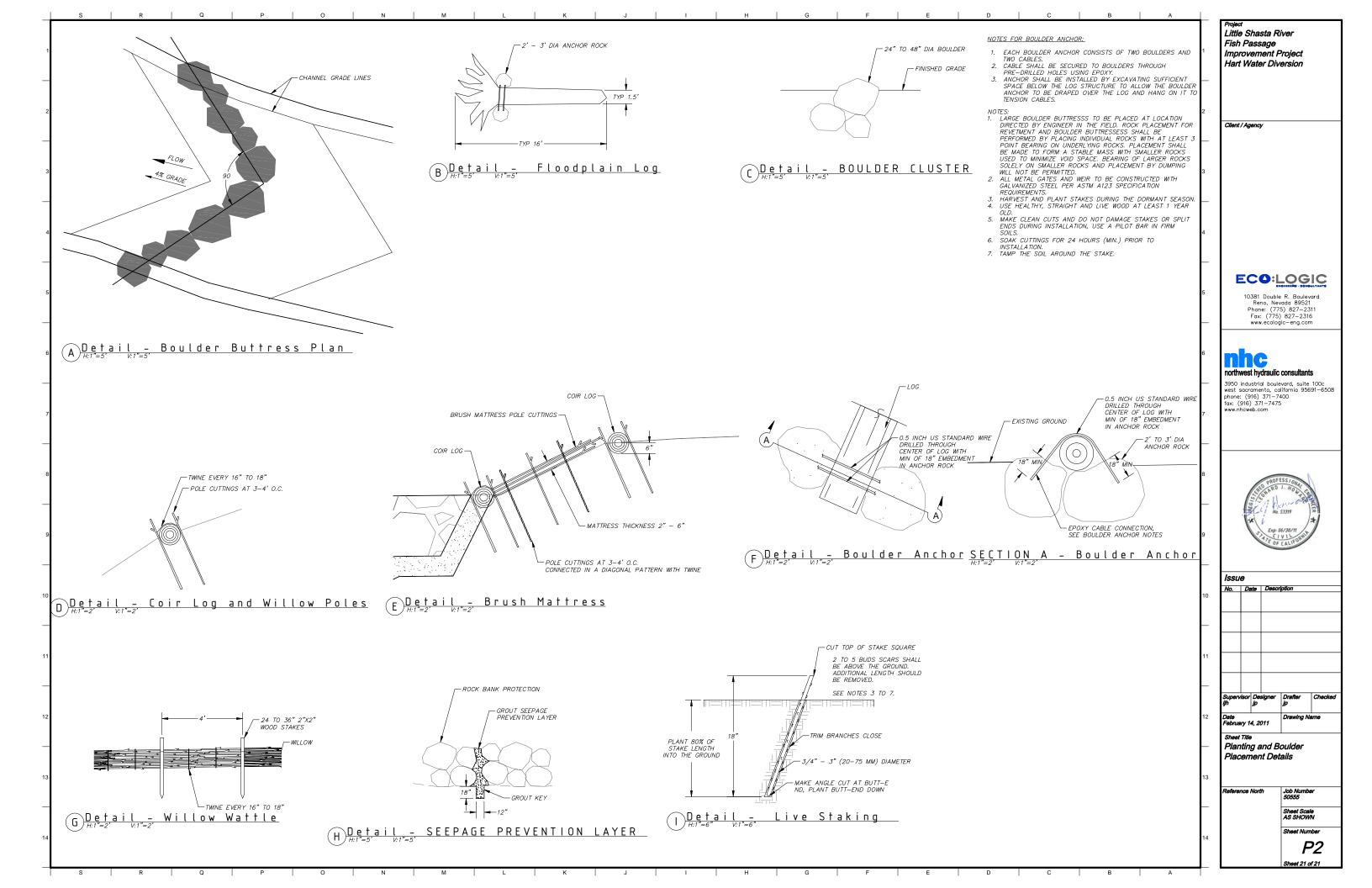
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OR OTHER OBSTRUCTIONS)		Hart Water Diversion
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#5 28" #6 33" #7 48" #8 55"		
$\frac{\pi}{49}$ 62" $\frac{4}{10}$ 70"	3	
MENT AT OPENING. PLACED: SLAB WHERE ONE LAYER		
VALLS OR SLABS WHERE NFORCEMENT ARE PROVIDED.	4	
ED, SIZE OF DIAGONAL BARS THE LARGEST REINF. CUT. LL CIRC. OPENINGS 6"	-	ECO:LOGIC
N THE STRUCT. DWGS.	5	ENGINEERS - BONBULTANTS 10381 Double R. Boulevard Reno, Nevada 89521
	_	Phone: (775) 827-2311 Fax: (775) 827-2316 www.ecologic-eng.com
AENT S	6	nhc
53	-	northwest hydraulic consultants 3950 industrial boulevard, suite 100c west sacramento, california 95691–6508 phone: (916) 371–7400
	7	fax: (916) 371-7475 www.nhcweb.com
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		^{Sheet Title} Miscellaneous Structural Details
	13	Reference North Job Number NHYC09-001
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C B A		Sheet 17 of 21









APPENDIX E

Biological Resources Report for California Environmental Quality Act (CEQA) Initial Study, Hart Ranch Rabe Consulting October 2016

Biological Resources Report for California Environmental Quality Act (CEQA) Initial Study

Hart Ranch Project

January 12, 2017

Prepared By: _____ Date: _____

Andréa Rabe, MS Senior Environmental Consultant 421 Commercial Street Klamath Falls, Oregon 97601 andrea@rabeconsulting.com (541) 891-2137



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1.	Introduction	3
2.	Description of the Proposed Action	3
3.	Pre-Field Review	5
4.	Field Survey Results	8
5.	Effects of the Proposed Project	10
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1. Introduction

The purpose of this Biological Report is to review the potential effects of the proposed Hart Ranch Project (Project) as required under the California Environmental Quality Act (CEQA) for potential impacts to biological resources including plants, fish and wildlife species, and/or their associated habitats. The biological resources considered include Federal or State listed Threatened, Endangered, or Candidate species and their critical habitats; riparian habitat; and sensitive native and resident, or migratory, fish or wildlife species.

Hart Ranch is located in Siskiyou County, California in Township 44N, Range 5W, Sections 34, 35, and 36 and Township 45N, Range 5W, Sections 1, 2, and 3. The proposed Hart Ranch Flow Enhancement Project is located within the north central portion of the unincorporated area of Siskiyou County, California. This project will be sited primarily at the Hart Ranch, with one component located upstream at the ranch's existing agricultural irrigation diversion on the Little Shasta River as illustrated in Figure 1, Project Location Map.

The overall project objectives are to (1) enhance flow in the Little Shasta River during critical coho salmon migration periods; (2) ensure long-term operation and maintenance of irrigation infrastructure for the Hart Ranch and the Montague Water Conservation District (MWCD); and (3) improve fish passage in the Little Shasta River.

By improving agricultural water infrastructure, water management opportunities, and fish passage in the Little Shasta River, the project intends to improve water quality and coho salmon habitat in the Little Shasta River with a resultant permanent instream dedication of up to 1.5 cfs and permissive dedication of their remaining 22.7 cfs water right by the Hart Ranch while maintaining viable agricultural lands.

2. Description of the Proposed Action

Current Conditions

The Hart Ranch Project, which consists of 65 acres of the 4,698-acre ranch, is privately owned and is operated primarily for beef cattle production, including extensive irrigation of forage and pasture. The Ranch lies within the Little Shasta River watershed and holds certain rights to Little Shasta River water, which are used with other water entitlements and groundwater for irrigation and livestock watering. All components of this project are located on existing active agricultural lands which are zoned for agricultural use by Siskiyou County.

Currently, Hart Ranch has a point of diversion on the Little Shasta River to deliver priority rights water to the ranch. The point of diversion is located upstream of Hart Ranch's northeastern boundary. Diverted water travels to the ranch through a large diversion ditch, then into a series of irrigation ditches within the ranch property. A portion of the Little Shasta River flows through the northwestern corner of the ranch.

Proposed Action

The Hart Ranch Flow Enhancement Project consists of the following elements, the locations of which are identified in Figure 1. All components are located on the Hart Ranch (41 41' 25.85"N latitude, 122 22' 51.11"W longitude). More details of the proposal can be found in CEQA document.

1) Stockwater Improvement: This project component is located on the Hart Ranch along Harry Cash Road south of the Little Shasta River. This component of the project consists of (1) retrofitting of an existing groundwater well a new pump and motor; (2) two new water storage tanks approximately 10,000 gallons in size; (3) installation of approximately 22,556 linear feet of underground PVC pipe connection to 20 stockwater troughs; (4) installation of approximately 7,500 linear feet of riparian grazing management fencing; and (5) riparian planting along the Little Shasta River for a distance of approximately 14,500 linear feet; and (6) approximately 14,850 linear feet of cross fencing in existing pastures.

2) Hart Ranch Main Pipeline Replacement: This component of the project includes replacement of the existing main canal earthen ditch and failing pipeline with approximately 7,280 linear feet of underground PVC pipe with risers, valves, flow meter, and connection to existing groundwater wells, for improved water management opportunities and flood irrigation of the eastern portion of the Ranch.

3) Montague Water Conservation District Canal Improvements: This component of the project is located along the Montague Water Conservation District (MWCD) main canal which bisects the Hart Ranch. The project's southern terminus is at Hart Road and is along the canal north.

4) Fish Passage Improvements: This component of the project includes (1) removal of the existing concrete dam, fish screen and old fish ladder walls along the Little Shasta River; (2) construction of approximately 105 linear feet of roughened channel with large boulder clusters and buttresses at a 2.5 - 3 percent grade, that provides fish passage opportunities; (3) modification of the agricultural diversion for the Hart Ranch (4) construction of a new cast-in-place concrete diversion structure with fish screen and fish return bypass that meets current NOAA and CDFW fish protection criteria; and (5) revegetation of the site.

Work will be conducted during the low flow period of August 15 to October 15. Stream flows during this period are anticipated to be less than about 3 cfs. Pumps will be used when necessary to remove ground water seepage into the isolated work area. Pumped ground water seepage will be spread over existing floodplain areas and allowed to infiltrate into the ground without causing river turbidity to increase. River flows will be diverted around the roughened channel and diversion structure intake during construction and will be returned to the newly constructed channel as soon as these portions of the work are complete. It is anticipated the project reach will be dewatered for less than 6 weeks. Prior to grading activities, the contractor will salvage and store existing vegetation cuttings and willow transplants to be replanted following project completion.

3. Pre-Field Review

The NOAA Fisheries website was consulted on August 10, 2016, and the U.S. Fish and Wildlife Service website was consulted on August 10, 2016 to identify a list of federally proposed and listed Endangered and Threatened species that may be present or exhibit habitat in the area of the proposed Project. The project is located in Siskiyou County and species identified in the search are listed in Tables 1 and 2 in Appendix B.

The California Department of Fish and Wildlife website and a 7.5' 9-quadrangle search of the California Natural Diversity Database was conducted on August 8, 2016 for a list of species the State of California has listed as Threatened, Endangered, or Candidate potentially occurring or exhibiting habitat in or around the project site. The project is located primarily in the Little Shasta quadrangle, with a small portion of the eastern extent of the project area occurring in the Solomon's Temple quadrangle, resulting in the need to search 12 quadrangles, not 9. The search included the following 12 7.5'-quadrangles: China Mountain, Gazelle, Hotlum, Juniper Flat, Lake Shastina, Little Shasta, Montague, Solomon's Temple, Grass Lake, Panther Rock, The Whaleback and Weed. All species identified in the search are listed in Tables 1 and 2 in Appendix B.

The U.S. Fish and Wildlife Service website was consulted on August 10, 2016 identified a list of birds protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. This list is found in Table 3 in Appendix B.

Federal or State species that may be present, or potentially have habitat present, in or near the project site are also listed below in an abbreviated table. These species were specifically targeted in the field survey on August 24, 2016.

Scientific Name	Common Name	State Status	Federal Status*	Federal Critical Habitat Present?	California Rare Plant Rank or CDFW Status**	General Habitat Description
Carex atherodes	Wheat sedge	None	None	None	2B.2	Marshes and moist prairie, seasonally wet meadows, pinyon and juniper woodland
Scirpus pendulus	Pendulous bulrush	None	None	None	2B.2	Marshes, wet meadows, ditches
Emys marmorata	Western pond turtle	None	None	None	SSC	Permanent water with basking sites (ponds, ditches, streams)
Rana pretiosa	Oregon spotted frog	None	Threatened	None	None	Wetlands, lakes and slow-moving streams
Oncorhynchus kisutch	coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	Designated	None	Shasta River and tributaries
Oncorhynchus mykiss irideus	steelhead - Klamath Mountains Province DPS	None	Threatened	None	SSC	Shasta River and tributaries
Oncorhynchus tshawytscha	Chinook salmon-upper Klamath and Trinity Rivers ESU	None	None	None	SSC	Shasta River and tributaries
Agelaius tricolor	tricolored blackbird	None	None	No	SSC	Colonial breeder near freshwater, preferably in emergent wetland with tall, dense cattails or tules; also thickets of willow, blackberry, wild rose, tall herbs. Feeds in grass/crop lands.
Buteo swainsoni	Swainson's hawk	Threatened	МВТА	None	None	Open grassland/croplands

						with scattered large
						trees/groves.
Chlidonias niger	black tern	None	None	No	SSC	Loosely colonial breeders; Breeds in freshwater wetlands or dry ground, other abandoned nests (muskrat, coot, grebe); emergent wetland, lakes,
						ponds, moist grasslands, ag fields; insect and small aquatic prey
Circus cyaneus	Northern harrier	None	None	None	SSC	 Nests on ground in shrubby veg, usually at marsh edge. Meadows, grasslands, open rangelands, fresh & saltwater emergent wetlands.
Contopus cooperi	Olive-sided flycatcher	None	MBTA	None	None	Montane & coniferous forests, forest edge meadows/ponds.
Empidonax traillii	Willow flycatcher	None	MBTA	None	None	Moist, shrubby areas near water
Grus canadensis tabida	greater sandhill crane	Threatened	None	None	FP	Wet meadow, emergent wetlands; croplands
Haliaeetus leucocephalus	bald eagle	Endangered	Delisted, BGEPA, MBTA	None	FP	Near large water bodies, rivers with adjacent perches
Lanius Iudovicianus	Loggerhead shrike	None	MBTA	None	None	Open country with spiny shrubs/low trees, ag fields, riparian
Selasphorus rufus	Rufous hummingbird	None	MBTA	None	None	Open shrub or forested areas, mountain meadows.
Stellula calliope	Calliope hummingbird	None	MBTA	None	None	Open montane forest, mountain meadows, willow/alder thickets.

Taxidea taxus	American badger	None	None	None	SSC	Herbaceous or shrub, must have friable soils; primarily rodent prey		
U U	*MBTA = Migratory Bird Treaty Act, BGEPA = Bald and Golden Eagle Protection Act **2B.2 = Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened							
in California, SS	C = CDFW Specie	s of Special Co	ncern, FP= CDF	W Fully Prote	ected			

4. Field Survey Results

On August 24, 2016, Andréa Rabe (PWS and Botanist) and Trisha Roninger (Wildlife Biologist) surveyed the project impact area. The project impact area was defined as the project footprint with a 25 ft buffer. The MWCD canal was surveyed with the canal footprint and a 50 ft buffer, from the northern to southern property line of Hart Ranch. The portions of the MWCD canal outside of the Hart Ranch were not surveyed. The survey area at the diversion is 0.16 acres. The survey area within Hart Ranch is 41.5 acres with an additional 4.7 miles of MWCD canal.

Sparse riparian vegetation is present along the irrigation ditches and canals within the proposed project area. The riparian vegetation along the irrigation canals consists of bulrush and cattails along with other sedges and rushes in a narrow band a few inches (1-8 inches) wide along the high water line of the canals. The canal banks are steep and do not allow for a riparian bench. The smaller irrigation ditches exhibit mostly grasses with few sedges and rushes at their ordinary water line.

The Little Shasta River exhibits dense shrub and tree growth in the riparian area, with little to no understory. The shrubs include multiple species of willows.

A 7.5 acre area along the eastern toe of Dorris Hill exhibits bulrush and cattail marsh. This marsh area is wetland seasonally and in large part receives water from the irrigation ditch tailwater. The marsh does not exhibit open water areas. The marsh is about 95% wetland plant cover with 5-10% cover of litter.

The upland area around Dorris Hill and upslope toward the summit exhibit sparse sagebrush scrub with limited bunch grass cover (less than 25%). The area is rocky and exhibits areas of bare soil. The lower elevation areas below the slopes of Dorris Hill are fields are primarily permit pasture exhibiting pasture grasses or alfalfa fields used for hay production. Both of the field types are flood irrigated, but generally do not exhibit wetland features.

<u>Plants</u>

Wheat sedge and pendulus bulrush were not observed nor was habitat present for either species.

Terrestrial Wildlife Species

Pre-field visit data indicates that habitat is potentially present for tricolored blackbirds and black terns. However, upon site visit, it was determined that large galleries of willows or dense blackberry patches are not present in the study area for nesting tricolored blackbirds, and areas of freshwater wetlands with emergent vegetation are not present in the study area. Therefore, habitat for nesting tricolored blackbirds and black terns is not present in the study area.

American badger, Swainson's hawk, northern harrier, and bald eagle foraging areas are present, but no badger dens, Swainson's hawk, northern harrier, or eagle nests were observed within 660 feet or 0.125 miles of the proposed project site.

The limited size of the riparian areas along the ditches and canals is not typical migratory bird habitat, because it is not large enough to provide adequate cover and/or forage.

There is quality habitat along the Little Shasta River, which was not exhibited along the banks of the ditches and canals, for rufous and calliope hummingbirds, loggerhead shrike, olive-sided flycatcher, and willow flycatcher.

Hart Ranch has breeding habitat for sandhill crane in the wet-open meadows exhibiting bulrush and cattails; approximately 7.5 acres of habitat was identified.

Aquatic Wildlife Species

No Oregon spotted frogs were observed. No slow water or back water areas with breeding habitat components were present in the river adjacent to the proposed fish screen location or in the vicinity of the current diversion. The ditch banks are moderately steep without shelves and do not provide flat areas where breeding frogs can lay eggs. Vegetation along the ditch banks is grazed and there is not adequate thatch to provide surfaces for egg laying to occur. Therefore, the ditches are not breeding habitat.

No basking structures for western pond turtles were observed in the river adjacent to the proposed fish screen location or in the vicinity of the current diversion. The ditches are not habitat as the ditch banks are sloped at greater than 10:1 and do not exhibit basking sites.

Surveys were not conducted for fish; however, the Little Shasta River is known habitat for coho salmon, steelhead and chinook salmon.

Wetlands and Riparian Areas

A wetland delineation was also conducted on August 24, 2016. The delineation identified jurisdictional wetlands. The results of the wetland delineation are documented in the wetland delineation report (a separate document), which includes maps of the wetland areas and data forms.

Riparian vegetation is present along the segments of the Little Shasta River and along some irrigation canals within the proposed project area.

5. Effects of the Proposed Project

After the field review on August 24, 2016, it was determined that the following species have habitat in or immediately adjacent to the proposed project footprint: sandhill crane, rufous hummingbird, calliope hummingbird, loggerhead shrike, olive-sided flycatcher, willow flycatcher, coho salmon, and steelhead.

Rufous and Calliope hummingbirds, loggerhead shrike, olive-sided flycatcher, and willow flycatcher are dependent upon riparian vegetation such as alders and willows. Riparian vegetation will be affected by the proposed project; however, these effects will be short-term in nature and will only occur within the project footprint. Riparian vegetation is available immediately adjacent to the project site. As mitigation, prior to grading activities, the contractor will salvage and store existing vegetation cuttings and willow transplants to be replanted following the project completion. The project will not create any obstructions to flight patterns. Therefore, any short-term impacts to listed riparian-dependent species are less than significant with incorporation of all of the relevant protection measures.

Approximately 7.5 acres of sandhill crane nesting habitat is present within the project area on Hart Ranch and identified on Figure 2. The field visit was not conducted during the time of year when cranes would be nesting; however, given that the habitat is available, it is assumed it will be occupied during the nesting season. Nesting habitat will not be affected by the project; however, activities are scheduled to occur immediately adjacent to the habitat and could result in disturbance to the nesting individuals. A seasonal limited operating period will be placed on construction activities within 500 feet of the nesting habitat on Figure 2 from March 1 to June 30; therefore, no construction activities will occur during this window of time in this area, minimizing disturbance to nesting cranes. Any short-term impacts to sandhill cranes are less than significant with incorporation of the limited operating period.

Oregon spotted frog breeding habitat is not present in the ditches on Hart Ranch or at the point of diversion on the Little Shasta River. Ditches may be used for dispersal movements by frogs when the ditches are in use and full of water. However, short-duration construction work will not occur in the ditches when they are full, as construction will occur in or crossing the ditches outside of the irrigation season when the ditches are dewatered. The proposed action will change the timing of the water delivery in the future, but will not directly impact frog habitat; therefore, impacts to the Oregon spotted frog are less than significant.

Coho salmon (southern Oregon / northern California ESU), steelhead (Klamath Mountains Province DPS) and chinook salmon (upper Klamath and Trinity Rivers ESU) are present in the Little Shasta River. Any impacts to fish habitat are temporary and of short duration, and will have long-term benefits to fish habitat. This component of the project includes (1) removal of the existing concrete dam, fish screen and old fish ladder walls along the Little Shasta River; (2) construction of approximately 105 linear feet of roughened channel with large boulder clusters and buttresses at a 2.5 - 3 percent grade, that provides fish passage opportunities; (3) modification of the agricultural diversion for the Hart Ranch (4) construction of a new cast-in-place concrete diversion structure with fish screen and fish return bypass that meets current NOAA and CDFW fish protection criteria; and (5) revegetation of the site.

All potential impacts to federally listed coho salmon and steelhead from moving the fish screen, piping the ditches, and installing new headgates and flow meters were consulted upon and addressed in the 2012 Biological Opinion issued by NOAA Fisheries pertaining to future U.S. Army Corps of Engineers permits within the Siskiyou and other northern California counties. All relevant protection measures identified in the Biological Opinion (NOAA Fisheries 2012) will be implemented to minimize impacts to listed fish species and their habitat to minimize impacts to listed fish and will be insignificant. A complete list of these protective measures can be found in Appendix C. The general construction season for instream work will be during the low flow period of August 15 to October 15 outside of spawning, incubation, and rearing periods of listed fish. Restoration, construction, fish relocation, and dewatering activities within any wetted or flowing stream channel will occur within this period. Therefore, any short-term impacts associated with construction to listed fish species are less than significant with incorporation of all of the relevant protection measures and have a long-term benefit to the species.

Any potential impacts to jurisdictional wetlands permitted through a Section 404 permit from the Army Corps of Engineers will be temporary and restored to pre-project conditions. Temporary wetland impacts are discussed in the wetland delineation report (a separate document).

6. Determinations

	Less Than Significant		
Potentially	with	Less Than	
Significant	Mitigation	Significant	No
Impact	Incorporated	Impact	Impact

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

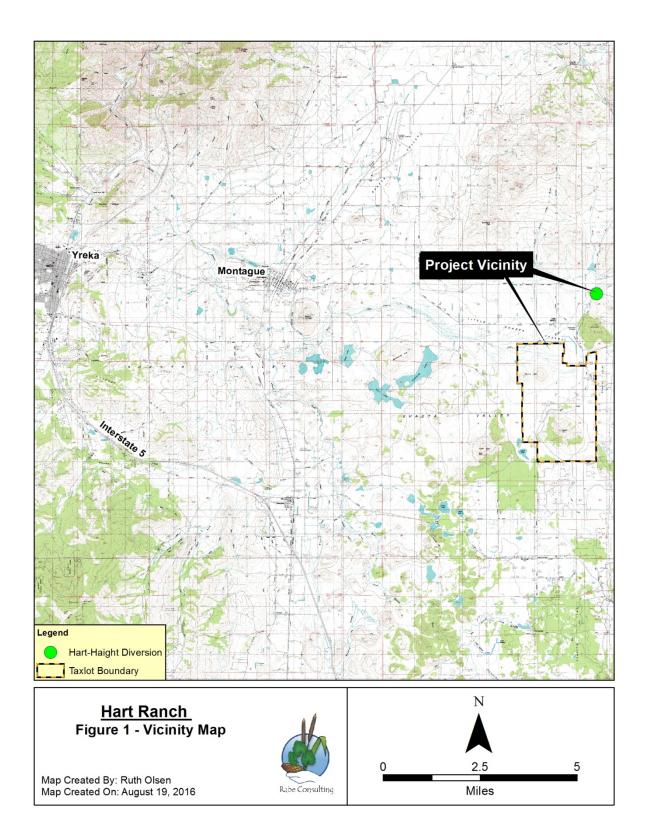
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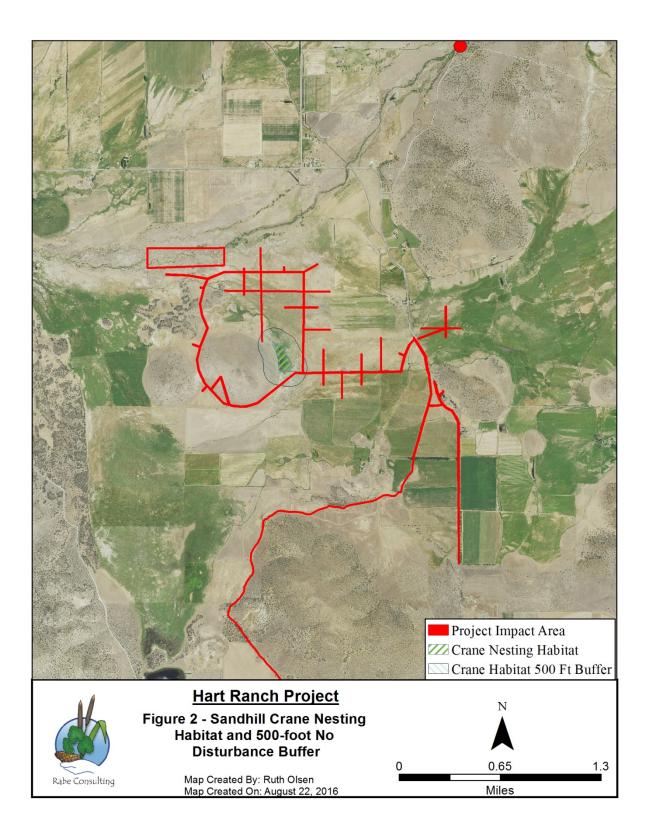
7. References Cited

California Natural Diversity Database. 2016. Accessed on August 8, 2016. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp

- NOAA Fisheries. 2012. NOAA's National Marine Fisheries Service's (NMFS) final biological opinion (enclosure 1) and Essential Fish Habitat (EFH) consultation (enclosure 2) pertaining to the NOAA's Restoration Center's proposed funding and the U.S. Army Corps of Engineers proposed permitting of restoration projects within the National Marine Fisheries Service's Northern California Office jurisdictional area from 2012 through 2022. Issued March 21, 2012.
- NOAA Fisheries. 2016. Website was consulted on August 10, 2016. http://www.nmfs.noaa.gov/pr/species/esa/listed.htm
- U.S. Fish and Wildlife Service. 2016. IPaC website was accessed on August 10, 2016. https://ecos.fws.gov/ipac/

Appendix A – Maps





Scientific	Common	State	Federal	Federal	California	General Habitat Description	Habitat	Species
Name	Name	Status	Status	Critical Habitat Present?	Rare Plant Rank*		Potentially Present?	Presence Known?
Fritillaria gentneri	Gentner's fritillary	None	Endangered	None designated	None	Open oak or madrone woodland, chaparral/grassland habitat	No	No
Chamaesyce hooveri	Hoover's spurge	None	Threatened	No	None	Vernal pools	No	No
Orcuttia tenuis	slender orcutt grass	None	Threatened	No	None	Vernal pools	No	No
Phlox hirsuta	Yreka phlox	Endangered	Endangered	None designated	1B.2	Serpentine talus, montane conifer	No	No
Alisma gramineum	grass alisma	None	None	None	2B.2	Fresh or brackish marshes and swamps, vernal pools	No	No
Allium siskiyouense	Siskiyou onion	None	None	None	4.3	Serpentine and rocky soils; lower- and upper montane coniferous forest	No	No
Androsace filiformis	slender- stemmed androsace	None	None	None	2B.3	Upper montane coniferous forest, meadows and seeps	No	No
Anthoxanthum nitens ssp. nitens	nodding vanilla-grass	None	None	None	2B.3	Wet meadows, seeps	No	No
Balsamorhiza lanata	woolly balsamroot	None	None	None	1B.2	Foothill (Cismontane) woodland; Open woods with grassy slopes, full sun, rocky, volcanic; blooms M12M51Apr-Jun.	No	No

Appendix B – Species Lists

Betula glandulosa	dwarf resin birch	None	None	None	2B.2	High altitude streams, meadow edges and in shrublands.	No	No
Calochortus greenei	Greene's mariposa-lily	None	None	None	1B.2	Volcanic; cismontane woodland, meadows and seeps, pinyon and juniper woodland, upper montane coniferous forest	No	No
Calochortus monanthus	single- flowered mariposa-lily	None	None	None	1A	Meadows and seeps; presumed extinct. Single specimen found on the banks of the Shasta River near Yreka	No	No
Campanula scabrella	rough harebell	None	None	None	4.3	Bare talus slopes	No	No
Carex atherodes	wheat sedge	None	None	None	2B.2	Marshes and moist prairie, seasonally wet meadows, pinyon and juniper woodland	Yes	No
Carex geyeri	Geyer's sedge	None	None	None	4.2	Mountain meadows, grasslands, open forest slopes	No	No
Carex klamathensis	Klamath sedge	None	None	None	1B.2	Serpentine soil; fens or other wet habitats	No	No
Chaenactis suffrutescens	Shasta chaenactis	None	None	None	1B.3	Grows in coniferous forests, sometimes on serpentine soils.	No	No
Collomia tracyi	Tracy's collomia	None	None	None	4.3	Rocky, sometimes serpentite, broad-leafed upland forest, lower montane coniferous forest	No	No
Cordylanthus tenuis ssp. pallescens	pallid bird's- beak	None	None	None	1B.2	Open volcanic alluvium	No	No
Cuscuta jepsonii	Jepson's dodder	None	None	None	18.2	Parasitic on ceanothus diversifolius and c. prostratus which grow in oak-conifer forests, open flats, volcanic soils.	No	No
Cypripedium californicum	California lady's-slipper	None	None	None	4.2	Margins of woodland streams in mixed-evergreen or conifer forest	No	No

Cypripedium fasciculatum	clustered lady's-slipper	None	None	None	4.2	Serpentine seeps/streambanks, lower montane and north coast coniferous forests	No	No
Cypripedium montanum	mountain lady's-slipper	None	None	None	4.2	Broad-leafed upland forest, cismontane woodland, lower montane and north coast coniferous forests	No	No
Darlingtonia californica	California pitcherplant	None	None	None	4.2	Mesic, serpentite seeps; bogs and fens, meadows and seeps	No	No
Draba carnosula	Mt. Eddy draba	None	None	None	1B.3	Serpentine outcrops	No	No
Epilobium luteum	yellow willowherb	None	None	None	2B.3	Lower montane coniferous forest, moist streambanks, montane meadows	No	No
Erigeron bloomeri var. nudatus	Waldo daisy	None	None	None	2B.3	Tends to grow on rocky slopes, lava beds, meadows, 2000'-7500' elevation	No	No
Erigeron nivalis	snow fleabane daisy	None	None	None	2B.3	Rocky sites and meadows in open woods and subalpine areas.	No	No
Erigeron petrophilus var. viscidulus	Klamath rock daisy	None	None	None	4.3	Rocky foothills to montane forests, sometimes on serpentine soils	No	No
Eriogonum congdonii	Congdon's buckwheat	None	None	None	4.3	Lower montane coniferous forest, serpentine soils	No	No
Eriogonum siskiyouense	Siskiyou buckwheat	None	None	None	4.3	Lower montane coniferous forest, often serpentine soils	No	No
Eriogonum strictum var. greenei	Greene's buckwheat	None	None	None	4.3	Lower montane coniferous forest, serpentine soils	No	No
Eriogonum umbellatum var. humistratum	Mt. Eddy buckwheat	None	None	None	4.3	Rocky, usually serpentine, alpine boulder field, chaparral, meadows and seeps, upper montane coniferous forest	No	No

Erythronium revolutum	coast fawn lily	None	None	None	2B.2	Coastal; streambanks, bogs, wet forest understory	No	No
Eurybia merita	subalpine aster	None	None	-	2B.3	Dry, open areas at subalpine levels	No	No
Galium serpenticum ssp. scotticum	Scott Mountain bedstraw	None	None	-	18.2	Lower montane coniferous forest, serpentine soils	No	No
Helianthus exilis	serpentine sunflower	None	None	-	4.2	Gravelly streamsides, often on serpentine soils	No	No
Helodium blandowii	Blandow's bog moss	None	None	-	2B.3	Subalpine coniferous forest; meadows and seeps	No	No
Hesperocyparis bakeri	Baker cypress	None	None	-	4.2	Serpentine or volcanic, chaparral, lower montane coniferous forest	No	No
Hulsea nana	little hulsea	None	None	-	2B.3	Volcanic talus	No	No
Hymenoxys Iemmonii	alkali hymenoxys	None	None	-	2B.2	Great basin scrub and lower montane coniferous forest; meadows and seeps (subalkaline)	No	No
Iliamna bakeri	Baker's globe mallow	None	None	-	4.2	Volcanic; mountain slopes, juniper woodland, lava beds	No	No
lvesia pickeringii	Pickering's ivesia	None	None	-	1B.2	Mesic, clay, usually serpentite seeps. Lower montane coniferous forest meadows and seeps	No	No
Limnanthes floccosa ssp. floccosa	woolly meadow- foam	None	None	-	4.2	Vernally mesic; chaparral, cismontane woodland, valley and foothill grassland, vernal pool edges	No	No
Lomatium engelmannii	Engelmann's Iomatium	None	None	-	4.3	Serpentine soils;	No	No
Lomatium peckianum	Peck's Iomatium	None	None	-	2B.2	Pine-oak woodlands	No	No
Meesia triquetra	three-ranked hump moss	None	None	-	4.2	Subalpine coniferous forest, upper montane coniferous forest; meadows and seeps, bogs, fens	No	No

Meesia uliginosa	broad-nerved hump moss	None	None	-	2B.2	Subalpine coniferous forest, upper montane coniferous forest; meadows and seeps, bogs, fens	No	No
Minuartia stolonifera	Scott Mountain sandwort	None	None	-	1B.3	Serpentine soils, Jeffery-pine forest	No	No
Opuntia fragilis	brittle prickly-pear	None	None	-	2B.1	Juniper woodland	No	No
Orthocarpus pachystachyus	Shasta orthocarpus	None	None	-	18.1	Sagebrush scrub, meadows and seeps, valley and foothill grasslands; blooms in May	No	No
Penstemon cinicola	ashy-gray beardtongue	None	None	-	4.3	Volcanic, lower- and upper montane coniferous forest, meadows and seeps	No	No
Penstemon heterodoxus var. shastensis	Shasta beardtongue	None	None	-	4.3	Volcanic, clay loam; broad-leafed upland forest, chaparral, lower- and upper montane coniferous forest, meadows and seeps	No	No
Phacelia cookei	Cooke's phacelia	None	None	-	1B.1	Forest and scrub, sandy, ashy volcanic soil	No	No
Phacelia greenei	Scott Valley phacelia	None	None	-	1B.2	Serpentine soils, coniferous forest	No	No
Phacelia sericea var. ciliosa	blue alpine phacelia	None	None	-	2B.3	Great basin scrub and upper montane coniferous forest	No	No
Phlox hirsuta	Yreka phlox	Endangered	Endangered	-	1B.2	Upper and lower montane coniferous forest; serpentine, talus	No	No
Polemonium carneum	Oregon polemonium	None	None	-	2B.2	Coastal; lower montane coniferous forest	No	No
Polemonium pulcherrimum var. shastense	Mt. Shasta sky pilot	None	None	-	1B.2	Alpine boulder, subalpine- and upper montane coniferous forest	No	No
Potentilla newberryi	Newberry's cinquefoil	None	None	-	2B.3	Marshes and swamps, vernal pools	No	No

Ribes	western	None	None	-	2B.3	moist, wooded areas, mountain	No	No
hudsonianum	black currant					streambanks, swamp thickets		
var. petiolare								
Scirpus	pendulous	None	None	-	2B.2	Marshes, wet meadows, ditches	Yes	No
pendulus	bulrush							
Sedum	Cascade	None	None	-	2B.3	Gravelly flats, slopes, lava beds	No	No
divergens	stonecrop							
Sedum laxum	pale yellow	None	None	-	4.3	Gravelly flats, rocky outcrops,	No	No
ssp. flavidum	stonecrop					elevations 2600'-6600'		
Shepherdia	Canadian	None	None	-	2B.1	Streambanks, slopes, upper	No	No
canadensis	buffalo-berry					montane conifer forest		
Thelypodium	, short-podded	None	None	-	4.2	Alkaline wetland and serpentine	No	No
brachycarpum	thelypodium					soils		
Trifolium	Siskiyou	None	None	-	1B.1	Wet mountain meadows	No	No
siskiyouense	clover							
Triteleia	large-	None	None	-	2B.1	Grassland, sagebrush, pine forests	No	No
grandiflora	flowered							
-	triteleia							
Note: California S	tate listed species a	are identified	from California	Natural Dive	rsity Database.	The project is located in the Little Shasta and	l Solomon's	Temple
					-	ke Shastina, Little Shasta, Montague, Solomo	on's Temple,	Panther Roc
	haleback and Wee							
* All plants tracked by	the CNDDB are assigne	ed to a California	Rare Plant Rank cat	egory. These cat	egories are:			
			and the second					
1A= Plants presumed	extinct in California and	rare/extinct else		ly threatened in	California			
1A= Plants presumed 1B.1= Plants rare, thre		l rare/extinct else in California and	elsewhere; serious					
1A= Plants presumed 1B.1= Plants rare, thre 1B.2= Plants rare, thre	extinct in California and eatened, or endangered	rare/extinct else in California and in California and	elsewhere; serious elsewhere; fairly the	nreatened in Cali	fornia			
1A= Plants presumed 1B.1= Plants rare, thre 1B.2= Plants rare, thre 1B.3= Plants rare, thre 2A= Plants presumed	extinct in California and eatened, or endangered eatened, or endangered eatened, or endangered extirpated in California,	rare/extinct else in California and in California and in California and but more comm	elsewhere; serious elsewhere; fairly th elsewhere; not ver on elsewhere	reatened in Cali y threatened in (fornia California			
1A= Plants presumed 1B.1= Plants rare, thre 1B.2= Plants rare, thre 1B.3= Plants rare, thre 2A= Plants presumed 2B.1= Plants rare, thre	extinct in California and eatened, or endangered eatened, or endangered eatened, or endangered extirpated in California, eatened, or endangered	rare/extinct else in California and in California and in California and but more comm in California, but	elsewhere; serious elsewhere; fairly th elsewhere; not ver on elsewhere more common else	nreatened in Cali y threatened in (ewhere; seriousl	fornia California y threatened in Cali			
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Scientific Name	Common Name	State Status	Federal Status	Federal Critical Habitat Present?	CDFW Status*	General Habitat Description	Habitat Potentially Present?	Species Present Known?
Amphibians and	Reptiles							
Rana pretiosa	Oregon spotted frog	None	Threatened	No	None	Wetlands, lakes and slow-moving streams	Yes	No
Ambystoma macrodactylum sigillatum	Southern long-toed salamander	None	None	No	SSC	Pine, hardwood-conifer, mixed conifer, montane riparian, red fir and wet meadows.	No	No
Rana cascadae	Cascades frog	None	None	No	SSC	Mountain lakes, small streams, ponds; shallow (standing water) required for breeding; habitats W/O predatory fish	No	No
Emys marmorata	western pond turtle	None	None	No	SSC	Permanent water with basking sites (ponds, ditches, streams)	Yes	No
Birds								
Coccyzus americanus	Yellow-billed cuckoo	Endangered	Threatened	No	None	Wooded habitats with dense cover and water nearby; shrublands and dense thickets	No	No
Strix occidentalis caurina	Northern spotted owl	Candidate Threatened	Threatened	No	SSC	Old growth/mature conifer forest	No	No
Haliaeetus leucocephalus	bald eagle	Delisted	Endangered	No	FP	Near large water bodies, rivers with adjacent perches	Yes	No
Accipiter cooperii	Cooper's hawk	None	None	No	WL	Dense stands of live oak, riparian deciduous or other forest habitats near water.	No	No
Accipiter gentilis	northern goshawk	None	None	No	SSC	Mature and old growth forests	No	No

Accipiter striatus	sharp- shinned hawk	None	None	No	WL	Breeds in pine/conifer, oak, riparian deciduous habitats. Forages in openings at edges of woodlands, hedgerows, brushy pasture, shoreline	Yes	No
Agelaius tricolor	tricolored blackbird	None	None	No	SSC	Colonial breeder near freshwater, preferably in emergent wetland with tall, dense cattails or tules; also thickets of willow, blackberry, wild rose, tall herbs. Feeds in grass/crop lands.	Yes	No
Aquila chrysaetos	golden eagle	None	None	No	FP ; WL	Rolling foothills, mountain areas, sage-juniper flats, desert; cliffs or large trees used for nesting	No	No
Ardea herodias	great blue heron	None	None	No	None	Nests in colonies in large snags/trees; forages in shallow estuaries and fresh & saline emergent wetlands, rivers, croplands, pastures, mountains.	Yes	No
Asio otus	long-eared owl	None	None	No	SSC	Riparian habitat required; live oak or dense tree stands	No	No
Athene cunicularia	burrowing owl	None	None	No	SSC	Open, dry grassland and desert habitats; grass, forb and open shrub stages of pinyon-juniper & ponderosa pine habitats	No	No
Bonasa umbellus	ruffed grouse	None	None	No	WL	Valley foothill riparian and surrounding conifer forests	No	No
Buteo swainsoni	Swainson's hawk	Threatened	None	No	None	Open grassland/cropland with scattered large trees/groves	Yes	No
Chlidonias niger	black tern	None	None	No	SSC	Loosely colonial breeders; Breeds in freshwater wetlands or dry ground, other abandoned nests (muskrat, coot, grebe); emergent wetland, lakes, ponds, moist	Yes	No

conservatio	Conservancy fairy shrimp	NOTE	Endangered		None		INU	
Crustaceans Branchinecta	Concontanat	None	Endangered	No	None	Vernal pools	No	No
Riparia riparia	bank swallow	Threatened	None	No	None	Riparian, lacustrine and coastal areas with vertical banks, bluffs and cliffs with fine-textured or sandy soil.	No	No
Psiloscops flammeolus	flammulated owl	None	None	No	None	Coastal breeder; coniferous habitats with low to intermediate canopy closure	No	No
Phalacrocorax auritus	double- crested cormorant	None	None	No	WL	Coast, inland lakes, estuaries. Lacustrine & riverine habitats.	Yes	No
Pandion haliaetus	osprey	None	None	No	WL	Large, fish-bearing waters primarily in ponderosa pine and mixed conifer habitats	No	No
Larus californicus	California gull	None	None	No	WL	Nests colonially in alkali & freshwater lacustrine habitats; frequents inland lacustrine, riverine and cropland habitats	No	No
Grus canadensis tabida	greater sandhill crane	Threatened	None	No	FP	Wet meadow, emergent wetlands; croplands. Nesting season March-June.	Yes - summer range	Yes
Falco mexicanus	prairie falcon	None	None	No	WL	Perennial grasslands, savannahs, rangeland, some ag fields and desert scrub.	Yes	No
Circus cyaneus	northern harrier	None	None	No	SSC	small aquatic prey Nests on ground in shrubby veg, usually at marsh edge. Meadows, grasslands, open rangelands, fresh & saltwater emergent wetlands.	Yes	No
						grasslands, ag fields; insect and		

Branchinecta lynchi	Vernal pool fairy shrimp	None	Threatened	No	None	Vernal pools	No	No
Lepidurus packardi	Vernal pool tadpole shrimp	None	Endangered	No	None	Vernal pools	No	No
Fishes								
Deltistes	Lost River sucker		Endangered	No	None	Klamath River	No	No
luxatus Chasmistes brevirostris	Shortnose sucker		Endangered	No	None	Klamath River	No	No
Oncorhynchus kisutch	coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	Yes	None	Shasta River and tributaries	Yes	Yes
Oncorhynchus mykiss irideus	steelhead - Klamath Mountains Province DPS	None	None	No	SSC	Shasta River and tributaries	Yes	
Oncorhynchus tshawytscha	Chinook salmon-upper Klamath and Trinity Rivers ESU	None	None	None	SSC	Shasta River and tributaries		
Mammals		•		1			1	1
Taxidea taxus	American badger	None	None	None	SSC	Herbaceous or shrub, must have Yes friable soils; primarily rodent prey		No
Pekania pennanti	fisher - West Coast DPS	Candidate Threatened	Proposed threatened	No	SSC	Coniferous forest or dense deciduous riparian	No	No
Canis lupus	gray wolf	Endangered	Endangered	No	None	Generalist; ungulate prey & low No No		
Vulpes vulpes necator	Sierra Nevada red fox	Threatened	None	None	None	Alpine and conifer forests, wet No No meadows No No		

Corynorhinus	Townsend's	Candidate	None	None	SSC	Caves, mines, tunnels, structures	No	No
townsendii	big-eared bat	Threatened						
Gulo gulo	California	Threatened	None	None	FP	Douglas-fir and mixed conifer	No	No
	wolverine					habitats, wet meadow and		
						montane riparian.		

Note: California State listed species are identified from California Natural Diversity Database. The project is located in the Lake Shastina quadrangle. The 9quadrangle search include: China Mtn, Gazelle, Hotlum, Juniper Flat, Lake Shastina, Little Shasta, Montague, Solomons Temple, and Weed. Federal species lists are for the entire county.

*The California Department of Fish and Wildlife (CDFW) Status applies to animals only. The possible values for CDFW Status are:

FP Fully Protected: This classification was the State of California's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal endangered species acts.

SSC Species of Special Concern: It is the goal and responsibility of the Department of Fish and Wildlife to maintain viable populations of all native species. To this end, the Department has designated certain vertebrate species as "Species of Special Concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as "Species of Special Concern" is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long-term viability.

WL Watch List: The Department of Fish and Wildlife maintains a list consisting of taxa that were previously designated as "Species of Special Concern" but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

COMMON NAME	SCIENTIFIC NAME	BREEDING HABITAT TYPE	Species or Habitat Potentially Present?		
Bald Eagle	Haliaeetus leucocephalus	Large water bodies, rivers with adjacent perches.	Yes		
Black Swift	Cypseloides niger	Nests on ledges or shallow caves in steep rock faces.	No		
Brewer's Sparrow	Spizella breweri	Breeds in sagebrush-dominated shrublands.	No		
Calliope Hummingbird	Stellula calliope	Open montane forest, mountain meadows, willow/alder thickets.	Yes		
Flammulated Owl	Otus flammeolus	Open pine (ponderosa) forests with abundant insect prey.	No		
Fox Sparrow	Passerella iliaca	Brushy fields, dense riparian thickets.	No		
Green-tailed Towhee	Pipilo chlorurus	Dense shrubs, deserts, sagebrush shrubsteppe, oak-juniper woodlands	No		
Lewis's Woodpecker	Melanerpes lewis	Open pine (ponderosa) forest, open riparian (cottonwood) woodlands.	No		
Loggerhead Shrike	Lanius ludovicianus	Open country with spiny shrubs/low trees, ag fields, riparian	Yes		
Oak Titmouse	Baeolophus inornatus	Oak or oak-pine woodlands	No		
Olive-sided Flycatcher	Contopus cooperi	Montane & coniferous forests, forest edge meadows/ponds.	Yes		
Peregrine Falcon	Falco peregrinus	Nests on high ledges of rock or manmade structures.	No		
Purple Finch	Carpodacus purpureus	Open coniferous & mixed coniferous-deciduous forests.	No		
Rufous Hummingbird	Selasphorus rufus	Open or shrubby areas, mountain meadows. Nest in deciduous or conifer trees.	Yes		
Sage Thrasher	Oreoscoptes montanus	Shrubsteppe habitats, dense sagebrush.	No		
Short-eared Owl	Asio flammeus	Nests on the ground in prairies, hayfields or stubble fields.	No		
Snowy Plover	Charadrius alexandrinus	Breeds on coastal beaches, sand spits, beaches at river mouths.	No		
Swainson's Hawk Buteo swainsoni		Shrubsteppe with scattered trees, large shrubs & riparian adjacent to irrigated agricultural areas.	Yes		
Western grebe Aechmophorus occidentalis		Breed on freshwater lakes & marshes.	No		
White Headed Woodpecker	Picoides albolarvatus	Montane coniferous pine forests.	No		
Williamson's Sapsucker	Sphyrapicus thyroideus	Open coniferous & mixed coniferous-deciduous forests.	No		
Willow Flycatcher	Empidonax traillii	Moist, shrubby areas near water.	Yes		

Appendix C – Protective Measures

A seasonal limited operating period will be placed on construction activities within 500 feet of the sandhill crane nesting habitat (Figure 2). From March 1 to June 30, no construction activities will occur in the area, thus minimizing disturbance to nesting cranes.

All potential impacts to federally listed coho and steelhead from moving the fish screen, piping the ditches, installing new headgates and flow meters were consulted upon and addressed in the 2012 Biological Opinion issued by NOAA Fisheries pertaining to future U.S. Army Corps of Engineers permits within Siskiyou and other northern California counties. The following measures identified in the Biological Opinion will be implemented to minimize impacts to listed fish species and their habitat:

General Protection Measures

- Work shall not begin until (a) the Corps and/or NOAA Restoration Center has notified the applicant to the Program that the requirements of the Endangered Species Act have been satisfied and that the activity is authorized and (b) all other necessary permits and authorizations are finalized.
- The general construction season shall be from June 15 to November 1. Restoration, construction, fish relocation, and dewatering activities within any wetted or flowing stream channel shall only occur within this period. Revegetation outside of the active channel may continue beyond November 1, if necessary.
- Construction within or through the ditches will occur outside of the irrigation season, when the ditches are dewatered.
- Poured concrete shall be excluded from the wetted channel for a period of 30 days after it is poured. During that time the poured concrete shall be kept moist, and runoff from the concrete shall not be allowed to enter a live stream. Commercial sealants may be applied to the poured concrete surface where difficulty in excluding water flow for a long period may occur. If sealant is used, water shall be excluded from the site until the sealant is dry and fully cured according to the manufacturer's specifications.

Piping Ditches

• Landowners will enter into an agreement with NOAA RC or Corps stating that they will maintain the pipe for at least 10 years.

Dewatering Areas

- In those specific cases where it is deemed necessary to work in flowing water, the work area shall be isolated and all flowing water shall be temporarily diverted around the work site to maintain downstream flows during construction.
- Exclude fish from occupying the work area by blocking the stream channel above and below the work area with fine-meshed net or screens. Mesh will be no greater than 1/8 inch diameter. The bottom of a seine must be completely secured to the channel bed. Screens must be checked twice daily and cleaned of debris to permit free flow of water. Block nets shall be placed and maintained throughout the dewatering period at the upper and lower extent of the areas where fish will be removed. Block net mesh shall be sized to ensure salmonids upstream or downstream do not enter the areas proposed for dewatering between passes with the electrofisher or seine.

- Prior to dewatering, determine the best means to bypass flow through the work area to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic vertebrates.
- Coordinate project site dewatering with a qualified biologist to perform fish and amphibian relocation activities. The qualified biologist(s) must possess a valid state of California Scientific Collection Permit as issued by the CDFG and must be familiar with the life history and identification of listed salmonids and listed amphibians within the action area.
- Prior to dewatering a construction site, qualified individuals will capture and relocate fish and amphibians to avoid direct mortality and minimize adverse effects. This is especially important if listed species are present within the project site.
- Minimize the length of the dewatered stream channel and duration of dewatering, to the extent practicable.
- Any temporary dam or other artificial obstruction constructed shall only be built from materials such as sandbags or clean gravel which will cause little or no siltation. Visqueen shall be placed over sandbags used for construction of cofferdams construction to minimize water seepage into the construction areas. Visqueen shall be firmly anchored to the streambed to minimize water seepage. Coffer dams and stream diversion systems shall remain in place and fully functional throughout the construction period.
- Secure pumps by tying off to a tree or stake in place to prevent movement by vibration. Refuel in an area well away from the stream channel and place fuel absorbent mats under pump while refueling. Pump intakes shall be covered with 1/8 inch mesh to prevent potential entrainment of fish or amphibians that failed to be removed. Check intake periodically for impingement of fish or amphibians.
- If pumping is necessary to dewater the work site, procedures for pumped water shall include requiring a temporary siltation basin for treatment of all water prior to entering any waterway and not allowing oil or other greasy substances originating from operations to enter or be placed where they could enter a wetted channel. Projects will adhere to NMFS Southwest Region Fish Screening Criteria for Salmonids (NMFS 1997a).
- Discharge sediment-laden water from construction area to an upland location or settling pond where it will not drain sediment-laden water back to the stream channel.
- When construction is complete, the flow diversion structure shall be removed as soon as
 possible in a manner that will allow flow to resume with the least disturbance to the substrate.
 Cofferdams will be removed so surface elevations of water impounded above the cofferdam will
 not be reduced at a rate greater than one inch per hour. This will minimize the probability of fish
 stranding as the area upstream becomes dewatered.

Instream Work

- If the stream channel is seasonally dry between June 15 and November 1, construction will only occur during this dry period.
- Debris, soil, silt, excessive bark, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil or entering the waters of the United States. Any of these materials, placed within or where they may enter a stream or lake, by the applicant or any party working under contract, or with permission of the applicant, shall be

removed immediately. During project activities, all trash that may attract potential predators of salmonids will be properly contained, removed from the work site, and disposed of daily.

- Where feasible, the construction shall occur from the bank, or on a temporary pad underlain with filter fabric.
- Use of heavy equipment shall be avoided in a channel bottom with rocky or cobbled substrate. If access to the work site requires crossing a rocky or cobbled substrate, a rubber tire loader/backhoe is the preferred vehicle. Only after this option has been determined infeasible will the use of tracked vehicles be considered. The amount of time this equipment is stationed, working, or traveling within the creek bed shall be minimized. When heavy equipment is used, woody debris and vegetation on banks and in the channel shall not be disturbed if outside of the project's scope.
- All mechanized equipment working in the stream channel or within 25 feet of a wetted channel shall have a double containment system for diesel and oil fluids. Hydraulic fluids in mechanical equipment working within the stream channel shall not contain organophosphate esters. Vegetable based hydraulic fluids are preferred.
- The use or storage of petroleum-powered equipment shall be accomplished in a manner to prevent the potential release of petroleum materials into waters of the state (Fish and Game Code 5650).
- Areas for fuel storage, refueling, and servicing of construction equipment must be located in an upland location.
- Prior to use, clean all equipment to remove external oil, grease, dirt, or mud. Wash sites must be located in upland locations so wash water does not flow into a stream channel or adjacent wetlands.
- All construction equipment must be in good working condition, showing no signs of fuel or oil leaks. Prior to construction, all mechanical equipment shall be thoroughly inspected and evaluated for the potential of fluid leakage. All mechanical equipment shall be inspected on a daily basis to ensure there are no motor oil, transmission fluid, hydraulic fluid, or coolant leaks. All leaks shall be repaired in the equipment staging area or other suitable location prior to resumption of construction activity.
- Oil absorbent and spill containment materials shall be located on site when mechanical equipment is in operation with 100 feet of the proposed watercourse crossings. If a spill occurs, no additional work shall commence in-channel until (1) the mechanical equipment is inspected by the contractor, and the leak has been repaired, (2) the spill has been contained, and (3) CDFG and NOAA RC are contacted and have evaluated the impacts of the spill.

Minimizing Impacts to Migratory Birds

• If possible, conduct all vegetation removal, including trees for large would structures, outside of the migratory nesting season (February 1 to August 31). However, if clearing of any vegetation or any construction activities occur during the avian breeding window in the riparian area along the Little Shasta River, preconstruction surveys for nesting migratory birds shall be conducted no earlier than 7 days prior to removal by a qualified wildlife biologist. Surveys shall be conducted in accordance with CDFW or USFWS survey protocol for each species. Survey area shall include construction zone, all vegetation removal and transport areas, staging areas, and a 300 ft radius surrounding construction zone to determine whether activities taking place have the potential to disturb or otherwise harm nesting migratory birds. If nests are found, consultation with CDFW and USFWS migratory bird program shall occur regarding the appropriate action.

If a migratory bird nest is located within the 300 feet of disturbance, and the disturbance must take place during nesting season (February 1 through August 31), a buffer zone shall be established by the biologist and confirmed by the appropriate resource agency (CDFG an/or USFWS). The buffer area requirements will be 300 feet for any willow flycatcher nest (or as approved by CDFG). A qualified wildlife biologist shall monitor the nest to determine when the you have fledged and submit bi-weekly reports throughout the nesting season.

Minimizing Impacts to Water Quality

(1) General erosion control during construction:

- When appropriate, isolate the construction area from flowing water until project materials are installed and erosion protection is in place.
- Effective erosion control measures shall be in place at all times during construction. Do not start construction until all temporary control devices (*e.g.*, straw bales with sterile, weed free straw, silt fences) are in place downslope or downstream of project site within the riparian area. The devices shall be properly installed at all locations where the likelihood of sediment input exists. These devices shall be in place during and after construction activities for the purposes of minimizing fine sediment and sediment/water slurry input to flowing water and detaining sediment-laden water on site. If continued erosion is likely to occur after construction is complete, then appropriate erosion prevention measures shall be implemented and maintained until erosion has subsided. Erosion control devices such as coir rolls or erosion control blankets will not contain plastic netting of a mesh size that would entrain reptiles (esp. snakes) and amphibians.
- Sediment shall be removed from sediment controls once it has reached one-third of the exposed height of the control. Whenever straw bales are used, they shall be sterile and weed free, staked and dug into the ground 12 cm. Catch basins shall be maintained so that no more than 15 cm of sediment depth accumulates within traps or sumps.
- Sediment-laden water created by construction activity shall be filtered before it leaves the settling pond or enters the stream network or an aquatic resource area.
- The contractor/applicant to the Program is required to inspect, maintain or repair all erosion control devices prior to and after any storm event, at 24 hour intervals during extended storm events, and a minimum of every two weeks until all erosion control measures have been completed.

(2) Guidelines for temporary stockpiling:

- Minimize temporary stockpiling of material. Stockpile excavated material in areas where it cannot enter the stream channel. Prior to start of construction, determine if such sites are available at or near the project location. If nearby sites are unavailable, determine location where material will be deposited. Establish locations to deposit spoils well away from watercourses with the potential to delivery sediment into streams supporting, or historically supporting populations of listed salmonids. Spoils shall be contoured to disperse runoff and stabilized with mulch and (native) vegetation. Use devices such as plastic sheeting held down with rocks or sandbags over stockpiles, silt fences, or berms of hay bales, to minimize movement of exposed or stockpiled soils.
- If feasible, conserve topsoil for reuse at project location or use in other areas. End haul spoils away from watercourses as soon as possible to minimize potential sediment delivery.

(3) Minimizing potential for scour:

• When needed, utilize instream grade control structures to control channel scour, sediment routing, and headwall cutting.

- For relief culverts or structures, if a pipe or structure that empties into a stream is installed, an energy dissipater shall be installed to reduce bed and bank scour. This does not apply to culverts in fish bearing streams.
- The toe of rock slope protection used for streambank stabilization shall be placed below the bed scour depth to ensure stability.

(4) Post construction erosion control:

- Immediately after project completion and before close of seasonal work window, stabilize all exposed soil with erosion control measures such as mulch, seeding, and/or placement of erosion control blankets. Remove all artificial erosion control devices after the project area has fully stabilized. All exposed soil present in and around the project site shall be stabilized after construction. Erosion control devices such as coir rolls or erosion control blankets will not contain plastic netting of a mesh size that would entrain reptiles (esp. snakes) and amphibians.
- All bare and/or disturbed slopes (> 100 square ft of bare mineral soil) will be treated with erosion control measures such as hay bales, netting, fiber rolls, and hydroseed as permanent erosion control measures.
- Where straw, mulch, or slash is used as erosion control on bare mineral soil, the minimum coverage shall be 95 percent with a minimum depth of two inches.
- When seeding is used as an erosion control measure, only seeds from native plant species will be used. Sterile (without seeds), weed-free straw, free of exotic weeds, is required when hay or hay bales are used as erosional control measures.

APPENDIX F

Hart Ranch Wetland Delineation Prepared for: Hart Ranch Rabe Consulting, November 2016

Hart Ranch

Wetland Delineation

Prepared for: Hart Ranch November 2016



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Introduction

Rabe Consulting has performed a wetland investigation and delineation on an irrigation pipeline and fish screen project in Siskiyou County, California. Preliminary pre-field investigation showed that there are NWI maps for the proposed project site that display wetlands on the subject parcel (Appendix A).

This report presents the results of the Hart Ranch Project Wetland Delineation, which was conducted by Andréa Rabe of Rabe Consulting on August 10, 2016. The investigation occurred during the irrigation season. Andréa Rabe, a Professional Wetland Scientist, has 18 years of experience conducting wetland delineations. She has been trained in the use of the Army Corps of Engineers Western Mountains, Valleys, and Coast Regional Supplement for conducting wetland delineations.

This report documents the investigation, best professional judgment and conclusions of the investigators. It should be considered a Preliminary Jurisdictional Delineation and used at your own risk until it has been reviewed and approved in writing by the U.S. Army Corps of Engineers.

The overall project objectives are to (1) enhance flow in the Little Shasta River during critical coho salmon migration periods; (2) ensure long-term operation and maintenance of irrigation infrastructure for the Hart Ranch and the Montague Water Conservation District (MWCD); and (3) improve fish passage in the Little Shasta River.

By improving agricultural water infrastructure, water management opportunities, and fish passage in the Little Shasta River, the project intends to improve water quality and coho salmon habitat in the Little Shasta River with a resultant permanent instream dedication of up to 1.5 cfs and permissive dedication of their remaining 22.7 cfs water right by the Hart Ranch while maintaining viable agricultural lands.

A. Landscape Setting and Land Use

The study area is approximately 65.00 acres in a rural area within the north central portion of the unincorporated area of Siskiyou County, California (Appendix A). Hart Ranch is located in Siskiyou County, California in Township 44N, Range 5W, Sections 34, 35, and 36 and Township 45N, Range 5W, Sections 1, 2, 3, 11, 12 and 14. This project will be sited primarily at the Hart Ranch, with one component located upstream at the existing agricultural irrigation diversion on the Little Shasta River.

The Hart Ranch Project, which consists of 1,276.5 acres of the 4,698-acre ranch, is privately owned and is operated primarily for beef cattle production, including extensive irrigation of forage and pasture. The Ranch lies within the Little Shasta River watershed and holds certain rights to Little Shasta River water, which are used with other water entitlements and groundwater for irrigation and livestock watering. All components of this project are located on existing active agricultural lands which are zoned for agricultural use by Siskiyou County.

Currently, Hart Ranch has a point of diversion on the Little Shasta River to deliver priority rights water to the ranch. The point of diversion is located upstream of Hart Ranch's northeastern boundary. Diverted water travels to the ranch through a large diversion ditch, then into a series of irrigation ditches within the ranch property. A portion of the Little Shasta River flows through the northwestern corner of the ranch.

The Hart Ranch Flow Enhancement Project consists of the following elements, the locations of which are identified in Figure 1. All components are located on the Hart Ranch (41°41' 25.85"N latitude, 122°22' 51.11"W longitude). More details of the proposal can be found in CEQA document.

- Stockwater Improvement: This project component is located on the Hart Ranch along Harry Cash Road south of the Little Shasta River. This component of the project consists of (1) retrofitting of an existing groundwater well a new pump and motor; (2) two new water storage tanks approximately 10,000 gallons in size; (3) installation of approximately 22,556 linear feet of underground PVC pipe connection to 20 stockwater troughs; (4) installation of approximately 7,500 linear feet of riparian grazing management fencing; and (5) riparian planting along the Little Shasta River for a distance of approximately 14,500 linear feet; and (6) approximately 14,850 linear feet of cross fencing in existing pastures.
- 2) Hart Ranch Main Pipeline Replacement: This component of the project includes replacement of the existing main canal earthen ditch and failing pipeline with approximately 7,280 linear feet of underground PVC pipe with risers, valves, flow meter, and connection to existing groundwater wells, for improved water management opportunities and flood irrigation of the eastern portion of the Ranch.
- 3) Montague Water Conservation District Canal Improvements: This component of the project is located along the Montague Water Conservation District (MWCD) main canal which bisects the Hart Ranch. The project's southern terminus is at Hart Road and is along the canal north.
- 4) Fish Passage Improvements: This component of the project includes (1) removal of the existing concrete dam, fish screen and old fish ladder walls along the Little Shasta River; (2) construction of approximately 105 linear feet of roughened channel with large boulder clusters and buttresses at a 2.5 - 3 percent grade, that provides fish passage opportunities; (3) modification of the agricultural diversion for the Hart Ranch (4) construction of a new cast-in-place concrete diversion structure with fish screen and fish return bypass that meets current NOAA and CDFW fish protection criteria; and (5) revegetation of the site.

Work will be conducted during the low flow period of August 15 to October 15. Stream flows during this period are anticipated to be less than about 3 cfs. Pumps will be used when necessary to remove ground water seepage into the isolated work area. Pumped ground water seepage will be spread over existing floodplain areas and allowed to infiltrate into the ground without causing river turbidity to increase. River flows will be diverted around the roughened channel and diversion structure intake during construction and will be returned to the newly constructed channel as soon as these portions of the work are complete. It is anticipated the project reach will

be dewatered for less than 6 weeks. Prior to grading activities, the contractor will salvage and store existing vegetation cuttings and willow transplants to be replanted following project completion.

The project impact area was defined as the project footprint with a 25 ft buffer. The MWCD canal was surveyed with the canal footprint and a 50 ft buffer, from the northern to southern property line of Hart Ranch. The portions of the MWCD canal outside of the Hart Ranch were not surveyed. The survey area at the diversion is 0.16 acres. The survey area within Hart Ranch is 41.5 acres with an additional 4.7 miles of MWCD canal.

Sparse riparian vegetation is present along the irrigation ditches and canals within the proposed project area. The riparian vegetation along the irrigation canals consists of bulrush and cattails along with other sedges and rushes in a narrow band a few inches (1-8 inches) wide along the high water line of the canals. The canal banks are steep and do not allow for a riparian bench. The smaller irrigation ditches exhibit mostly grasses with few sedges and rushes (1-3 inches in width) at their ordinary water line.

The Little Shasta River exhibits dense shrub and tree growth in the riparian area, with little to no understory. The shrubs include multiple species of willows.

The upland area around Dorris Hill and upslope toward the summit exhibit sparse sagebrush scrub with limited bunch grass cover (less than 25%). The area is rocky and exhibits areas of bare soil. The lower elevation areas below the slopes of Dorris Hill are fields are primarily permit pasture exhibiting pasture grasses or alfalfa fields used for hay production. Both of the field types are flood irrigated, but generally do not exhibit wetland features.

During the first field visit in August, the irrigation ditches were full or had some flow. During the second field visit in October, the ditches were dry as irrigation season had concluded. The study area is located in open space with no structures, exhibiting irrigated pastures, hayfields and natural areas.

B. Site Alterations

There are no recent site alterations in the study area. Past alterations on-site include development of the irrigation ditches, irrigation supply canal, and subsequent installation of irrigation pipeline in portions of the ditch. These alterations include a diversion from the Little Shasta River.

Off-site the following alterations occurred: agricultural land conversion with scattered residential residences surrounding the ranch, and native uplands surrounding portions of the ranch.

C. Precipitation Data and Analysis

The Weed Airport RAWS station (nearest weather station to the study area) received no precipitation from July 27 through August 9, 2016, the 14 days prior to the field investigation.

There was no precipitation on August 10, 2016. The following is based on the WETS Table for Yreka, California because the Weed Airport weather station does not generate a WETS table. Based on the Yreka WETS table, this area of Siskiyou County had a greater than normal amount of precipitation over the winter (December through March).

	Summary of Precipitation between May 2016 and July 2016									
Month	Total	Total Normal		Monthly	Departure					
	Precipitation	Range	Normal	Average	From					
	(in.)	WETS	Range?	(in.)	Average					
May	1.61	0.40 – 1.38 in.	Yes	1.15	+0.46 in.					
					(140%)					
June	1.20	0.23 – 1.13 in.	No, Higher	0.95	-0.25 in.					
					(79%)					
July	0.01	0.07 – 0.55 in.	No, Lower	0.49	-0.48 in.					
					(2%)					

USDA Field Office Climate Data

	I	Temperat (Degrees	F.)	Ì	Precipitation (Inches)				
	i I	l	 			nance have	avg # of		
Month	avg daily		avg	avg	less than 	more than	w/.1 or	snow fall	
January	45.1	23.1	34.1	3.19	1.53	3.90	7		
February									
					0.94				
					0.62				
Мау	72.6	39.4	56.0	1.15	0.40	1.38	3	0.0	
June	81.5	46.0	63.8	0.95	0.23	1.13	2	0.0	
					0.07				
					0.04				
September									
October									
November December									
Annual					16.37				
Average									
		5. E C C C C C C C C C C C C C C C C C C							
Average									
GROWING SEF	ASON DATE	ES							
		- U							
					28 F or higher 3				
		1			eginning and Ending D Growing Season Lengt				
50 percent * 70 percent *			3/27 to 11/10 227 days 3/20 to 11/17 241 days		1/26 to 10 180 days	NU RECENCE C	CONSIGNATION CONTRACTOR CONTRACTOR		
					.7 4/21 to 10/28 189 days				

D. Methods

Rabe Consulting conducted a wetland delineation within the study area, which encompasses areas in Township 44N, Range 5W, Sections 34, 35, and 36 and Township 45N, Range 5W, Sections 1, 2, 3, 11, 12 and 14. The methods to delineate the study area were straightforward considering the nature of the parcel, which is largely a gradually sloped, open landscape.

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The NWI map showed wetlands in portions of the study area (Appendix A: Figure 3). There is no Local Wetland Inventory (LWI) for this area.

The delineation was conducted on August 10, 2016, using the criteria outlined in the ACOE Manual as supplemented by the Western Mountains, Valleys and Coastal Regional Supplement (Version 2.0). Western Mountain, Valleys, and Coast Region Wetland Delineation data forms were used to record soils, vegetation, and hydrology data at sample plots within the study area (Appendix B).

Paired data plots were used to test for wetland presence at the wetted area near the river, but no wetland vegetation or soils were noted outside of the channel. Single data plots were used in the upland areas. In the areas with well-defined ditch channels, plot sets of three (one adjacent to the ditch, one in the ditch and one adjacent to the other side of the ditch) were used. Plot locations within the study area were chosen based on ArcGIS maps created showing topography, aerial imagery, soils and hydrology, and on observations of vegetation and hydrology during the field visit. Photo points were also taken with the plot number and direction of the photo noted. The study area boundary, photo points, and data plots were identified with a Trimble Juno 3B GPS unit with DGNSS/SBAS, with post-processing accuracy of 0.729m.

E. Description of All Wetlands and Other Non-Wetland Waters

Wetland Areas

Twenty two distinct wetland features, totaling 9.03 acres, were identified by Rabe Consulting wetland scientists within the Hart Ranch study area. The remainder of the study area is uplands. One waterway is a portion of the Shasta River. The remaining wetland/waterway areas are irrigation ditches. The wetlands documented in this report are graphically depicted on the wetland delineation maps (Appendix A). Jurisdictional wetlands were classified according to the Classification of Wetlands and Deepwater Habitats of the U.S. Classification System (Cowardin et al. 1979).

The following are descriptions of the wetlands located within the study area.

Wetland 1-10

These wetlands are small irrigation supply ditches within the study area. The study area crosses portions of these ditches, so only the portion within the study area was delineated with the remainder extending outside of the study area. These ditches are well maintained and therefore well defined. They exhibit steep ditchbanks which leave very little to no riparian vegetation before the waterway transitions from wetland to upland. The ditch banks are all considered upland and exhibit upland weedy species and pasture grasses.

The wetlands have the following sizes:

- Wetland 1: 0.01 acre
- Wetland 2: 0.02 acre
- Wetland 3: 0.02 acre
- Wetland 4: 0.02 acre
- Wetland 5: 0.01 acre
- Wetland 6: 0.04 acre
- Wetland 7: 0.02 acre
- Wetland 8: 0.06 acre
- Wetland 9: 0.03 acre
- Wetland 10: 0.02 acre

Wetland 11

This waterway is a portion of the Shasta River located in the north end of the study area where the diversion point intersects the Shasta River. The wetland is the active Shasta River channel and a narrow edge of vegetation along the ordinary high water margin. The upper bank of the river has mature willows. It is well defined by hydrologic indicators, topography and vegetation. The wetland within the study area is at the site of the diversion, which will be installed in the bottom of the river channel, and the diversion intake structure which is at the end of the ditch; the wetland area is less than 0.03 acre in size. The wetland (Shasta River) extends beyond the study area.

MWCD Wetlands

The MWCD canal within the Hart Ranch is approximately 5.7 miles in length. The waterway is intersected along this route by culverts and bridges for road crossings. Therefore, the portion of the canal within the study area is broken into 7 distinct wetland waterways. The canal channel varies from 18-22 feet in width. The channel is excavated with ditchbanks elevated above the adjacent agricultural fields and natural areas. The ditchbanks are upland and exhibit upland weedy species and grasses. Within the channel, the banks are steep leaving little to no riparian vegetation. The wetland boundary, is marked at the Ordinary High Water line (OHW). Therefore, the MWCD wetlands are considered non-vegetated waterways instead of wetlands. The waterway extends past the study area to the north and south.

The distinct MWCD Wetlands segments have the following sizes:

- MWCD Wetland 1: 1.07 acres
- MWCD Wetland 2: 0.86 acres
- MWCD Wetland 3: 0.81 acres
- MWCD Wetland 4: 2.55 acres
- MWCD Wetland 5: 1.35 acres
- MWCD Wetland 6: 1.80 acres
- MWCD Wetland 7: 0.25 acres

Evans Wetlands

The Evans irrigation ditch is located within the eastern portion of the Hart Ranch. The waterway is intersected along this route by culverts and bridges for road crossings and a section is piped. Therefore, the portion of the irrigation ditch within the study area is broken into 4 distinct wetland waterways. The ditch channel varies from 2-4 feet in width. The channel is excavated with ditchbanks elevated above the adjacent agricultural fields and natural areas. The ditchbanks are upland and exhibit upland weedy species and grasses. Within the channel, the banks are steep leaving little to no riparian vegetation. The wetland boundary, is marked at the Ordinary High Water line (OHW). Therefore, the Evans wetlands are considered non-vegetated waterways instead of wetlands. The entire Evans ditch is include in the study area.

The distinct Evans Wetlands segments have the following sizes:

- Evans Wetland 1: 0.01 acre
- Evans Wetland 2: 0.01 acre
- Evans Wetland 3: 0.02 acre
- Evans Wetland 4: 0.02 acre

Upland Areas

The majority of the study area consists of upland, as it does not exhibit wetland soils, hydrology or vegetation. The upland areas are similar or higher in elevation to surrounding irrigated fields. The upland areas around Doris Hill exhibit typical scrub habitat species such as sagebrush, rabbit brush, pasture grasses and forbs. Within the irrigated fields, the duration of flood or sprinkler irrigation was not long enough to create wetland characteristics. The irrigation is approximately applied for 2-3 days every 2 weeks, depending on weather and seasonality. The ditch banks did not exhibit wetland characteristics and are elevated compared to the ditches and fields.

F. Deviation from LWI or NWI

A review of the National Wetlands Inventory Map (Appendix A) indicates the presence of wetlands along some of the ditch and areas within the historic floodplain of the Shasta River within the study area. The wetlands are identified as Freshwater Emergent Wetland (PEMC) and Freshwater Forested/Shrub Wetland (PFOC). The scale and methodology used to

produce the NWI map (high altitude aerial photography interpretation) imposes some limitations on the accuracy of the NWI maps. It is highly recommended to field check NWI map data, as was done in this case.

This Delineation deviates from the NWI Maps as it did not identify wetlands within the portions of the irrigated fields which area within the study area. The wetlands associated with irrigation ditches were within areas identified as upland and wetland by NWI Maps.

G. Mapping Methods

All data plots, study area boundaries, and wet feature boundaries were mapped using a Trimble Juno 3B GPS unit with DGNSS/SBAS, with post-processing accuracy of 0.729m horizontal error (number of satellites 7).

H. Jurisdiction

The jurisdictional status of each feature is considered separately. In order to determine the jurisdictional status of the features, Rabe Consulting staff reviewed topographical maps and looked at the connectivity of the wetlands to surrounding jurisdictional features.

The following are descriptions of the wetlands located within the study area.

Wetlands 1-10

These wetlands are portions of irrigation ditches. Portions of the irrigation ditches are excavated within wetland areas. The ditch network drains back in the tributaries to the Shasta River, at least seasonally during high irrigation flows. Therefore, these wetlands are considered jurisdictional by Army Corps of Engineers guidelines.

Wetland 11

This wetland is a portion of the active river channel and is less than 0.01 acre in size; the wetland extends beyond the study area. The Shasta River is naturally occurring, although it is now controlled by the Dwinnell Dam. The wetland is fish bearing. This wetland is jurisdictional by Army Corps of Engineers guidelines.

MWCD Wetlands

These wetlands are segments of the MWCD irrigation supply canal. Whereas the majority of this canal is excavated from uplands, some portions of the canal are excavated from wetlands. The canal has a fish screen at the diversion, and is therefore non-fish bearing. As portions of this canal are excavated from wetlands, the MWCD Wetlands are considered jurisdictional by the Army Corps of Engineers guidelines.

Evans Wetlands

These wetlands are segments of the Evans irrigation supply canal. Whereas the majority of this canal is excavated from uplands, some portions of the canal are excavated from

wetlands. The canal has a fish screen at the diversion, and is therefore non-fish bearing. As portions of this canal are excavated from wetlands, the Evans Wetlands are considered jurisdictional by the Army Corps of Engineers guidelines.

I. Results and Conclusion

Twenty wetland or waterway areas, totaling 9.03 acres, were identified within the Hart Ranch study area; the rest of the study area is uplands. One waterway is a portion of the Shasta River. The remaining wetland/waterway areas are irrigation ditches. Portions of the ditches are excavated from wetlands, therefore all of the wetlands/waterways mapped within the study area are considered jurisdictional.

J. Disclaimer

This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best of my knowledge. It should be considered a Preliminary Jurisdictional Delineation and used at your own risk until it has been reviewed and approved in writing by the US Army Corps of Engineers.

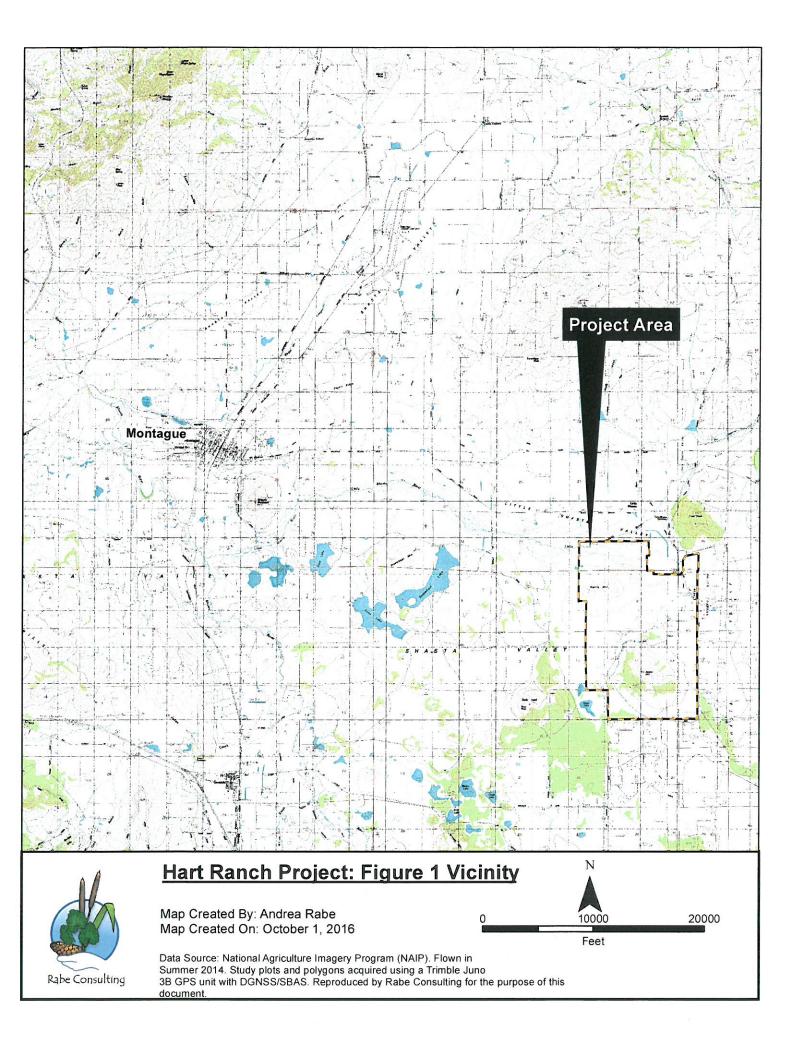
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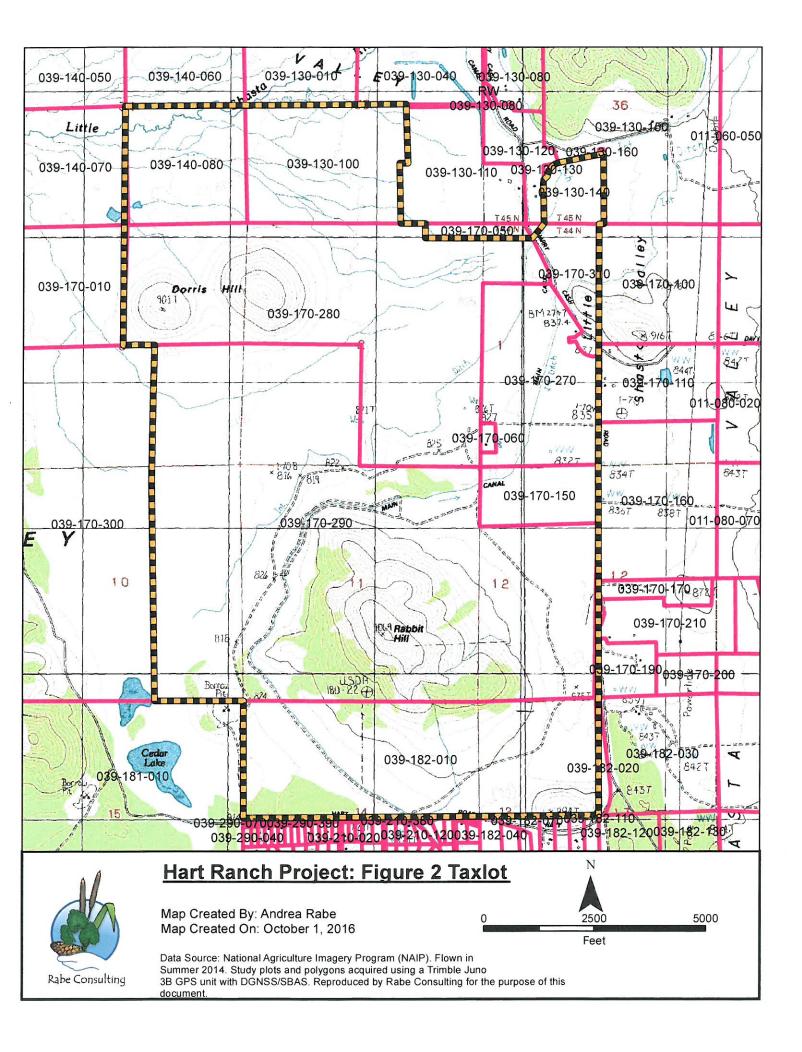
Andréa Rabe, PWS Rabe Consulting

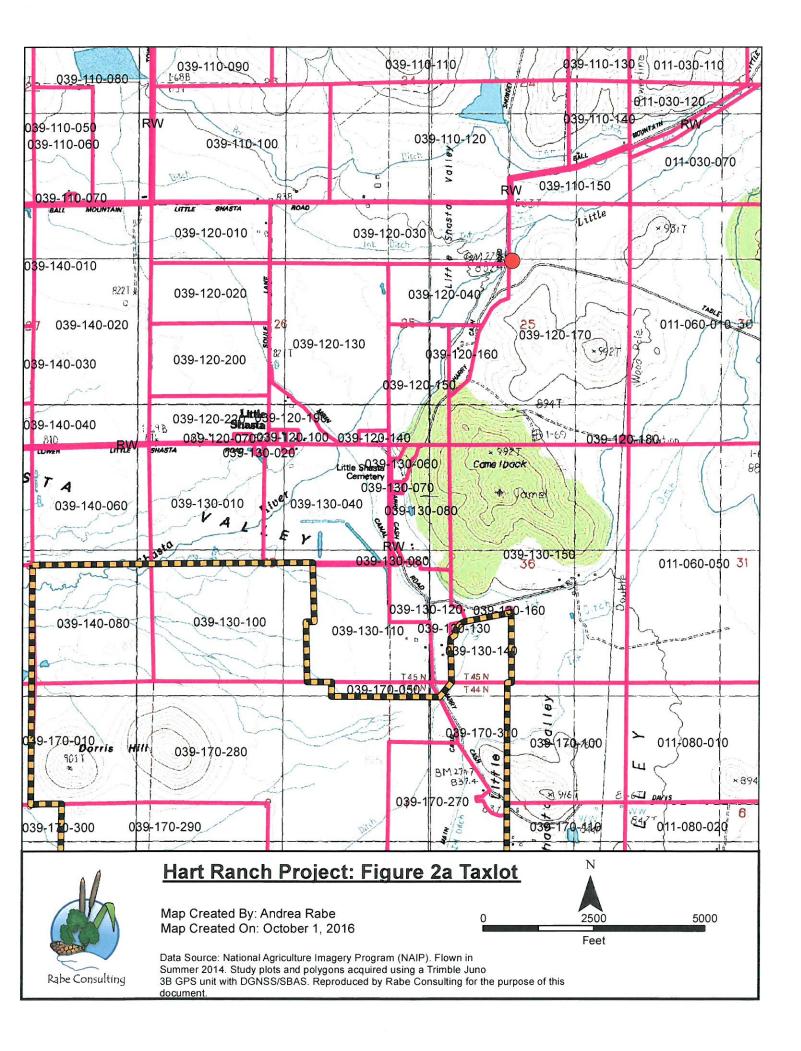


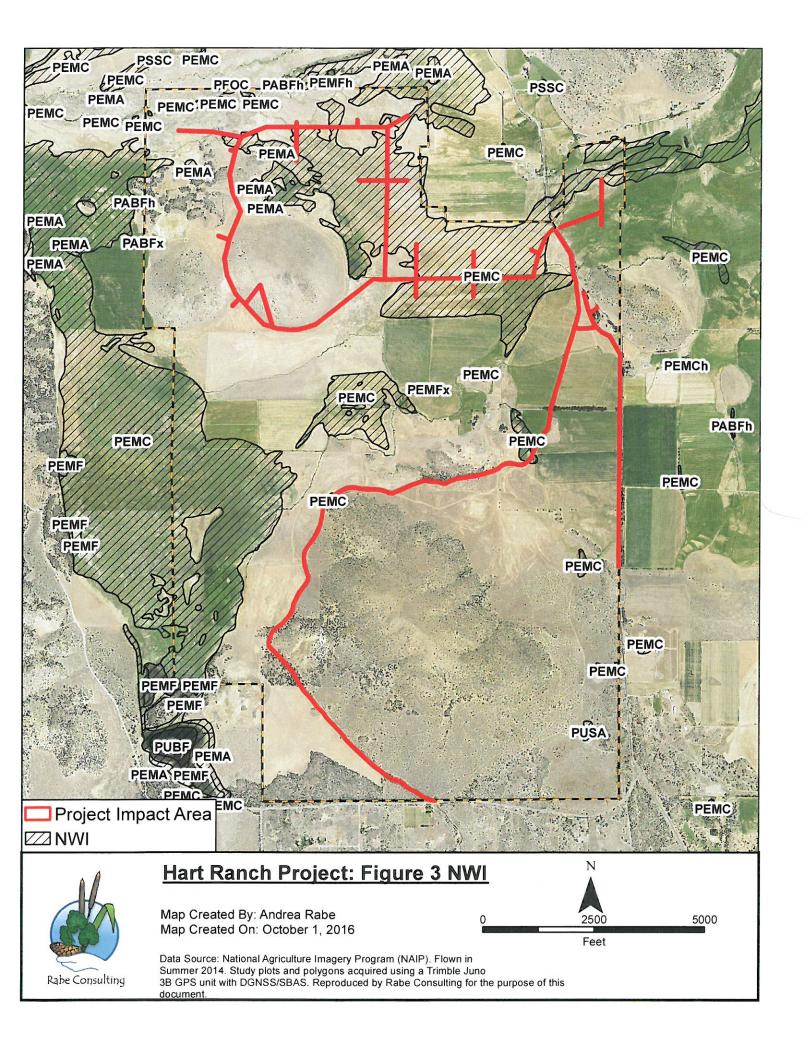
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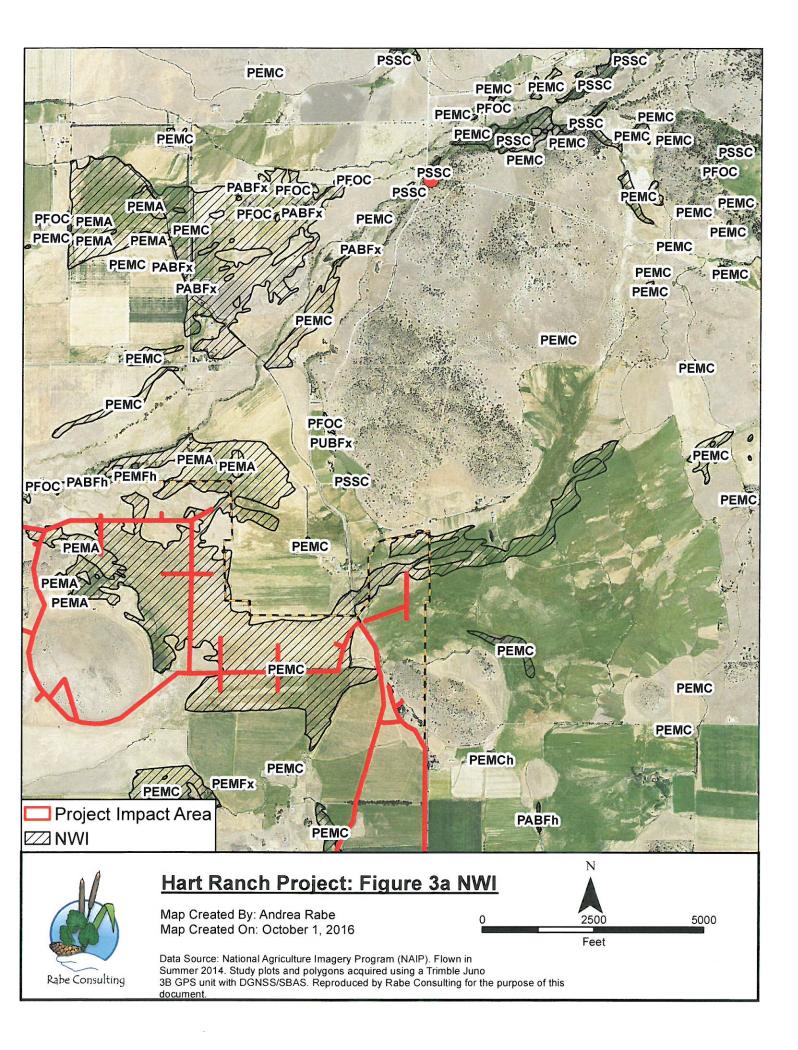
Appendix A Maps

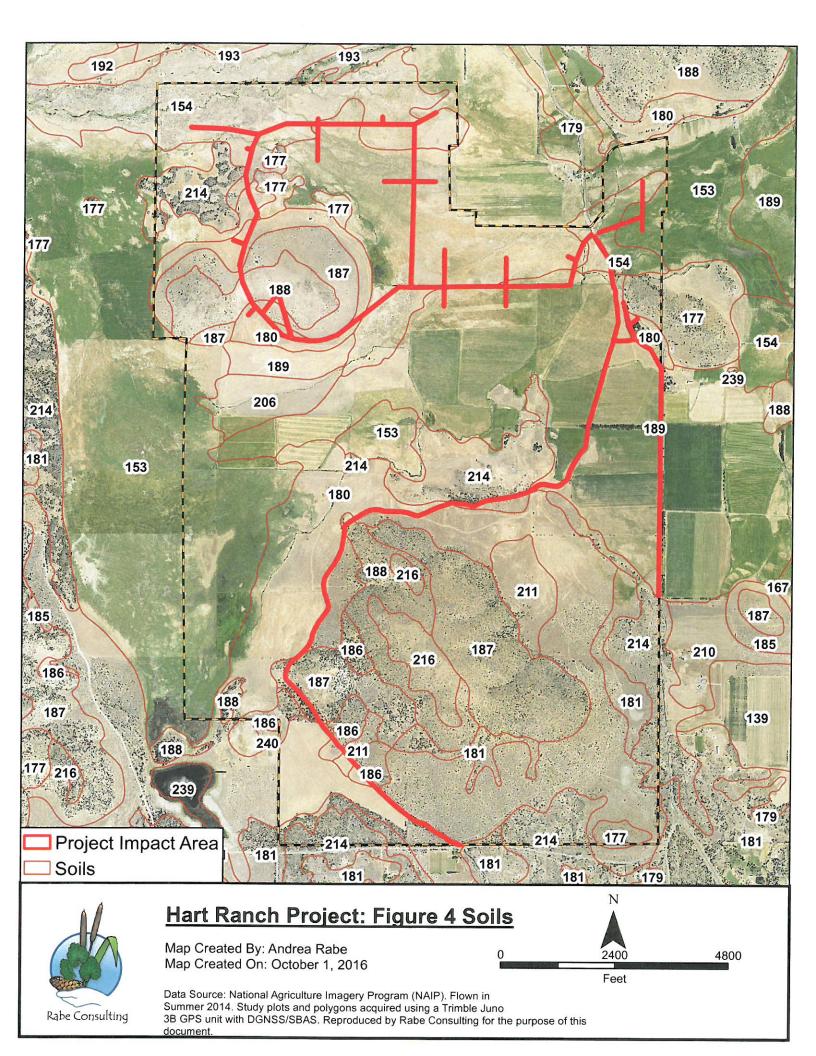


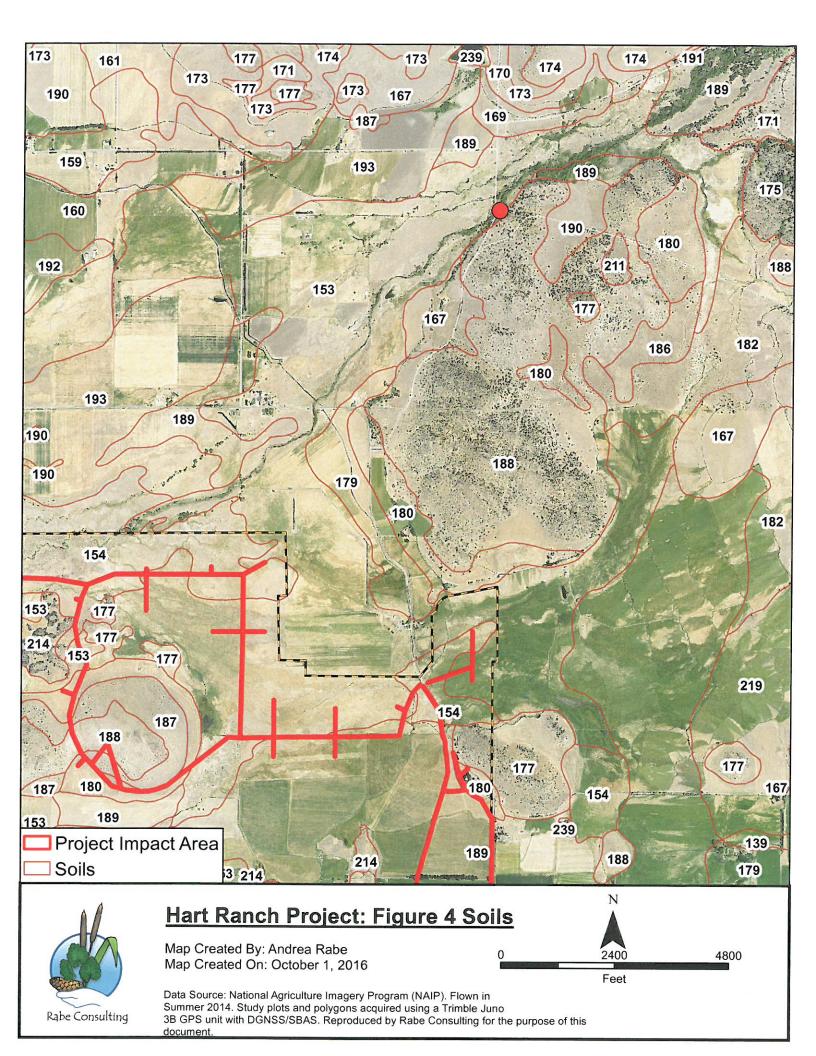




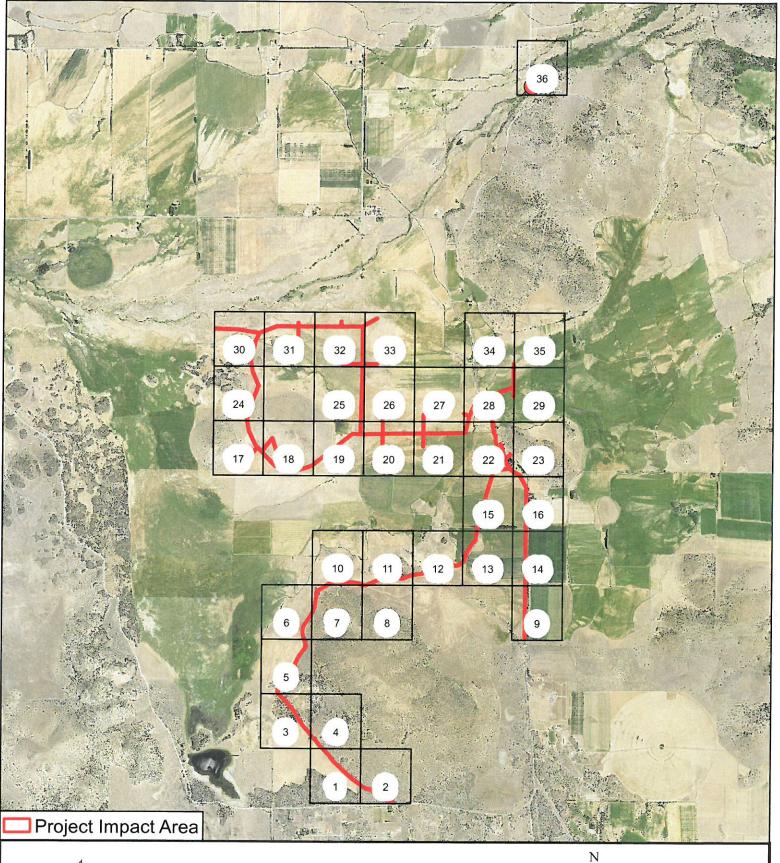








Soil Map Number	Soil Name
153	GAZELLE SILT LOAM
154	GAZELLE VARIANT SANDY CLAY LOAM
177	LITHIC HAPLOXEROLLS-ROCK OUTCROP COMPLEX, 0 TO 65 PERCENT SLOPES*
180	LOUIE LOAM, 2 TO 9 PERCENT SLOPES
186	MARY LOAM, 9 TO 15 PERCENT SLOPES
187	MARY STONY LOAM, 2 TO 50 PERCENT SLOPES
188	MARY-ROCK OUTCROP COMPLEX, 2 TO 50 PERCENT SLOPES
189	MEDFORD CLAY LOAM, COOL, 0 TO 2 PERCENT SLOPES
211	REDOLA LOAM, 2 TO 9 PERCENT SLOPES
214	ROCK OUTCROP-LOUIE COMPLEX, 0 TO 15 PERCENT SLOPES





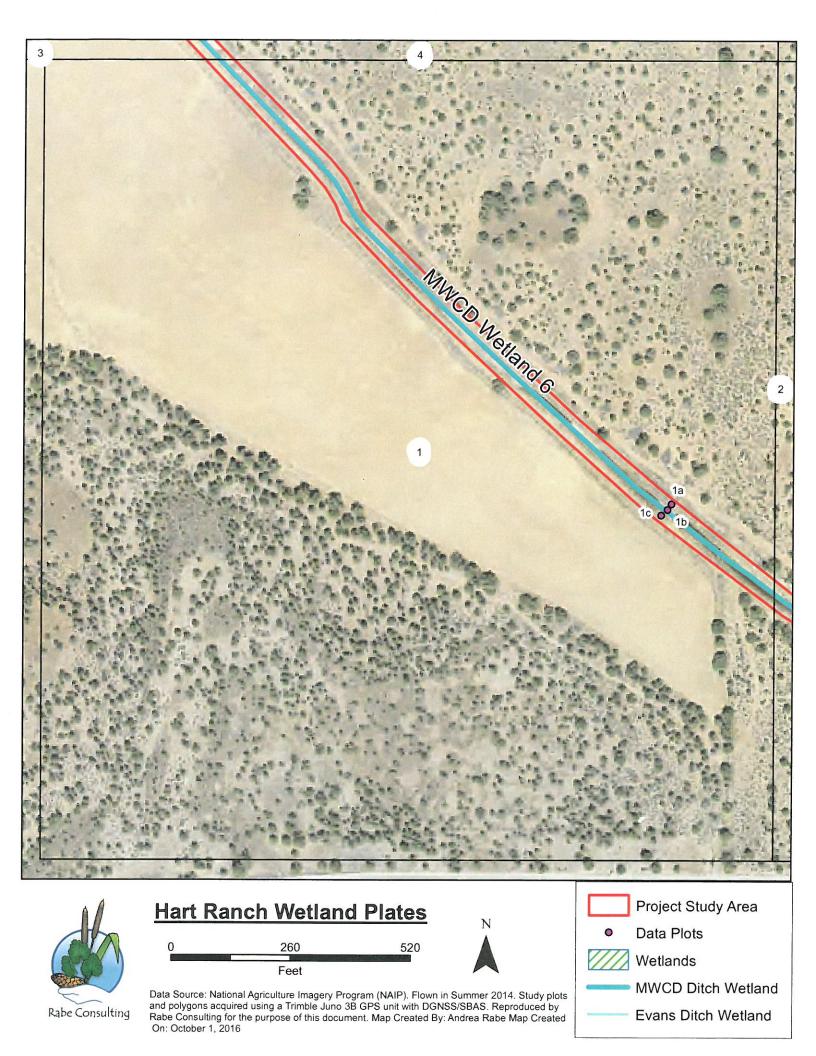
Hart Ranch Project

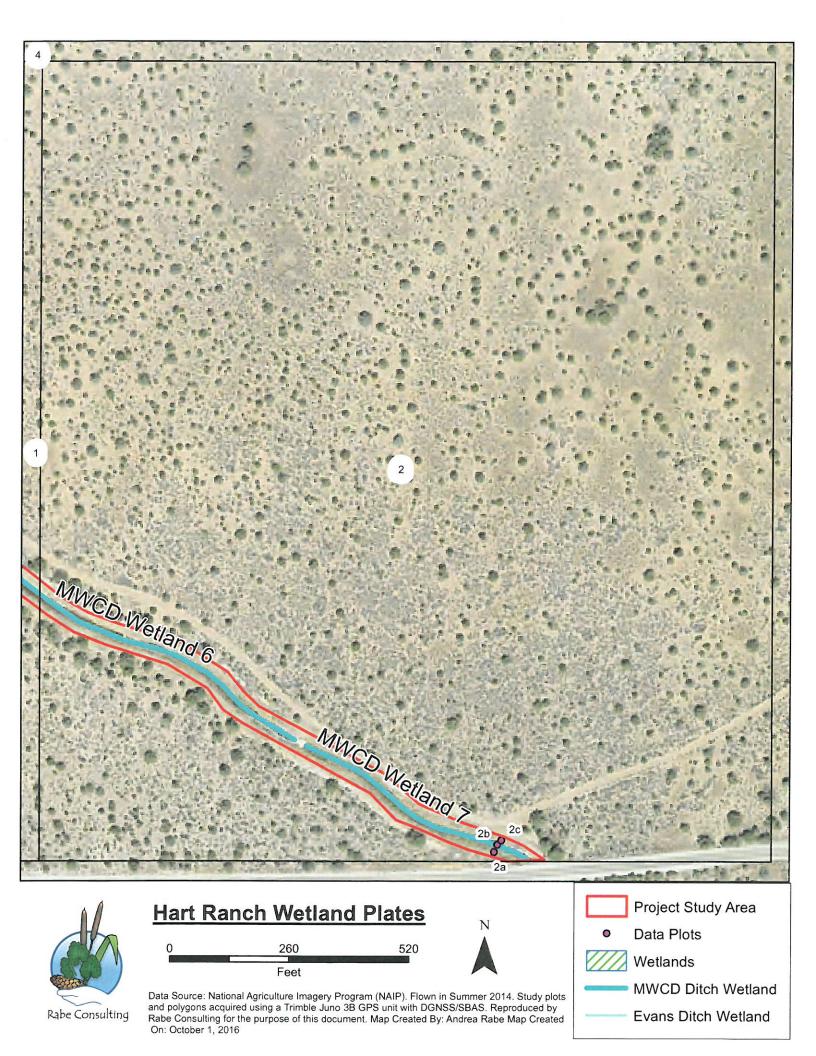
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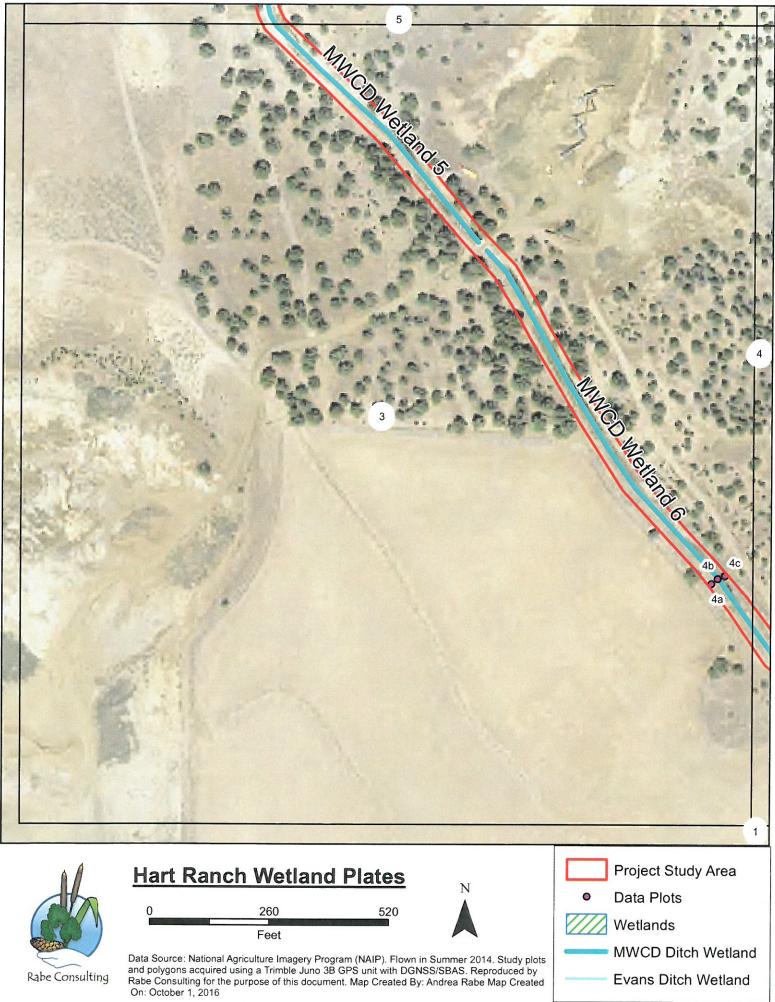
Data Source: National Agriculture Imagery Program (NAIP). Flown in Summer 2014. Study plots and polygons acquired using a Trimble Juno 3B GPS unit with DGNSS/SBAS. Reproduced by Rabe Consulting for the purpose of this document. 0.7

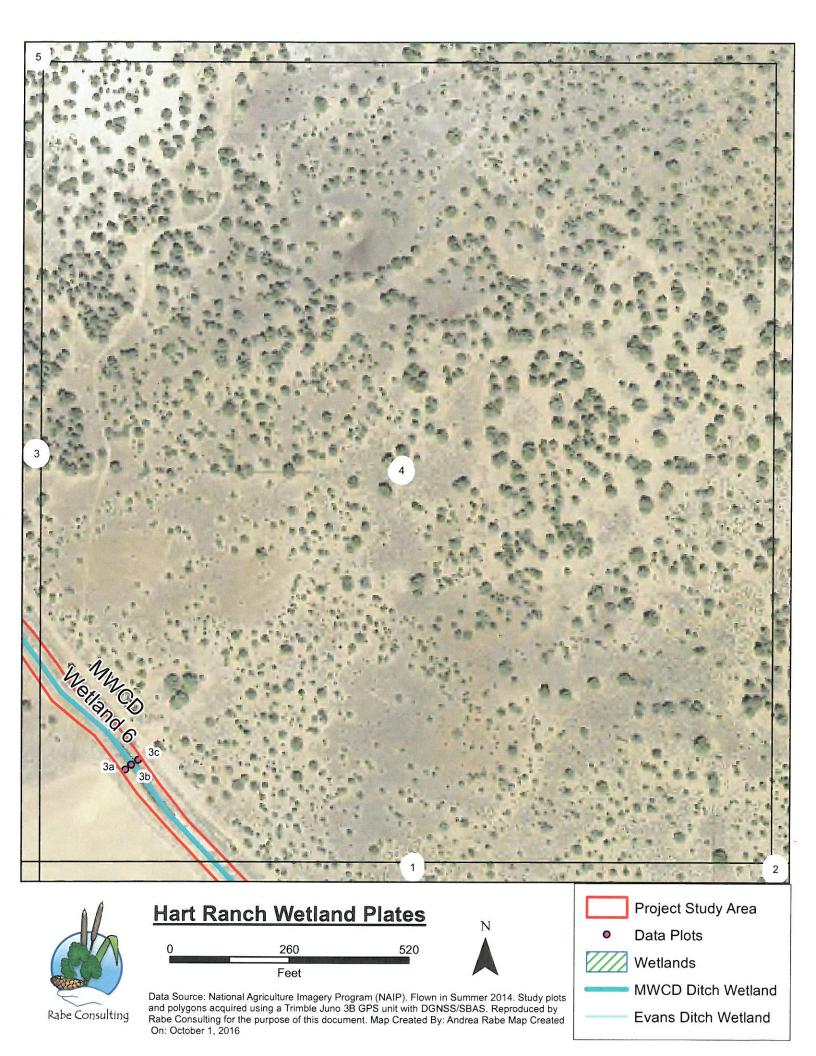
Miles

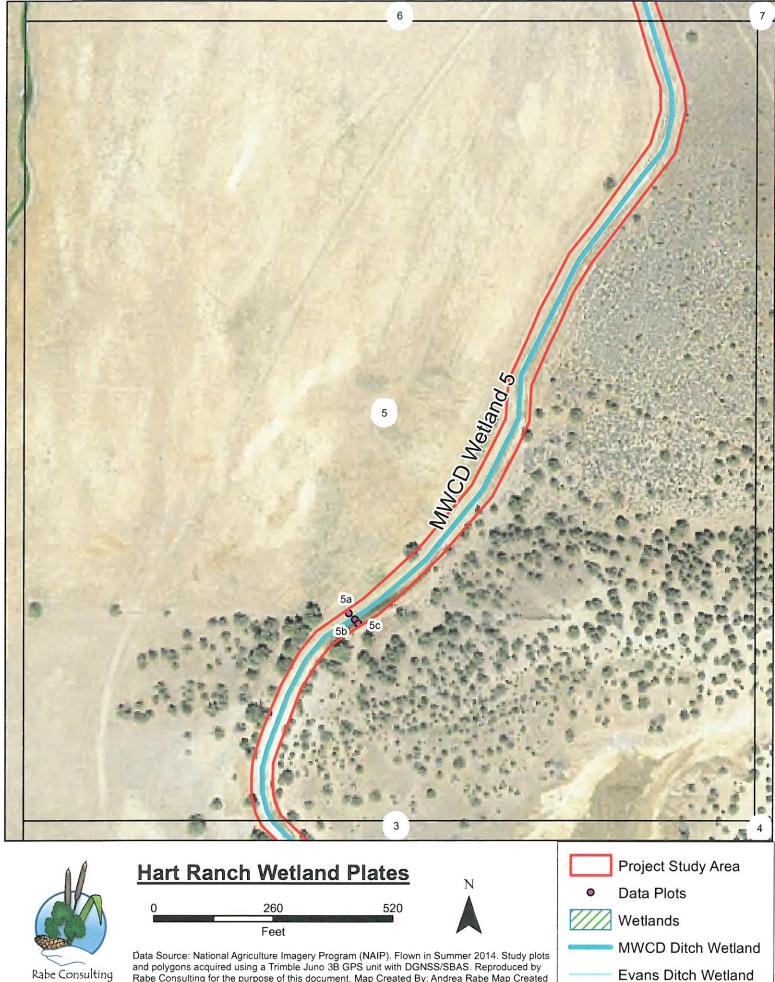
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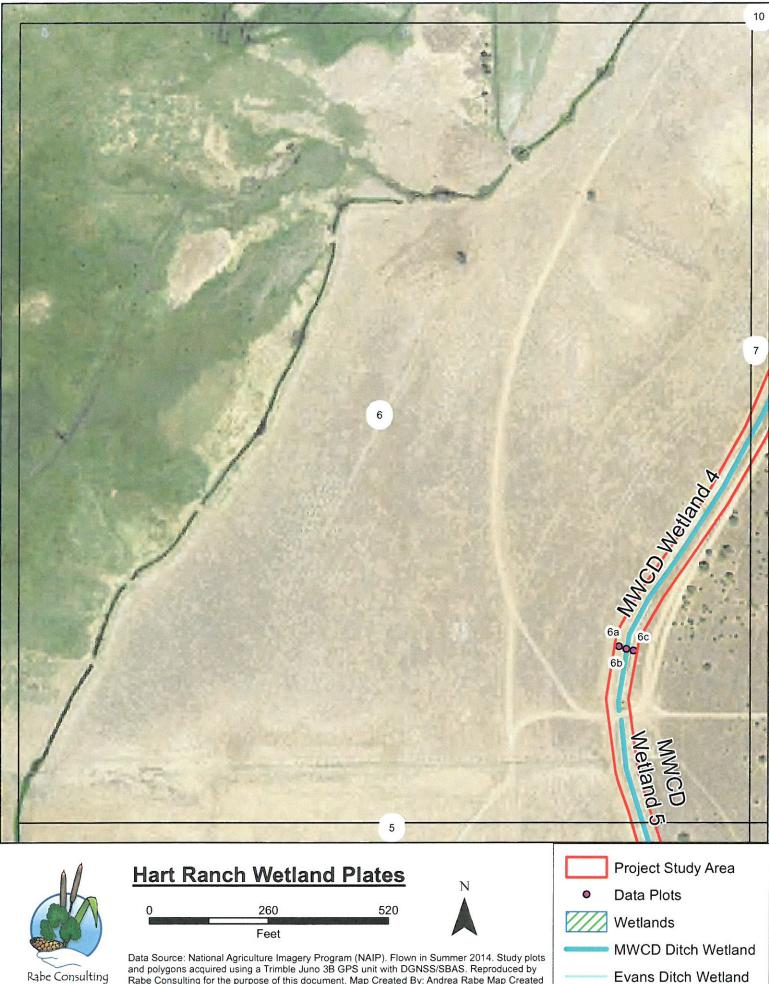




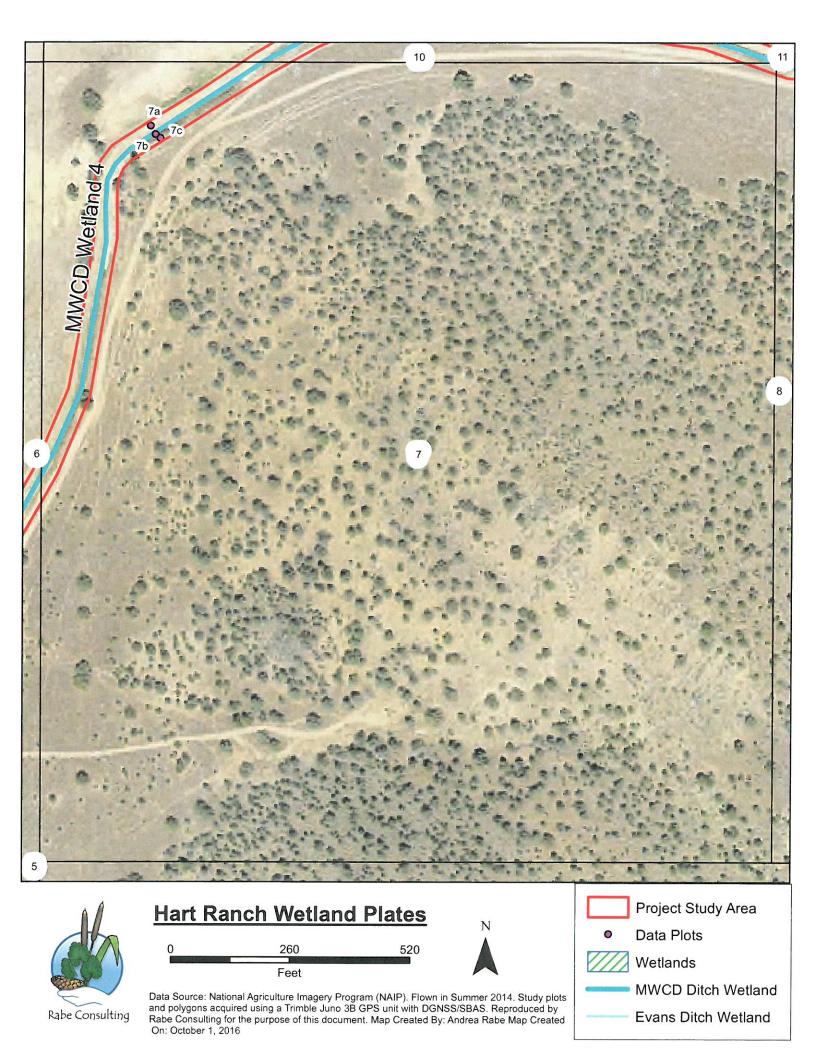


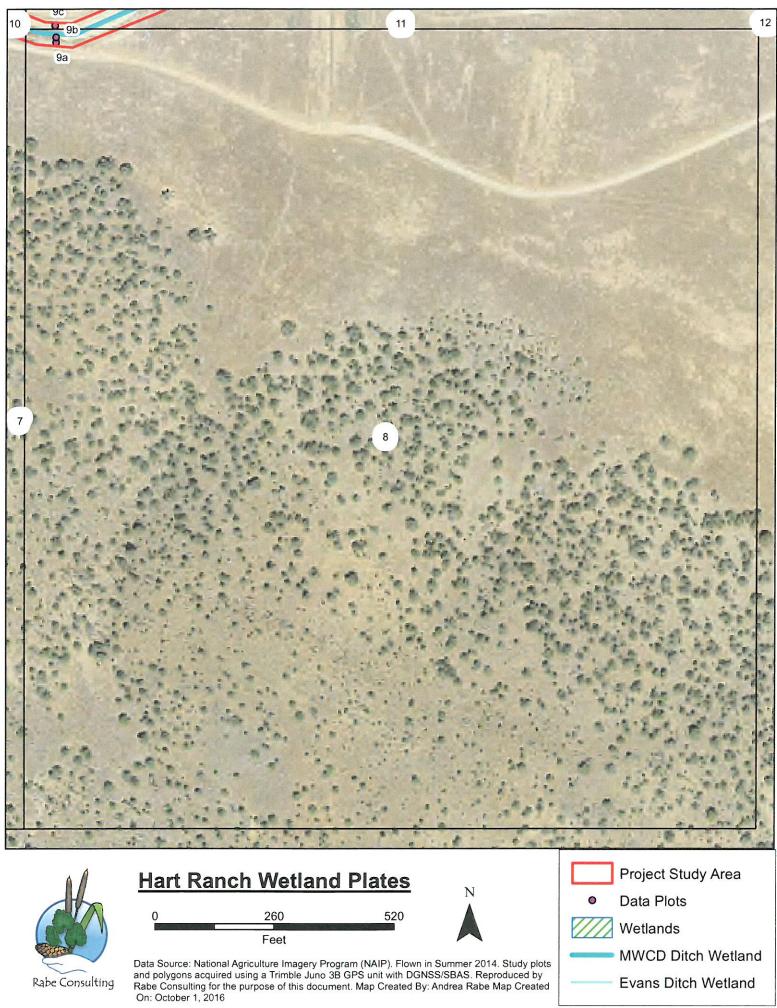


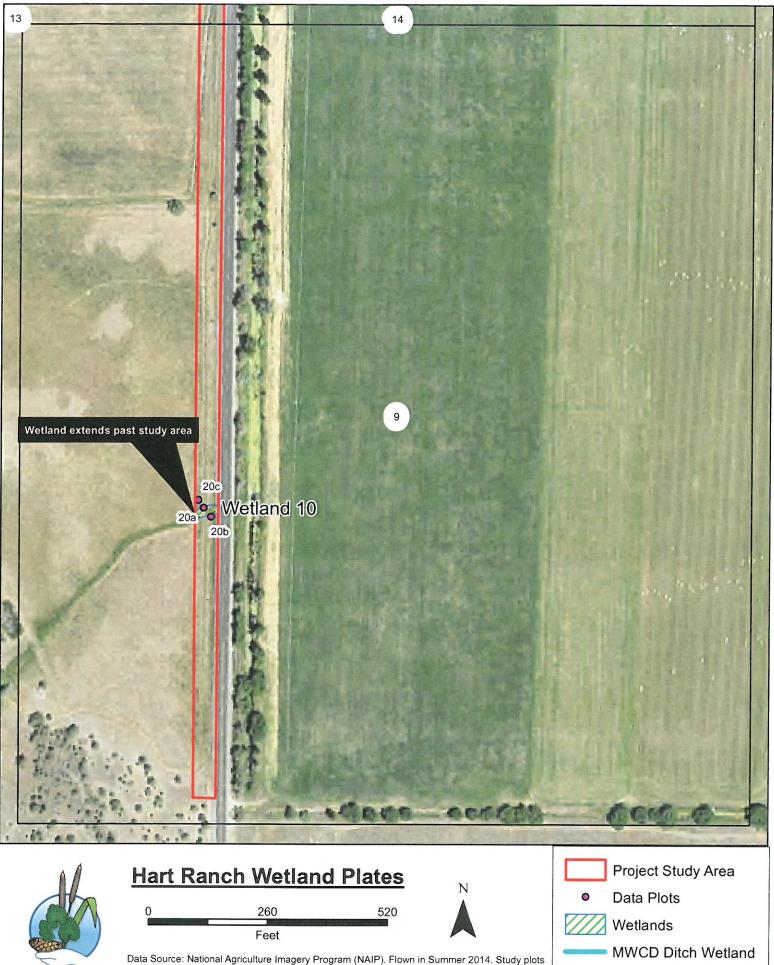
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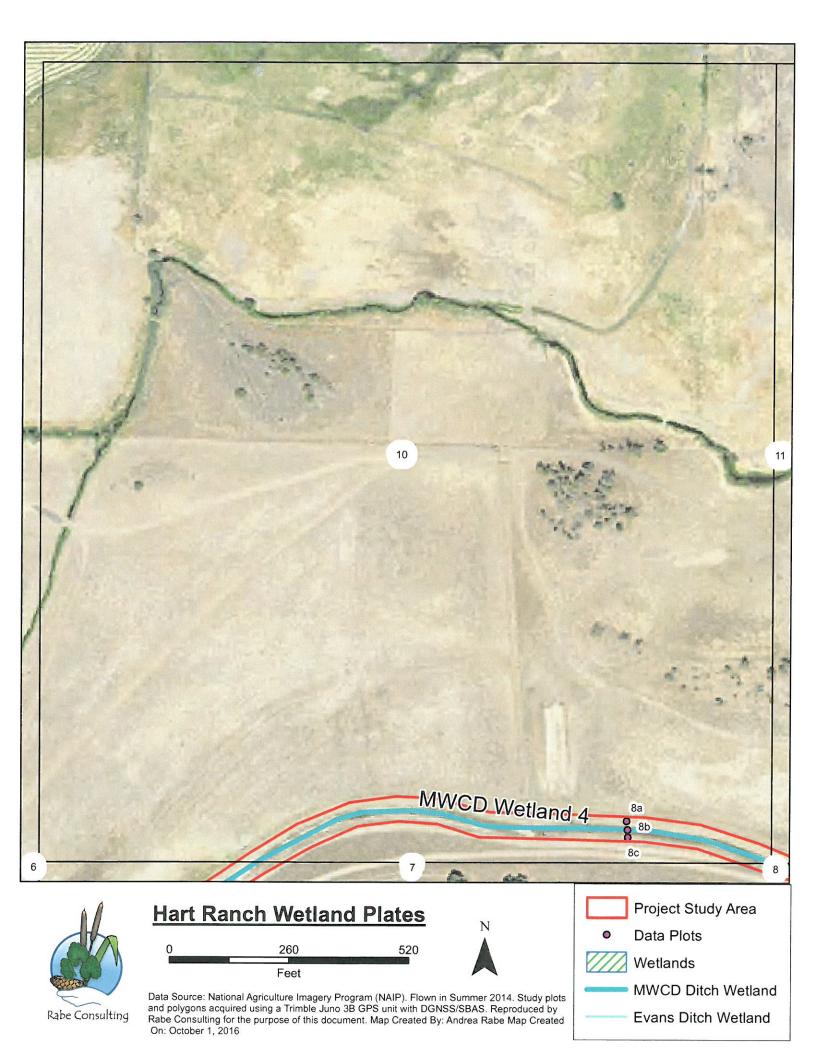
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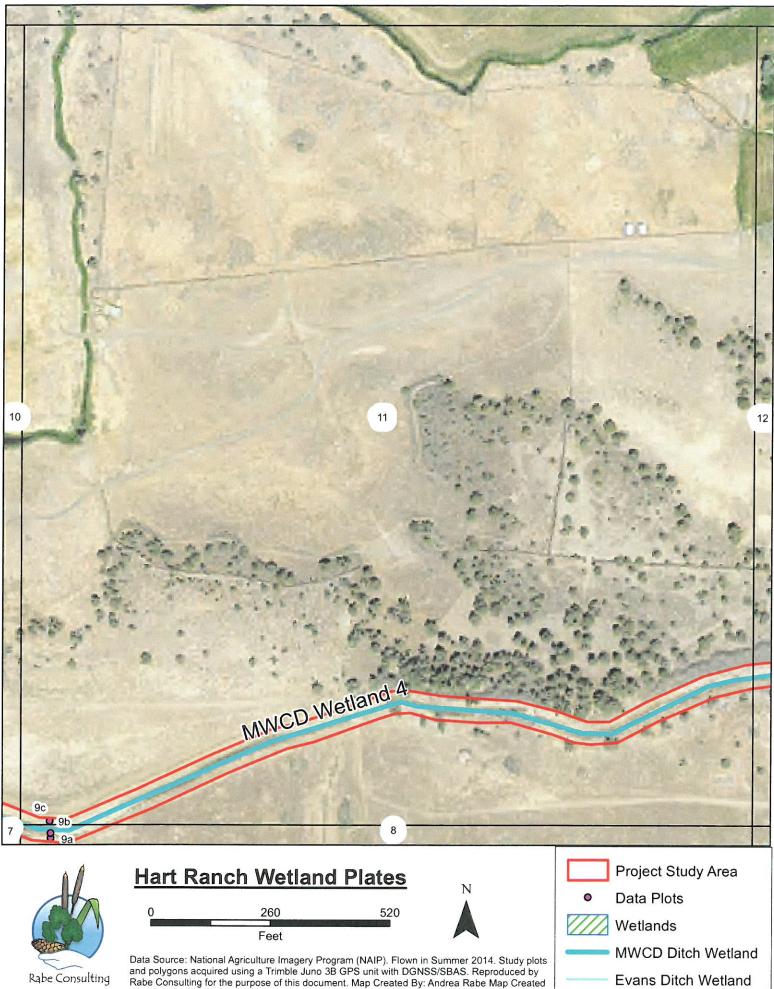


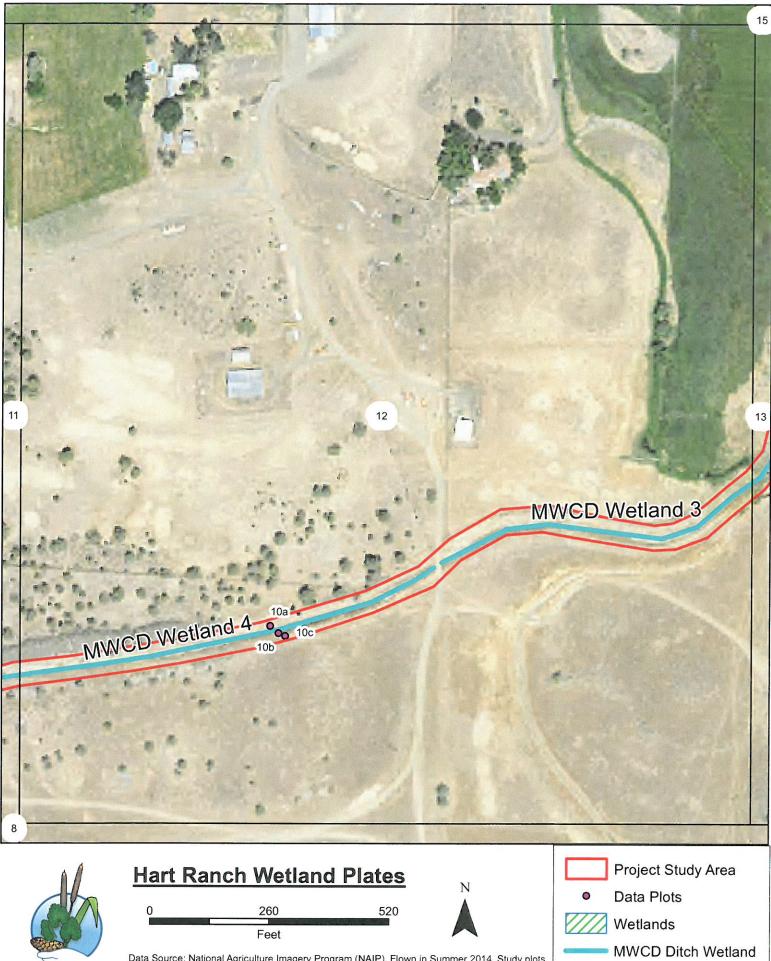


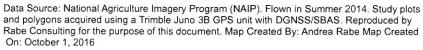


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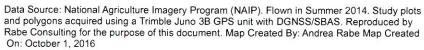


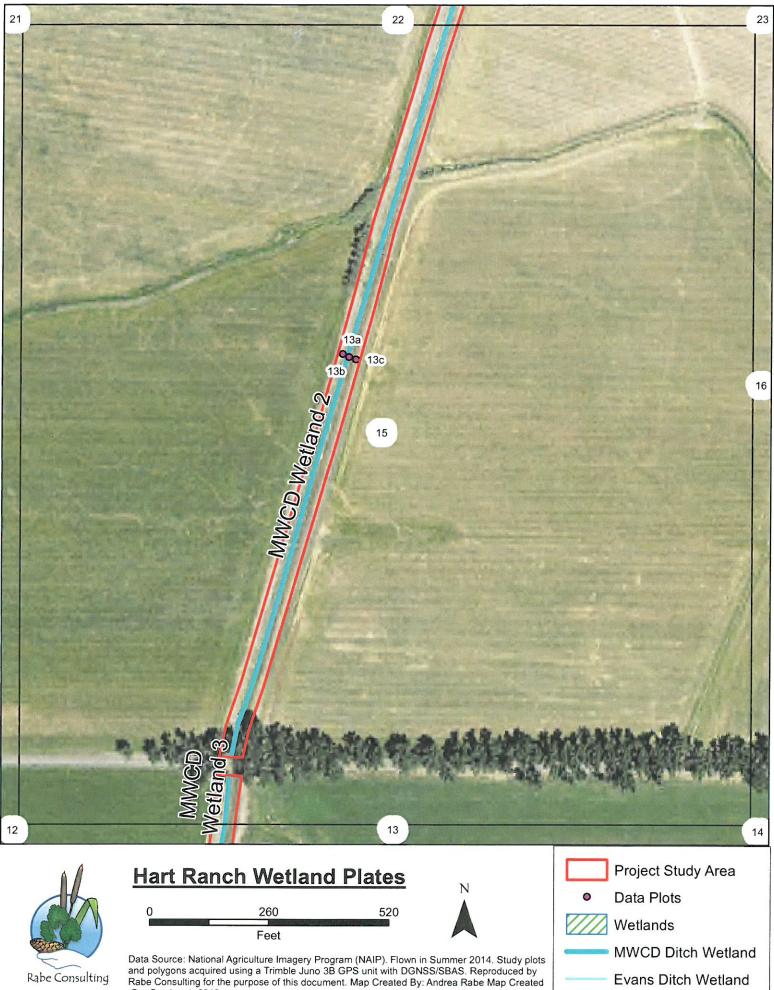




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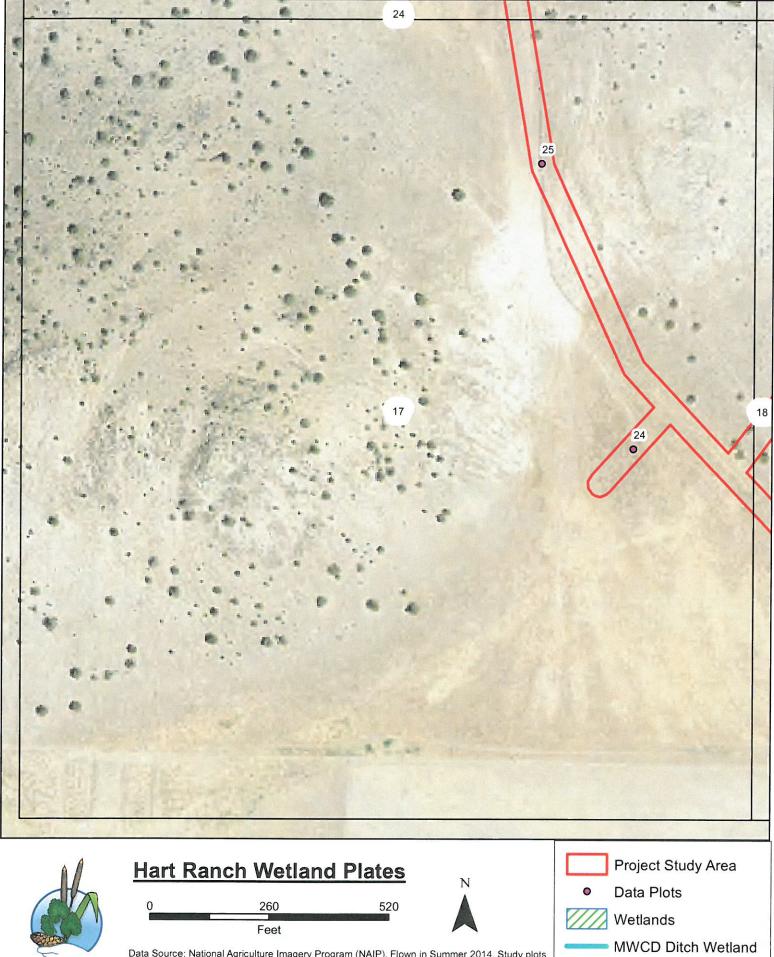


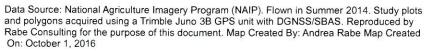


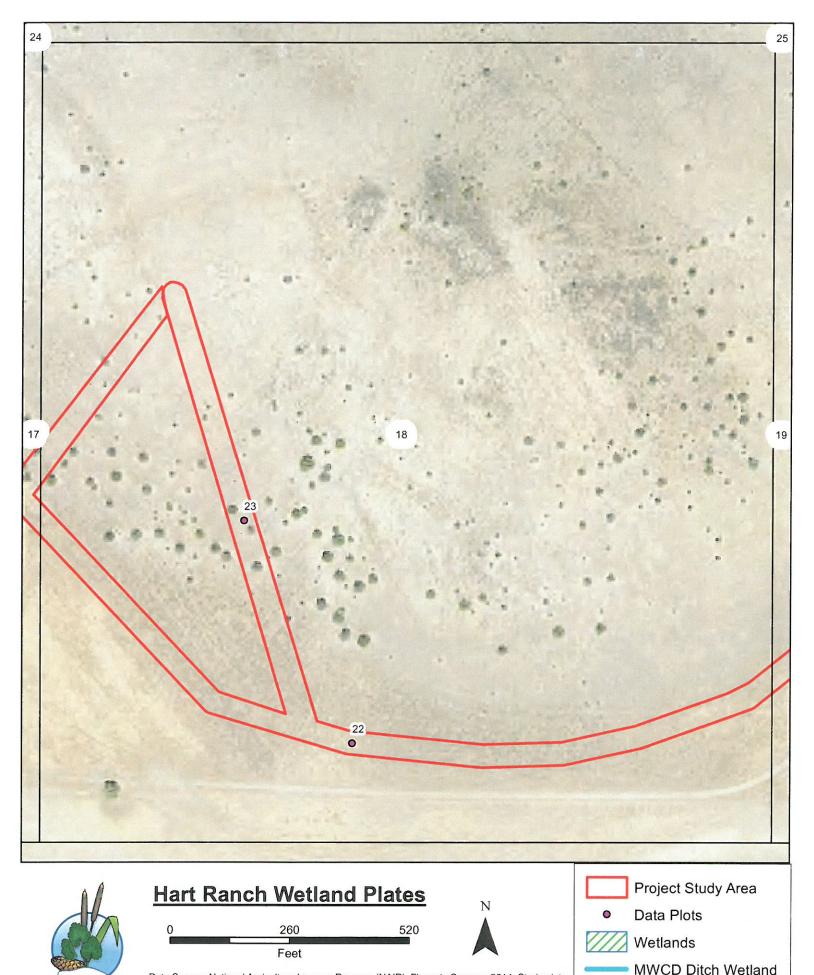


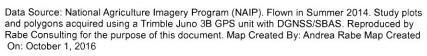


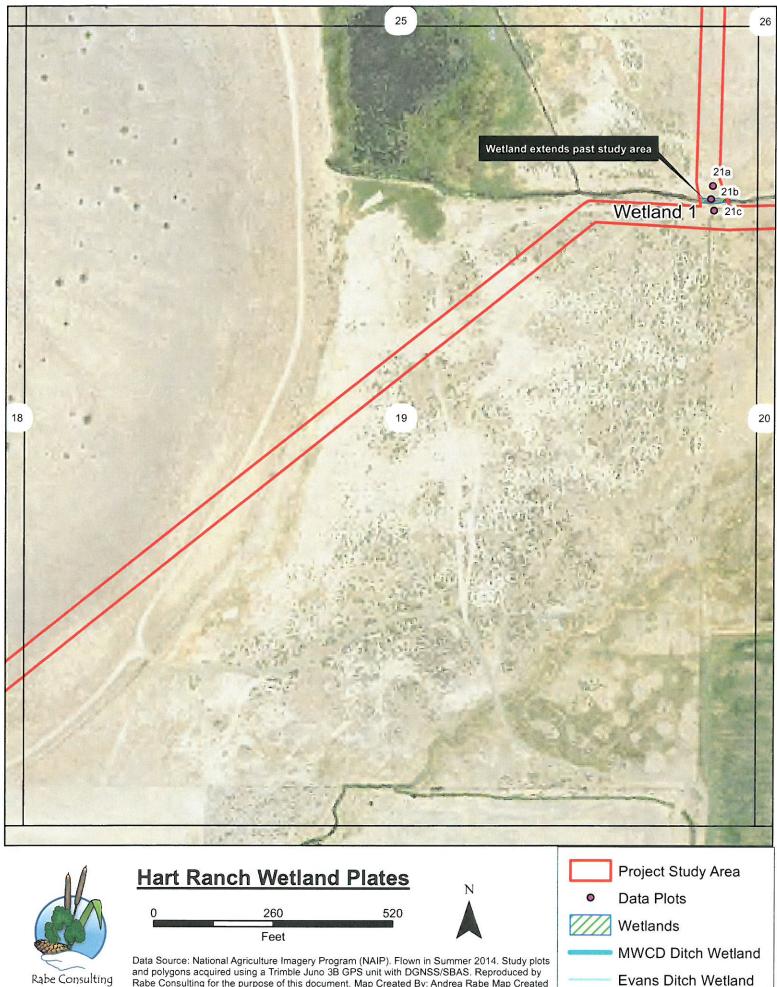
e Evans Ditch



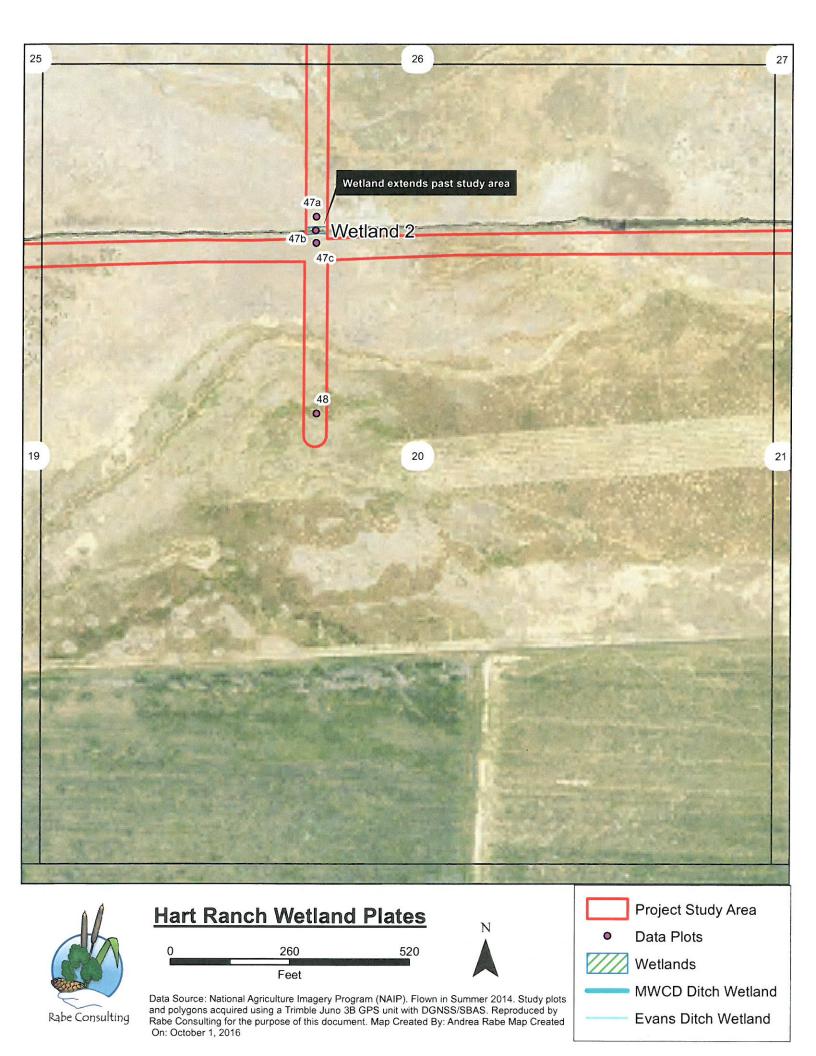


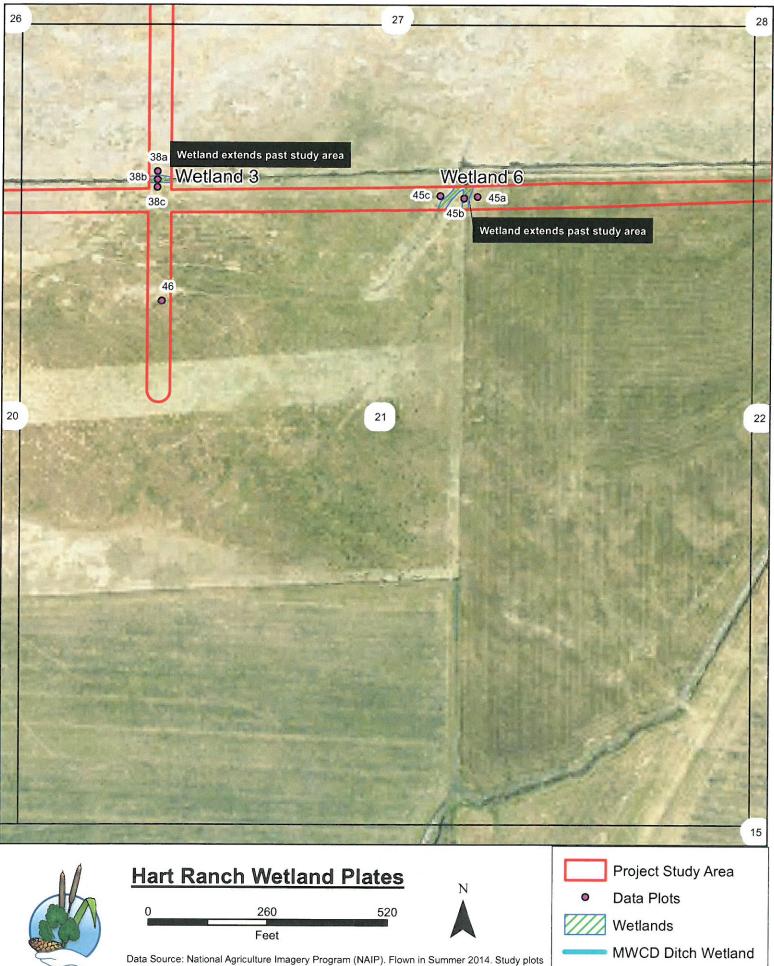


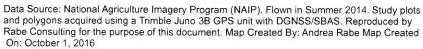


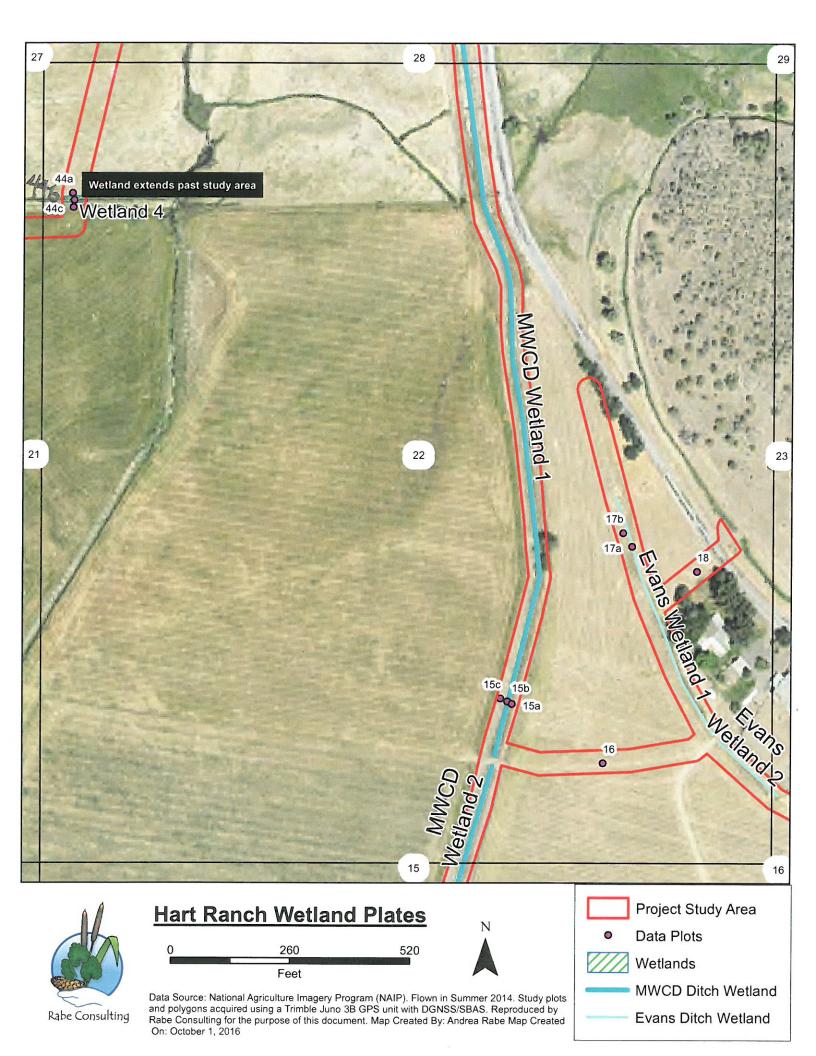


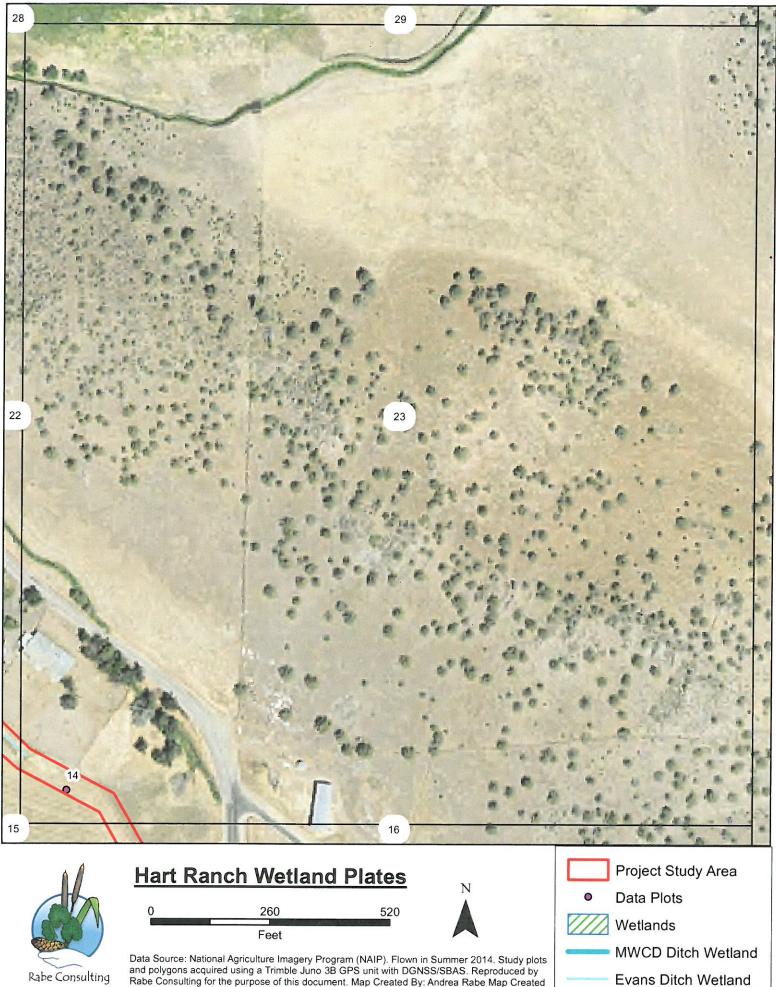
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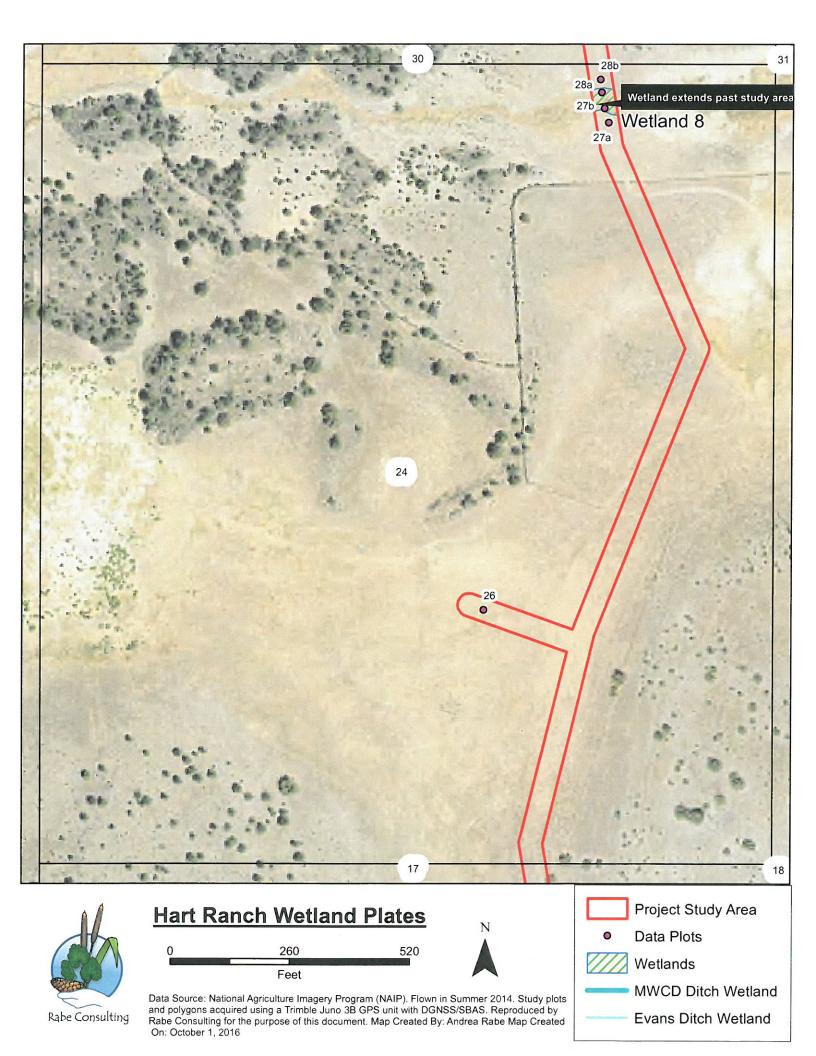


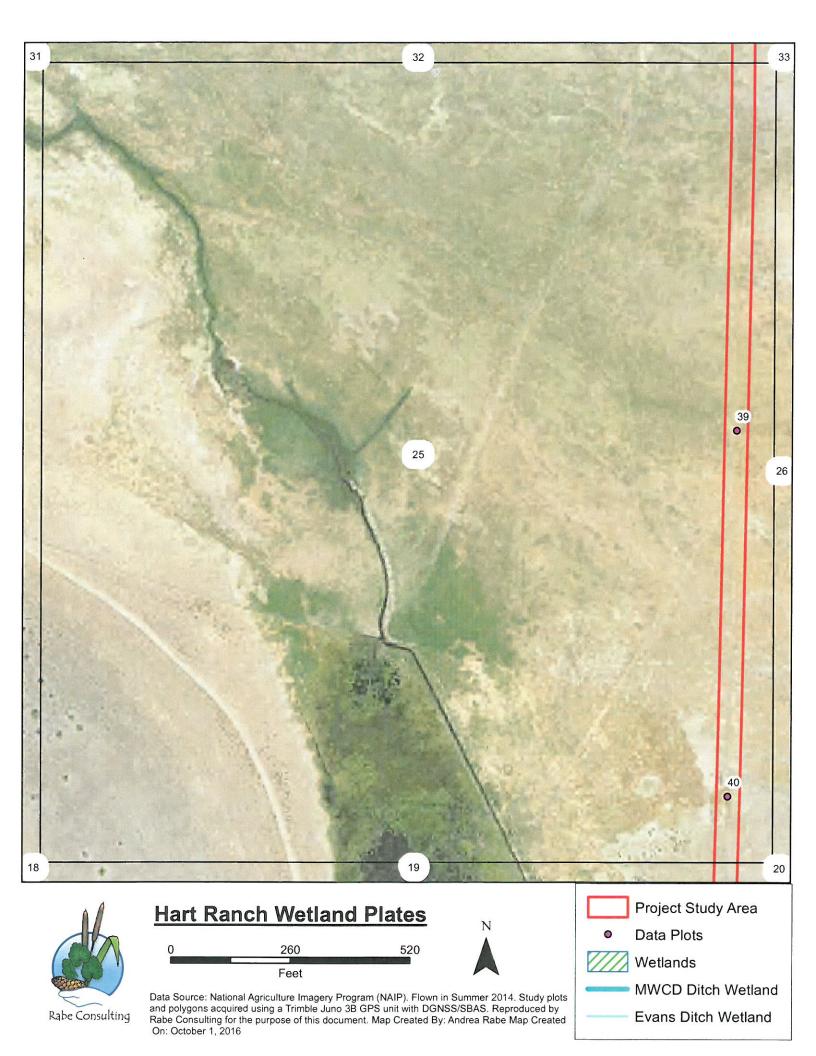


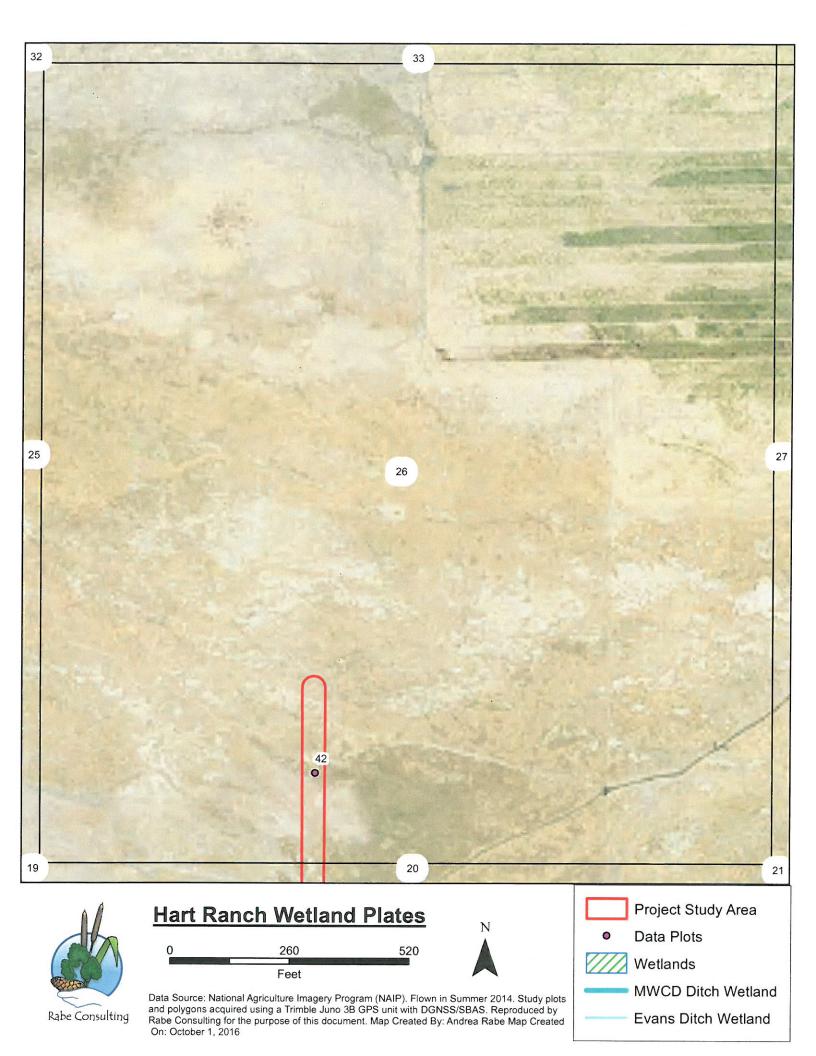


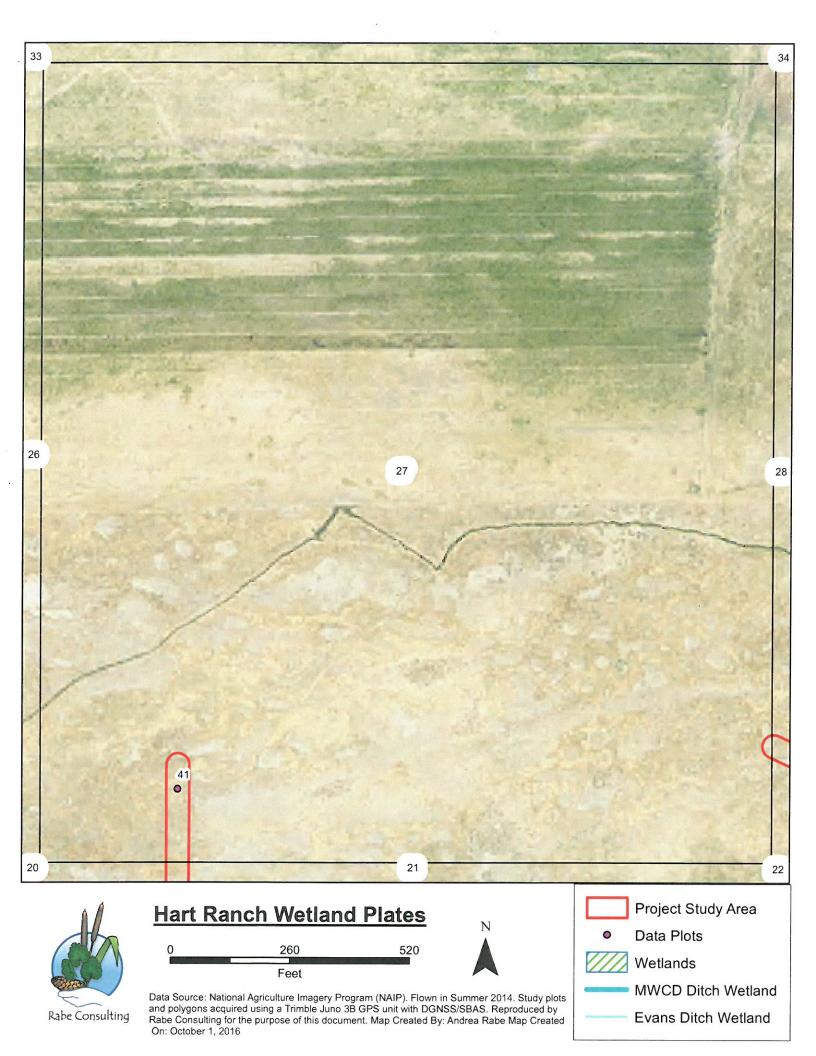


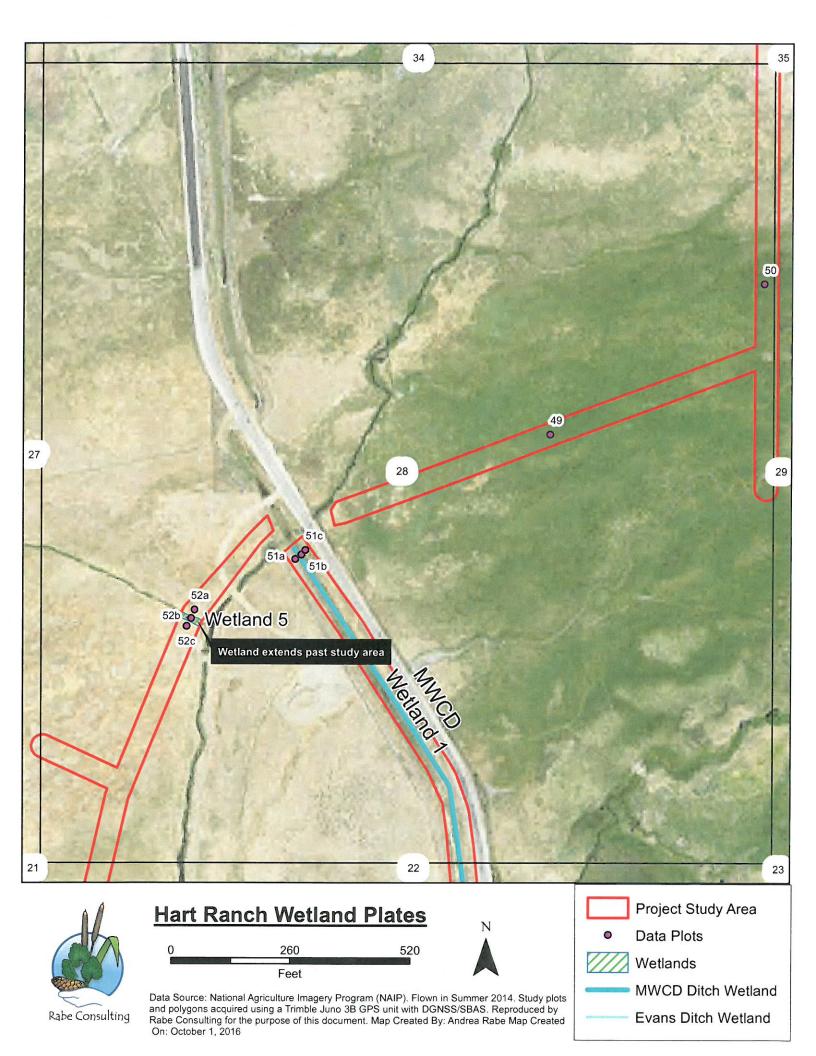
Data Source: National Agriculture Imagery Program (NAIP). Flown in Summer 2014. Study plots and polygons acquired using a Trimble Juno 3B GPS unit with DGNSS/SBAS. Reproduced by Rabe Consulting for the purpose of this document. Map Created By: Andrea Rabe Map Created On: October 1, 2016

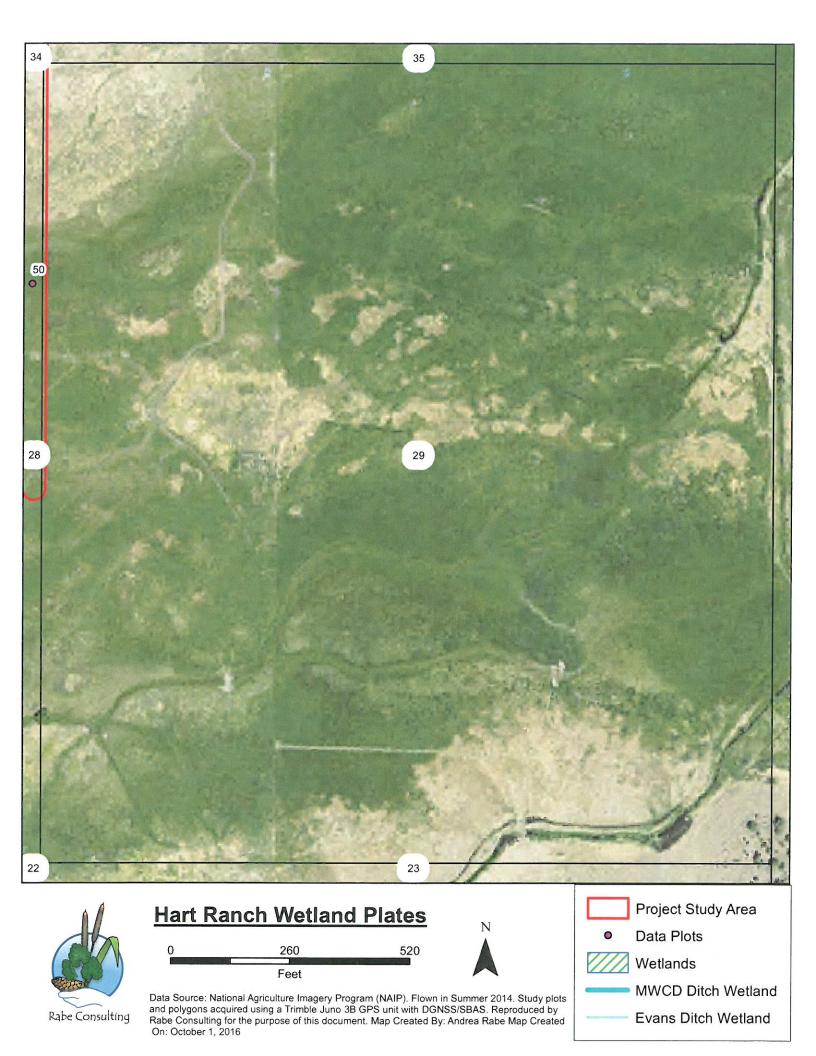


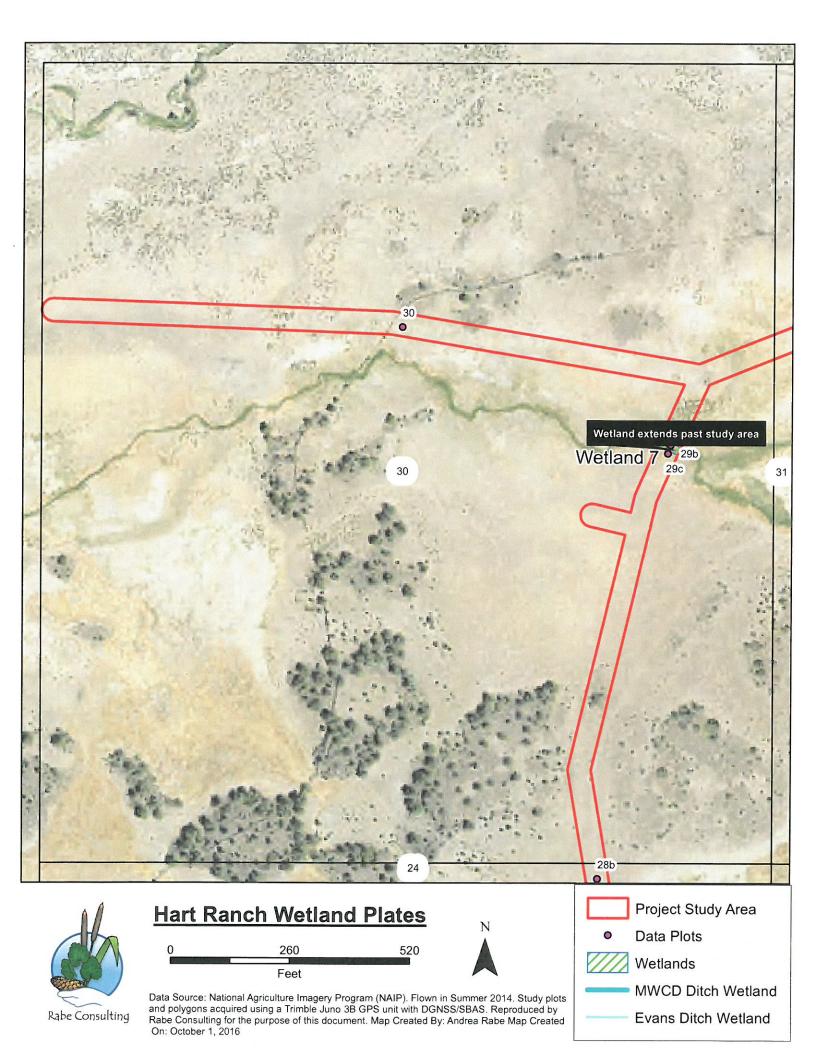


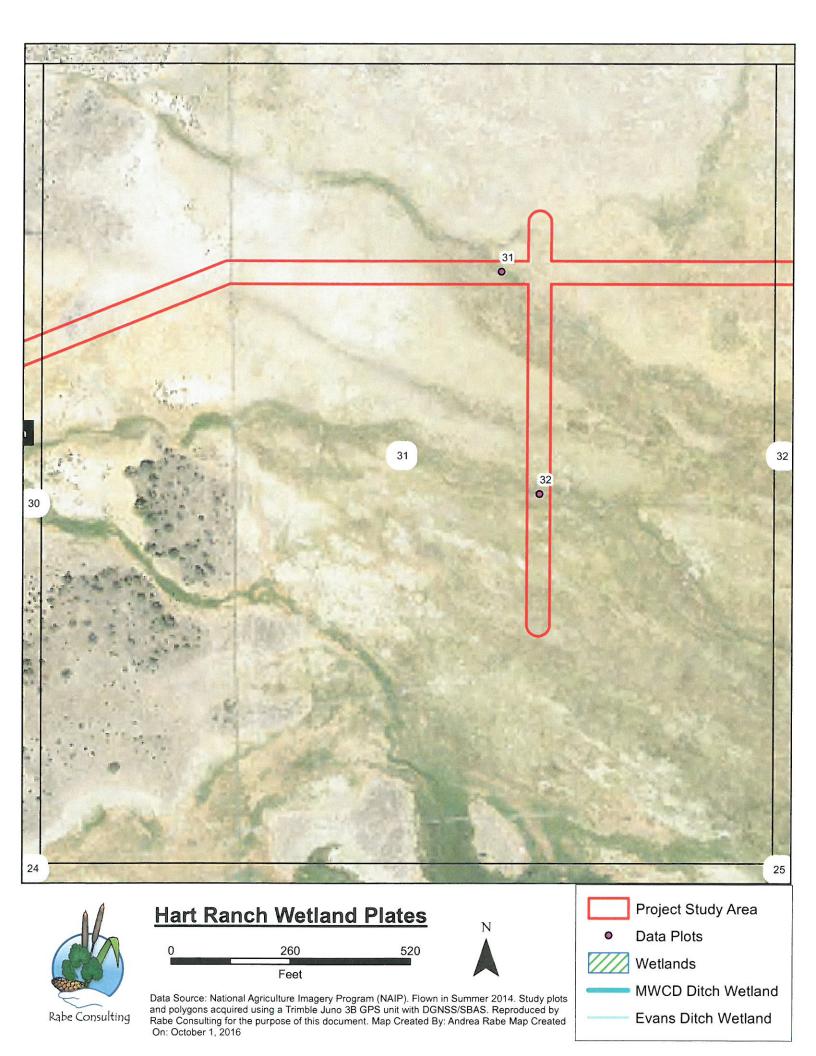


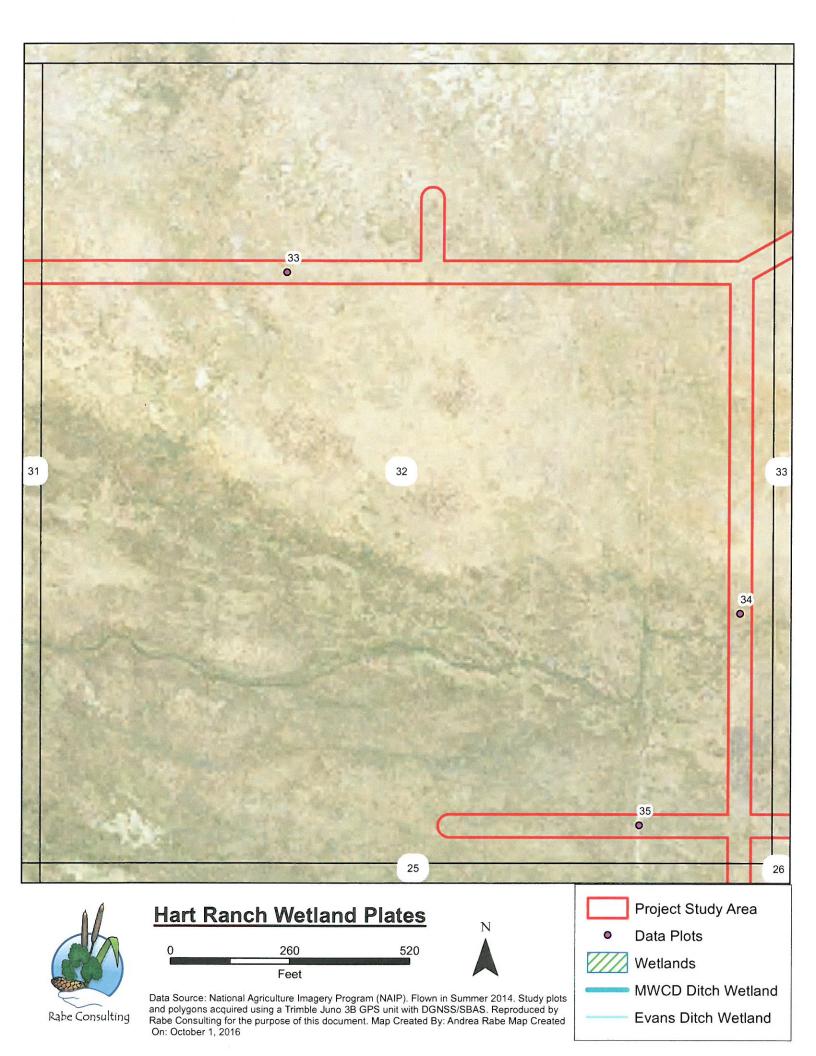


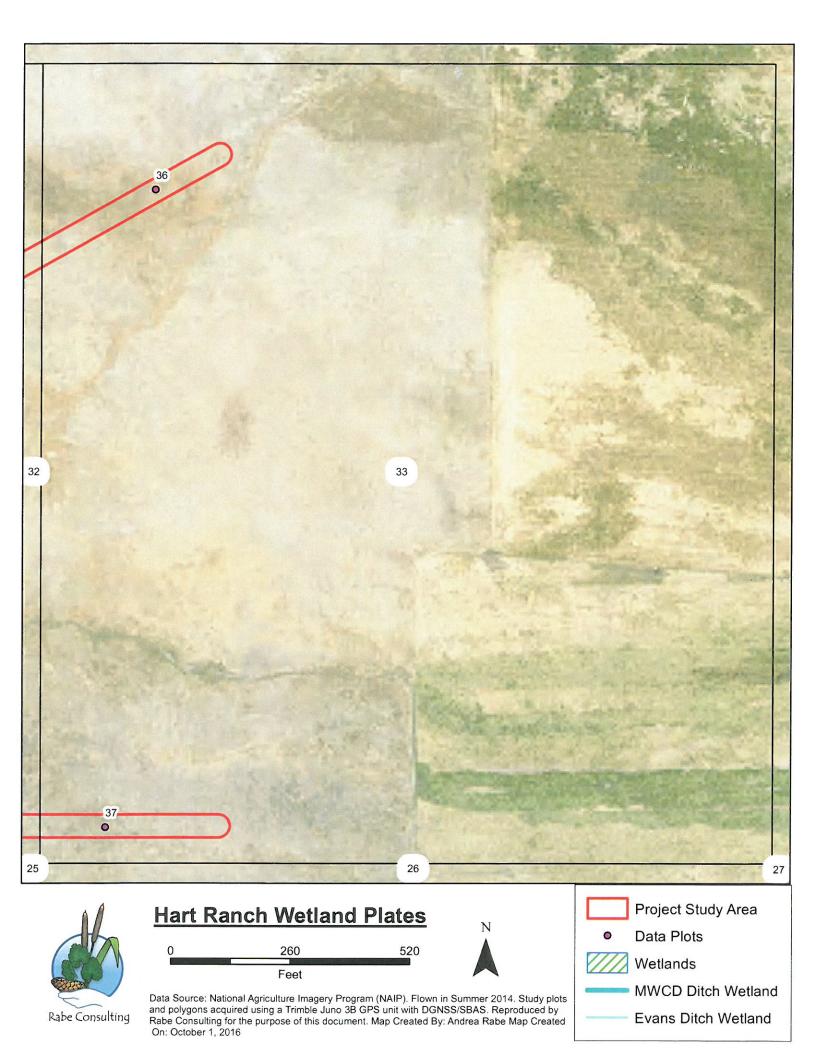


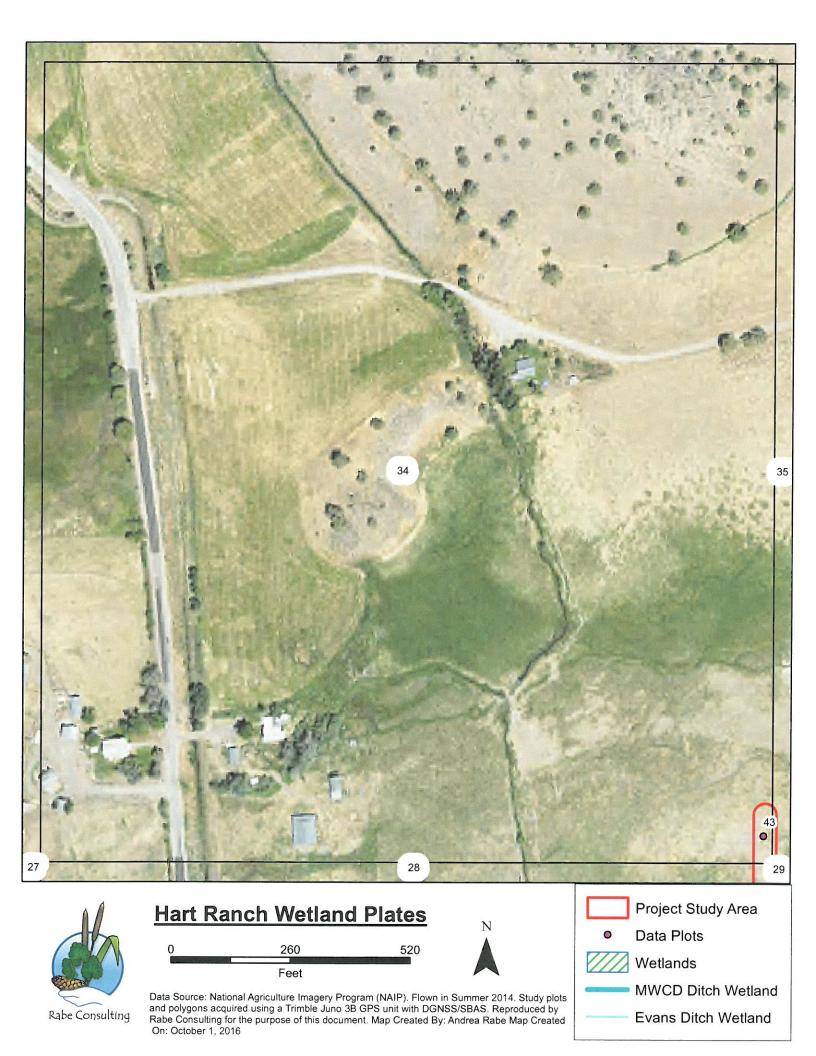


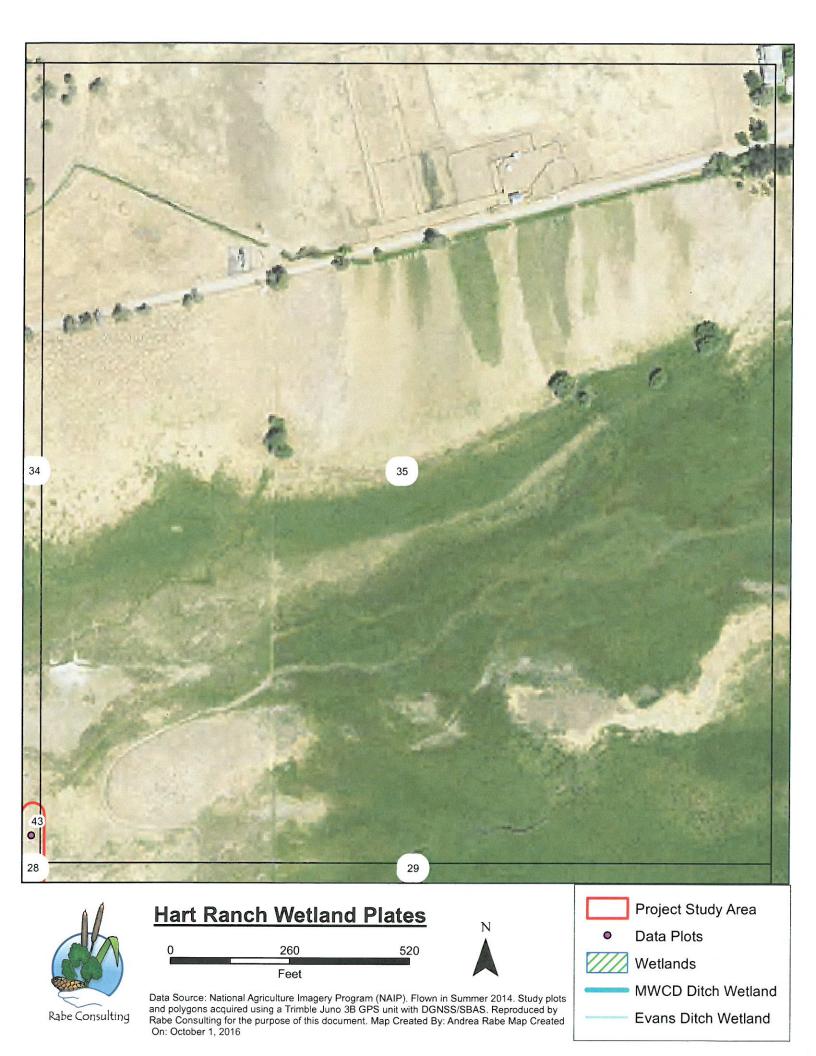


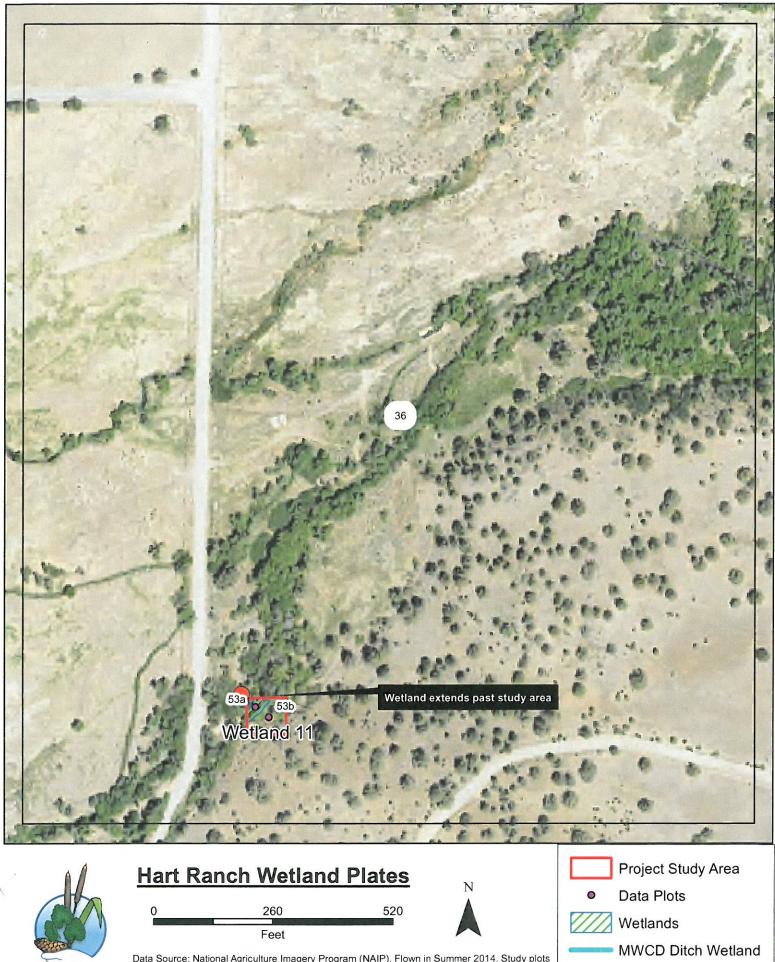


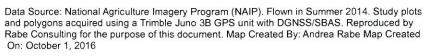












Appendix B Data Forms

WE I LAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region		
Project/Site: HAA Ranch Applicant/Owner: HAAA Ranch Investigator(s): Marta Ranch Landform (hillslope, terrace, etc.): hillslop Subregion (LRR): MLRA 22B Soil Map Unit Name: 180 Loude Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydrophytic Vegetation Present? Yes Hydrology Present? Yes Wetland Hydrology Present? Yes Remarks:	City/County: Siski You Ca State: CA Samp Section, Township, Range: Local relief (concave, conve Lat: 722, 389933Long: 11, G Choan ical for this time of year? Yes X No sy NO significantly disturbed? Are by NO naturally problematic? e map showing sampling point No No No No No No Xo	Sampling Date: 8/23/2016 Ing Point: Image: State of the state of t
dite	chipanale as sa	acboush hillside
		PREMARKAN Y DEELENG
VEGETATION - Use scientific names	of plants.	▼ 1
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: (A)
Sapling/Shrub Stratum (Plot size:) 1.	CO YUPC	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 3 =$ UPL species $(QQ) = x 5 =$ Column Totals: $(QQ) = (A) =$ Prevalence Index = B/A = $(DQ) =$
5	19.27 4925 43 1924 - 273	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No X
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SOIL			Statistic - Salar	
Profile Description: (Describe to the c	lepth needed to document the in	dicator or confirm	the absence of indicators.)	•
Depth Matrix	Redox Fea	atures		Remarks
(inches) Color (moist) %	Color (moist) %	Type' L	oc ² <u>Texture</u>	Remaina
0-11 254R6/2 100		<u> </u>	loam	
11-18 2.54R613 100			loam	
		<u></u>		
				· · · · · · · · · · · · · · · · · · ·
		<u> </u>		
¹ Type: C=Concentration, D=Depletion, F	RM=Reduced Matrix, CS=Covered	or Coated Sand G	rains. ² Location: PL=Pore Lin	ning, M≖Matrix.
Hydric Soil Indicators: (Applicable to	all I RRs unless otherwise note	ed.)	Indicators for Problematic I	Hydric Soils ³ :
	Sandy Redox (S5)	,	2 cm Muck (A10)	
Histosol (A1) Histic Epipedon (A2)	Stripped Matrix (S6)		Red Parent Material (TF2)	:)
Black Histic (A3)	Loamy Mucky Mineral (F1)	(except MLRA 1)	Very Shallow Dark Surface	ce (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)		Other (Explain in Remark	s)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		3) () () () () () () () () () () () () ()	venetetion and
Thick Dark Surface (A12)	Redox Dark Surface (F6)	\	³ Indicators of hydrophytic wetland hydrology must b	e present.
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7) Redox Depressions (F8))	unless disturbed or proble	ematic
Sandy Gleyed Matrix (S4)				
Restrictive Layer (if present):				- TK
Туре:		Hydric Soil Pro	esent? Yes N	lo
Depth (inches):				
Remarks:				
	5 a .			
NO1	ndicators			
	and a start of the			
	· · · · · · · · · · · · · · · · · · ·			
HYDROLOGY Wetland Hydrology Indicators:				
Wetland Hydrology Indicators:	ed; check all that apply)		Secondary Indicators (2 or mor	re required)
Wetland Hydrology Indicators: Primary indicators (minimum of one require	Water-Stained Leaves		Water-Stained Leaves (B9)	re required)) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary indicators (minimum of one requir Surface Water (A1)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E		Water-Stained Leaves (B9) 4A, and 4B)	re required)) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one requirements)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11)	3)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Drv-Season Water Table () (MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requirements)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aguatic Invertebrates (I	3) B13)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Drv-Season Water Table () (MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requirements)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor	B13) (C1)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria) (MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requirements)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3)	B13) (C1) along Living	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2)) (MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I	B) B13) (C1) along Living Iron (C4)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria) (MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction	B) B13) (C1) along Living Iron (C4)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3)) (MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction Soils (C6)	B) (C1) along Living iron (C4) in Tilled	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2)) (MLRA 1, 2, C2)
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 MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction	B) (C1) along Living iron (C4) in Tilled	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ((Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I) (MLRA 1, 2, C2) I Imagery (C9) 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)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction Soils (C6) Stunted or Stressed Pla	B) (C1) along Living fron (C4) in Tilled ants (D1)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (6 Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)) (MLRA 1, 2, C2) I Imagery (C9) LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Costs (C3) Presence of Reduced I Recent Iron Reduction Soils (C6) Stunted or Stressed Pla (LRR A) Other (Explain in Remain 37)	B) (C1) along Living fron (C4) in Tilled ants (D1)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ((Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I) (MLRA 1, 2, C2) I Imagery (C9) LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Costs (C3) Presence of Reduced I Recent Iron Reduction Soils (C6) Stunted or Stressed Pla (LRR A) Other (Explain in Remain 37)	B) (C1) along Living fron (C4) in Tilled ants (D1)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ((Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I) (MLRA 1, 2, C2) I Imagery (C9) LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Costs (C3) Presence of Reduced I Recent Iron Reduction Soils (C6) Stunted or Stressed Pla (LRR A) Other (Explain in Remain 37)	B) (C1) along Living fron (C4) in Tilled ants (D1)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ((Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I) (MLRA 1, 2, C2) I Imagery (C9) LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soll Cracks (B6) inundation Visible on Aerial Imagery (for the second	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction Solls (C6) Stunted or Stressed Pla (LRR A) Other (Explain in Remain 37) (B8)	B13) (C1) s along Living in Tilled ants (D1) arks)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ((Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I Frost-Heave Hummocks (I) (MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery (for Sparsely Vegetated Concave Surface Field Observations: Surface Water Present?	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction Solls (C6) Stunted or Stressed Pli (LRR A) Other (Explain in Remain (B8)	B13) (C1) s along Living in Tilled ants (D1) arks)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ((Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I) (MLRA 1, 2, C2) I Imagery (C9) LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soll Cracks (B6) inundation Visible on Aerial Imagery (feet Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes 1 Saturation Present? Yes Saturation Present?	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction Soils (C6) Stunted or Stressed Pla (LRR A) Other (Explain In Remain 37) (B8) Depth (inches):	B13) (C1) s along Living in Tilled ants (D1) arks)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ((Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I Frost-Heave Hummocks (I) (MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)
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Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soll Cracks (B6) inundation Visible on Aerial Imagery (feet Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes 1 Saturation Present? Yes Saturation Present?	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction Soils (C6) Stunted or Stressed Pla (LRR A) Other (Explain In Remains) (B8) No Depth (inches): Depth (inches):	B13) (C1) along Living in Tilled ants (D1) arks) Wetlan	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ((Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I Frost-Heave Hummocks (I) (MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)
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Wetland Hydrology Indicators: Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery (Ferminication Present? Yes	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction Soils (C6) Stunted or Stressed Pla (LRR A) Other (Explain In Rema Roots) (B8) Depth (inches): Depth (inches): Depth (inches):	B13) (C1) along Living in Tilled ants (D1) arks) Wetlan	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ((Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I Frost-Heave Hummocks (I) (MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction Solls (C6) Stunted or Stressed Pla (LRR A) Other (Explain in Remain The Soll's (C6) Depth (inches): Depth (inches): Depth (inches): Depth (inches):	B13) (C1) s along Living in Tilled ants (D1) arks) Wetlan	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (f Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I Frost-Heave Hummocks (I d Hydrology Present? available:) (MLRA 1, 2, C2) I Imagery (C9) LRR A) 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 (Fermined Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Describe Recorded Data (stream gauge, minimage)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction Solls (C6) Stunted or Stressed Pla (LRR A) Other (Explain in Remain The Soll's (C6) Depth (inches): Depth (inches): Depth (inches): Depth (inches):	B13) (C1) s along Living in Tilled ants (D1) arks) Wetlan	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (f Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I Frost-Heave Hummocks (I d Hydrology Present? available:) (MLRA 1, 2, C2) I Imagery (C9) LRR A) 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 (Fermined Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Describe Recorded Data (stream gauge, minimage)	Water-Stained Leaves MLRA 1, 2, 4A, and 4E Salt Crust (B11) Aquatic Invertebrates (I Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Presence of Reduced I Recent Iron Reduction Soils (C6) Stunted or Stressed Pla (LRR A) Other (Explain In Rema Roots) (B8) Depth (inches): Depth (inches): Depth (inches):	B13) (C1) s along Living in Tilled ants (D1) arks) Wetlan	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (f Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (I Frost-Heave Hummocks (I d Hydrology Present? available:) (MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)

WETLAND DETERMIN	ATION DATA FORM - Western I	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Andréa Rabe Landform (hillslope, terrace, etc.): billsL Subregion (LRR): MLRA 22,B Soil Map Unit Name: 180 Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrole Are Vegetation, Soil, or Hydrole	City/County: Siski Vou Car State: CA Samp Section, Township, Range: T. OD.C. Local relief (concave, conve Lat: -122, 38996 SLong: 4) & vpical for this time of year? Yes X. No ogy No significantly disturbed? Are ogy No naturally problematic?	Sampling Date: 8/23/20:16 Ing Point: 6 X, none): CONCAUE Slope (%): 2 NWI classification: NAD &3 NWI classification: NAD &3 NU classifica
nemarks.		
<u> </u>	ditch	
VEGETATION - Use scientific names	of plants.	
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant
3		Species Across All Strata: (B)
*		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	(A/B)
Sapling/Shrub Stratum (Plot size:) 1.		Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 =
Herb Stratum (Plot size:)	= Total Cover	UPL species x 5 =
1.		Calum The second s
2.		
3		Prevalence Index = B/A =
4.		Hydrophytic Vegetation Indicators:
5		1 - Rapid Test for Hydrophytic Vegetation
6	have write me	2 - Dominance Test is >50%
7		3 - Prevalence Index is <3 01
		4 - Morphological Adaptations ¹ (Provide supporting
9 10		data In Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹
11.	a to sense the	Problematic Hydrophytic Vegetation ¹ (Explain)
	= Total Cover	
Woody Vine Stratuln (Plot size:)		¹ indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic,
1	h	
2	State and	Hydrophytic
% Bare Ground in Herb Stratum	= Total Cover	Vegetation Present? Yes <u>No</u>
Remarks;	Upen Watter	
Problematic Dyes Datinchan	nel 5) abrupt edge) seg potteny - riparian	alongitch
US Army Corps of Engineers	souther the	

Western Mountains Vallaus and Coast Version 2.0

AL.			State Dine Po	B B
rofile Description: (Describe t	o the depth needed to document t	the indicator or co	nfirm the absence of indicato	rs.)
Depth Matrix	Keou	x reatures	Loc ² Texture	Remarks
inches) Color (moist)		<u>% Type</u> 1		
-6 2.54RBB	100		loam	
6-18 2.54R611	90 <u>54R416</u>		PL Sand	
BIG ALTIN				
. <u></u>				
				• <u> </u>
		······		
				pre Lining, M=Matrix.
Type: C=Concentration, D=Depl	etion, RM=Reduced Matrix, CS=Con	vered or Coated Sa		
Hydric Soil Indicators: (Applic	able to all LRRs, unless otherwise	e noted.)	Indicators for Problem	natic Hydric Solls':
Histosol (A1)	× Sandy Redox (S5)		2 cm Muck (A10)	
Histic Epipedon (A2)	Stripped Matrix (S6)		Red Parent Materia	I (TF2)
Black Histic (A3)	Loamy Mucky Minera		(A 1) Very Shallow Dark	Surface (1F12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix		Other (Explain in Re	smarks/
Depleted Below Dark Surfac	e (A11) Depleted Matrix (F3) Redox Dark Surface	(F6)	³ indicators of hydro	phytic vegetation and
Thick Dark Surface (A12)	Depleted Dark Surface		wetland hydrology r	nust be present.
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Redox Depressions (unless disturbed or	problematic
Gieyeo Matrix (04)		<u> </u>		
strictive Layer (if present):			· · · · · · · · · · · · · · · · · · ·	No
Type:	· · · · · · · · · · · · · · · · · · ·	Hydric So	il Present? Yes 🔼	NO
Depth (inches):		_ I		
arks:				
DROLOGY			<u> </u>	
etland Hydrology Indicators: imary Indicators (minimum of one	e required: check all that apply)		Secondary Indicators (2	or more required)
inary indicators (minimuteri er en	Water-Stained Le	eaves (B9) (except	Water-Stained Leave	es (89) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, a		AA, and 4B) Drainage Patterns (E	10)
High Water Table (A2)	Salt Crust (B11)		Drainage Patients (E	able (C2)
Saturation (A3)	Aquatic Invertebr	ates (DIS) Delar (C1)	Saturation Visible on	Aerial Imagery (C9)
Water Marks (B1)	Ovidized Rhizosi	pheres along Living	·	
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position	
	Descence of Dod	lugar Iron (C/I)	Shallow Aquitard (D:	
Drift Deposits (B3)		luced Iron (C4)		3)
	Recent Iron Red			
Drift Deposits (B3) Algal Mat or Crust (B4)	Recent Iron Red Soils (C6)	uction in Tilled	FAC-Neutral Test (D	5)
Algal Mat or Crust (B4)	Recent Iron Red Soils (C6) Stunted or Stress (LRR A)	uction in Tilled sed Plants (D1)	FAC-Neutral Test (D Raised Ant Mounds	5) (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5)	Recent Iron Red Soils (C6) Stunted or Stress	uction in Tilled sed Plants (D1)	FAC-Neutral Test (D	5) (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in agery (B7)	uction in Tilled sed Plants (D1)	FAC-Neutral Test (D Raised Ant Mounds	5) (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in agery (B7)	uction in Tilled sed Plants (D1)	FAC-Neutral Test (D Raised Ant Mounds	5) (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in agery (B7)	uction in Tilled sed Plants (D1)	FAC-Neutral Test (D Raised Ant Mounds	5) (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S	Agery (B7) Surface (B8) Agery (B7) Agery (B7) Ager	uction in Tilled sed Plants (D1) n Remarks)	FAC-Neutral Test (D Raised Ant Mounds Frost-Heave Humme	5) (D6) (LRR A) ocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S eld Observations: urface Water Present? Yes	A Recent Iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in Surface (B8) X No Depth (inches):	uction in Tilled sed Plants (D1) n Remarks)	FAC-Neutral Test (D Raised Ant Mounds	5) (D6) (LRR A)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S eld Observations: urface Water Present? Yes /ater Table Present? Yes	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in Surface (B8) No Depth (inches):	uction in Tilled sed Plants (D1) n Remarks)	FAC-Neutral Test (D Raised Ant Mounds Frost-Heave Humme	5) (D6) (LRR A) ocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S ield Observations: urface Water Present? Yes /ater Table Present? Yes aturation Present? Yes	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in Surface (B8) No Depth (inches): No Depth (inches):	uction in Tilled sed Plants (D1) n Remarks)	Etland Hydrology Present?	5) (D6) (LRR A) ocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S ield Observations: urface Water Present? Yes /ater Table Present? Yes aturation Present? Yes	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in Surface (B8) No Depth (inches):	uction in Tilled sed Plants (D1) n Remarks)	Etland Hydrology Present?	5) (D6) (LRR A) ocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S ield Observations: urface Water Present? Yes /ater Table Present? Yes aturation Present? Yes	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in Surface (B8) No Depth (inches): No Depth (inches):	uction in Tilled sed Plants (D1) n Remarks)	Etland Hydrology Present?	5) (D6) (LRR A) ocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S etd Observations: urface Water Present? Yes aturation Present? Yes aturation Present? Yes aturation Present? Yes actudes capillary fringe) Yes scribe Recorded Data (stream ga	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in Surface (B8) No Depth (inches): No Depth (inches):	uction in Tilled sed Plants (D1) n Remarks)	Etland Hydrology Present?	5) (D6) (LRR A) ocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S eld Observations: urface Water Present? Yes aturation Present? Yes aturation Present? Yes	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in Surface (B8) No Depth (inches): No Depth (inches):	uction in Tilled sed Plants (D1) n Remarks)	Etland Hydrology Present?	5) (D6) (LRR A) ocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S etd Observations: unface Water Present? Yes ater Table Present? Yes aturation Present? Yes aturation Present? Yes actudes capillary fringe) Yes cribe Recorded Data (stream ga	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in Surface (B8) No Depth (inches): No Depth (inches):	uction in Tilled sed Plants (D1) n Remarks)	Etland Hydrology Present?	5) (D6) (LRR A) ocks (D7)
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave S etd Observations: unface Water Present? Yes ater Table Present? Yes ater Table Present? Yes aturation Present? Yes actudes capillary fringe) Yes scribe Recorded Data (stream ga	Accent iron Red Soils (C6) Stunted or Stress (LRR A) Other (Explain in Surface (B8) No Depth (inches): No Depth (inches):	uction in Tilled sed Plants (D1) n Remarks)	Etland Hydrology Present?	5) (D6) (LRR A) ocks (D7)

WETLAND DETERMINATION DATA FORM - We	estern Mountains, Valleys, and Coast R	eaion
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Project/Site: Hart Ranch City/County: Siski you Co. sampling Date: 8/23/2016
Applicant/Owner: Hart Ranch State: CA Sampling Point:
Investigator(s): Marca Kabe Section Township Range T 45N (Ch) Sector 2 12
Landform (hillstope, terrace, etc.); (i) (Store) (i) (concave, convex,
Subregion (LRR): MLRA 22B Lat 122, 39001 Long: 41, 1602082 Datum: NAD 83
Soil Map Unit Name: 180 NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no explain in Remarks)
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No X Yes No X	is the Sampled Area within a Wetland?	Yes _	No _X
Remarks:				

VEGETATION - Use scientific names of plants.

Tree Stratura (Plot size:)	Absolute Dominant Indicator	Dominance Test worksheet:
1/	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: (B)
4.		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x 1 =
3		FACW species x 2 =
4. 5.		FAC species x3 =
	- Total Onur	FACU species x 4 =
Herb Stratum (Plot size: M2)	= Total Cover	UPL species 40 x 5 = 200
1. Centaturea Sastitiallo	HO U UPL	Column Totals: (A) 700(B)
2.		Prevalence Index = B/A = 50
3.		
		Hydrophytic Vegetation Indicators:
5	a al contra de la co	1 - Rapid Test for Hydrophytic Vegetation
6		2 - Dominance Test is >50%
7		3 - Prevalence index is ≤3.0 ¹
8		4 - Morphological Adaptations ¹ (Provide supporting)
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	40 = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.		Ministry and the second s
		Hydrophytic
% Bare Ground in Herb Stratum	= Total Cover	Vegetation Present? Yes No
Remarks:		

SOIL						المألف بمكام المقام التلا	
Profile Des	scription: (Describe	to the depth	needed to docum	ent the indicator or	r confirm the	absence of indicators.)	
Depth	Matrix	%	Color (moist)	Redox Features % Type	Loc ²	Texture	Remarks
(inches)	Color (moist)		Color (moist)	<u></u>		loan	
0-12	2.54R6/3	100					
12-18	2.54R.612	106		<u> </u>		_xoam_	
<u> </u>	<u> </u>			<u> </u>			
						· · · · · · · · · · · · · · · · · · ·	
			<u></u>		-		
 .	<u></u>						
	<u> </u>					·	
	Concentration, D=De	pletion, RM=R	educed Matrix, CS	=Covered or Coated	Sand Grains.	² Location: PL=Pore	Lining, M=Matrix.
	<u> </u>					licators for Problemati	c Hydric Soils ³ :
	bil Indicators: (Appl					2 cm Muck (A10)	
	iol (A1) Epipedon (A2)		Sandy Redox (S	S6)		Red Parent Material (T	
Black	Histic (A3)		Loamy Mucky Mi	neral (F1) (except N	ILRA 1) 📃	Very Shallow Dark Sur	
Hydro	gen Sulfide (A4) ted Below Dark Surfa	(A11)	Loamy Gleyed M Depleted Matrix (Other (Explain in Rema	unə <i>)</i>
	Dark Surface (A12)		Redox Dark Surf	ace (F6)		³ Indicators of hydrophy	tic vegetation and
Sandy	Mucky Mineral (S1)		Depteted Dark S			wetland hydrology mus unless disturbed or pro	t be present,
Sandy	Gleyed Matrix (S4)		Redox Depression	ons (F8)			
Restrictive L	Layer (if present):						\sim
Туре:				Hydric	Soil Present	? Yes	No No
Depth (in	ches):	··· = =	·				
Remarks:							
			£ 4 1				
		noina	dicato		<u> </u>		
HYDROLO	GY drology Indicators:			······································			· · · · · · · · · · · · · · · · · · ·
Primary Indic	cators (minimum of or	ne required; ch	neck all that apply)			ondary Indicators (2 or m	lore required)
				d Leaves (B9) (exce	ant 1	Water-Stained Leaves (E	
Surface V				1.0			99) (MLRA 1, 2,
	Vater (A1) or Table (A2)		MLRA 1, 2, 4		·	4A, and 4B)	99) (MLKA 1, 2,
High Wate	er Table (A2)		Salt Crust (B	11)	'	4A, and 4B) Drainage Patterns (B10) Drv-Season Water Table	(C2)
	er Table (A2) n (A3)		Salt Crust (B Aquatic Inver Hydrogen Su	11) tebrates (B13) Ifide Odor (C1)	=	4A, and 4B) Drainage Patterns (B10)	(C2)
High Wate Saturation Water Ma	er Table (A2) n (A3) arks (B1)		Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi	11) tebrates (B13)	ing -	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae	(C2) ial imagery (C9)
High Wate Saturation Water Ma	er Table (A2) n (A3) arks (B1) t Deposits (B2)		Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Roots (C3)	11) tebrates (B13) Ifide Odor (C1)	ing	4A, and 4B) Drainage Patterns (B10) Drv-Season Water Table	(C2) ial imagery (C9)
High Wate Saturation Water Ma Sediment	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)		Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Roots (C3) Presence of Recent Iron f	11) tebrates (B13) lfide Odor (C1) zospheres along Livi	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D2 Shallow Aquitard (D3)	(C2) ial imagery (C9)
High Wate Saturation Water Ma Sediment	er Table (A2) n (A3) arks (B1) t Deposits (B2)		Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Roots (C3) Presence of Recent Iron f Soils (C6)	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aei Geomorphic Position (D2	(C2) ial imagery (C9)
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Roots (C3) Presence of Recent Iron f Soils (C6)	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4)	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aei Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	e (C2) tal imagery (C9) 2)) (LRR A)
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)		Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Roots (C3) Presence of Recent Iron F Soils (C6) Stunted or Si (LRR A)	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aei Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5)	e (C2) tal imagery (C9) 2)) (LRR A)
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S Inundatio	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Ιπ		Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Roots (C3) Presence of Recent Iron F Soils (C6) Stunted or Si (LRR A)	11) tebrates (B13) lifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled tressed Plants (D1)	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aei Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	e (C2) tal imagery (C9) 2)) (LRR A)
High Wate Saturation Water Ma Sediment Drift Depo Aigal Mat Iron Depo Surface S Inundatio	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)		Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Roots (C3) Presence of Recent Iron F Soils (C6) Stunted or Si (LRR A)	11) tebrates (B13) lifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled tressed Plants (D1)	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aei Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	e (C2) tal imagery (C9) 2)) (LRR A)
High Wate Saturation Water Ma Sediment Drift Depo Aigal Mat iron Depo Surface S Inundatio Sparsely Field Obser	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Im Vegetated Concave	Surface (B8)	Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron f Soils (C6) Stunted or St (LRR A) Other (Expla	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aei Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	e (C2) tal imagery (C9) 2)) (LRR A)
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S Inundatio Sparsely Field Obser Surface Wate	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Im Vegetated Concave vations: er Present? Yes	Surface (B8)	Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron f Soils (C6) Stunted or Sti (LRR A) Other (Explain Depth (inches):	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	(C2) ial Imagery (C9) 2) (LRR A) (D7)
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S Inundatio Sparsely Field Obser Surface Wate Water Table	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Im Vegetated Concave vations: er Present? Yes	Surface (B8)	Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron f Soils (C6) Stunted or St (LRR A) Other (Expla	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aei Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	(C2) ial Imagery (C9) 2) (LRR A) (D7)
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High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S Inundatio Sparsely Field Obser Surface Wate Water Table Saturation P (includes cat	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Im Vegetated Concave vations: er Present? Yes resent? Yes	Surface (B8)	Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron F Soils (C6) Stunted or Si (LRR A) Other (Expla)	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	(C2) ial Imagery (C9) 2) (LRR A) (D7)
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S Inundatio Sparsely Field Obser Surface Wate Water Table Saturation P (includes cat	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Irr Vegetated Concave vations: er Present? Yes resent? Yes pillary fringe) Yes	Surface (B8)	Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron F Soils (C6) Stunted or Si (LRR A) Other (Expla)	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	(C2) ial Imagery (C9) 2) (LRR A) (D7)
High Wate Saturation Water Ma Sediment Drift Depo Algal Mate Iron Depo Surface S Inundatio Sparsely Field Obser Surface Wate Vater Table Saturation P (includes cap Describe Reco	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Irr Vegetated Concave vations: er Present? Yes resent? Yes pillary fringe) Yes	Surface (B8)	Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron F Soils (C6) Stunted or Si (LRR A) Other (Expla)	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	ing	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	(C2) ial Imagery (C9) 2) (LRR A) (D7)
High Wate Saturation Water Ma Sediment Drift Depo Algal Mate Iron Depo Surface S Inundatio Sparsely Field Obser Surface Wate Vater Table Saturation P (includes cap Describe Reco	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Irr Vegetated Concave vations: er Present? Yes resent? Yes pillary fringe) Yes	Surface (B8)	Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron f Soils (C6) Stunted or St (LRR A) Other (Explain Depth (inches): Depth (inches): Depth (inches):	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	Wetland Hyd	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	(C2) ial Imagery (C9) 2) (LRR A) (D7)
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S Inundatio Sparsely Field Obser Surface Wate Water Table Saturation P (includes cat	er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aerial Irr Vegetated Concave vations: er Present? Yes resent? Yes pillary fringe) Yes	Surface (B8)	Sait Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron f Soils (C6) Stunted or St (LRR A) Other (Explain Depth (inches): Depth (inches): Depth (inches):	11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	Wetland Hyd	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	(C2) ial Imagery (C9) 2) (LRR A) (D7)

WETLAND DETERMINA	TION DATA FORM - Western N	Iountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Andrea Rabe Landform (hilislope, terrace, etc.): MISIOP Subregion (LRR): MLRA 22B Soil Map Unit Name: 18D Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	City/County: State: CA Samp Section, Township, Range: Local relief (concave, conve Lat-123, 385510 Long: 41:60 CAOMA ical for this time of year? Yes X No gy No significantly disturbed? Are by No naturally problematic?	Sampling Date: Slash 23/2016 Ing Point: Sampling Date: 45N, K5W Sect 1, 2+3 x, none): Convex Slope (%): 2 1005 24 Datum: NWI classification: N/A
VEGETATION – Use scientific names	of plante	
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B) Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:) 1 2 3 4 5 Herb Stratum (Plot size: MAZ+ 1. <u>Centaunea Solstistalio</u> 2. <u>Leumus cinereus</u> 3	= Total Cover = Total Cover 30 Y UPL 20 Y FAC	That Are OBL, FACW, or FAC: QU (A/B)Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ GD $x 3 =$ FACU species $x 4 =$ UPL species $3D$ $x 5 =$ $5D$ Column Totals: $5O$ (A) 310 Prevalence Index = B/A = 413
4		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1 2 % Bare Ground in Herb Stratum 50 Remarks:	= Total Cover	Hydrophytic Vegetation Present? Yes No

 $^{1}\sigma$

SOIL				Serie (intersection)	2a_
Profile Description: (D	escribe to the depth	needed to document the in	ndicator or confirm	the absence of indicators.)	
Depth (inches) Color (m	Matrix noist) %	Color (moist) %	Type Lo	oc ² Texture	Remarks
0-11 2.54				loam	
				TOOM	
11-18 2.34	62 100				
				<u> </u>	
<u></u>					
¹ Type: C=Concentration	, D=Depletion, RM=F	Reduced Matrix, CS=Covered	or Coated Sand Gr	ains. ² Location: PL=Pore Lining	, M=Matrix.
		LRRs, unless otherwise not		Indicators for Problematic Hyd	Iric Soils ³ :
Histosol (A1)	. (Applicable to all a	Sandy Redox (S5)		2 cm Muck (A10)	
Histic Epipedon (A2	?)	Stripped Matrix (S6)		Red Parent Material (TF2)	
Black Histic (A3)		Loamy Mucky Mineral (F1		Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (/		 Loamy Gleyed Matrix (F2) Depleted Matrix (F3) 	1	Other (Explain in Remarks)	
Depleted Below Da Thick Dark Surface		Redox Dark Surface (F6)		³ Indicators of hydrophytic ve	getation and
Sandy Mucky Mine		Depleted Dark Surface (F	7)	wetland hydrology must be p	present,
Sandy Gleyed Matr	ix (S4)	Redox Depressions (F8)		unless disturbed or problema	auc
Restrictive Layer (if pres	ent):				N.
Type:			Hydric Soil Pres	sent? Yes No	$\underline{\mathbf{N}}$
Depth (Inches):			-		
Remarks:		·····			
		E N	4		
	NO	indica	tox		
·					
Wetland Hydrology India	ators:			Secondary Indicators (2 or more r	equired)
	:ators: um of one required; c			Secondary Indicators (2 or more r Water-Stained Leaves (B9) (N	equired) ILRA 1, 2,
Wetland Hydrology India	ators: am of one required; c	Water-Stained Leaves MLRA 1, 2, 4A, and 4	(B9) (except	Water-Stained Leaves (B9) (N 4A, and 4B)	equired) ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimu Surface Water (A1) High Water Table (A2)	um of one required; c	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11)	(B9) (except B)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10)	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3)	um of one required; c	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates	(B9) (except B)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimu Surface Water (A1) High Water Table (A2)	um of one required; c	Water-Steined Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo	(B9) (except B) (B13) r (C1)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2	um of one required; c	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3)	(B9) (except B) (B13) r (C1) s along Living	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2)	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	um of one required; c	Water-Steined Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced	(B9) (except B) (B13) r (C1) s along Living Iron (C4)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	um of one required; c 2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction	(B9) (except B) (B13) r (C1) s along Living Iron (C4)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2)	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimum) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	um of one required; c 2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P	(B9) (except B) (B13) r (C1) s along Living Iron (C4) i In Tilled	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimum 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)	um of one required; c 2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A)	(B9) (except B) (B13) r (C1) s along Living iron (C4) h in Tilled lants (D1)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimum 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 (B	um of one required; c 2))	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P	(B9) (except B) (B13) r (C1) s along Living iron (C4) h in Tilled lants (D1)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimum 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)	um of one required; c 2) (6) Aerlai Imagery (B7)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A)	(B9) (except B) (B13) r (C1) s along Living iron (C4) h in Tilled lants (D1)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimulation) 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 (B Inundation Visible on A Sparsely Vegetated Co	um of one required; c 2) (6) Aerlai Imagery (B7)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A)	(B9) (except B) (B13) r (C1) s along Living iron (C4) h in Tilled lants (D1)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimulation) 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 (B Inundation Visible on A Sparsely Vegetated Co	um of one required; c 2) (6) Aerlai Imagery (B7) oncave Surface (B8)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem	(B9) (except B) (B13) r (C1) s along Living iron (C4) h in Tilled lants (D1)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimulation) 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 (B Inundation Visible on A Sparsely Vegetated Ca Field Observations: Surface Water Present?	2) 2) (6) Aeriai Imagery (B7) oncave Surface (B8) Yes No	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem	(B9) (except B) (B13) r (C1) s along Living lron (C4) h in Tilled lants (D1) harks)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI Frost-Heave Hummocks (D7)	ILRA 1, 2,
Primary Indicators (minimu 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 (B Inundation Visible on A Sparsely Vegetated Co Field Observations:	2) 2) 36) Aerial Imagery (B7) oncave Surface (B8) Yes No Yes No	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem Depth (inches): Depth (inches):	(B9) (except B) (B13) r (C1) s along Living lron (C4) h in Tilled lants (D1) harks)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI Frost-Heave Hummocks (D7)	ILRA 1, 2, hagery (C9)
Wetland Hydrology Indic Primary Indicators (minimulation) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B) Inundation Visible on A Sparsely Vegetated Ca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	2) 2) Aerial Imagery (B7) Soncave Surface (B8) Yes No Yes No Yes No	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches): Depth (inches):	(B9) (except B) (B13) r (C1) s along Living lron (C4) h In Tilled lants (D1) harks)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI Frost-Heave Hummocks (D7)	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimulation) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B) Inundation Visible on A Sparsely Vegetated Ca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	2) 2) Aerial Imagery (B7) Soncave Surface (B8) Yes No Yes No Yes No	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem Depth (inches): Depth (inches):	(B9) (except B) (B13) r (C1) s along Living lron (C4) h In Tilled lants (D1) harks)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI Frost-Heave Hummocks (D7)	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimulation) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B) Inundation Visible on A Sparsely Vegetated Ca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	2) 2) Aerial Imagery (B7) Soncave Surface (B8) Yes No Yes No Yes No	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches): Depth (inches):	(B9) (except B) (B13) r (C1) s along Living lron (C4) h In Tilled lants (D1) harks)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI Frost-Heave Hummocks (D7)	ILRA 1, 2,
Wetland Hydrology Indic Primary Indicators (minimulation) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B) Inundation Visible on A Sparsely Vegetated Ca Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	2) 2) Aerial Imagery (B7) Soncave Surface (B8) Yes No Yes No Yes No	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches): Depth (inches):	(B9) (except B) (B13) r (C1) s along Living lron (C4) h In Tilled lants (D1) harks)	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI Frost-Heave Hummocks (D7)	ILRA 1, 2, hagery (C9)
Wetland Hydrology Indic Primary Indicators (minimulation of the second	2) 2) Aerial Imagery (B7) Soncave Surface (B8) Yes No Yes No Yes No	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches): Ing well, aerial photos, previous	(B9) (except B) (B13) r (C1) s along Living lron (C4) h in Tilled tants (D1) harks) Wetland	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI Frost-Heave Hummocks (D7)	ILRA 1, 2, hagery (C9)
Wetland Hydrology Indic Primary Indicators (minimulation of the second	2) 2) Aerial Imagery (B7) Soncave Surface (B8) Yes No Yes No Yes No	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates (Hydrogen Sulfide Odo Oxidized Rhizosphere: Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem Depth (inches): Depth (inches): Depth (inches): Depth (inches):	(B9) (except B) (B13) r (C1) s along Living lron (C4) h in Tilled tants (D1) harks) Wetland	Water-Stained Leaves (B9) (N 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Im Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRI Frost-Heave Hummocks (D7)	ILRA 1, 2, hagery (C9)

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch City/County: Siskivou Co. sampling Date: 8/23/2016 Applicant/Owner: Hart Ranch State: CA Sampling Point: 26
Project/Site: HULT KULL City/County: DISNIVOL CD. Sampling Date: 0/23/2010
Applicant/Owner: Hart Kanch State: CA Sampling Point:
investigation of the section of the
Subregion (LRR): MILANA ZEB Lat: 10, 2, 300485 Long: 41, 10100972 Datum: NAN & 3
Soll Map Unit Name:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology AD naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transacte, important factures, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No No Yes No No	Is the Sampled Area within a Wetland?	Yes X No
Remarks:	ditch		

VEGETATION - Use scientific names of plants.

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1478

Tree Direction (Distribution)	Absolute	Dominant	Indicator	Dominance Test wo	rksheet:	
Tree Stratum (Plot size:) 1.	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant That Are OBL, FACW	Species	(4)
2.				Total Number of Dom		(A)
3.				Species Across All St	irata:	(B)
4				Percent of Dominant	Species /, or FAC:	(A/B)
		= Total Cover				
Sapling/Shrub Stratum (Plot size:)				Prevalence Index wo		
1		_		Total % Cover of:	Multiply by:	
2		· · · · · · · · · · · · · · · · · · ·		OBL species	x1=	
3				FACW species	x 2 =	
4				FAC species	x3=	
5				FACU species	x 4 =	
Herb Stratum (Plot size: 1m2-)		Total Cover	1		x5=	
1				Column Totals:	5 A 4	(B)
2.				Prevalence Index = B/	/A =	
3		·····				
4				Hydrophytic Vegetati	on Indicators:	
5		er i en ser en ser En ser en ser		1 - Rapid Test for H	lydrophytic Vege	tation
6		in et stall i la		2 - Dominance Test		
7		Marriel		3 - Prevalence Inde	x is ≤3.0 ¹	
8				4 - Morphological A	daptations ¹ (Prov	vide supporting
9				data In Remarks or 5 - Wetland Non-Va		leet)
10		1741 ×		Problematic Hydrop		(Explain)
	=	Total Cover				
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soi be present, unless dist.	u and wetland ny urbed or problem	atic.
1				-		
2.		an a				1965
		Total Cover		nyaropnyac	NZ	1
N Deve Operation 11 and the		1		Vegetation Present? Yes	X No	
	, el.	Ald	ge			
Remarks:	chall of	NY IN ,	an rill	M Land		
Remarks: Problem at 6 a- Oyes D SP	cilpat	din-ri	paric	augen		
F" O4" A SP	arsyro	pen wo	ater	01		

US Army Corps of Engineers

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OIL Profile Descri	ntion: /Describe	to the dent	h needed to document	t the indicator or o	confirm the a	bsence of indicators	5.)
Depth	Matrix	to the dept	Reference to document	dox Features			
(inches)	Color (moist)	%	Color (moist)	% Type'	Loc ²	Texture	Remarks
	542613				·	loam	
	13 12413	100		<u> </u>			
5-18 à	1,54R.6/1	95	5YRHU			Sand	
·			12				
							_
	<u>-</u>				· · · · · · · · · · · · · · · · · · ·		
	· · · · · · · · · · · · · · · · · · ·			<u></u>			
¹ Type: C=Con	centration. D=Dep	oletion. RM≐l	Reduced Matrix, CS=Co	overed or Coated S	and Grains.	² Location: PL=Por	e Lining, M=Matrix
						cators for Problema	tic Hydric Soils ³
-			LRRs, unless otherwis	e noteu.j			
Histosol (/		_	Sandy Redox (S5)			2 cm Muck (A10) Red Parent Material (TE2)
	bedon (A2)	_	Stripped Matrix (S6) Loamy Mucky Miner			Very Shallow Dark St	
Black Hist	IC (A3) Sulfide (A4)	-	Loamy Mucky Miner			Other (Explain in Ren	
	Sumde (A4) Below Dark Surfac	ce (A11)	Depleted Matrix (F3)				
Thick Dar	< Surface (A12)		Redox Dark Surface			³ Indicators of hydropl	hytic vegetation ar
	cky Mineral (S1)		Depleted Dark Surfa			wetland hydrology mi	ust be present.
	yed Matrix (S4)		Redox Depressions			unless disturbed or p	roblematic
Restrictive Laye	er (if present):						Na
Туре:				Hydric S	ioil Present?	Yes	_ No
Depth (Inche	s):					_ ' `)
		\mathcal{N}			<u> </u>		
		\mathcal{N}	<u> </u>	<u> </u>			
		<u></u>					
Netland Hydrol	ogy Indicators:	e required; c	check all that apply)			ndary indicators (2 or	more required)
Netland Hydrol Primary Indicato	ogy Indicators: rs (minimum of on	ne required; c	Water-Stained L	eaves (B9) (excep	t W	ater-Stained Leaves	more required) (B9) (MLRA 1, 2,
Vetland Hydrol Primary Indicato	ogy Indicators: s (minimum of on r (A1)	ne required; c	Water-Stained L MLRA 1, 2, 4A,	and 4B)	t W 4/	ater-Stained Leaves A, and 4B)	(B9) (MLRA 1, 2,
Vetland Hydrol Primary Indicato Surface Wate High Water T	ogy Indicators: s (minimum of on r (A1) able (A2)	e required; c	Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11)	and 4B)	it W 	ater-Stained Leaves A, and 4B) rainage Patterns (B10	(B9) (MLRA 1, 2,
Vetland Hydrol Primary Indicator Surface Wate High Water T Saturation (A	ogy Indicators: rs (minimum of on rr (A1) able (A2) 3)	e required; c	Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Inverteb	and 4B) rates (B13)	t W 4/ D	ater-Stained Leaves A, and 4B) rainage Patterns (B10 ry-Season Water Tab	(B9) (MLRA 1, 2, 0) 016 (C2)
Vetland Hydrol Primary Indicato Surface Wate High Water T	ogy Indicators: rs (minimum of on rr (A1) able (A2) 3)	e required; c	Water-Stained L MLRA 1, 2, 4A, Sait Crust (B11) Aquatic Inverteb Hydrogen Sulfide	and 4B) rates (B13) e Odor (C1)	t W 44 Di Di Di Si	ater-Stained Leaves A, and 4B) rainage Patterns (B10	(B9) (MLRA 1, 2, 0) 016 (C2)
Vetland Hydrol Primary Indicato Surface Wate High Water T Saturation (A Water Marks	ogy Indicators: rs (minimum of on rr (A1) able (A2) 3) (B1)	ne required; c	Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos	and 4B) rates (B13)	t W 44 Di Di Di Si 9	ater-Stained Leaves A, and 4B) rainage Patterns (B10 ry-Season Water Tab aturation Visible on A	(B9) (MLRA 1, 2, 0) ole (C2) verial (magery (C9)
Vetland Hydrol Primary Indicato Surface Wate High Water T Saturation (A Water Marks Sediment De	ogy Indicators: rs (minimum of on able (A2) 3) (B1) posits (B2)	ne required; c	Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3)	and 4B) rates (B13) e Odor (C1) pheres along Livin	t W 44 D D S 3 9 G	ater-Stained Leaves A, and 4B) rainage Patterns (B10 ry-Season Water Tab	(B9) (MLRA 1, 2, 0) ole (C2) verial (magery (C9)
Vetland Hydrol Primary Indicato Surface Wate High Water T Saturation (A Water Marks	ogy Indicators: rs (minimum of on able (A2) 3) (B1) posits (B2)	ne required; c	Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos	and 4B) rates (B13) e Odor (C1) pheres along Livin duced Iron (C4)	t W 44 D 5 9 9 6 5	ater-Stained Leaves A, and 4B) rainage Patterns (B1(ry-Season Water Tab aturation Visible on A eomorphic Position (I hallow Aquitard (D3)	(B9) (MLRA 1, 2, 0) 016 (C2) 017 (C9) 02)
Vetland Hydrol Primary Indicato Surface Wate High Water T Saturation (A Water Marks Sediment De	ogy Indicators: rs (minimum of on able (A2) 3) (B1) posits (B2) (B3)	ne required; c	Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Roots (C3) Presence of Rec Recent Iron Red Soils (C6)	and 4B) rates (B13) e Odor (C1) pheres along Livin duced Iron (C4) luction in Tilled	t W 44 D 5 9 9 6 5	ater-Stained Leaves A, and 4B) rainage Patterns (B10 ry-Season Water Tab aturation Visible on A eomorphic Position (I	(B9) (MLRA 1, 2, 0) 016 (C2) 017 (C9) 02)
Vetland Hydrol Primary Indicato Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposits	ogy Indicators: rs (minimum of on able (A2) 3) (B1) posits (B2) (B3)	ne required; c	Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent Iron Red Soils (C6) Stunted or Stres	and 4B) rates (B13) e Odor (C1) pheres along Livin duced Iron (C4) luction in Tilled	t W 44 D D S S G G G S S S	ater-Stained Leaves A, and 4B) rainage Patterns (B1(ry-Season Water Tab aturation Visible on A eomorphic Position (I hallow Aquitard (D3) AC-Neutral Test (D5)	(B9) (MLRA 1, 2, ole (C2) verial (magery (C9) D2)
Vetland Hydrol Primary Indicato Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or (Iron Deposits	ogy Indicators: (minimum of on (A1) able (A2) (B1) (B1) (B3) Crust (B4) (B5)	ne required; c	Water-Stained L MLRA 1, 2, 4A, Sait Crust (B11) Aquatic Inverteb Hydrogen Sulfidd Oxidized Rhizos Roots (C3) Presence of Rec Recent iron Red Soils (C6) Stunted or Stres (LRR A)	and 4B) rates (B13) e Odor (C1) pheres along Living duced Iron (C4) luction in Tilled used Plants (D1)	t W 44 Di Di Di Di Si G G Si Si Si Si R	ater-Stained Leaves A, and 4B) rainage Patterns (B1(ry-Season Water Tab aturation Visible on A eomorphic Position (i hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D	(B9) (MLRA 1, 2, ble (C2) verial Imagery (C9) D2) 6) (LRR A)
Vetland Hydrol Primary Indicato C Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or (Iron Deposits Surface Soil (ogy Indicators: s (minimum of on able (A2) 3) (B1) posits (B2) (B3) Crust (B4) (B5) Cracks (B6)	,	Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent Iron Red Soils (C6) Stunted or Stres	and 4B) rates (B13) e Odor (C1) pheres along Living duced Iron (C4) luction in Tilled used Plants (D1)	t W 44 Di Di Di Di Si G G Si Si Si Si R	ater-Stained Leaves A, and 4B) rainage Patterns (B1(ry-Season Water Tab aturation Visible on A eomorphic Position (I hallow Aquitard (D3) AC-Neutral Test (D5)	(B9) (MLRA 1, 2, ble (C2) verial Imagery (C9) D2) 6) (LRR A)
Vetland Hydrol Primary Indicato C Surface Wate High Water T Saturation (A Water Marks Drift Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vi	ogy Indicators: s (minimum of on able (A2) 3) (B1) posits (B2) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial Ima	agery (B7)	Water-Stained L MLRA 1, 2, 4A, Sait Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent iron Red Soils (C6) Stunted or Stres (LRR A) Other (Explain in	and 4B) rates (B13) e Odor (C1) pheres along Living duced Iron (C4) luction in Tilled used Plants (D1)	t W 44 Di Di Di Di Si G G Si Si Si Si R	ater-Stained Leaves A, and 4B) rainage Patterns (B1(ry-Season Water Tab aturation Visible on A eomorphic Position (i hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D	(B9) (MLRA 1, 2, ble (C2) verial Imagery (C9) D2) 6) (LRR A)
Vetland Hydrol Primary Indicato C Surface Wate High Water T Saturation (A Water Marks Drift Deposits Algal Mat or C Iron Deposits Surface Soil C Inundation Vi	ogy Indicators: s (minimum of on able (A2) 3) (B1) posits (B2) (B3) Crust (B4) (B5) Cracks (B6)	agery (B7)	Water-Stained L MLRA 1, 2, 4A, Sait Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent iron Red Soils (C6) Stunted or Stres (LRR A) Other (Explain in	and 4B) rates (B13) e Odor (C1) pheres along Living duced Iron (C4) luction in Tilled used Plants (D1)	t W 44 Di Di Di Di Si G G Si Si Si Si R	ater-Stained Leaves A, and 4B) rainage Patterns (B1(ry-Season Water Tab aturation Visible on A eomorphic Position (i hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D	(B9) (MLRA 1, 2, ble (C2) verial Imagery (C9) D2) 6) (LRR A)
Vetland Hydrol Primary Indicato C Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or (Iron Deposits Surface Soil (Inundation Vi Sparsely Veg	ogy Indicators: s (minimum of on able (A2) 3) (B1) posits (B2) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial Ima etated Concave S	agery (B7)	Water-Stained L MLRA 1, 2, 4A, Sait Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent iron Red Soils (C6) Stunted or Stres (LRR A) Other (Explain in	and 4B) rates (B13) e Odor (C1) pheres along Living duced Iron (C4) fuction in Tilled used Plants (D1) n Remarks)	t W 44 Di Di Di Di Si G G Si Si Si Si R	ater-Stained Leaves A, and 4B) rainage Patterns (B1(ry-Season Water Tab aturation Visible on A eomorphic Position (i hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D	(B9) (MLRA 1, 2, ble (C2) verial Imagery (C9) D2) 6) (LRR A)
Vetland Hydrol Primary Indicato C Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or (Iron Deposits Surface Soil (Inundation Vi Sparsely Veg	ogy Indicators: (minimum of on able (A2) (B1) (B1) (B3) Crust (B4) (B5) Cracks (B6) sible on Aerial Ima etated Concave S ons:	agery (B7) Surface (B8)	Water-Stained L MLRA 1, 2, 4A, Sait Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent iron Red Soils (C6) Stunted or Stres (LRR A) Other (Explain ir	and 4B) rates (B13) e Odor (C1) pheres along Living duced Iron (C4) luction in Tilled used Plants (D1) n Remarks)	t W 44 1 Di 3 3 3 4 4 4 4 5 5 5 5 5 6 6 7 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	ater-Stained Leaves A, and 4B) rainage Patterns (B10 ry-Season Water Tab aturation Visible on A eomorphic Position (i hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D rost-Heave Hummock	(B9) (MLRA 1, 2, ble (C2) verial (magery (C9) D2) 6) (LRR A) ks (D7)
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WETLAND DETERMINAT	ION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Anguica Rabe Landform (hilislope, terrace, etc.): httsto Subregion (LRR): MLRA 22,B Soil Map Unit Name: 180 Date Are climatic / hydrologic conditions on the site typic Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydric Soil Present?	City/County: State: CA' Same Section, Township, Range: T De Local relief (concave, convo Lat: 1 20.385452 Long: VI. M Cal for this time of year? Yes X No No significantly disturbed? Are No naturally problematic?	Sampling Date: 8/23/2016 Ding Point: 2 Solution: 2 Solution: 2 Solution: 2 Solution: 2 NWI classification: N No (if no, explain in Remarks.) "Normal Circumstances" present? Yes X No (if needed, explain any answers in Remarks.) the locations, transects, important features, etc. within a Wetland? Yes No
	no shanda	VIL
VEGETATION - Use scientific names o	f plants.	
Tree Stratum (Not size:) 1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	
Sapling/Shrub Stratum (Plot size:) 1.	= Total Cover = Total Cover	Prevalence index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species 30 Column Totats: 30
2.	SU VECY	Prevalence index = B/A = SD
3.	an a	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
Voody Vine Stratum (Plot size:)	3D = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 Bare Ground in Herb Stratum 70	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		

SOIL	Santigling Polai 20
Profile Description: (Describe to the depth needed to document the inc	dicator or confirm the absence of indicators.)
Depth Matrix Redox rea (inches) Color (moist) % Color (moist) %	Type ¹ Loc ² Texture Remarks
D-10 2.5480/3 100	loam
10-18 2,54R 612 (00	loam
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered of	or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise note	d.) Indicators for Problematic Hydric Solls ³ :
Histosol (A1) Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2) Stripped Matrix (S6)	(except MLRA 1) Red Parent Material (TF2) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11) Depleted Matrix (F3)	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):	N
Туре:	Hydric Soll Present? Yes No Y
Depth (Inches):	
Remarks:	
I W WAAL CAMPCE	
noindicators	
HYDROLOGY	
HYDROLOGY Wetland Hydrology Indicators:	Secondary indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (Surface Water (A1)	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (Surface Water (A1) MLRA 1, 2, 4A, and 4B High Water Table (A2) Salt Crust (B11) Saturation (A3) Aquatic Invertebrates (E	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) (C1) Saturation Visible on Aerial Imagery (C9)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Salt Crust (B11) Saturation (A3) Aquatic Invertebrates (E Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Roots (C3)	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) B13) Drainage Patterns (B10) C(1) Dry-Season Water Table (C2) along Living Geomorphic Position (D2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Salt Crust (B11) Saturation (A3) Aquatic Invertebrates (E Water Marks (B1) Hydrogen Sulfide Odor Oxidized Rhizospheres Oxidized Rhizospheres Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Reduced In	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) (C1) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) ron (C4) Shallow Aquitard (D3)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Salt Crust (B11) Saturation (A3) Aquatic Invertebrates (E Water Marks (B1) Hydrogen Sulfide Odor Oxidized Rhizospheres Oxidized Rhizospheres Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Reduced In Algal Mat or Crust (B4) Soils (C6)	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) b) Drainage Patterns (B10) B13) Dry-Season Water Table (C2) (C1) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) ron (C4) Shallow Aquitard (D3) in Tilled FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Salt Crust (B11) Saturation (A3) Aquatic Invertebrates (E Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Reduced In Algal Mat or Crust (B4) Soils (C6)	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) S13) Dry-Season Water Table (C2) (C1) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) ron (C4) Shallow Aquitard (D3) In Tilled FAC-Neutral Test (D5)
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HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Sait Crust (B11) Saturation (A3) Aquatic Invertebrates (E Water Marks (B1) Hydrogen Sulfide Odor Oxidized Rhizospheres Oxidized Rhizospheres Sediment Deposits (B2) Presence of Reduced In Recent Iron Reduction I Soils (C3) Algal Mat or Crust (B4) Soils (C6) Iron Deposits (B5) (LRR A) Surface Soil Cracks (B6) Other (Explain In Remain Inngery (B7)	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) S13) Dry-Season Water Table (C2) (C1) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) ron (C4) Shallow Aquitard (D3) in Tilled FAC-Neutral Test (D5) ants (D1) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Salt Crust (B11) Saturation (A3) Aquatic Invertebrates (E Water Marks (B1) Hydrogen Sulfide Odor Oxidized Rhizospheres Oxidized Rhizospheres Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Soils (C6) Iron Deposits (B5) (LRR A) Surface Soil Cracks (B6) Other (Explain in Remaind)	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) S13) Dry-Season Water Table (C2) (C1) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) ron (C4) Shallow Aquitard (D3) in Tilled FAC-Neutral Test (D5) ants (D1) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (Surface Water (A1) Water-Stained Leaves (High Water Table (A2) MLRA 1, 2, 4A, and 4B Saturation (A3) Sait Crust (B11) Water Marks (B1) Hydrogen Sulfide Odor Water Marks (B1) Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Drift Deposits (B2) Presence of Reduced In Algal Mat or Crust (B4) Soils (C6) Stunted or Stressed Pla (LRR A) Iron Deposits (B5) Uhrer (Explain In Remain Imagery (B7) Sparsely Vegetated Concave Surface (B8) Other (Explain In Remain Imagery (B7)	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) S13) Dry-Season Water Table (C2) (C1) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) ron (C4) Shallow Aquitard (D3) in Tilled FAC-Neutral Test (D5) ants (D1) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained Leaves (High Water Table (A2) MLRA 1, 2, 4A, and 4B High Water Table (A2) Salt Crust (B11) Saturation (A3) Hydrogen Sulfide Odor Water Marks (B1) Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Soils (C6) Sturface Soil Cracks (B6) Ultred or Stressed Pla Iron Deposits (B5) LIRR A) Sparsely Vegetated Concave Surface (B8) Other (Explain In Rema Field Observations: Yes No Surface Water Present? Yes No	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) S13) Dry-Season Water Table (C2) (C1) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) ron (C4) Shallow Aquitard (D3) in Tilled FAC-Neutral Test (D5) ants (D1) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water Stained Leaves (Surface Water (A1) Water-Stained Leaves (High Water Table (A2) MLRA 1, 2, 4A, and 4B Saturation (A3) MLRA 1, 2, 4A, and 4B Water Table (A2) Hulkes 1, 2, 4A, and 4B Water Marks (B1) Hydrogen Sulfide Odor Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Reduced In Algal Mat or Crust (B4) Soils (C6) Sturtace Soil Cracks (B6) Stunted or Stressed Pla Iron Deposits (B5) LIRR A) Sparsely Vegetated Concave Surface (B8) Depth (inches): Field Observations: No Surface Water Present? Yes Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Stain Dry-Season Water Table (C2) (C1) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) ron (C4) Shallow Aquitard (D3) In Tilled FAC-Neutral Test (D5) ants (D1) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (MLRA 1, 2, 4A, and 4B	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) Shallow Aquitard (D3) In Tilled FAC-Neutral Test (D5) Ints (D1) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water Stained Leaves (Surface Water (A1) Water-Stained Leaves (High Water Table (A2) MLRA 1, 2, 4A, and 4B Saturation (A3) MLRA 1, 2, 4A, and 4B Water Table (A2) Hulkes 1, 2, 4A, and 4B Water Marks (B1) Hydrogen Sulfide Odor Water Marks (B1) Hydrogen Sulfide Odor Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Reduced In Algal Mat or Crust (B4) Soils (C6) Sturtace Soil Cracks (B6) Stunted or Stressed Pla Iron Deposits (B5) LIRR A) Sparsely Vegetated Concave Surface (B8) Depth (inches): Field Observations: No Surface Water Present? Yes Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches):	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) Shallow Aquitard (D3) In Tilled FAC-Neutral Test (D5) Ints (D1) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (MLRA 1, 2, 4A, and 4B	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) Shallow Aquitard (D3) In Tilled FAC-Neutral Test (D5) Ints (D1) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Salt Crust (B11) Saturation (A3) Aquatic Invertebrates (E Water Marks (B1) Hydrogen Sulfide Odor Oxidized Rhizospheres Sediment Deposits (B2) Drift Deposits (B3) Presence of Reduced In Recent Iron Reduction I Soils (C6) Surface Soli Cracks (B6) Other (Explain In Remain Iron Reduction I Sparsely Vegetated Concave Surface (B8) Field Observations: Yes No Surface Water Present? Yes No Water Table Present? Yes No Depth (inches): Depth (inches): Depth (inches): Uncludes capillary fringe) Yes No Depth (inches): Depth (inches):	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) Shallow Aquitard (D3) in Tilled FAC-Neutral Test (D5) ants (D1) Raised Art Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (Surface Water (A1) Water-Stained Leaves (High Water Table (A2) Sait Crust (B11) Saturation (A3) Aquatic Invertebrates (E Water Marks (B1) Hydrogen Sulfide Odor Oxidized Rhizospheres Roots (C3) Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Reduced Ir Algal Mat or Crust (B4) Solis (C6) Surface Soli Cracks (B6) Other (Explain in Remain Innuclation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Field Observations: No Surface Water Present? Yes Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previou	B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) along Living Geomorphic Position (D2) Shallow Aquitard (D3) in Tilled FAC-Neutral Test (D5) ants (D1) Raised Art Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7)

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

Project/Site: Hart Ranch City/County: Siski You Co. sampling Date: 8/23/2010
STORY LLVY STORY LLVY
Investigator(s): Marca Rabe Section Township Passay
Landform (hillslope, terrace, etc.): hills one Local relief (concave, conver, none):
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): COnvex Slope (%): 5 Subregion (LRR): MLRA 22B Lat: 122,3943 long: 41,663370 Datum: NAD 63
All dessilies
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (froe ownleip in Remode)
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No Are Vegetation, Soil, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes	Is the Sampled Area within a Wetland?	Yes	- Nox	
Remarks:					

VEGETATION - Use scientific names of plants.

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Tree Stratum (Plot size:)	Absolute Dominant Indicator	Dominance Test worksheet:
1	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: 2 (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC:
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x 1 =
3		FACW species x 2 =
5.		FAC species x 3 =
· · · · · · · · · · · · · · · · · · ·		FACU species x 4 =
Herb Stratum (Plot size:	= Total Cover	UPL species 100 x 5 = 300
1. Centainea solititalio	32 Y 11PL	Column Totals: 60 (A) 300(B)
2. Branus tectorum	30 4 41	Prevalence Index = B/A =
4.		Hydrophytic Vegetation Indicators:
5		P.4.
6	La la marte -	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
ſ		\sim 3 - Prevalence index is $\leq 3.0^1$
8		4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10.		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woodv Vine Stratum (Plot size:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic,
1		Regardle a
c	a set a special	Hydrophytic
% Bare Ground in Herb Stratum	= Total Cover	Vegetation Present? Yes No
Remarks:		

6011						Sa	angling: Poling	30
SOIL Profile Descri	iption: (Describe	to the depth	needed to docum	ent the in	licator or con	firm the absence of	Indicators.)	
Depth	Matrix			Kedox rea	tures		xture	Remarks
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type			(WHILE NO
0-1D	2,5YR W2	100_					<u>)0m</u>	<u> </u>
	2.542 613	00				P.	00m	
8]-01	<u>4.244 - 7</u>						<u></u>	
								
		<u> </u>						
<u> </u>	<u> </u>	;				-1 Q	n. Pl -Poro l	ining, M=Matrix.
¹ Type: C=Co	ncentration, D=Dep	pletion, RM=R	educed Matrix, CS	=Covered	or Coated San			
Hydric Soil I	indicators: (Appli	cable to all L	RRs, unless othe	rwise note	ed.)	Indicators for	r Problematic	: Hydric Soils ³ :
Histosof			Sandy Redox (S			2 cm Muc		
	ipedon (A2)		Stripped Matrix (S6)			nt Material (TF	
Black His		10.00	Loamy Mucky M	ineral (F1)	(except MLRA	1) Very Shal	low Dark Surf	ace (TF12)
Hydrogei	n Sulfide (A4)		Loamy Gleyed N	latrix (F2)		Other (Exp	plain in Rema	rks)
Depleted	Below Dark Surfa	ce (A11)	Depleted Matrix			3	فيعادده والعربية	in vegetation and
Thick Da	rk Surface (A12)		Redox Dark Sur			"Indicators	s of hydrophyt ydrology musi	ic vegetation and the present.
Sandy M	ucky Mineral (S1)		Depleted Dark S	unace (F7)	wettand h	turbed or prot	blematic
Sandy G	leyed Matrix (S4)		Redox Depressi	JIIS (F0)		united (18		
Restrictive Lav	yer (if present):				ļ			\sim
Туре:					Hydric Soil	Present? Yes		No <u>X</u>
Depth (inch	es);				-			
Remarks:								<u></u>
HYDROLOG Wetland Hydro Primary Indicat			CCXTD C			Secondary Indi	cators (2 or m	ore required) 9) (MLRA 1, 2,
			Water-Stain	ed Leaves	(B9) (except	4A, and 4B		3) (HERACI, 5)
Surface Wa			MLRA 1, 2, 4 Salt Crust (E		*)	Drainage P	atterns (B10)	
High Water			Aquatic Inve	rtebrates /	B13)	Dry-Seasor	Water Table	(C2)
Saturation (Water Mark			Hydrogen Si	ulfide Odor	(C1)	Saturation	Visible on Aer	ial Imagery (C9)
	a (D1)				along Living			
Sediment D	eposits (B2)		Roots (C3)				c Position (D2	:)
Drift Deposi			Presence of			Shallow Aq	uitard (D3)	
			Recent Iron	Reduction	in Tilled	FIAN	al Tant (DE)	
Algal Mat or	r Crust (B4)		Soils (C6)			FAC-Neutra	al Test (D5)	
			Stunted or S	stressed Pl	ants (U1)	Palead Ant	Mounds (D6)	(LRR A)
Iron Deposi			(LRR A)	in in Dom	arke)	Roiseu And Froet-Heav	e Hummocks	(D7)
Surface Sol	il Cracks (B6)		Other (Expla	an in rema	aino)		- i latini valio	<u>x </u>
inundation '	Visible on Aerial Im	iagery (0/) Surface (PP)						
Sparsely Ve	egetated Concave	Sunace (DO)						
	tions							
Field Observa		No 🌱	Depth (inches)):	1			
Field Observa	A CONTRACT IN CONTRACT OF CONTRACT		Depth (inches)		Wet	land Hydrology Pre	sent? Ye	s No 🔏
Surface Water			<u> </u>					/ / /
Surface Water Water Table P	resent? Yes				1			
Surface Water Water Table P Saturation Pre- (includes capil	resent? Yes sent? lary fringe) Yes	No	Depth (inches):				
Surface Water Water Table P Saturation Pre- (includes capill	resent? Yes sent? lary fringe) Yes	No	Depth (inches): otos, previo	ous inspections	i), if available:		
Surface Water Water Table P Saturation Pre- (includes capill	resent? Yes sent?	No	Depth (Inches ing well, aerial pho): otos, previo		;), if available:		
Surface Water Water Table P Saturation Pre- (includes capil	resent? Yes sent? lary fringe) Yes	No	Bepth (Inches ing well, aerial pho): otos, previo	ous inspections	s), if available:		
Surface Water Water Table P Saturation Pre (includes capill Describe Record	resent? Yes sent? lary fringe) Yes	No	Depth (inches ing well, aerial pho): otos, previo	ous inspections	;), if available:		
Surface Water Water Table P Saturation Pre- (includes capil	resent? Yes sent? lary fringe) Yes	No	ing well, aerial pho	otos, previo				
Surface Water Water Table P Saturation Pre (includes capill Describe Record	resent? Yes sent? lary fringe) Yes	No	ing well, aerial pho	otos, previo				
Surface Water Water Table P Saturation Pre (includes capill Describe Record	resent? Yes sent? lary fringe) Yes	No	ing well, aerial pho	otos, previo	a'i ca			

WETLAND DETERMINA	TION DATA FORM Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Marta Ranch Landform (hillslope, terrace, etc.): hillslop Subregion (LRR): MLRA 22B Soil Map Unit Name: ISD (DUIPL) Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Soil	City/County: SiSKi You State: CA Sam Section, Township, Range: T CA Sam Local relief (concave, conv Lat: 120, 394187 Long: 41.4 OOM Dical for this time of year? Yes X No gy No significantly disturbed? Are by No naturally problematic?	D. Sampling Date: <u>8/23/2016</u> pling Point: <u>35</u> <u>45N R5W Sect 1,2+3</u> ex, none): <u>Converse</u> <u>53918</u> Datum: <u>NAD 83</u>
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	Ma	vithin a Wetland? Yes X No
Remarks:	No	
di	tch	
VEGETATION - Use scientific names		
Tree Stratum (Plot size:) 1. 2.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:) 1.	= Total Cover	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species x 5 = Column Totals: (A)
3.		Prevalence index = B/A =
4		Hydrophytic Vegetation Indicators:
6		1 - Rapid Test for Hydrophytic Vegetation
7		2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹
8		4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:) 1		³ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic,
2	and the second	thateshate with the
% Bare Ground in Herb Stratum	= Total Cover	No motoril
	. A. mantic	Present? Yes No
Remarks:	butter	appedge nominar
Remarks: No veg - pto	blematic Dyes channes Da-channes Da-spors	elpertent tren hopen
JS Army Corps of Engineers		Wastern Mountains Vollage and Ora in Maria

Western Mountains Valleus and Coast - Version 2.0

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			Sampling Relation 36
SOIL Profile Description: (Describe to the	depth needed to document the	e indicator or confi	
	Redox	Features	
Depth Matrix (inches) Color (moist) %			Loc ² Texture Remarks
			lann
0-5 2.5426/3 10			
5-18 2.54R.61, 95	5 YR 416 5		ganal
· · ·			
			· · · · · · · · · · · · · · · · · · ·
¹ Type: C=Concentration, D=Depletion	, RM=Reduced Matrix, CS=Cove	red or Coated Sand	Grains. ² Location: PL=Pore Lining, M=Matrix.
			Indicators for Problematic Hydric Soils ³ :
Hydric Soll Indicators: (Applicable	to all LRRs, unless otherwise	notea.)	
Histosol (A1)	_X Sandy Redox (S5)		2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)		Red Parent Material (TF2) Very Shallow Dark Surface (TF12)
Black Histic (A3)	Loamy Mucky Mineral	(F1) (except MLRA '	Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A1	1) Depleted Matrix (F3)	(0)	³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	Redox Dark Surface (F		wetland hydrology must be present,
Sandy Mucky Mineral (S1)	Depleted Dark Surface		unless disturbed or problematic
Sandy Gleyed Matrix (S4)	Redox Depressions (Fi	5)	Unicas distantida di protectivato
Restrictive Layer (if present):			Present? Yes 🖌 No
Туре:		Hydric Soil F	
Depth (inches):			/ -
emarks:	1 diale		
	(ANIERITES)		
Inth: Oftall	(William)	tr. 10%	1 the saide law
Solo M Do Do.	PRCanattad	Uppell	1. Then sandy rug
Goild in Oct 2016	<u> </u>		
IYDROLOGY	ind	HAL bot	l. then sandy lay
Wetland Hydrology Indicators:			
Primary Indicators (minimum of one requ	uired: check all that apply)		Secondary Indicators (2 or more required)
A	Water-Stained Lea	ves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, an	id 4B)	4A, and 4B)
High Water Table (A2)	Salt Crust (B11)		Drainage Patterns (B10)
Saturation (A3)	Aquatic Invertebrat	tes (B13)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide (Odor (C1)	Saturation Visible on Aerial Imagery (C9)
	Oxidized Rhizosph	eres along Living	Oceanomic Resition (D2)
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (D2)
Drift Deposits (B3)	Presence of Redu	ced from (C4)	Shallow Aquitard (D3)
	Recent Iron Reduc	tion in Tilleo	FAC-Neutral Test (D5)
Algal Mat or Crust (B4)	Soils (C6)		FAC-Neutral (EST (DO)
	Stunted or Stresse	ia Plants (D1)	Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5)	(LRR A)	Jemeric)	Frost-Heave Hummocks (D7)
Surface Soil Cracks (B6)	Other (Explain in F	(emarks)	Flost-fleave flottiniooxie (D1)
	· (B7)		
Inundation Visible on Aerial Imagery	a (88)		
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface	æ (66)		
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface			
Inundation Visible on Aerial Imagery	^	N/05 20	10
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	No Depth (inches):	move	
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations:	^	Wetla	and Hydrology Present? Yes No
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present?	No Depth (inches): No Depth (inches):	20 m Wetla	and Hydrology Present? Yes No
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Saturation Present? (includes capillary fringe) Yes	No Depth (inches): No Depth (inches): No Depth (inches):		
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) Yes	No Depth (inches): No Depth (inches): No Depth (inches):		
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Saturation Present? (includes capillary fringe) Yes	No Depth (inches): No Depth (inches): No Depth (inches):		
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) Yes	No Depth (inches): No Depth (inches): No Depth (inches):		
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present?	No Depth (inches): No Depth (inches): No Depth (inches):		
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe) Yes Describe Recorded Data (stream gauge,	No Depth (inches): No Depth (inches): No Depth (inches):		
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe) Yes Describe Recorded Data (stream gauge,	No Depth (inches): No Depth (inches): No Depth (inches):		
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes (includes capillary fringe) Yes Describe Recorded Data (stream gauge,	No Depth (inches): No Depth (inches): No Depth (inches):		

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No	npling Date: <u>8/23/2016</u> <u>3C</u> <u>ASW</u> <u>Sect 1,2+3</u> <u>CONVEX</u> <u>Slope (%): <u>S</u> Datum: <u>NAD 63</u> sification: <u>JA</u> no, explain in Remarks.) incumstances" present? Yes <u>X</u><u>No</u> ed, explain any answers in Remarks.) ons, transects, important features, etc. tland? <u>Yes</u><u>No</u><u>X</u> nance Test worksheet: her of Dominant Species Are OBL, FACW, or FAC: <u>(A)</u> Number of Dominant</u>
VEGETATION – Use scientific names of plants. Tree Stratum (Plot size:) Absolute Dominant Indicator Dominant 1.	er of Dominant Species Are OBL, FACW, or FAC: (A)
Tree Stratum (Plot size:) Absolute Dominant Species? Indicator Status Dominant Indicator 1.	er of Dominant Species Are OBL, FACW, or FAC: (A)
= Total Cover FACU	ass Across All Strate: 3 (B) nt of Dominant Species 3202 (A/B) are OBL, FACW, or FAC: 3202 (A/B) alence Index worksheet: 6 6 Cover of: Multiply by: becies x 1 = species x 2 =
1. Centainea solstitialin 20 4 UPL Column 2. Bromus tectorium 40 4 UPL Prevale 3. Leymus cineurus 20 4 FAC	species $x = 4 =$ ecies $(0 = 0) \times 5 = 3 - 20$ Totals: BD (A) $3 = 20$ (B) nce index = B/A = $4 = 4$
5. 1 - F 6. 2 - C 7. 3 - F 8. 4 - N 9. 4 - N 10. 5 - W 11. Prob QD = Total Cover ¹ Indicato	hytic Vegetation Indicators: Lapid Test for Hydrophytic Vegetation Pominance Test is >50% revalence Index is ≤3.0 ¹ lorphological Adaptations ¹ (Provide supporting In Remarks or on a separate sheet) Vetiand Non-Vascular Plants ¹ lematic Hydrophytic Vegetation ¹ (Explain) rs of hydric soil and wetland hydrology must nt, unless disturbed or problematic.
2 = Total Cover Hydroph % Bare Ground in Herb Stratum 20 Present Remarks:	

ľ

SOIL			Stangling: Polar	
Profile Description: (Describe to the depth n	eeded to document the indic	ator or confirm (he absence of indicators.)	
Depth <u>Matrix</u> (inches) Color (moist) %	Color (moist) %	esLo	Texture	Remarks
0-10 a SYR 42 100			loam	
			loam	
10-18 2,54243 100 _	<u></u>			
	<u> </u>			
			<u> </u>	
				<u> </u>
	<u> </u>	. <u> </u>		
	>			
¹ Type: C=Concentration, D=Depletion, RM=Re	duced Matrix, CS=Covered or (Coated Sand Gra		
Hydric Soil Indicators: (Applicable to all LR	Rs, unless otherwise noted.))	Indicators for Problemati	c Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (A10)	
Histic Epipedon (A2)	Stripped Matrix (S6) Loamy Mucky Mineral (F1) (ex	(cent MI RA 1)	Red Parent Material (T Very Shallow Dark Sur	face (TF12)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)		Other (Explain in Rema	arks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		³ Indicators of hydrophy	tic vecetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6) Depleted Dark Surface (F7)		wetland hydrology mus	st be present,
Sandy Mocky Millera (S7)	Redox Depressions (F8)		unless disturbed or pro	blematic
				$\mathbf{\tilde{x}}$
Restrictive Layer (if present):		Hydric Soil Pres	ent? Yes	No <u>~</u>
Type: Depth (inches):				
Remarks:				
4101 3	idicators			
4 ioli	Ialcanors			
HYDROLOGY	IAICANDYS			
HYDROLOGY Wetland Hydrology Indicators:	eck all that apply)		Secondary Indicators (2 or n	nore required)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che	eck all that apply) Water-Stained Leaves (BS		Water-Stained Leaves (I	nore required) B9) (MLRA 1, 2,
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che Surface Water (A1)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B)		Water-Stained Leaves (F 4A, and 4B) Drainage Patterns (B10)	B9) (MLRA 1, 2,)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che Surface Water (A1) High Water Table (A2) Saturation (A3)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B1	3) (except	Water-Stained Leaves (I 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table	B9) (MLRA 1, 2,) ə (C2)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che Surface Water (A1) High Water Table (A2)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C	9) (except - 	Water-Stained Leaves (F 4A, and 4B) Drainage Patterns (B10)	B9) (MLRA 1, 2,) ə (C2)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B1	9) (except - 	Water-Stained Leaves (F 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D	B9) (MLRA 1, 2,) e (C2) mai Imagery (C9)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che Surface Water (A1) High Water Table (A2) Saturation (A3)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced from	a) (except a) b) c) c)	Water-Stained Leaves (F 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae	B9) (MLRA 1, 2,) e (C2) mai Imagery (C9)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; che Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3)	a) (except a) b) c) c)	Water-Stained Leaves (F 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D	B9) (MLRA 1, 2,) e (C2) mai Imagery (C9)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B12 Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced from Recent Iron Reduction in Soils (C6) Stunted or Stressed Plant	a) (except a) a) b) a) b) b) c) c)	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3) FAC-Neutral Test (D5)	B9) (MLRA 1, 2,) e (C2) rial Imagery (C9) 2)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che 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)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced from Recent Iron Reduction in Solls (C6) Stunted or Stressed Plant (LRR A)	3) (except 3)	Water-Stained Leaves (F 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3)	B9) (MLRA 1, 2,) e (C2) rial Imagery (C9) 2) 2)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; chemary Indicators (minimum of one required; chemary Indicators (minimum of one required; chemary Indicators (Mathemary Indicators) 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)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B12 Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced from Recent Iron Reduction in Soils (C6) Stunted or Stressed Plant	3) (except 3)	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	B9) (MLRA 1, 2,) e (C2) rial Imagery (C9) 2) 2)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che 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)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced from Recent Iron Reduction in Solls (C6) Stunted or Stressed Plant (LRR A)	3) (except 3)	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	B9) (MLRA 1, 2,) e (C2) rial Imagery (C9) 2) 2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; chell 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)	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced from Recent fron Reduction in Solls (C6) Stunted or Stressed Plant (LRR A)	3) (except 3)	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	B9) (MLRA 1, 2,) e (C2) rial Imagery (C9) 2) 2)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; chell 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) Field Observations: Surface Water Present? Yes No	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B12 Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced from Recent Iron Reduction in Soils (C6) Stunted or Stressed Plant (LRR A) Other (Explain in Remarks) Depth (Inches):	a) (except	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6 Frost-Heave Hummocks	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2) i) (LRR A) s (D7)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che 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) Field Observations: Surface Water Present? Yes No	eck all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B12 Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced from Recent Iron Reduction in Soils (C6) Stunted or Stressed Plant (LRR A) Other (Explain in Remarks)	a) (except	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2) i) (LRR A) s (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; che	ack all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced Iror Recent Iron Reduction In Solis (C6) Stunted or Stressed Plant (LRR A) Other (Explain in Remarks) Depth (Inches): Depth (Inches):	a) (except a) c) c)	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6 Frost-Heave Hummocks Hydrology Present? Ye	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2) i) (LRR A) s (D7)
HYDROLOGY Wettand Hydrology Indicators: Primary Indicators (minimum of one required; che 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) Field Observations: Surface Water Present? Yes No Water Table Present? Yes No	ack all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced Iror Recent Iron Reduction In Solis (C6) Stunted or Stressed Plant (LRR A) Other (Explain in Remarks) Depth (Inches): Depth (Inches):	a) (except a) c) c)	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6 Frost-Heave Hummocks Hydrology Present? Ye	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2) i) (LRR A) s (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; che 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) Field Observations: Surface Water Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Saturation Present?	ack all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced Iror Recent Iron Reduction In Solis (C6) Stunted or Stressed Plant (LRR A) Other (Explain in Remarks) Depth (Inches): Depth (Inches):	a) (except a) c) c)	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6 Frost-Heave Hummocks Hydrology Present? Ye	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2) i) (LRR A) s (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; chell 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) Field Observations: Surface Water Present? Yes No Saturation Present? Yes No Yes No Yes Saturation Present? Yes No Yes Saturation Present? Yes No Yes Describe Recorded Data (stream gauge, monitorition)	ack all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced Iror Recent Iron Reduction In Solis (C6) Stunted or Stressed Plant (LRR A) Other (Explain in Remarks) Depth (Inches): Depth (Inches):	a) (except a) b) (except a) a) b) a) b) b) b) b) b) b) b) b) b) b) b) b) b) b)	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6 Frost-Heave Hummocks Hydrology Present? Ye vailable:	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2) i) (LRR A) s (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; che	ack all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced Iror Recent Iron Reduction In Solis (C6) Stunted or Stressed Plant (LRR A) Other (Explain in Remarks) Depth (Inches): Depth (Inches):	a) (except a) b) (except a) a) b) a) b) b) b) b) b) b) b) b) b) b) b) b) b) b)	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6 Frost-Heave Hummocks Hydrology Present? Ye vailable:	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2) i) (LRR A) s (D7)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; che	ack all that apply) Water-Stained Leaves (BS MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C Oxidized Rhizospheres all Roots (C3) Presence of Reduced Iror Recent Iron Reduction In Solis (C6) Stunted or Stressed Plant (LRR A) Other (Explain in Remarks) Depth (Inches): Depth (Inches):	a) (except a) c) c)	Water-Stained Leaves (f 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D. Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6 Frost-Heave Hummocks Hydrology Present? Ye vailable:	B9) (MLRA 1, 2, e (C2) rial Imagery (C9) 2) i) (LRR A) s (D7)

WETLAND DETERMIN	ATION DATA FORM – Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillslope, terrace, etc.): hills Subregion (LRR): MLRA 22B Soil Map Unit Name: 186 Manu Are climatic / hydrologic conditions on the site Are Vegetation, Soil, or Hydrol Are Vegetation, Soil, or Hydrol	City/County: Siski Vou State: CA Sam Section, Township, Range: Local relief (concave, conv Lat:- <u>/22, 395'236</u> Long: <u>41,0</u> Mical for this time of year? Yes X No ogy No significantly disturbed? Are ogy No naturally problematic?	Sampling Date: 8/23/2010 pling Point: 10
VEGETATION - Use scientific names		
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicato <u>% Cover Species?</u> <u>Status</u> 	r Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:) 1. 2. 3.		Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 =
Herb Stratum (Plot size: <u>m</u> ²) 1. <u>Bromus tectorum</u> 2 3	Total Cover	UPL species 7_{D} x 5 = 100 Column Totals: 9_{D} (A) 100 (B) Prevalence Index = B/A = 5
4		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
Noody Vine Stratum (Plot size:)	20 = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic,
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		

		(S))		
SOIL Profile Description: (Describe to the depth needed to document the ind	icator or confirm	the absence of	Indicators.)	
	ures			
Depth Matrix Color (moist) % Color (moist) %	Type' Lo	ic ² <u>Te</u> x	dure Remai	rks
			100	
0-10 7.54R3/3 100				
10-18 7,54234 100			am	
			,	
V1				
	r Coated Sand Gr	ains. ² Locatio	n: PL=Pore Lining, M=N	latrix.
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered of		······································	·	-
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted	d.)	Indicators for	Problematic Hydric Se	
Histosol (A1) Sandy Redox (S5)		2 cm Muck		
Histic Epipedon (A2) Stripped Matrix (S6)		Red Parer	t Material (TF2)	
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1)	Very Shall	ow Dark Surface (TF12)	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)				
		Other (Exp	olain in Remarks)	
Depleted Below Dark Surface (A11) Depleted Matrix (F3)				
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6)		³ Indicators	of hydrophytic vegetatio	on and
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)		³ Indicators wetland hy	of hydrophytic vegetation	on and
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6)		³ Indicators wetland hy	of hydrophytic vegetatio	on and
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8)		³ Indicators wetland hy	of hydrophytic vegetation	on and
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)		³ Indicators wetland hy unless dis	of hydrophytic vegetation	on and
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8)	Hydric Soil Pre	³ Indicators wetland hy unless dis	of hydrophytic vegetation	on and
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Redox Depressions (F8)		³ Indicators wetland hy unless dis	of hydrophytic vegetation	on and
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)		³ Indicators wetland hy unless dis	of hydrophytic vegetation	on and
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Remarks: Depth (inches):	Hydric Soil Pre	³ Indicators wetland hy unless dis sent? Yes	of hydrophytic vegetation	on and
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches):	Hydric Soil Pre	³ Indicators wetland hy unless dis sent? Yes	of hydrophytic vegetation	on and

HYDROLOGY

Wetland Hydrology Indica Primary Indicators (minimum 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 Ae Sparsely Vegetated Cor	n of one required;) rial Imagery (B7)	Water-Stained Leavi MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Oc Oxidized Rhizosphe Roots (C3) Presence of Reduce Recent Iron Reducti Solls (C6) Stunted or Stressed (LRR A) Other (Explain in Re	4B) s (B13) dor (C1) res along Living ad Iron (C4) on in Tilled Plants (D1)	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) Geomorphic Position (D2) Shatlow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes No Yes No Yes No	Depth (inches):		and Hydrology Present? Yes No
Describe Recorded Data (str Remarks:	eam gauge, monit		d cat	

WETLAND DETERMINA	TION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Hart Ranch Landform (hillslope, terrace, etc.): hillslope Subregion (LRR): MLRA 22B Soil Map Unit Name: 186 Are climatic / hydrologic conditions on the site typ Are Vegetation , Soil , or Hydrologic Are Vegetation , Soil , or Hydrologic SUMMARY OF FINDINGS - Attach site Hydroc Soil Present? Yes Yes Yes	City/County: SiSKi You State: CA Sam Section, Township, Range: T Local relief (concave, conv Lat: 722,365185 Long: 41.4 Miles I for this time of year? Yes X No gy No significantly disturbed? Are gy No naturally problematic?	Dime Sampling Date: Sizz/2016 Dime Hs Sizz/2016 Dime Hs Sizz/2016 Signation Hs Sizz/2016 Sizz/2016 Datum: NAD §3 NWI classification: NAD §3 NWI classification: NAD §3 NWI classification: NAD §3 "Normal Circumstances" present? Yes X "Normal Circumstances" present? No (If needed, explain any answers in Remarks.) No the locations, transects, important features, etc. No
excallated	ARTIN	
VEGETATION - Use scientific names of	of plants.	
Tree Stratum (Rlot size:) 1. 2.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across Ail Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:) 1.	= Total Cover	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species X 1 = FACW species X 2 = FAC species X 3 = FACU species X 4 = UPL species X 5 = Column Totals: (A) Prevalence Index = B/A =
4		Hydrophytic Vegetation Indicators:
5 6 7		 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
9	, a 1973a	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:) 1	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2	an its and a state wat	Abstronbutta
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes X No
Remarks: OPHived	er problematic	Hydrophytic Vegetation Present? Yes <u>K</u> No <u>Cabrup</u> ida Mpt lage <u>Cabrup</u> ida MD <u>Cabrup</u> ida DUB <u>Charrine</u> / patchytina DUB <u>Charrise</u> / patchytina

						teles aller a	
IL Profile Description: (De	scribe to the dent	h needed to docum	nent the ind	icator or co	nfirm the a	bsence of indicato	ors.)
Depth	Matrix		Redux reau				Remarks
(inches) Color (mo		Color (moist)	%	Туре	_Loc ²	Texture	Kemarks
0-5 10 YR						Loam	
		TELLI	6			pandy	INDIM
5-19 104R3	31 95	7,542416	<u> </u>			Mering	
		<u> </u>	<u> </u>				
			-				
Type: C=Concentration,	D-Depiction PM-	-Reduced Matrix C	S=Covered o	r Coated Sa	nd Grains.	² Location: PL=P	ore Lining, M=Matrix.
						Destale	metic Mudric Soils ³
Hydric Soil Indicators:	(Applicable to all	LRRs, unless othe	erwise noted	4.)	Ind		matic Hydric Soils ³ :
Histosol (A1)	· · · · ·	Sandy Redox (S				2 cm Muck (A10)	
Histic Epipedon (A2)	<u>۰</u>	Stripped Matrix	(S6)		120-10	Red Parent Materi	al (TF2) Ourfood (TE12)
Black Histic (A3)	· -	Loamy Mucky N	/lineral (F1) (except MLR	(A 1)	Very Shallow Dark	Sunace (IF12)
Hydrogen Sulfide (A	(4)	Loamy Gleyed	Matrix (F2)			Other (Explain in F	(emarks)
Depleted Below Dar	rk Surface (A11) _	Depleted Matrix	(F3)			3	ophytic vegetation and
Thick Dark Surface	(A12)	Redox Dark Su	nace (F6)			wetland hydrology	must be present.
Sandy Mucky Miner	ai (S1)	Depleted Dark	Surface (F7)			unless disturbed o	r problematic
Sandy Gleyed Matri	ix (S4)	Redox Depress					
						λ	
strictive Layer (if pres	ent):			Undele Re	il Present') No
Туре:		<u> </u>		Hydric Sc	II Fresciili		
Depth (inches):				I			
marks:							
			<u></u>		<u> </u>		
DROLOGY							
DROLOGY	ators:	check all that anniv			Sec	ondary indicators (2	or more required)
DROLOGY	ators: um of one required;	check all that apply Water-Stall	r) ned Leaves (B9) (except		ondary Indicators (2 Water-Stained Leav	e or more required) res (B9) (MLRA 1, 2,
DROLOGY etland Hydrology Indic imary Indicators (minimu	ators: um of one required;	Water-Stall	ned Leaves (B9) (except		Water-Stained Leav 4A, and 4B)	res (B9) (MLRA 1, 2,
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1)	um of one required;	Water-Stall MLRA 1, 2 Salt Crust (ned Leaves (, 4A, and 4B (B11))		Water-Stained Leav 4 A, and 4B) Drainage Patterns (res (B9) (MLRA 1, 2, B10)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2)	um of one required;	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv	, 4A, and 4B (B11) vertebrates (E	i) 313)		Water-Stained Leav 4 A, and 4B) Drainage Patterns (Dry-Season Water	res (B9) (MLRA 1, 2, B10) Table (C2)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3)	um of one required;	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen \$, 4A, and 4B (B11) ertebrates (E Sulfide Odor	313) (C1)		Water-Stained Leav 4 A, and 4B) Drainage Patterns (Dry-Season Water	res (B9) (MLRA 1, 2, B10)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2)	um of one required;	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R	An Leaves (, 4A, and 4B (B11) (B1	313) (C1)		Water-Stained Leav 4 A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3)	um of one required;	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3)	hed Leaves (, 4A, and 4B (B11) ertebrates (E Sulfide Odor hizospheres	i) 313) (C1) along Living		Water-Stained Leav 4 A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	um of one required;	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3) Presence c	hed Leaves (4A, and 4B (B11) ertebrates (E Sulfide Odor hizospheres of Reduced In	i) 313) (C1) along Living ron (C4)		Water-Stained Leav 4 A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2	um of one required;	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3) Presence C Recent Iron	hed Leaves (, 4A, and 4B (B11) ertebrates (E Sulfide Odor hizospheres	i) 313) (C1) along Living ron (C4)		Water-Stained Leav 4 A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) D3)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2	um of one required; 2)	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3) Presence C Recent Iron Soils (C6)	hed Leaves (, 4A, and 4B (B11) vertebrates (E Sulfide Odor hizospheres of Reduced In n Reduction	i) (C1) along Living ron (C4) in Tilled		Water-Stained Leav 4 A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) D3)
DROLOGY etland Hydrology Indic imary Indicators (minimu) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2 Drift Deposits (B3) Algal Mat or Crust (B4	um of one required; 2)	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3) Presence C Recent Iron Soils (C6) Stunted or	hed Leaves (4A, and 4B (B11) ertebrates (E Sulfide Odor hizospheres of Reduced In	i) (C1) along Living ron (C4) in Tilled		Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D FAC-Neutral Test (Raised Ant Mounda	res (B9) (MLRA 1, 2, B10) Table (C2) In Aerial Imagery (C9) In (D2) D3) D5) Is (D6) (LRR A)
DROLOGY etland Hydrology Indic imary Indicators (minimu 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)	um of one required; 2)	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3) Presence G Recent Iron Soils (C6) Stunted or (LRR A)	AA, and 4B (B11) ertebrates (E Sulfide Odor hizospheres of Reduced In n Reduction Stressed Pla	i) (C1) along Living ron (C4) in Tilled ants (D1)		Water-Stained Leav 4 A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D	res (B9) (MLRA 1, 2, B10) Table (C2) In Aerial Imagery (C9) In (D2) D3) D5) Is (D6) (LRR A)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B5)	um of one required; 2) 36)	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3) Presence C Recent Iroi Soils (C6) Stunted or (LRR A) Other (Exp	hed Leaves (, 4A, and 4B (B11) vertebrates (E Sulfide Odor hizospheres of Reduced In n Reduction	i) (C1) along Living ron (C4) in Tilled ants (D1)		Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D FAC-Neutral Test (Raised Ant Mounda	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) J3) D5) s (D6) (LRR A)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (E Inundation Visible on	um of one required; 2) 36) Aerial Imagery (B7)	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3) Presence C Recent Iror Solls (C6) Stunted or (LRR A) Other (Exp	AA, and 4B (B11) ertebrates (E Sulfide Odor hizospheres of Reduced In n Reduction Stressed Pla	i) (C1) along Living ron (C4) in Tilled ants (D1)		Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D FAC-Neutral Test (Raised Ant Mounda	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) J3) D5) s (D6) (LRR A)
DROLOGY etland Hydrology Indic imary Indicators (minimu) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B5)	um of one required; 2) 36) Aerial Imagery (B7)	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3) Presence C Recent Iror Solls (C6) Stunted or (LRR A) Other (Exp	AA, and 4B (B11) ertebrates (E Sulfide Odor hizospheres of Reduced In n Reduction Stressed Pla	i) (C1) along Living ron (C4) in Tilled ants (D1)		Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D FAC-Neutral Test (Raised Ant Mounda	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) J3) D5) s (D6) (LRR A)
DROLOGY Tetland Hydrology Indic timary Indicators (minimu) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (E Inundation Visible on A Sparsely Vegetated Ca	um of one required; 2) 36) Aerial Imagery (B7)	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3) Presence C Recent Iror Solls (C6) Stunted or (LRR A) Other (Exp	AA, and 4B (B11) ertebrates (E Sulfide Odor hizospheres of Reduced In n Reduction Stressed Pla	i) (C1) along Living ron (C4) in Tilled ants (D1)		Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D FAC-Neutral Test (Raised Ant Mounda	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) J3) D5) s (D6) (LRR A)
DROLOGY fetland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (E Inundation Visible on A Sparsely Vegetated Ca ield Observations:	um of one required; 2) 36) Aerial Imagery (B7) ioncave Surface (B6	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Coxidized R Roots (C3) Presence c Recent Iror Soils (C6) Stunted or (LRR A) Other (Exp B)	AA, and 4B (B11) ertebrates (E Sulfide Odor hizospheres of Reduced In Reduction Stressed Pla blain in Rema	i) (C1) along Living ron (C4) in Tilled ants (D1) arks)		Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D FAC-Neutral Test (Raised Ant Mounda Frost-Heave Humm	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) 03) D5) s (D6) (LRR A) hocks (D7)
DROLOGY etland Hydrology Indic imary Indicators (minimu) 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 (E Inundation Visible on A Sparsely Vegetated Ca ield Observations: Surface Water Present?	um of one required; 2) 36) Aerial Imagery (B7) concave Surface (B4 Yes	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Roots (C3) Presence C Recent Iror Solls (C6) Stunted or (LRR A) Other (Exp B) Depth (inche	AA, and 4B (B11) ertebrates (E Sulfide Odor hizospheres of Reduced In Reduction Stressed Pla blain in Rema	i) (C1) along Living ron (C4) in Tilled ants (D1) arks)		Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D FAC-Neutral Test (Raised Ant Mounda	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) J3) D5) s (D6) (LRR A)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B Inundation Visible on A Sparsely Vegetated C Ield Observations: urface Water Present?	um of one required; 2) 36) Aerial Imagery (B7) ioncave Surface (B6	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Coxidized R Roots (C3) Presence c Recent Iror Soils (C6) Stunted or (LRR A) Other (Exp B)	AA, and 4B (B11) ertebrates (E Sulfide Odor hizospheres of Reduced In Reduction Stressed Pla blain in Rema	i) (C1) along Living ron (C4) in Tilled ants (D1) arks)		Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (D FAC-Neutral Test (Raised Ant Mounda Frost-Heave Humm	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) 03) D5) s (D6) (LRR A) hocks (D7)
DROLOGY etland Hydrology Indic imary Indicators (minimu) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (E Inundation Visible on A Sparsely Vegetated Co ield Observations: surface Water Present? Vater Table Present? iaturation Present?	2) 36) Aerial Imagery (B7) boncave Surface (B4) Yes No Yes No Yes No	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Oxidized R Oxidized R Constructed or Soils (C6) Stunted or (LRR A) Other (Exp B) Depth (inche Depth (inche Depth (inche	s):	i) (C1) along Living ron (C4) in Tilled ants (D1) arks)	etland Hyd	Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (E FAC-Neutral Test (Raised Ant Mounda Frost-Heave Humm	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) 03) D5) s (D6) (LRR A) hocks (D7)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5) Surface Soil Cracks (E Inundation Visible on A Sparsely Vegetated Co ield Observations: urface Water Present? Vater Table Present? aturation Present?	2) 36) Aerial Imagery (B7) boncave Surface (B4) Yes No Yes No Yes No	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Oxidized R Oxidized R Constructed or Soils (C6) Stunted or (LRR A) Other (Exp B) Depth (inche Depth (inche Depth (inche	s):	i) (C1) along Living ron (C4) in Tilled ants (D1) arks)	etland Hyd	Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (E FAC-Neutral Test (Raised Ant Mounda Frost-Heave Humm	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) 03) D5) s (D6) (LRR A) hocks (D7)
DROLOGY etland Hydrology Indic imary Indicators (minimu Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B4 Iron Deposits (B5) Surface Soil Cracks (E Inundation Visible on A Sparsely Vegetated Co ield Observations: urface Water Present? Vater Table Present? aturation Present?	2) 36) Aerial Imagery (B7) boncave Surface (B4) Yes No Yes No Yes No	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Oxidized R Oxidized R Constructed or Soils (C6) Stunted or (LRR A) Other (Exp B) Depth (inche Depth (inche Depth (inche	s):	i) (C1) along Living ron (C4) in Tilled ants (D1) arks)	etland Hyd	Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (E FAC-Neutral Test (Raised Ant Mounda Frost-Heave Humm	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) 03) D5) s (D6) (LRR A) hocks (D7)
DROLOGY etland Hydrology Indic imary Indicators (minimu) 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 (E Inundation Visible on A Sparsely Vegetated Ca ield Observations:	2) 36) Aerial Imagery (B7) boncave Surface (B4) Yes No Yes No Yes No	Water-Stall MLRA 1, 2 Salt Crust (Aquatic Inv Hydrogen S Oxidized R Oxidized R Oxidized R Constructed or Soils (C6) Stunted or (LRR A) Other (Exp B) Depth (inche Depth (inche Depth (inche	s):	i) (C1) along Living ron (C4) in Tilled ants (D1) arks)	etland Hyd	Water-Stained Leav 4A, and 4B) Drainage Patterns (Dry-Season Water Saturation Visible o Geomorphic Positio Shallow Aquitard (E FAC-Neutral Test (Raised Ant Mounda Frost-Heave Humm	res (B9) (MLRA 1, 2, B10) Table (C2) n Aerial Imagery (C9) on (D2) 03) D5) s (D6) (LRR A) hocks (D7)

WETLAND DETERMINA	TION DATA FORM – Western I	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillslope, terrace, etc.): hillSlo Subregion (LRR): MLRA 22B Soil Map Unit Name: 186 man Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydrochytic Vegetation Present? Yes Hydrics Soil Present? Yes	City/County: Siski You Car State: CA Samp Section, Township, Range: Local relief (concave, convert Lat. L22,395129 Long: 41.44 Docum Dical for this time of year? Yes X No gy No significantly disturbed? Are gy No naturally problematic?	Sampling Date: 8/23/2016 Jing Point: 4C 4SN R5W Sect 1, 2+3 ex, none): Contivex Slope (%): 5 66313 Datum: NVI classification: N/A
VECETATION II III		
VEGETATION - Use scientific names Image: I	of plants. Absolute Dominant Indicator % Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: \checkmark (A)Total Number of Dominant Species Across All Strata: \blacksquare (B)Percent of Dominant Species That Are OBL, FACW, or FAC: \circlearrowright (A/B)Prevalence Index worksheet: Total % Cover of: \circlearrowright (A/B)Prevalence Index worksheet: Total % Cover of: \circlearrowright (A/B)Prevalence Index worksheet: Total % Cover of: \circlearrowright (A/B)Prevalence Index worksheet: FACW species $x 1 =$ FACW speciesFACW species $x 2 =$ FAC speciesFACU species $x 3 =$ FACU speciesFACU species $x 4 =$ FACU speciesUPL species \textcircled{Po} $x 5 =$ FACU (B)Prevalence Index = B/A = \textcircled{Po} (B)
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum 11. 2. % Bare Ground in Herb Stratum		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) ¹indicators of hydric soli and wetland hydrology must be present, unless disturbed or problematic.
		Present? Yes No
Remarks:		

				44
OIL Profile Description: (Describe to t		ant the indicator or co	Sampling the absence of indicators	<u>, 1-</u>
	he depth needed to docum	Redox Features		
Depth <u>Matrix</u> (inches) Color (moist)	% Color (moist)	% Type	Loc ² Texture	Remarks
D 1 2 110 341	100		I nam_	
			Pran	
6-18 7.54R 3/3	601			
			·	
		·		<u></u>
		<u> </u>		
¹ Type: C=Concentration, D=Depleti	on, RM=Reduced Matrix, CS	=Covered or Coated Sa	and Grains. ² Location: PL=Pore	
Hydric Soil Indicators: (Applicab			Indicators for Problema	tic Hydric Soils ³ :
	Sandy Redox (S		2 cm Muck (A10)	
Histosol (A1) Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky M	ineral (F1) (except MLI	RA 1) Very Shallow Dark St Other (Explain In Ren	urface (11-12)
Hydrogen Sulfide (A4)	Loamy Gleyed N		Other (Explain in Rei	narkoj
Depleted Below Dark Surface (A11) Depleted Matrix Redox Dark Sur		³ Indicators of hydroph	nytic vegetation and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Depleted Dark S		wetland hydrology mi	ust be present,
Sandy Gleved Matrix (S4)	Redox Depressi		unless disturbed or p	roblematic
Restrictive Layer (if present): Type: Depth (inches):		Hydric Se	bil Present? Yes	_ No
Remarks:				
		ute and the		
K	10 indicat	DIS		
YDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (2 or	more required)
Primary indicators (minimum of one r	equired; check all that apply)	ed Leaves (B9) (except		(B9) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2,	4A, and 4B)	4A, and 4B)	
High Water Table (A2)	Salt Crust (i	311)	Drainage Patterns (B1	0) blo (C2)
Saturation (A3)	Aquatic Inve	ertebrates (B13)	Dry-Season Water Tal Saturation Visible on A	Verial Imagery (C9)
Water Marks (B1)	- Hydrogen S	ulfide Odor (C1) izospheres along Living		
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (
Drift Deposits (B3)	Presence of	Reduced Iron (C4)	Shallow Aquitard (D3)	
	Recent Iron	Reduction in Tilled	FAC-Neutral Test (D5)
Algal Mat or Crust (B4)	Soils (C6) Stupted of 5	Stressed Plants (D1)		
Iron Deposits (B5)	(LRR A)		Raised Ant Mounds (I	06) (LRR A)
Surface Soil Cracks (B6)	Other (Expl	ain in Remarks)	Frost-Heave Hummoo	ks (D7)
Inundation Visible on Aerial Imag	ery (B7)			
Sparsely Vegetated Concave Sur	face (B8)			
				<u> </u>
Field Observations: Surface Water Present? Yes	No 🏠 Depth (inches):		<u> </u>
Water Table Present? Yes	No 🎾 Depth (inches		etland Hydrology Present?	Yes No *

Yes Saturation Present? (includes capillary fringe) 7 Depth (inches): Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: no indicators

Remarks:

WETLAND DETERMIN	ATION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Andrea Rane	City/County: Siskivou	D. Sampling Date: 8/23/2016
Subregion (LRR): MLRA 22.8		vex, none): Compex Slope (%);
Soil Map Unit Name: 189 MUALLS	Jony Loam	NWI classification:
Are Vegetation, Soil, or Hydrol	logy ND significantly disturbed?	lo (If no, explain in Remarks.) e "Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach s Hydrophytic Vegetation Present? Yes	ite map showing sampling poi	nt locations, transects, important features, etc
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No No Indu o Luc	within a Wetland? Yes No
Remarks:	detin bank	
VEGETATION – Use scientific names	of plants.	
<u>Tree Stratum</u> (Plot size:) 1	Absolute Dominant Indicato <u>% Cover Species? Status</u>	
2	· · · · · · · · · · · · · · · · · · ·	Total Number of Dominant Species Across All Strata: (B)
*		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:)	= Total Cover	Prevalence Index worksheet:
1		Total % Cover of: Multiply by: OBL species x 1 =
2		FACW species x 2 = FAC species x 3 =
	= Total Cover	FACU species $x 4 =$ UPL species $4D$ $x 5 =$ 2000
Plot size: (M2) (Phtomea Solitic	200 40 Y 1) PL	Column Totals: 40 (A) 200 (B)
		Prevalence Index = B/A =
·		Hydrophytic Vegetation Indicators:
	la ja verseta - a	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
		3 - Prevalence index is ≤3.0 ¹
		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
). [· · · · · · · · · · · · · · · · · · ·	5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
(Piot size:)	40 = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No X
emarks:		

6

.	2						Stite	uli e Politi	Sa
OIL Drofile Doce	ription: (Describe	to the depth	needed to docur	nent the indi	icator or c	onfirm the	absence of in	dicators.)	
Depth	Matrix			Redox reall					Demerke
(inches)	Color (moist)	%	Color (moist)	%	Туре'	Loc ²	Tert		Remarks_
0-12	104R3/3	100				9	1 Same	<u>al aan</u>)
					·		I DOM	h	
12-18	IDYR314	100			<u> </u>				
			<u> </u>						······································
			<u> </u>						
				-					
	<u></u>					······			
¹ Type: C=C	oncentration, D=De	pletion, RM=R	educed Matrix, C	S=Covered or	r Coated S	and Grains.	² Location:	PL=Pore Li	ning, M=Matrix
	Indicators: (App						dicators for P	roblematic	Hydric Soils ³
		iicable to all L			,		2 cm Muck (
Histoso			Sandy Redox (Stripped Matrix				Red Parent	Material (TF:	2)
	pipedon (A2)		Loamy Mucky	(CC) Mineral (F1) (except ML	.RA 1)	Very Shallov	v Dark Surfa	ce (TF12)
Biack H	listic (A3) en Sulfide (A4)		Loamy Gleyed	Matrix (F2)			Other (Expla	in in Remar	ks)
Deplete	d Below Dark Surfa	ace (A11)	Depleted Matrix	((F3)			.		
	ark Surface (A12)	· /	Redox Dark Su	rface (F6)			°Indicators o	f hydrophyti	c vegetation at
Sandy	Mucky Mineral (S1)		Depleted Dark				wetland hydr	bed or probl	be present, lematic
Sandy	Gleyed Matrix (S4)		Redox Depress	lions (F8)					
									10
_	ayer (if present):				Hydric S	ioil Present	7 Yes		No X
Type:							_		1
Deptn (Inc	hes):				1				
marks:									
		nn t	indica	tak					
		110	(KVIVI	N. Contraction				<u> </u>	
YDROLOO	SY.								
Vetland Hvd	rology indicators:					0	ondary Indica	lore /2 or mo	re required)
rimary Indica	ators (minimum of c	ne required; cl	heck all that apply	<u>)</u> (Woter-Stainer	Leaves (B) (MLRA 1, 2,
			Water-Stall	ned Leaves (E , 4A, and 4B)) RA) (exceb	п	4A, and 4B)		// (<u>-</u> ,,,
_ Surface W			Sait Crust (,		Drainage Patt	erns (B10)	
	r Table (A2)			ertebrates (B	13)	0	Drv-Season V	Vater Table	(C2)
Saturation Water Mai			Hydrogen	Sulfide Odor ((C1)		Saturation Vis	ible on Aeria	al Imagery (C9
			Oxidized R	hizospheres a	along Livin	lg			
Sediment	Deposits (B2)		Roots (C3)		(17.0)		Geomorphic F)
Drift Depo				of Reduced In			Shallow Aquit	atu (มง)	
				n Reduction in	nillied		FAC-Neutral	Test (D5)	
_ Algal Mat	or Crust (B4)		Soils (C6)	Stressed Pla	nts (D1)				
Iron Depo	eite (R5)		(LRR A)		and the ch		Raised Ant M	ounds (D6)	(LRR A)
- Iron Depo	oil Cracks (B6)			lain in Rema	rks)		Frost-Heave	Hummocks ((D7)
Inundation	n Visible on Aerial I	magery (B7)			-				
Sparsely	vegetated Concave	Surface (B8)							
						<u> </u>		<u> </u>	<u></u>
Field Observ		<u> </u>	Death /lasha	e).					
Surface Wate			Depth (inche		— I,	Netland Hv	drology Prese	ent? Yes	No
Water Table		s _ Nons	Depth (inche	ə)	I'	restation in y			
Saturation Pr (includes cap		s No	Depth (inche	s):					
anoribe Beer	rded Data (stream		ring well, aerial n	notos, previou	us inspecti	ons), if avail	able:	<u></u>	
ESCHIDE RECO	ייטכט שמום לאווכמווו	gauge, mornio							
							<u></u>		<u></u>
emarks:				6. h.	a				
				ond	1.col	5			
			N N	9 1 W	Start we have	7. C			

WETLAND DETERMIN	ATION DATA FORM - Western I	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillslope, terrace, etc.): hillslop Subregion (LRR): MLRA 22B Soil Map Unit Name: 187 MAMA Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrold Are Vegetation, Soil, or Hydrold Are Vegetation, Soil, or Hydrold SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Yes	City/County: Siski You Construction State: CA Samp Section, Township, Range: Section, Township, Range: Construction Construction State: Construction	Sampling Date: 8/23/2016 Jing Point: 56 45N, K5W Sect 1, 2+3 ex, none): CONCAINE Slope (%): 2 POP IQ Datum: NVI classification: N/A (If no, explain in Remarks.) No "Normal Circumstances" present? Yes X (If needed, explain any answers in Remarks.) No t locations, transects, important features, etc.
diter		
	<u> </u>	
VEGETATION - Use scientific names	of plants,	
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicator <u>% Cover Species?</u> <u>Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A)
Sapling/Shrub Stratum (Plot size:)	= Total Cover	
1.	= Totał Cover	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species x 5 = Column Totals: (A) Empiricant attribute
3		Prevalence Index = B/A =
4		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? YesNo
DIPER Wind VIE	nnanneaprufied Sparse veg	Inparia

	1 (I) (II) (II)	- 4h	h mandad in dans	ment the indi	icator or conf	firm the ab	sence of indica	tors.)	
ofile Desc	ription: (Describe t Matrix	o the depti	n neeaea to aocu	Redox Feat	uřes			_	
Depth Inches)	Color (moist)	%	Color (moist)	%	Туре	Loc ²	Texture	, <u>R</u>	emarks
			SYR416		<u>ج</u>	ک	<u>Sand</u>	crow	
10	10.42.574	95	5 yr 110	2			100.00		
)-18	104R/0/4	100	<u> </u>			4	<u>ay loom</u>		
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						1000 C 100			
		<u></u>							
vpe: C=C	oncentration, D=Depl	etion, RM=	Reduced Matrix, C	CS=Covered o	r Coated Sand	d Grains.	² Location: PL	=Pore Lining,	M=Manx.
	Indicators: (Applic					India	ators for Prob	lematic Hydr	ic Soils ³ :
•						2	cm Muck (A10)	
_ Histoso		Ă	Sandy Redox (Stripped Matrix)	(35) x (S6)		F	Red Parent Mate	erial (TF2)	
	pipedon (A2)	_	Loamy Mucky	Mineral (F1)	except MLRA	(1) — V	/ery Shallow Da	rk Surface (T	F12)
	listic (A3) en Sulfide (A4)		Loamy Gleyed	i Matrix (F2)		=	Other (Explain in	n Remarks)	
_ Deplete	d Below Dark Surfac	e (A11) 📃	Depleted Matri	ix (F3)		4	1	deservation server	otation and
Thick D	ark Surface (A12)		Redox Dark S	urface (F6)		-	Indicators of hy vetland hydrolog	propriytic vegi ny must he pro	esent.
Sandy	Mucky Mineral (S1)	-	Depleted Dark				inless disturbed	or problemat	ic
Sandy	Gleyed Matrix (S4)		Redox Depres						
a disability a	and (if proceed):						1	\wedge	
	ayer (if present):				Hydric Soil	Present?	Yes	ONo	
Type:	h = = \								
Depth (inc	ines):				1				
arks:	della	u .	6	1.0	A.				
arks:	1 Chicken	A inter	duf	mult	dita				
arks: "7 6	il chucked	1 deb	, auf ex	cavate	olitan				
arks: jj &	il checked	doich	, dup ex	cavate	dita	. <u></u>			
		doich	, dup ex	, cavatt	dila				
	GY				olitan	 		(2 or more te	
ROLO	GY		check all that app	(y)		Secor	ndary Indicators	(2 or more re aves (B9) (M	quired)
ROLO tland Hyd	GY rology Indicators: ators (minimum of on		check all that app Water-Sta	ly) lined Leaves (B9) (except	w	ater-Stained Le	(2 or more re aves (B9) (Mi	quired) LRA 1, 2,
DROLO(tland Hyd nary Indic Surface W	GY rology Indicators: ators (minimum of on /ater (A1)		check all that app Water-Sta MLRA 1, 2	ly) lined Leaves (2, 4A, and 4B	B9) (except		ater-Stained Le A, and 4B) rainage Pattern	aves (B9) (Mi s (B10)	quired) LRA 1, 2,
DROLOC tland Hyd nary Indic Surface W High Wate	GY rology Indicators: ators (minimum of on /ater (A1) ar Table (A2)		check all that app Water-Sta MLRA 1, 2 Salt Crust	ly) iined Leaves (2, 4A, and 4B (B11)	B9) (except		ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate	aves (B9) (MI s (B10) er Table (C2)	LRA 1, 2,
DROLOC tland Hyd nary Indic Surface W High Wate Saturation	GY rology Indicators: ators (minimum of on /ater (A1) ar Table (A2) a (A3)		check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen	ly) ined Leaves (2, 4A, and 4B : (B11) ivertebrates (E Sulfide Odor	B9) (except) 313) (C1)		ater-Stained Le A, and 4B) rainage Pattern	aves (B9) (MI s (B10) er Table (C2)	LRA 1, 2,
DROLOC tland Hyd nary Indic Surface W High Wate Saturation	GY rology Indicators: ators (minimum of on /ater (A1) ar Table (A2) a (A3)		check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen	ly) iined Leaves (2, 4A, and 4B (B11)	B9) (except) 313) (C1)		ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible	aves (B9) (Mi s (B10) er Table (C2) e on Aerial Ima	LRA 1, 2,
DROLOG Iland Hyd nary Indic Surface W High Wate Saturation Water Ma	GY rology Indicators: ators (minimum of on /ater (A1) ar Table (A2) a (A3)		check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres 3)	B9) (except) 313) (C1) along Living		ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi	aves (B9) (MI s (B10) er Table (C2) e on Aerial Ima tion (D2)	LRA 1, 2,
DROLOC tland Hyd nary Indic Surface W High Wate Saturation Water Ma Sediment	GY rology Indicators: ators (minimum of on /ater (A1) ar Table (A2) a (A3) rks (B1) Deposits (B2)		check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres 3) of Reduced In	B9) (except) 313) (C1) along Living ron (C4)		ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible	aves (B9) (MI s (B10) er Table (C2) e on Aerial Ima tion (D2)	LRA 1, 2,
PROLOC tland Hyd nary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depc	GY rology Indicators: ators (minimum of on /ater (A1) ar Table (A2) a (A3) rks (B1) Deposits (B2) psits (B3)		check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent in	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres 3) of Reduced In on Reduced In	B9) (except) 313) (C1) along Living ron (C4)		ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi hallow Aquitard	aves (B9) (Mi er Table (C2) e on Aerial Ima tion (D2) (D3)	LRA 1, 2,
PROLOC tland Hyd nary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depc	GY rology Indicators: ators (minimum of on /ater (A1) ar Table (A2) a (A3) rks (B1) Deposits (B2)		check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent in Soils (C6)	ly) ined Leaves (2, 4A, and 4B (B11) vertebrates (E Sulfide Odor Rhizospheres 3) of Reduced In on Reduction I	B9) (except) 313) (C1) along Living ron (C4) in Tilled	W 44 D D S G G S F	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi haltow Aquitard AC-Neutral Tes	aves (B9) (MI s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5)	LRA 1, 2, agery (C9)
Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat	Arology Indicators: ators (minimum of one /ater (A1) ar Table (A2) a (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)		check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent int Soils (C6) Stunted o	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres 3) of Reduced In on Reduced In	B9) (except) 313) (C1) along Living ron (C4) in Tilled	W 42 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi hallow Aquitard AC-Neutral Tes aised Ant Mour	aves (B9) (Mi s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) uds (D6) (LRR	LRA 1, 2, agery (C9)
DROLOC tland Hyd mary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo	GY rology Indicators: ators (minimum of on /ater (A1) ar Table (A2) a (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5)		check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent int Soils (C6) Stunted o (LRR A)	ly) ined Leaves (2, 4A, and 4B (B11) vertebrates (E Sulfide Odor Rhizospheres 3) of Reduced In on Reduction I	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1)	W 42 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi haltow Aquitard AC-Neutral Tes	aves (B9) (Mi s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) uds (D6) (LRR	LRA 1, 2, agery (C9)
DROLOC tland Hyd mary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio	ators (minimum of on /ater (A1) er Table (A2) a (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) ooi Cracks (B6) n Visible on Aerial Im	e required; agery (B7)	check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent In Solls (C6) Stunted o (LRR A) Other (Ex	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres 3) of Reduced Ir on Reduced Ir on Reduced Ir on Reduced Pla	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1)	W 42 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi hallow Aquitard AC-Neutral Tes aised Ant Mour	aves (B9) (Mi s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) uds (D6) (LRR	LRA 1, 2, agery (C9)
DROLOC tland Hyd mary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio	GY rology Indicators: ators (minimum of on /ater (A1) ar Table (A2) a (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5)	e required; agery (B7)	check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent In Solls (C6) Stunted o (LRR A) Other (Ex	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres 3) of Reduced Ir on Reduced Ir on Reduced Ir on Reduced Pla	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1)	W 42 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi hallow Aquitard AC-Neutral Tes aised Ant Mour	aves (B9) (Mi s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) uds (D6) (LRR	LRA 1, 2, agery (C9)
DROLOC tland Hyd mary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S inundatio	ators (minimum of on /ater (A1) er Table (A2) a (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) ooi Cracks (B6) n Visible on Aerial Im	e required; agery (B7)	check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent In Solls (C6) Stunted o (LRR A) Other (Ex	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres 3) of Reduced Ir on Reduced Ir on Reduced Ir on Reduced Pla	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1)	W 42 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi hallow Aquitard AC-Neutral Tes aised Ant Mour	aves (B9) (Mi s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) uds (D6) (LRR	LRA 1, 2, agery (C9)
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DROLOG tland Hyd mary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S inundation Sparsely eld Obsern rface Wate	City rology Indicators: ators (minimum of on /ater (A1) ar Table (A2) a (A3) rks (B1) Deposits (B2) or Crust (B4) or Crust (B4) soits (B5) soil Cracks (B6) n Visible on Aerial Im Vegetated Concave S vations: er Present? Yes Present? Yes	e required; agery (B7)	check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized R Roots (C3 Presence Recent Int Soils (C6) Stunted o (LRR A) Other (Ex	ly) lined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres) of Reduced Ir on Reduction I) or Stressed Pla cplain In Rema es): 7/0	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1) arks)	W 44 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi hallow Aquitard AC-Neutral Tes aised Ant Mour	aves (B9) (MI s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) hds (D6) (LRR hmocks (D7)	LRA 1, 2, agery (C9)
DROLOG tland Hyd mary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S inundatio Sparsely ald Obser rface Wate ater Table turation P	City rology Indicators: ators (minimum of on- /ater (A1) ar Table (A2) a (A3) rks (B1) Deposits (B2) or Crust (B4) sits (B5) coil Cracks (B6) n Visible on Aerial Im- Vegetated Concave S vations: er Present? Yes present? Yes	agery (B7) Surface (B8	check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent Int Soils (C6) Stunted o (LRR A) Other (Ex	ly) lined Leaves (2, 4A, and 4B (B11) livertebrates (E Sulfide Odor Rhizospheres) of Reduced Ir on Reduction I) or Stressed Pla plain In Rema es):	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1) arks)	W 44 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi hallow Aquitard AC-Neutral Tes aised Ant Mour rost-Heave Hur	aves (B9) (MI s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) hds (D6) (LRR hmocks (D7)	LRA 1, 2, agery (C9)
DROLOG tland Hyd mary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S inundation Sparsely eld Obsern rface Wate ater Table clures cat	GY rology Indicators: ators (minimum of on- /ater (A1) or Table (A2) or (A3) rks (B1) Deposits (B2) or Crust (B4) osits (B5) soil Cracks (B6) n Visible on Aerial Im- Vegetated Concave S vations: er Present? Yes Present? Yes illary fringe) Yes	e required; agery (B7) Surface (B8	check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent In Soils (C6) Stunted o (LRR A) Other (Ex	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres of Reduced Ir on Reduction I or Stressed Pla cplain In Rema es): es):	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1) arks) Wet	W 44 D D S G S S F R F R F F S S S S S S S S S S S S	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi haltow Aquitard AC-Neutral Tes aised Ant Mour rost-Heave Hur	aves (B9) (MI s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) hds (D6) (LRR hmocks (D7)	LRA 1, 2, agery (C9)
DROLOG tland Hyd mary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S inundation Sparsely eld Obsern rface Wate ater Table clures cat	City rology Indicators: ators (minimum of on- /ater (A1) ar Table (A2) a (A3) rks (B1) Deposits (B2) or Crust (B4) sits (B5) coil Cracks (B6) n Visible on Aerial Im- Vegetated Concave S vations: er Present? Yes present? Yes	e required; agery (B7) Surface (B8	check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent In Soils (C6) Stunted o (LRR A) Other (Ex	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres of Reduced Ir on Reduction I or Stressed Pla cplain In Rema es): es):	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1) arks) Wet	W 44 D D S G S S F R F R F F S S S S S S S S S S S S	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi haltow Aquitard AC-Neutral Tes aised Ant Mour rost-Heave Hur	aves (B9) (MI s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) hds (D6) (LRR hmocks (D7)	LRA 1, 2, agery (C9)
DROLOC tland Hyd mary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S inundation Sparsely eld Obsern rface Wate ater Table turation P	GY rology Indicators: ators (minimum of on- /ater (A1) or Table (A2) or (A3) rks (B1) Deposits (B2) or Crust (B4) osits (B5) soil Cracks (B6) n Visible on Aerial Im- Vegetated Concave S vations: er Present? Yes Present? Yes illary fringe) Yes	e required; agery (B7) Surface (B8	check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent In Soils (C6) Stunted o (LRR A) Other (Ex	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres of Reduced Ir on Reduction I or Stressed Pla cplain In Rema es): es):	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1) arks) Wet	W 44 D D S G S S F R F R F F S S S S S S S S S S S S	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi haltow Aquitard AC-Neutral Tes aised Ant Mour rost-Heave Hur	aves (B9) (MI s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) hds (D6) (LRR hmocks (D7)	LRA 1, 2, agery (C9)
Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S inundation Sparsely ald Obsert rface Wate ater Table turation P cludes cap cribe Reco	GY rology Indicators: ators (minimum of on- /ater (A1) or Table (A2) or (A3) rks (B1) Deposits (B2) or Crust (B4) osits (B5) soil Cracks (B6) n Visible on Aerial Im- Vegetated Concave S vations: er Present? Yes Present? Yes illary fringe) Yes	e required; agery (B7) Surface (B8	check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent In Soils (C6) Stunted o (LRR A) Other (Ex	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres of Reduced Ir on Reduction I or Stressed Pla cplain In Rema es): es):	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1) arks) Wet	W 44 D D S G S S F R F R F F S S S S S S S S S S S S	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi haltow Aquitard AC-Neutral Tes aised Ant Mour rost-Heave Hur	aves (B9) (MI s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) hds (D6) (LRR hmocks (D7)	LRA 1, 2, agery (C9)
DROLOC tland Hyd mary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo Algal Mat iron Depo Surface S inundation Sparsely eld Obsern rface Wate ater Table turation P	GY rology Indicators: ators (minimum of on- /ater (A1) or Table (A2) or (A3) rks (B1) Deposits (B2) or Crust (B4) osits (B5) soil Cracks (B6) n Visible on Aerial Im- Vegetated Concave S vations: er Present? Yes Present? Yes illary fringe) Yes	e required; agery (B7) Surface (B8	check all that app Water-Sta MLRA 1, 2 Salt Crust Aquatic In Hydrogen Oxidized I Roots (C3 Presence Recent In Soils (C6) Stunted o (LRR A) Other (Ex	ly) ined Leaves (2, 4A, and 4B (B11) ivertebrates (E Sulfide Odor Rhizospheres of Reduced Ir on Reduction I or Stressed Pla cplain In Rema es): es):	B9) (except) 313) (C1) along Living ron (C4) in Tilled ants (D1) arks) Wet	W 44 D D S G S S F R F R F F S S S S S S S S S S S S	ater-Stained Le A, and 4B) rainage Pattern ry-Season Wate aturation Visible eomorphic Posi haltow Aquitard AC-Neutral Tes aised Ant Mour rost-Heave Hur	aves (B9) (MI s (B10) or Table (C2) on Aerial Ima tion (D2) (D3) t (D5) hds (D6) (LRR hmocks (D7)	LRA 1, 2, agery (C9)

WEILAND DETERMIN	ATION DATA FORM – Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillslope, terrace, etc.): MIISL Subregion (LRR): MLRA 22.B Soil Map Unit Name: 187 M Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic	City/County: Siski You C State: CA Samp Section, Township, Range: T Section, Township, Range: T Local relief (concave, convol Lat: -122, 398029 Long: 41.6 Convertised of year? Yes X No convertise time of year?	D. Sampling Date: Signature Ding Point: Sc 45N, K5W Sect 1, 2 + 3 ex, none): ANNEX Slope (%): Siope (%): 70795 Datum: NWI classification: NIA VIC (If no, explain in Remarks.) No "Normal Circumstances" present? Yes (If needed, explain any answers in Remarks.) No theoretic distances, transects, important features, etc
- pitti	un d'illingen a	
VEGETATION – Use scientific names <u>Tree Stratum</u> (Plot size:) 1.	Absolute Dominant Indicator <u>% Cover</u> <u>Species?</u> <u>Status</u> 	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Yerevalue of Dominant Species That Are OBL, FACW, or FAC: Yerevalue of Dominant Species That Are OBL, FACW, or FAC: Yerevalue of Dominant Species That Are OBL, FACW, or FAC: Yerevalue of Dominant Species That Are OBL, FACW, or FAC: Yerevalue of Dominant Species That Are OBL, FACW, or FAC: Yerevalue of Dominant Species Yerevalue of State Y
4.		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is <3.01
Remarks:		

OIL Profile Description: (Describe to the d		ant the indi	cator or confi	irm the abs	Samoling Pe	rs.)
	sebru usenso ro nocruu	Redox Feat	Jres			
Bobut	Color (moist)	%	Type'	Loc ²	Texture	Remarks
		<u> </u>			ormul 1	pam
0-10 104R\$13 100					y when a	.uu <u>.m</u>
8 104234 100					<u> </u>	
0 10/047 .00						
	····· •········	<u> </u>				
			<u> </u>			
					2	
Type: C=Concentration, D=Depletion, F						pre Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to	o all LRRs, unless other	wise noted	l.)			natic Hydric Soils ³ :
	Sandy Redox (St			2	cm Muck (A10)	
Histosol (A1) Histic Epipedon (A2)	Stripped Matrix (S6)		R	ed Parent Materia	I (T F2)
Black Histic (A3)	Loamy Mucky Mi	neral (F1) (except MLRA	1) V	ery Shallow Dark	Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed M		-	o	ther (Explain in Re	emarks)
Depleted Below Dark Surface (A11)						
Thick Dark Surface (A12)	Redox Dark Surf			3)r	ndicators of hydro	phytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark S			W	etland hydrology r	nust be present.
Sandy Mucky Mineral (ST) Sandy Gleyed Matrix (S4)	Redox Depressio			ur	less disturbed or	problematic
Galley Gloyou matin (Gry				<u></u>		
strictive Layer (if present):						
Туре:			Hydric Soil	Present?	Yes	No
Depth (inches):						
narks:	· · · · · · · · · · · · · · · · · · ·					<u> </u>
DROLOGY etiand Hydrology Indicators: imary Indicators (minimum of one require	red: check all that apply)			Second	lary Indicators (2	or more required)
mary moleators printimum of one requi	Water-Staine	d Leaves (I	39) (except	Wa	ter-Stained Leave	es (B9) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4	A, and 4B)		and 4B)	
High Water Table (A2)	Salt Crust (B			Dra	iinage Patterns (B	:10)
	Aquatic Inve		13)	Drv	-Season Water Ti	able (C2)
Saturation (A3) Water Marks (B1)	Hydrogen Su	lide Odor	(C1)	Sat	uration Visible on	Aerial Imagery (C9)
VValci IVIAINS (D1)	Oxidized Rhi	zospheres	along Living			
Sediment Deposits (B2)	Roots (C3)				omorphic Position	
Drift Deposits (B2)	Presence of	Reduced In	on (C4)		allow Aquitard (D3	
	Recent Iron					
Algol Mot or Crust (PA)	Soils (C6)			FA	C-Neutral Test (D	5)
Algal Mat or Crust (B4)	Stunted or S	tressed Pla	nts (D1)			
iron Deposits (B5)	(LRR A)			Ra	ised Ant Mounds	(D6) (LRR A)
Iron Deposits (B3)	Other (Expla	in in Rema	rks)	Fro	st-Heave Hummo	ocks (D7)
Surface Soil Cracks (B6)			,			
Inundation Visible on Aerial Imagery ((R8)					
Sparsely Vegetated Concave Surface						
	···· ··· ··· ···					
ield Observations:	No No Depth (inches)	•	L L			\sim
	No , / You Deput (inches)		Wotl	and Hydroi	ogy Present?	Yes No 🖄
Surface Water Present? Yes	No Donth (Inchas)	p.				
Vurface Water Present? Yes Vater Table Present? Yes	No Depth (inches)):	••••	•		100 100 /
Surface Water Present? Yes Vater Table Present? Yes Saturation Present?				•		
urface Water Present? Yes Vater Table Present? Yes aturation Present? ncludes capillary fringe) Yes	No Depth (inches)):		-	<u></u>	
Unface Water Present? Yes Vater Table Present? Yes Saturation Present?	No Depth (inches)):		-	e:	
urface Water Present? Yes Vater Table Present? Yes aturation Present? ncludes capillary fringe) Yes	No Depth (inches)):		-	»:	
urface Water Present? Yes Vater Table Present? Yes aturation Present? ncludes capillary fringe) Yes	No Depth (inches)):	us inspections)), if available	<u> </u>	
urface Water Present? Yes /ater Table Present? Yes aturation Present? ncludes capillary fringe) Yes scribe Recorded Data (stream gauge, n	No Depth (inches)):	us inspections)), if available	<u> </u>	
urface Water Present? Yes ater Table Present? Yes aturation Present? ncludes capillary fringe) Yes scribe Recorded Data (stream gauge, n	No Depth (inches)):	us inspections)), if available	n cairo	
urface Water Present? Yes /ater Table Present? Yes aturation Present? ncludes capillary fringe) Yes scribe Recorded Data (stream gauge, n	No Depth (inches)):	us inspections)), if available	<u> </u>	

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch City/County: Siski Vou Co. sampling Date: 8/23/2016 Investigator(s): Andrea Rabe Section, Township, Range: T. 45N, R5W Sect 1, 2+3
Applicant/Owner: Hart Ranch State: CA Sampling Point: 66
Landform (hillslope, terrace, etc.): <u>hillslope</u> Local relief (concave, convex, none): <u>Noncave</u> Slope (%): <u>Siope (%):</u> <u>Soli Map Unit Name:</u> <u>180</u> (DILLE LOGIDO
Soil Map Unit Name: 180 Louir Loom NWI classification: N/A
Are Carried of Norologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No N
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No	Is the Sampled Area within a Wetland?	Yes	No	٦
Remarks:				<u>.</u>	-

VEGETATION - Use scientific names of plants.

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Tree Stratum (Plot size:)	Absolute Dominant Indicator	Dominance Test worksheet:
1)	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2		Total Number of Dominant
4		Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:)	= Total Cover	
SeptimorStricto Stratom (Piot size:) 1.		Prevalence Index worksheet:
2.		Total % Cover of: Multiply by:
3.		OBL species x 1 =
4		FACW species x 2 =
5.		FAC species x 3 =
	- 7-110	FACU species <u>70</u> x 4 = 80
Herb Stratum (Plot size:	= Total Cover	UPL species $30 \times 5 = 150$
1. Festuca Totahoenoi	a 20 y FACIL	Column Totals: 50 (A) 232 (B)
2. Pseudoregrunia spicota	JAN 1 OPC	Prevalence Index = B/A =
4		Muster budde Manadada - to Hard
5		Hydrophytic Vegetation Indicators:
6		1 - Rapid Test for Hydrophytic Vegetation
7		2 - Dominance Test is >50%
8		3 - Prevalence Index is ≤3.0 ¹
9		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
-	30 = Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Pat size:)		be present, unless disturbed or problematic.
2		and the second
	a ser a since	Hydrophytic
% Bare Ground in Herb Stratum	≃ Totał Cover	Vegetation Present? Yes No
Remarks:		
VG1HBIND,		

SOIL	Semilar 20	lea
Profile Description: (Describ	be to the depth needed to document the indicator or confirm the absence of indicator	5.)
Depth Matrb	Kedox reatures	Remarks
(inches) Color (moist)	% Color (moist) % Type Loc ² Texture	Remarks
	100 loam_	
0-10 2.94R. 42		
10-18 2.54RG	13100 loam	
10 10 010 71		
		· · · · · · · · · · · · · · · · · · ·
· ·		
	Particular a State State State	
		a Lining MeMotrix
¹ Type: C=Concentration, D=D	Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Port	re Lining, M=Matrix.
		atic Hydric Soils ³ :
Hydric Soil Indicators: (App		alle filfalle oblie :
	Sandy Redox (S5) 2 cm Muck (A10)	
Histosol (A1) Histic Epipedon (A2)	Etripped Matrix (S6) Red Parent Material	(TF2)
Black Histic (A3)		Surface (TF12)
	Loamy Gleyed Matrix (F2) Other (Explain in Re	marks)
Hydrogen Sulfide (A4)	rforce (A11) Depleted Matrix (E3)	
Depleted Below Dark Sur	Bodox Dark Surface (F6) 3Indicators of hydrop	phytic vegetation and
Thick Dark Surface (A12)	Depleted Dark Surface (E7) wetland hydrology m	nust be present,
Sandy Mucky Mineral (S1	bopietee and a second sec	problematic
Sandy Gleyed Matrix (S4)		
Restrictive Layer (if present):	Hydric Soil Present? Yes	
Туре:	Hydric Soil Present? Yes	
Depth (inches):		,
Remarks:		
	4.5	
	no indi catois	
	no mar servis	<u> </u>
HYDROLOGY		
and a start of the	na l	
Wetland Hydrology Indicators		or more required)
Wetland Hydrology Indicators Primary Indicators (minimum of	f one required; check all that apply)	or more required) s (B9) (MLRA 1, 2,
Primary Indicators (minimum of	f one required; check all that apply) Water-Stained Leaves (B9) (except Water-Stained Leaves	or more required) s (B9) (MLRA 1, 2,
Primary Indicators (minimum of Surface Water (A1)	f one required; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) A, and 4B) MLRA 1, 2, 4A, and 4B)	s (B9) (MLRA 1, 2,
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Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	f one required; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Salt Crust (B13) MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13)	s (B9) (MLRA 1, 2, 10) able (C2)
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Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	f one required; check all that apply) Secondary indicators (2 of Mathematical Se	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2)
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Primary Indicators (minimum 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 Sparsely Vegetated Concav Field Observations: Surface Water Present? Y0 Saturation Present? Y0 Saturation Present? Y0 Saturation Present? Y1 Describe Recorded Data (stream	f one required; check all that apply) Sectordal y indected y Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Drainage Patterns (B' Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction In Tilled Soils (C6) Stunted or Stressed Plants (D1) FAC-Neutral Test (D5) (LRR A) Other (Explain in Remarks) Other (Explain in Remarks) Frost-Heave Hummon (es No No Depth (inches): No Depth (inches): No Depth (inches):	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2)) 5) D6) (LRR A) cks (D7)

WETLAND DETERMINA	ATION DATA FORM - Western	Mountains, Valleys, and Coast Region
Applicant/Owner: Hart Ranch Investigator(s):	City/County: Siski You State: CA sem	Ding Point: 66
Subregion (LRR): MLRA 228	Lat-12220 sected to be 1	ex none): Covinue Stope (%): S
Soil Map Unit Name: 180 Louis	2 Loam	NWI classification:
Are climatic / hydrologic conditions on the site ty	pical for this time of year? Yes V	
Are Vegetation, Soil, or Hydrolo	247 ININ SIGNAICADAV disturbed 2 A	* "Normal Circumstances" present? Yes X No
	y naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach sit	te map showing sampling poir	nt locations, transects, important features, etc
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No Is the Sampled Area v	vithin a Wetland? Yes 🗙 No
Remarks: Litch		
VEGETATION - Use scientific names	of plants.	
Tree Stratum (Plot size:)	Absolute Dominant Indicator	Dominance Test worksheet:
1)	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A) Total Number of Dominant
3.		Species Across All Strata: (B)
4.		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
\sim	- 7-410	(A/B)
Sapling/Shrub Stratum (Plot size:	= Total Cover	Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x1 =
2 3 4 5		FACW species x2 =
4		FAC species x 3 =
L 🗂	= Total Cover	FACU species x 4 =
terb Stratum (Plot size:		UPL species x 5 =
		Column Totals: (A) (B)
		Prevalence index = B/A =
		Hydrophytic Vegetation Indicators:
	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1 - Rapid Test for Hydrophytic Vegetation
	the set set of a new	2 - Dominance Test is >50%
		3 - Prevalence Index is ≤3,0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting
)		data in Remarks or on a separate sheet)
I	1 1 1 1 4 4 1 4 A	5 - Wetland Non-Vascular Plants ¹
	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must
(Plot size:)		be present, unless disturbed or problematic.
	A strate strate	the second s
Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Sugar (1993)
marks:	10 stil that	Present? Yes No
Novilgopen wa	oblimatic mathic	Presents Yes No
f	_()400 G A	

i.

			State Paint	
Profile Description: (Describe to the	e depth needed to documer	t the indicator or conf	irm the absence of indicators.)	
Depth Matrix			Loc ² Texture	Remarks
(inches) Color (moist) ?	Color (moist)	% Type		
	<u>)0</u>		loam	
7-18 2.542 419	0 54R416		Sand	
r rea with your				
<u> </u>				
		· ·		
Type: C=Concentration, D=Depletion	n, RM=Reduced Matrix, CS=0	Covered or Coated Sand	Grains. ² Location: PL=Pore Li	
Hydric Soil Indicators: (Applicable			Indicators for Problematic	Hydric Soils ³ :
	X Sandy Redox (S5)		2 cm Muck (A10)	
Histosol (A1)	Stripped Matrix (Se	6)	Red Parent Material (TF	2)
Histic Epipedon (A2) Black Histic (A3)	Loamy Mucky Mine	eral (F1) (except MLRA	1) Very Shallow Dark Surfa	ice (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Mat	trix (F2)	Other (Explain in Remar	K5)
Depleted Below Dark Surface (A	11) Depleted Matrix (F	3)	³ Indicators of hydrophyti	c vegetation and
Thick Dark Surface (A12)	Redox Dark Surfac	38 (FD) face (E7)	wetland hydrology must	be present,
Sandy Mucky Mineral (S1)	Redox Depression		unless disturbed or prob	lematic
Sandy Gleyed Matrix (S4)				
estrictive Layer (if present):		ļ	Present? Yes	
Туре:		Hydric Soll	Present? Yes	No
Depth (inches):		1	,	
	excalite	the defe	cil	
	excabite	to dufi	cil	
letland Hydrology Indicators:		to dife		ore required)
etland Hydrology Indicators:	wired: check all that apply)		Secondary Indicators (2 or m	ore required) 9) (MLRA 1, 2,
etland Hydrology Indicators: rimary Indicators (minimum of one rec	uired; check all that apply) Water-Stained	Leaves (B9) (except	Secondary Indicators (2 or me Water-Stained Leaves (B 4A, and 4B)	ore required) 9) (MI.RA 1, 2,
etland Hydrology Indicators: imary Indicators (minimum of one rec Surface Water (A1)	uired; check all that apply) Water-Stained MLRA 1, 2, 44	Leaves (B9) (except A, and 4B)	Secondary Indicators (2 or me Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10)	9) (MLRA 1, 2,
etland Hydrology Indicators: imary Indicators (minimum of one rec Surface Water (A1) bHigh Water Table (A2)	uired; check all that apply) Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverte	Leaves (B9) (except A, and 4B) 1) ebrates (B13)	Secondary Indicators (2 or me Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table	9) (MLRA 1, 2, (C2)
etland Hydrology Indicators: imary Indicators (minimum of one rec Surface Water (A1) High Water Table (A2) Saturation (A3)	uired; check all that apply) Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverte Hydrogen Sult	Leaves (B9) (except A, and 4B) 1) ebrates (B13) fide Odor (C1)	Secondary Indicators (2 or me Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10)	9) (MLRA 1, 2, (C2)
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etland Hydrology Indicators: imary Indicators (minimum of one rec Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	uired; check all that apply) Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhize Roots (C3) Presence of R Recent Iron R Solls (C6)	Leaves (B9) (except A, and 4B) 1) ebrates (B13) fide Odor (C1) ospheres along Living Reduced fron (C4) eduction in Tilled	Secondary Indicators (2 or me Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aeri Geomorphic Position (D2	9) (MLRA 1, 2, (C2) ial Imagery (C9)
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Vetland Hydrology Indicators: rimary Indicators (minimum of one reconstruction (A1) Sturation (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	Water-Stained Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhize Roots (C3) Presence of R Recent Iron R Solls (C6) Stunted or Str (LRR A) Other (Explain y (B7) Ice (B8)	Leaves (B9) (except A, and 4B) 1) ebrates (B13) fide Odor (C1) ospheres along Living teduced fron (C4) eduction in Tilled ressed Plants (D1) in in Remarks)	Secondary Indicators (2 or m Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aeri Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	9) (MLRA 1, 2, (C2) (al Imagery (C9)) (LRR A) (D7)
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Vetland Hydrology Indicators: rimary Indicators (minimum of one reconstruction (A1) Surface 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? Water Table Present? Yes Saturation Present? Yes	uired; check all that apply) Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf Oxidized Rhizz Roots (C3) Presence of R Recent Iron R Soils (C6) Stunted or Str (LRR A) Other (Explain y (B7) ce (B8) No Depth (inches): No Depth (inches): No Depth (inches):	Leaves (B9) (except A, and 4B) 1) ebrates (B13) fide Odor (C1) ospheres along Living teduced fron (C4) eduction in Tilled ressed Plants (D1) in in Remarks)	Secondary Indicators (2 or m Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aeri Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	9) (MLRA 1, 2, (C2) (al Imagery (C9)) (LRR A) (D7)
Vetland Hydrology Indicators: rimary Indicators (minimum of one reconstruction (A1) Surface 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 Water Present? Vater Table Present? Vater Table Present? Vater Construction Present? Yes	uired; check all that apply) Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf Oxidized Rhizz Roots (C3) Presence of R Recent Iron R Soils (C6) Stunted or Str (LRR A) Other (Explain y (B7) ce (B8) No Depth (inches): No Depth (inches): No Depth (inches):	Leaves (B9) (except A, and 4B) 1) ebrates (B13) fide Odor (C1) ospheres along Living teduced fron (C4) eduction in Tilled ressed Plants (D1) in in Remarks)	Secondary Indicators (2 or m Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aeri Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	9) (MLRA 1, 2, (C2) (al Imagery (C9)) (LRR A) (D7)
Vetland Hydrology Indicators: rimary Indicators (minimum of one reconstruction (A1) Surface 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 Yes Saturation Present?	uired; check all that apply) Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf Oxidized Rhizz Roots (C3) Presence of R Recent Iron R Soils (C6) Stunted or Str (LRR A) Other (Explain y (B7) ce (B8) No Depth (inches): No Depth (inches): No Depth (inches):	Leaves (B9) (except A, and 4B) 1) ebrates (B13) fide Odor (C1) ospheres along Living teduced fron (C4) eduction in Tilled ressed Plants (D1) in in Remarks)	Secondary Indicators (2 or m Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aeri Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	9) (MLRA 1, 2, (C2) (al Imagery (C9)) (LRR A) (D7)
Vetland Hydrology Indicators: rimary Indicators (minimum of one reconstruction (A1) Surface 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 Algent Operations: Surface Water Present? Yes Saturation Present?	uired; check all that apply) Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf Oxidized Rhizz Roots (C3) Presence of R Recent Iron R Soils (C6) Stunted or Str (LRR A) Other (Explain y (B7) ce (B8) No Depth (inches): No Depth (inches): No Depth (inches):	Leaves (B9) (except A, and 4B) 1) ebrates (B13) fide Odor (C1) ospheres along Living teduced fron (C4) eduction in Tilled ressed Plants (D1) in in Remarks)	Secondary Indicators (2 or m Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aeri Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	9) (MLRA 1, 2, (C2) (al Imagery (C9)) (LRR A) (D7)
Vetland Hydrology Indicators: rimary Indicators (minimum of one reconstruction (A1) Surface 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 Water Present? Vater Table Present? Vater Table Present? Vater Construction Present? Yes	uired; check all that apply) Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf Oxidized Rhizz Roots (C3) Presence of R Recent Iron R Soils (C6) Stunted or Str (LRR A) Other (Explain y (B7) ce (B8) No Depth (inches): No Depth (inches): No Depth (inches):	Leaves (B9) (except A, and 4B) 1) ebrates (B13) fide Odor (C1) ospheres along Living teduced fron (C4) eduction in Tilled ressed Plants (D1) in in Remarks)	Secondary Indicators (2 or m Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aeri Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	9) (MILRA 1, 2, (C2) (al Imagery (C9)) (LRR A) (D7)
etland Hydrology Indicators: imary 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 aturation Present? iscribe Recorded Data (stream gauge	uired; check all that apply) Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf Oxidized Rhizz Roots (C3) Presence of R Recent Iron R Soils (C6) Stunted or Str (LRR A) Other (Explain y (B7) ce (B8) No Depth (inches): No Depth (inches): No Depth (inches):	Leaves (B9) (except A, and 4B) 1) ebrates (B13) fide Odor (C1) ospheres along Living teduced fron (C4) eduction in Tilled ressed Plants (D1) in in Remarks)	Secondary Indicators (2 or m Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aeri Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	9) (MLRA 1, 2, (C2) (al Imagery (C9)) (LRR A) (D7)
Vetland Hydrology Indicators: rimary Indicators (minimum of one reconstruction (A1) Surface 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	uired; check all that apply) Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf Oxidized Rhizz Roots (C3) Presence of R Recent Iron R Soils (C6) Stunted or Str (LRR A) Other (Explain y (B7) ce (B8) No Depth (inches): No Depth (inches): No Depth (inches):	Leaves (B9) (except A, and 4B) 1) ebrates (B13) fide Odor (C1) ospheres along Living teduced fron (C4) eduction in Tilled ressed Plants (D1) in in Remarks)	Secondary Indicators (2 or m Water-Stained Leaves (B 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Aeri Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	9) (MLRA 1, 2, (C2) (al Imagery (C9)) (LRR A) (D7)

WETLAND DETERMINA	ATION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch. Applicant/Owner: Hart Ranch Investigator(s): Andréa Rabe Landform (hillslope, terrace, etc.): hiblog Subregion (LRR): MLRA 22B Soil Map Unit Name: 180 COUIT Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic	City/County: SiSKi Voll C State: A Samp Section, Township, Range: Local relief (concave, convi Lat: 122, 37575&Long: 41.67 Pical for this time of year? Yes X No pical for this time of year? Yes X No pogy ND significantly disturbed? Are pogy ND naturally problematic? te map showing sampling point No X Is the Sampled Area w	Sampling Date: Signation Ding Point: AC ASN R 5W Sect 1, 2 + 3 ex, none): CONVEX Slope (%): Siope (%): SUIDI Datum: NWI classification: NA 0 (If no, explain in Remarks.) *Normal Circumstances* present? Yes (If needed, explain any answers in Remarks.) at locations, transects, important features, etc.
L upland	ditchbank	
VEGETATION - Use scientific names	of plants.	
Tree Stratum. (Plot size:) 1. 2. 3.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Yercent of Dominant Species Percent of Dominant Species That Are OBL, FACW, or FAC: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A)
Sapling/Shrub Stratum (Plot size:) 1.	= Total Cover	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 3 =$ FACU species 30 $x 4 = 120$ UPL species 20 Column Totals: 50 (A) 220 (B)
1. Festuca idahoensi 2. Bromus tectorin	S DO Y MACU	
3.	- 20 y UPL	Prevalence index = B/A =
4. 5. 6. 7. 8. 9. 10. 11. Woody Vine Stratum (Plot Size:)		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		to setting to a
2	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		

i

SOIL			Sanaeline Pala	6c
Profile Description: (Describe to the dep	th needed to document the in	dicator or cont	irm the absence of indicators.	
Depth Matrix	Redox Fea	tures		Remarks
(inches) Color (moist) %	Color (moist) %	Type'		Remano
0-10 2.542.6/2 100			Loam	<u> </u>
10-18 2,5 yrs 3 100			loan	
10-18 (13 YISHE 3 10)				<u> </u>
	<u></u>			
		3		
¹ Type: C=Concentration, D=Depletion, RM	=Reduced Matrix, CS=Covered	or Coated Sand	Grains. ² Location: PL=Pore	Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to a			indicators for Problemat	ic Hydric Solls ³ :
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (A10)	
Histic Epipedon (A2)	Stripped Matrix (S6)		Red Parent Material (1	
Black Histic (A3)	Loamy Mucky Mineral (F1)	(except MLRA	1) Very Shallow Dark Su	nace (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)		Other (Explain in Rem	arks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		³ Indicators of hydrophy	tic venetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6) Depleted Dark Surface (F7)	N	wetland hydrology mu	st be present.
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	,	unless disturbed or pro	oblematic
Sanby Gleyed Matrix (S4)			<u></u>	
Restrictive Layer (if present):				$\mathbf{\nabla}$
		Hydric Soil	Present? Yes	No /
Type: Depth (inches):				
		· · · · · · · · · · · · · · · · · · ·	···· ····	
Remarks:				
	noindice			
	Y ID IN ALCO	NOTIN		
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (2 or r	nore required)
Primary Indicators (minimum of one required	; check all that apply)	(00) (000000	Water-Stained Leaves (R9) (ML RA 1. 2.
	Water-Stained Leaves MLRA 1, 2, 4A, and 4E	(BA) (excebt	4A, and 4B)	
Surface Water (A1) High Water Table (A2)	Salt Crust (B11)	·)	Drainage Patterns (B10)
	Aquatic Invertebrates (B13)	Dry-Season Water Tabl	e (C2)
Saturation (A3) Water Marks (B1)	Hydrogen Sulfide Odor	(C1)	Saturation Visible on Ae	rial Imagery (C9)
Wates Mario (D1)	Oxidized Rhizospheres	along Living		
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (D	2)
Drift Deposits (B3)	Presence of Reduced I		Shallow Aquitard (D3)	
	Recent Iron Reduction	in Tilled	FAC-Neutral Test (D5)	
Algal Mat or Crust (B4)	Soils (C6)	note (D1)		
	Stunted or Stressed Pla (LRR A)	antes (Dii)	Raised Ant Mounds (D6	3) (LRR A)
Iron Deposits (B5)	Other (Explain in Rema	arks)	Frost-Heave Hummock	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)				
Sparsely Vegetated Concave Surface (Bi	3)			
	-,			
Field Observations:	1			1 -
Surface Water Present? Yes No	Depth (inches):			X
Water Table Present? Yes No	Depth (inches):	Wet	and Hydrology Present? Y	es No / <u>\</u>
Saturation Present?				
(includes capillary fringe) Yes No	Depth (inches):			
Describe Recorded Data (stream gauge, mon	itoring well, aerial photos, previo	us inspections)), IT AVAIIADIE:	
Remarks:		_ _		
Remarks:		<u>A</u>	í.	
Remarks:			licators	
Remarks:	V	nior	dicators	

Subregion (LRR); MLRA 228	8/a-1
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Re Are Vegetation , Soil , or Hydrology No significantly disturbed? Are "Normal Circumstances" p Are Vegetation , Soil , or Hydrology No naturally problematic? (If needed, explain any a SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transect Hydrophytic Vegetation Present? Yes No Xes	Slope (%): <u>5</u> NAD 83 V/A emarks.) present? Yes X No answers in Remarks.)
altch hank	
VEGETATION – Use scientific names of plants.	
Tree Stratum Plot size:) Absolute % Cover Dominant Species? Indicator Status Dominance Test work 1. Number of Dominant That Are OBL, FACW 2. 3. 4. 	Species (A) inant (B) Species (B)
That Are OBL, FACW,	, or FAC: (A/B)
4. FACW species 5. FAC species 5. FAC species Herb Stratum (Plot size: Im ²) FACU species 1. Image: Im ² 2. Image: Im ² FAC species FAC specie	Multiply by: x 1 = x 2 = x 3 = x 4 = x 5 = 350 (A) 350 (B)
3. Prevalence index = B//	A= <u>`````</u>
7. 2 - Dominance Testi 8. 3 - Prevalence Index 9. 4 - Morphological Ad 10. 5 - Wetland Non-Vas 11. Problematic Hydroph Woody Vine Stratom (Plot size:) 1 1. 1	ydrophytic Vegetation is >50% k is ≤3.0 ¹ deptations ¹ (Provide supporting on a separate sheet) scular Plants ¹ hytic Vegetation ¹ (Explain) and wetland hydrology must rbed or problematic.
% Bare Ground in Herb Stratum 30 = Total Cover Hydrophytic % Present? Yes	No X
Remarks:	

OIL			
Dustile Dependetions (Depending to the	depth needed to document the in	dicator or confirm	the absence of Indicators.)
	Redox Fea	aures	
(inches) Color (moist) %		Type L	oc ² Texture Remarks
			loam
0-9 2.542.614 10	<u>ø</u>		
1,18 2.5 YR6/3 101	2		
· · ·			
		-	
¹ Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, CS=Covered	or Coated Sand G	rains. ² Location: PL=Pore Lining, M=Matrix
Hydric Soil Indicators: (Applicable			Indicators for Problematic Hydric Soils ³ :
		- •	2 cm Muck (A10)
Histosol (A1)	Sandy Redox (S5) Stripped Matrix (S6)		Red Parent Material (TF2)
Histic Epipedon (A2)	Loamy Mucky Mineral (F1)	(excent MLRA 1)	
Black Histic (A3)	Loamy Gleyed Matrix (F2)	(events mares 1)	Other (Explain in Remarks)
Hydrogen Sulfide (A4)			
Depleted Below Dark Surface (A1)	Redox Dark Surface (F6)		³ Indicators of hydrophytic vegetation an
Thick Dark Surface (A12)	Depleted Dark Surface (F7	7)	wetland hydrology must be present,
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	1	unless disturbed or problematic
estrictive Layer (if present):		1	1
		Hydric Soil Pr	esent? Yes No
	· · · · · · · · · · · · · · · · · · ·		
Depth (Inches):			
(DROLOGY			
Vetland Hydrology Indicators:			Secondary Indicators (2 or more required)
Primary Indicators (minimum of one requ	Water-Stained Leaves	(PO) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
	MLRA 1, 2, 4A, and 4	R)	4A, and 4B)
Surface Water (A1)	muna i z ta ano t	·•/	Drainage Patterns (B10)
High Water Table (A2)	Calt Cruct (R11)		
	Salt Crust (B11)	(B13)	Dry-Season Water Table (C2)
Saturation (A3)	Aquatic Invertebrates	1 mm + 2	Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
	Aquatic Invertebrates Hydrogen Sulfide Odo	or (C1)	Saturation Visible on Aerial Imagery (C9
Saturation (A3) Water Marks (B1)	Aquatic Invertebrates	or (C1)	Geomorphic Position (D2)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced	r (C1) is along Living Iron (C4)	Saturation Visible on Aerial Imagery (C9
Saturation (A3) Water Marks (B1)	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced	r (C1) is along Living Iron (C4)	Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6)	or (C1) as along Living Iron (C4) n in Tilled	Geomorphic Position (D2)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction	or (C1) is along Living Iron (C4) in Tilled	Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reductior Soils (C6) Stunted or Stressed P (LRR A)	or (C1) is along Living Iron (C4) in Tilled Plants (D1)	 Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reductior Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem	or (C1) is along Living Iron (C4) in Tilled Plants (D1)	Saturation Visible on Aerial Imagery (C9 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
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	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reductior Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem (B7)	or (C1) is along Living Iron (C4) in Tilled Plants (D1)	 Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reductior Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem (B7)	or (C1) is along Living Iron (C4) in Tilled Plants (D1)	 Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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 Surfac	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem (B7)	or (C1) is along Living Iron (C4) in Tilled Plants (D1)	 Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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 Surfac Field Observations:	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reductior Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem (B7) e (B8)	er (C1) Is along Living Iron (C4) In Tilled Plants (D1) harks)	 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)
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	Aquatic Invertebrates	er (C1) Is along Living Iron (C4) In Tilled Plants (D1) harks)	 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)
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 Surfac Field Observations: Surface Water Present? Yes Water Table Present? Yes	Aquatic Invertebrates Hydrogen Sulfide Odo Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reductior Soils (C6) Stunted or Stressed P (LRR A) Other (Explain in Rem (B7) e (B8)	er (C1) Is along Living Iron (C4) In Tilled Plants (D1) harks)	 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)
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WETLAND DETERMINA	TION DATA FORM Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Marta Rabe Landform (hillslope, terrace, etc.): hillslop Subregion (LRR): MLRA 22B Soil Map Unit Name: 180 Court Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic	City/County: Siski You G State: CA Samp Section, Township, Range: Local relief (concave, conve Lat: Lag, 393900 Long: 41, 67 Logm Dical for this time of year? Yes X No gy No significantly disturbed? Are gy No naturally problematic? te map showing sampling poin No	D. Sampling Date: Sizz/2016 Ming Point: Ho Ho Fb String Point: Ho Ho Siope (%): String Point: NAD §3 NWI classification: NA (If no, explain in Remarks.) NA
titch		
CITCA		
VEGETATION - Use scientific names of	of plants	
Tree Stratum Plot size:) 1.	Absolute Dominant Indicator % Cover Species? Status	Number of Dominant Species
2.		That Are OBL, FACW, or FAC: (A)
		Total Number of Dominant Species Across All Strata: (B)
4		Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:)	= Total Cover	Provolance in device to the
1		Prevalence Index worksheet: Total % Cover of:Multiply by:
2		OBL species x1 =
3.		FACW species x2 =
5.		FAC species x3 =
		FACU species x 4 =
Herb Stratum (Plat size: 1m2)	= Total Cover	UPL species x 5 =
1		Column Totals: (A) (B)
2		Prevalence index = B/A =
3		
5.	- <u>2</u> · · · · · · · · · · · · · · · · · · ·	Hydrophytic Vegetation Indicators:
6		1 - Rapid Test for Hydrophytic Vegetation
7.	19. 201 M. 19.	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹
8	1945 A. 199	4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10	11 74 da - 44	5 - Wetland Non-Vascular Plants ¹
	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:) 1		¹ indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2	and the second second	the states
% Bare Ground in Herb Stratum	= Total Cover	ingerophiyuc
	sotter a	Present? Yes X No
Remarks:	Low 1 St	
Remarks: Proplet glove	ghannel abrup ce	Desparse vellauren
JS Army Corps of Engineers		

							stered inter Pletta	
DIL Profile Des	cription: (Describe to	o the dept	h needed to docum	ent the Indi	cator or co	nfirm the a	bsence of indicators.	
Depth	Matrix			Redox Featu	ires			
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc2	Texture	Remarks
12-14	26426/3						Doan	
			Fright	1.		121		
0-18	2.54261,	80	54R416	40		TC-	Fand	
	, <u>, , , , , , , , , , , , , , , , , , </u>							
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							······	
		1.0						
	· · · · · · · · · · · · · · · · · · ·							
							<u> </u>	
Type: C=C	Concentration, D=Depl	etion, RM=	Reduced Matrix, CS	=Covered or	Coated Sa	nd Grains.	² Location: PL=Pore	Lining, M=Matrix.
						Ind	icators for Problemat	ic Hydric Soils ³ :
Hydric Soi	il Indicators: (Applic	aple to all			•/		2 cm Muck (A10)	•
Histoso	ot (A1)		Sandy Redox (S				Red Parent Material (1	(F2)
Histic E	Epipedon (A2)	-	Stripped Matrix (S6)			Very Shallow Dark Su	face (TE12)
Black H	Histic (A3)	20	Loamy Mucky M	ineral (F1) (e	except MLR	(A 1)	Very Shallow Dark Su	naue (11 14)
Hydrog	jen Sulfide (A4)		Loamy Gleyed N				Other (Explain in Rem	iaina/
Deplet	ed Below Dark Surfac	e (A11) 🗌	Depleted Matrix				Studioston of Ludents	he veretation and
Thick [Dark Surface (A12)		Redox Dark Surf				³ Indicators of hydrophy wetland hydrology mus	yiic vegetation and
	Mucky Mineral (S1)	2,72	Depleted Dark S				unless disturbed or pro	st be preserit,
Sandy	Gleyed Matrix (S4)	_	Redox Depression	ons (F8)			Unless disturbed of pro	
astrictive L	ayer (if present):						V.	No
Type:					Hydric So	ii Present'i	Yes X	
Depth (inc	ches):							
narks:				w			·····	
		$\nu $						
			G AF	AUC	621 1	UCT.	xlo dite	A Y BANK LAS &
DROLO	GY		C at A		<u></u>			
Vetland Hyp	GY Irology Indicators;		·		<u></u>	<u> </u>	. <u> </u>	
etland Hyd			check all that apply)			Sec	andary Indicators (2 or 1	more required)
/etland Hyd rimary Indic	GY irology Indicators: ators (minimum of one		check all that apply) Water-Staine	ed Leaves (B	39) (except	Seco	ondary Indicators (2 or 1 Water-Stained Leaves (more required)
Vetland Hyd rimary Indic Surface V	GY frology Indicators: ators (minimum of one Vater (A1)		check all that apply) Water-Staine MLRA 1, 2, 4	ed Leaves (B 4 A, and 4B)	39) (except	<u>_Sec</u>	ondary Indicators (2 or) Vater-Stained Leaves (IA, and 4B)	more required) (B9) (MLRA 1, 2,
rimary Indic Surface V High Wate	GY Irology Indicators: ators (minimum of one Vater (A1) er Table (A2)		check all that apply) Water-Staine MLRA 1, 2, 4 Salt Crust (B	ed Leaves (B 4A, and 4B) 311)	39) (except	Sec	ondary Indicators (2 or 1 Water-Stained Leaves (IA, and 4B) Orainage Patterns (B10	more required) (B9) (MLRA 1, 2,
Vetland Hyd rimary Indic Surface V High Wate Saturation	GY frology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3)		<u>check all that apply)</u> Water-Staine MLRA 1, 2, 4 Salt Crust (E Aquatic Inve	ed Leaves (E 4A, and 4B) 311) ertebrates (B'	39) (except 13)	Sec.	mdary Indicators (2 or 1) Water-Stained Leaves (IA, and 4B) Drainage Patterns (B10) Drv-Season Water Tab	more required) (B9) (MLRA 1, 2,)) le (C2)
rimary Indic Surface V High Wate	GY Irology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3)		<u>check all that apply)</u> Water-Staine MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Si	ed Leaves (E 4A, and 4B) 311) ertebrates (B ⁴ ulfide Odor (⁴	39) (except 13) C1)	<u>Sec</u>	ondary Indicators (2 or 1 Water-Stained Leaves (IA, and 4B) Orainage Patterns (B10	more required) (B9) (MLRA 1, 2,)) le (C2)
Vetland Hydrimary Indic Surface V High Wate Saturation Water Ma	GY irology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) irks (B1)		check all that apply) Water-Staine MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh	ed Leaves (E 4A, and 4B) 311) ertebrates (B ⁴ ulfide Odor (⁴	39) (except 13) C1)		ondary Indicators (2 or 1 Water-Stained Leaves (I A, and 4B) Orainage Patterns (B10 Ory-Season Water Tabl Saturation Visible on Ad	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9)
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etland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo	GY irology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) irks (B1) Deposits (B2)		check all that apply) Water-Stains MLRA 1, 2, Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Solls (C6)	ed Leaves (B 4 A, and 4B) 311) ortebrates (B ulfide Odor (izospheres a Reduced Iro Reduced Iro Reduction Ir	39) (except 13) C1) along Living on (C4) a Tilled		Mater-Stained Leaves (Mater-Stained Leaves (IA, and 4B) Orainage Patterns (B10 Ory-Season Water Tabl Saturation Visible on Ad Geomorphic Position (I	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9))2)
Vetland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo	GY prology Indicators: pators (minimum of one Vater (A1) er Table (A2) n (A3) mks (B1) Deposits (B2) psits (B3) or Crust (B4)		check all that apply) Water-Staine MLRA 1, 2, 4 Salt Crust (Re Aquatic Invest Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S	ed Leaves (B 4 A, and 4B) 311) ortebrates (B' ulfide Odor (izospheres a Reduced Irc	39) (except 13) C1) along Living on (C4) a Tilled		Andary Indicators (2 or 1) Water-Stained Leaves (IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tables Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5)	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (C9)
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etland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio	GY rology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Goil Cracks (B6) n Visible on Aerial Ima	e required;	check all that apply) Water-Staine MLRA 1, 2, Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Solis (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B 4 A, and 4B) 311) ortebrates (B ulfide Odor (f izospheres a Reduced Inc Reduced Inc Reduction In Stressed Plan	39) (except 13) C1) along Living on (C4) a Tilled nts (D1)		Andary Indicators (2 or 1) Water-Stained Leaves (IA, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Art Mounds (D6)	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (C9) (LRR A)
etland Hyc imary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio	GY trology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) Soil Cracks (B6)	e required;	check all that apply) Water-Staine MLRA 1, 2, Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Solis (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B 4 A, and 4B) 311) ortebrates (B ulfide Odor (f izospheres a Reduced Inc Reduced Inc Reduction In Stressed Plan	39) (except 13) C1) along Living on (C4) a Tilled nts (D1)		Andary Indicators (2 or 1) Water-Stained Leaves (IA, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Art Mounds (D6)	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (C9) (LRR A)
Vetland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely	GY trology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) trks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S	e required;	check all that apply) Water-Staine MLRA 1, 2, Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Solis (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B 4 A, and 4B) 311) ortebrates (B ulfide Odor (f izospheres a Reduced Inc Reduced Inc Reduction In Stressed Plan	39) (except 13) C1) along Living on (C4) a Tilled nts (D1)		Andary Indicators (2 or 1) Water-Stained Leaves (IA, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Art Mounds (D6)	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (C9) (LRR A)
Vetland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio	GY trology Indicators: ators (minimum of one Vater (A1) er Table (A2) h (A3) trks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S vations:	agery (B7) Surface (B8	check all that apply) Water-Staine MLRA 1, 2, Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Solis (C6) Stunted or S (LRR A) Other (Explain)	ed Leaves (B 4A, and 4B) 311) ortebrates (B ulfide Odor (f izospheres a Reduced Iro Reduction In Stressed Plan ain in Reman	39) (except 13) C1) along Living on (C4) a Tilled nts (D1)		Andary Indicators (2 or n Water-Stained Leaves (IA, and 4B) Drainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (Di Frost-Heave Hummock	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (C9) (LRR A) (C) (LRR A) (C) (LRR A)
Vetland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mate Iron Depo Surface S Inundatio Sparsely	GY trology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S vations: er Present? Yes	agery (B7) Surface (B8	check all that apply) Water-Stains MLRA 1, 2, Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Solis (C6) Stunted or S (LRR A) Other (Explain)	ed Leaves (E 4A, and 4B) 311) ortebrates (B ulfide Odor (f izospheres a Reduced Iro Reduction Ir Stressed Plan ain in Reman	39) (except 13) C1) along Living on (C4) a Tilled nts (D1) ks)		Andary Indicators (2 or 1 Water-Stained Leaves (14, and 4B) Orainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (Di Frost-Heave Hummock	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (C9) (LRR A) (C) (LRR A) (C) (LRR A)
Vetland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely Surface Water Table	GY trology Indicators: ators (minimum of one Vater (A1) er Table (A2) h (A3) trks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S vations: er Present? Yes Present? Yes	agery (B7) Surface (B8	check all that apply) Water-Staine MLRA 1, 2, Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Solis (C6) Stunted or S (LRR A) Other (Explain)	ed Leaves (E 4A, and 4B) 311) ortebrates (B ulfide Odor (f izospheres a Reduced Iro Reduction Ir Stressed Plan ain in Reman	39) (except 13) C1) along Living on (C4) a Tilled nts (D1) ks)		Andary Indicators (2 or n Water-Stained Leaves (IA, and 4B) Drainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (Di Frost-Heave Hummock	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (C9) (LRR A)
Vetland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely Vater Table Saturation P	GY rology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S vations: er Present? Yes resent? Yes	agery (B7) surface (B8	check all that apply) Water-Staine MLRA 1, 2, Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Solis (C6) Stunted or S (LRR A) Other (Explain) Depth (inches)	ed Leaves (E 4A, and 4B) 311) ortebrates (B ulfide Odor (f izospheres a Reduced Inc Reduction In Stressed Plan ain in Reman	39) (except 13) C1) along Living on (C4) a Tilled nts (D1) ks)		Andary Indicators (2 or 1 Water-Stained Leaves (14, and 4B) Orainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (Di Frost-Heave Hummock	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (D2) 6) (LRR A) (s (D7)
Vetland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely Vater Table Saturation P Surface Wate Vater Table	GY irology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S vations: er Present? Yes Present? Yes resent? Yes	agery (B7) iurface (B8	check all that apply) Water-Staine MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Explain) Depth (inches) Depth (inches)	ed Leaves (E 4A, and 4B) 311) striebrates (B' ulfide Odor (izospheres a Reduced Iro Reduction in Stressed Plan ain in Reman	B9) (except 13) C1) along Living on (C4) n Tilled Ints (D1) ks) W	Sec.	ondary Indicators (2 or 1 Water-Stained Leaves (1A, and 4B) Orainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (Di Frost-Heave Hummock	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (C9) (LRR A) (C) (LRR A) (C) (LRR A)
Vetland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely Vater Table Saturation P Surface Wate Vater Table	GY irology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S vations: er Present? Yes Present? Yes resent? Yes	agery (B7) iurface (B8	check all that apply) Water-Staine MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Explain) Depth (inches) Depth (inches)	ed Leaves (E 4A, and 4B) 311) striebrates (B' ulfide Odor (izospheres a Reduced Iro Reduction in Stressed Plan ain in Reman	B9) (except 13) C1) along Living on (C4) n Tilled Ints (D1) ks) W	Sec.	ondary Indicators (2 or 1 Water-Stained Leaves (1A, and 4B) Orainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (Di Frost-Heave Hummock	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (C9) (LRR A) (C) (LRR A) (C) (LRR A)
Vetland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely Selid Obser Surface Wate Vater Table Saturation P	GY rology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S vations: er Present? Yes resent? Yes	agery (B7) iurface (B8	check all that apply) Water-Staine MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Explain) Depth (inches) Depth (inches)	ed Leaves (E 4A, and 4B) 311) striebrates (B' ulfide Odor (izospheres a Reduced Iro Reduction in Stressed Plan ain in Reman	B9) (except 13) C1) along Living on (C4) n Tilled Ints (D1) ks) W	Sec.	ondary Indicators (2 or 1 Water-Stained Leaves (1A, and 4B) Orainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (Di Frost-Heave Hummock	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (D2) 6) (LRR A) (s (D7)
Vetland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely Vater Table Saturation P Surface Wate Vater Table	GY irology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S vations: er Present? Yes Present? Yes resent? Yes	agery (B7) iurface (B8	check all that apply) Water-Staine MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Explain) Depth (inches) Depth (inches)	ed Leaves (E 4A, and 4B) 311) striebrates (B' ulfide Odor (izospheres a Reduced Iro Reduction in Stressed Plan ain in Reman	B9) (except 13) C1) along Living on (C4) n Tilled Ints (D1) ks) W	Sec.	ondary Indicators (2 or 1 Water-Stained Leaves (1A, and 4B) Orainage Patterns (B10 Dry-Season Water Tabl Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (Di Frost-Heave Hummock	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (D2) 6) (LRR A) (s (D7)
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etland Hyc rimary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely Ield Obser Rurface Wate Vater Table Saturation P Rurface Saturation P	GY irology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) irks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S vations: er Present? Yes Present? Yes resent? Yes	agery (B7) iurface (B8	check all that apply) Water-Staine MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Explain) Depth (inches) Depth (inches)	ed Leaves (E 4A, and 4B) 311) striebrates (B' ulfide Odor (izospheres a Reduced Iro Reduction in Stressed Plan ain in Reman	B9) (except 13) C1) along Living on (C4) n Tilled Ints (D1) ks) W	Sec.	ondary Indicators (2 or 1 Water-Stained Leaves (1A, and 4B) Orainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (Di Frost-Heave Hummock	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (D2) 6) (LRR A) (s (D7)
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etland Hyc imary Indic Surface V High Wats Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatio Sparsely Ield Obser urface Wat /ater Table aturation P ncludes cal scribe Rec	GY irology Indicators: ators (minimum of one Vater (A1) er Table (A2) n (A3) irks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) Soil Cracks (B6) n Visible on Aerial Ima Vegetated Concave S vations: er Present? Yes Present? Yes resent? Yes	agery (B7) iurface (B8	check all that apply) Water-Staine MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Explain) Depth (inches) Depth (inches)	ed Leaves (E 4A, and 4B) 311) striebrates (B' ulfide Odor (izospheres a Reduced Iro Reduction in Stressed Plan ain in Reman	B9) (except 13) C1) along Living on (C4) n Tilled Ints (D1) ks) W	Sec.	ondary Indicators (2 or 1 Water-Stained Leaves (1A, and 4B) Orainage Patterns (B10 Dry-Season Water Table Saturation Visible on Ad Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (Di Frost-Heave Hummock	more required) (B9) (MLRA 1, 2,)) le (C2) erial Imagery (C9) (D2) 6) (LRR A) (s (D7)

WETLAND	DETERMINATION DATA FORM – Western Mountains	s. Valie	evs. and	Coast I	Region
-			- 3 - 3	A AMOLI	VOUIDII

Project/Site: Hart Ranch City/County: Siski Vou Co. Sampling Date: 8/23/2010 Applicant/Owner: Hart Ranch State: CA Sampling Point: 7C Investigator(s): Marca Kabe Section, Township, Range: 7.45N, R5W Sect 1, 2+3 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Con Cause Slope (%): S Subregion (LRR): MLRA 22B Lat: 122, 393862 Long: 4/1.6788.96 Datum: NAD 63 Soil Map Unit Name: 180 Cource Local method for the subregion (LRR): NAD 63
Landform (hillslope, terrace, etc.): <u>hillslope</u>
Landform (hillslope, terrace, etc.): <u>hillslope</u>
Subregion (LRR): MLRA 22.B Lat: 122, 393862 Long: 41,678696 Datum: NAD 83
Soil Map Unit Name: 180 BILLELON M
Soil Map Unit Name: 180 BILLELON M
Are climatic (hydrolegia and dittant the state of the st
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Allo Vegetation, Soli, Of Hydrology NID significantly disturbed?
Are vederation Soil anti-duta to No
SUMMARY OF FINDINGS - Attach site man at automotion of the second
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No	Is the Sampled Area within a Wetland?	Yes	No	1
Remarks:	<i>P</i>				ļ

VEGETATION - Use scientific names of plants.

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Tone Charles (PL)	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species? Status	Number of Dominant Species
2		That Are OBL, FACW, or FAC: (A)
3		Total Number of Dominant Species Across All Strata: 2 (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sopling/Charle Strature (Dr.)	= Total Cover	
Sapling/Shrub Stratum (Plot size:) 1.)		Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3.		OBL species x 1 =
4		FACW species x2 =
5		FAC species x 3 =
	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: M2)	20 4 110	UPL species $\underbrace{80}_{\text{Column Totals:}} x 5 = \underbrace{400}_{\text{(A)}} (B)$
1. <u>Bromus tectorum</u> 2. <u>Bseudoregnuna spi</u> l	20 Y UPL	
3	what loo y upl	Prevalence Index = B/A =
4		Hydrophytic Vegetation Indicators:
5	and the second	4 A 1
6.		 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
/,		3 - Prevalence index is <3.0 ¹
0.	1 2 2 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4 - Morphological Adaptations ¹ (Provide supporting
		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	 	
2	A Section and	thetrophoto and
% Bare Ground in Herb Stratum		Hydrophytic Vegetation Present? Yes No
Remarks:		
		1

US Army Corps of Engineers

Western Mountains Vallaus and Oracl Manha an

			Sa malinen Politi	+c
OIL Profile Description: (Describe to the d	with pended to document the li	dicator or co		
	Redox Fe	atures		
Depth <u>Matrix</u> (inches) Color (moist) <u>%</u>	Color (moist) %		Loc ² Texture	Remarks
	- <u> </u>		Doam	
0-9 2.5 YR43 100		e	- loam	
7-18 2,542613 10				
				· · · · · · · · · · · · · · · · · · ·
		· · · · · · · · · · · · · · · · · · ·		
			d Grains. ² Location: PL=Pore	Lining, M=Matrix.
¹ Type: C=Concentration, D=Depletion, R			Indicators for Problemati	
Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwise not	ted.)		c nyune oone i
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (A10) Red Parent Material (T	E2)
Histic Epipedon (A2)	Stripped Matrix (S6)			face (TF12)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLR	Other (Explain in Rema	arks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	,		
Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Redox Dark Surface (F6)		³ Indicators of hydrophy	tic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F	7)	wetland hydrology mut	st be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		unless disturbed or pro	
Restrictive Layer (if present):		Livedala Ca	il Present? Yes	No X
Туре:	· · · · · · · · · · · · · · · · · · ·	Hydric So		
Depth (inches):				
emarks:				
V	no indicators	7		
IYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (2 or r	nore required)
Primary Indicators (minimum of one requir	ed; check all that apply)	(22) (B9) (MLRA 1. 2.
	Water-Stained Leave MLRA 1, 2, 4A, and	2 (BA) (excebt	4A, and 4B)	
Surface Water (A1)	Sait Crust (B11)	413)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Invertebrates	(B13)	Dry-Season Water Tabl	e (C2)
Saturation (A3) Water Marks (B1)	Hydrogen Sulfide Od	or (C1)	Saturation Visible on Ae	rial Imagery (C9)
	Oxidized Rhizosphere	es along Living		2
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (E	(2)
Drift Deposits (B3)	Presence of Reduced	l Iron (C4)	Shallow Aquitard (D3)	
	Recent Iron Reductio	n in Tilleg	FAC-Neutral Test (D5)	
_ Algal Mat or Crust (B4)	Soils (C6) Stunted or Stressed I	Plants (D1)		
Inne Depender (PE)	(LRR A)		Raised Ant Mounds (D	6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6)	Other (Explain in Ren	narks)	Frost-Heave Hummock	s (D7)
Inundation Visible on Aerial Imagery (I				
Sparsely Vegetated Concave Surface	(B8)			
Field Observations:		1		Ν.
Juliavo Hatel Hotelati	No K Depth (inches):	W	etland Hydrology Present? Y	es No
	No 💢 Depth (inches):	"		
Saturation Present? (includes capillary fringe) Yes	No 🗙 Depth (inches):			
Describe Recorded Data (stream gauge, m	ponitoring well, aerial photos. prev	/ious inspectio	ns), if available:	
Describe Recorded Data (stream gauge, m	and the second			
Remarks:				
NG11121143				
	noindica	1		
	The second	21011		

WETLAND DETERMIN	ATION DATA FORM – Westerr	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Andrea Rabe Landform (hillslope, terrace, etc.): hillstop Subregion (LRR): MLRA 22.8 Soil Map Unit Name: 180 (DI Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic	City/County: State: CA San Section, Township, Range: Section, Township, Range: Concave, con Lat: 122 390100 Long:	D. Sampling Date: 8/23/2016 npling Point: 8a SAN, R5W Sect 1, 2+3
	ditch bank	
VEGETATION - Use scientific names Tree Stratum (Plot size:) 1.	of plants. Absolute Dominant Indicat <u>% Cover Species? Statu</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B) Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:) 1.	= Total Cover = Total Cover = Total Cover k (e0 y u p)	That Are OBL, FACW, or FAC: (A/B)Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: a Marcoline a Prevalence Index = B/A = a
4		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 Bare Ground in Herb Stratum	≃ Total Cover	Hydrophytic Vegetation Present? Yes No
1771 Hαι Ν.ֆ.		

 1 $_{2}$

SOIL	States Inter Republic Black
Profile Description: (Describe to the depth needed to documen	t the indicator or confirm the absence of indicators.)
Depth Matrix Re (inches) Color (moist) % Color (moist)	dox Features Remarks
	000 m
10-18 2.54R613 100	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=C	Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwith the source (Ad)	2 cm Muck (A10)
Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2)
Black Histic (A3) Loamy Mucky Mine	ral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4) Loamy Gleyed Mate	
Depleted Below Dark Surface (A11) Depleted Matrix (F3 Thick Dark Surface (A12) Redox Dark Surface	e (F6) ³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Depleted Dark Surf	ace (F7) wetland hydrology must be present,
Sandy Gleyed Matrix (S4) Redox Depressions	(F8) unless disturbed or problematic
Restrictive Layer (if present): Type:	Hydric Soil Present? Yes No
Depth (Inches):	
Remarks:	
	1
	and a
nivinal	cato a
	cato a
HYDROLOGY Wetland Hydrology Indicators:	
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained	Secondary Indicators (2 or more required) Leaves (B9) (except and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) High Water Table (A2)	Secondary Indicators (2 or more required) Leaves (B9) (except and 4B)) Drainage Patterns (B10)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) High Water Table (A2) Saturation (A3)	Secondary Indicators (2 or more required) Leaves (B9) (except and 4B))) Drainage Patterns (B10) Dry-Season Water Table (C2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Secondary Indicators (2 or more required) Leaves (B9) (except and 4B) and 4B) Drainage Patterns (B10) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Inverted Water Marks (B1) Hydrogen Sulfic Sediment Deposits (B2) Roots (C3)	Secondary Indicators (2 or more required) Leaves (B9) (except and 4B) and 4B) Drainage Patterns (B10) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Spheres along Living
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Secondary Indicators (2 or more required) Leaves (B9) (except and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Drainage Patterns (B10) brates (B13) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Saturation (D2) spheres along Living Geomorphic Position (D2) educed Iron (C4) Shallow Aquitard (D3)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) MLRA 1, 2, 4A, High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Inverted Water Marks (B1) Oxidized Rhizo: Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Re	Secondary Indicators (2 or more required) Leaves (B9) (except and 4B) and 4B) Drainage Patterns (B10) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Spheres along Living
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Inverted Water Marks (B1) Hydrogen Sulfic Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Re Algal Mat or Crust (B4) Soils (C6)	Leaves (B9) (except Secondary Indicators (2 or more required) y and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) y) Drainage Patterns (B10) brates (B13) Dry-Season Water Table (C2) de Odor (C1) Saturation Visible on Aerial Imagery (C9) spheres along Living Geomorphic Position (D2) educed Iron (C4) Shallow Aquitard (D3) duction in Tilled FAC-Neutral Test (D5)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) MLRA 1, 2, 4A, High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Invertel Water Marks (B1) Hydrogen Sulfic Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Re Algal Mat or Crust (B4) Soils (C6) Stunted or Stre Iron Deposits (B5)	Leaves (B9) (except and 4B) 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) spheres along Living Geomorphic Position (D2) duction in Tilled FAC-Neutral Test (D5) seed Plants (D1)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Presence of Re Algal Mat or Crust (B4) Surface Soil Cracks (B6)	Leaves (B9) (except and 4B) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Spheres along Living Geomorphic Position (D2) educed Iron (C4) Shallow Aquitard (D3) duction in Tilled FAC-Neutral Test (D5) ssed Plants (D1) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) MLRA 1, 2, 4A, High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Invertel Water Marks (B1) Hydrogen Sulfic Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Re Algal Mat or Crust (B4) Soils (C6) Stunted or Stre Iron Deposits (B5)	Leaves (B9) (except and 4B) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) Spheres along Living Geomorphic Position (D2) educed Iron (C4) Shallow Aquitard (D3) duction in Tilled FAC-Neutral Test (D5) ssed Plants (D1) Raised Ant Mounds (D6) (LRR A)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Invertel Water Marks (B1) Hydrogen Sulfic Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Re Algal Mat or Crust (B4) Soils (C6) Surface Soil Cracks (B6) (LRR A) Surface Soil Cracks (B6) Other (Explain Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Leaves (B9) (except and 4B) 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) spheres along Living Geomorphic Position (D2) duction in Tilled FAC-Neutral Test (D5) seed Plants (D1)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) MLRA 1, 2, 4A, High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Inverted Water Marks (B1) Hydrogen Suffic Oxidized Rhizo: Sediment Deposits (B2) Presence of Re Recent Iron Re Algal Mat or Crust (B4) Solis (C6) Sturface Soil Cracks (B6) (LRR A) Surface Soil Cracks (B6) Other (Explain in undation Visible on Aerial Imagery (B7)	Leaves (B9) (except , and 4B) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) brates (B13) de Odor (C1) spheres along Living educed Iron (C4) duction in Tilled ssed Plants (D1) In Remarks)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Invertel Water Marks (B1) Hydrogen Suffic Sediment Deposits (B2) Roots (C3) Drift Deposits (B3) Presence of Re Algal Mat or Crust (B4) Solis (C6) Surface Soil Cracks (B6) Other (Explain inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Leaves (B9) (except and 4B) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Secondor (C1) spheres along Living Geomorphic Position (D2) duction in Tilled FAC-Neutral Test (D5) seed Plants (D1)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) MLRA 1, 2, 4A, High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Inverted Water Marks (B1) Hydrogen Suffic Oxidized Rhizo: Sediment Deposits (B2) Presence of Re Roots (C3) Drift Deposits (B3) Presence of Re Algal Mat or Crust (B4) Solis (C6) Surface Soil Cracks (B6) Stunted or Stree Iron Deposits (B5) (LRR A) Surface Soil Cracks (B6) Other (Explain Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches):	Leaves (B9) (except , and 4B) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) brates (B13) de Odor (C1) spheres along Living educed Iron (C4) duction in Tilled ssed Plants (D1) In Remarks)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) MLRA 1, 2, 4A, High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Inverted Water Marks (B1) Hydrogen Suffic Oxidized Rhizo: Sediment Deposits (B2) Drift Deposits (B3) Presence of Re Algal Mat or Crust (B4) Soils (C6) Iron Deposits (B5) Stunted or Stre Iron Deposits (B5) (LRR A) Surface Soil Cracks (B6) Other (Explain in inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Depth (inches): Water Table Present? Yes No Water Table Present? Yes No Saturation Present? Yes No Depth (inches):	Leaves (B9) (except , and 4B) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) brates (B13) de Odor (C1) spheres along Living educed Iron (C4) duction in Tilled ssed Plants (D1) In Remarks) Wetland Hydrology Present? Yes Wetland Hydrology Present?
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Water-Stained High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Inverted Water Marks (B1) Hydrogen Suffic Oxidized Rhizo: Sediment Deposits (B2) Drift Deposits (B3) Presence of Re Algal Mat or Crust (B4) Solis (C6) Surface Soil Cracks (B6) Stunted or Stree Innundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes No Water Table Present? Yes No Water Table Present? Yes No	Leaves (B9) (except , and 48) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) brates (B13) de Odor (C1) spheres along Living educed Iron (C4) duction in Tilled ssed Plants (D1) In Remarks) Wetland Hydrology Present? Yes Wetland Hydrology Present?
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) MLRA 1, 2, 4A, High Water Table (A2) Salt Crust (B11 Saturation (A3) Aquatic Inverted Water Marks (B1) Hydrogen Suffic Oxidized Rhizo: Sediment Deposits (B2) Drift Deposits (B3) Presence of Re Algal Mat or Crust (B4) Solis (C6) Surface Soil Cracks (B6) Stunted or Stre Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Yes Sutration Present? Yes Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches):	Leaves (B9) (except , and 48) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) brates (B13) de Odor (C1) spheres along Living educed Iron (C4) duction in Tilled ssed Plants (D1) In Remarks) Wetland Hydrology Present? Yes Wetland Hydrology Present?

noindicators

WETLAND DETERMINA	ATION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: Hark Ranch Applicant/Owner: Hart Ranch Investigator(s): Andrea Rabe Landform (hillslope, terrace, etc.): HISLO Subregion (LRR): MLRA 22B Soil Map Unit Name: KD Durin Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Yes	City/County: Siski You C State: CA Samp Section, Township, Range: T Local relief (concave, conve Lat: 122,390094 Long: 4.6 Lat: 122,390094 Long: 4.6 Lat: 122,390094 Long: 4.6 Section, Township, Range: T Local relief (concave, conve Lat: 122,390094 Long: 4.6 Section and the section of the section	9. Sampling Date: Sampling Date: Sampling Date: 7. Sampling Date: NAD & Sampling Date: Sampling Date: 9. (If no, explain in Remarks.) No Sampling Date: 10. (If needed, explain any answers in Remarks.) No Sampling Date: 11. Sampling Date: Sampling Date: Sampling Date: Sampling Date: 11. Sampling Date: Sampling Date: Sampling Date: Sampling Date: Sampling Date: 12. Sampling Date: Sampling Date: Sampling Date: Sampling
Wetland Hydrology Present? Yes	No is the Sampled Area w	Ithin a Wetland? Yes No
Remarks: Litch		
VEGETATION - Use scientific names		
Tree Stratum Plot size:) 1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant
		Species Across All Strata: (B) Percent of Dominant Species
4		That Are OBL, FACW, or FAC; (A/B)
Sapling/Shrub Stratum (Plot size:)	= Total Cover	Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
3.		OBL species x 1 =
4		FACW species x2 = FAC species x3 =
5		FAC species X 3 = FACU species X 4 =
Herb Stratum (Plot size: 1.	= Total Cover	UPL species x 5 = Column Totals: (A) (B)
2		Prevalence Index = B/A =
4.		Hydrophytic Vegetation Indicators:
5	- 2007 (H. 1997) (H. 1997)	1 - Rapid Test for Hydrophytic Vegetation
7.	100 at 27 75" and	2 - Dominance Test is >50%
8	State of the	3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
11	1 Provension and	5 - Wetland Non-Vascular Plants ¹
Woody Vine Stratum (Plot size:)	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2		
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes X No
Remarks:	unter	All a second sec
no veg ope	n water c while matic Da-ch while Dyes Was	MF Edgerse very parian
JS Army Corps of Engineers		

US Army Corps of Engineers

Western Mountains Valleye and Coast Marshan an

			SEIGHT	
Profile Description: (Describe to th	e depth needed to document th	e indicator or confir	m the absence of in	dicators.)
Depth <u>Matrix</u>	Redux	(reatures	Loc ² Textu	and the second se
(inches) Color (moist)	% Color (moist) %		000	Ma
0-6 2.542	<u></u>		<u></u>	
1-18 0.5 VRb1, 1	10 SVEYLA		<u>r san</u>	dyloam
				<i>l</i>
				_
			21	PL=Pore Lining, M=Matrix.
¹ Type: C=Concentration, D=Depletio	n, RM=Reduced Matrix, CS=Cove	ered or Coated Sand		
Hydric Soil Indicators: (Applicabl	e to all LRRs, unless otherwise	noted.)		roblematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (/	A10) Matarial (TE2)
Histic Epipedon (A2)	Stripped Matrix (S6)			Material (TF2) / Dark Surface (TF12)
Black Histic (A3)	Loamy Mucky Mineral	(F1) (except MLRA 1 (F0)	Other (Expla	in in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (Depleted Matrix (F3)	(F2)		
Depleted Below Dark Surface (A	Redox Dark Surface (F	F6)	³ Indicators o	f hydrophytic vegetation and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Depleted Dark Surface	e (F7)	wetland hvdr	ology must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F		unless distu	bed or problematic
Restrictive Layer (if present):		Hydric Soil P	recent? Yes	X No
Туре:				
Depth (inches):		<u> </u>		
emarks:				
		1 1. 1	Los Nord 1	AL CALL MA AND
0,	xcaupted c	litch.	WORDOL	rt soil in Ocl
			when	ditch din.
IYDROLOGY			a contraction of the second se	ST VIC UP H
Wetland Hydrology Indicators:	eviced, shock all that apply)		Secondary Indica	tors (2 or more required)
Primary Indicators (minimum of one re	Water-Stained Lea	aves (B9) (except	Water-Stained	Leaves (B9) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, at	nd 4B)	4A, and 4B)	
High Water Table (A2)	Salt Crust (B11)		Drainage Pat	erns (B10) Vater Table (C2)
Saturation (A3)	Aquatic Invertebra	ites (B13)	Dry-Season V	sible on Aerial Imagery (C9)
Yater Marks (B1)	Hydrogen Sulfide	heres along Living	Saturation vis	
	Roots (C3)	Heres along Living	Geomorphic I	Position (D2)
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Redu	iced Iron (C4)	Shallow Aqui	ard (D3)
	Recent Iron Redu	ction in Tilled		
Algai Mat or Crust (B4)	Soils (C6)		FAC-Neutral	lest (D5)
	Stunted or Stress	ed Plants (D1)	Raised Ant M	iounds (D6) (LRR A)
Iron Deposits (B5)	(LRR A) Other (Explain in	Remarks)	Frost-Heave	Hummocks (D7)
Surface Soil Cracks (B6) Inundation Visible on Aerial Image		Romanoy		
Sparsely Vegetated Concave Surfa	ace (B8)			
Field Observations:	r	10.00		
Surface Water Present? Yes	No Depth (inches):	18in	and Hydrology Pres	ent? Yes No
Water Table Present? Yes	No Depth (inches):		and myanology mean	
Saturation Present?	No Depth (inches):	ł		·
(includes capillary fringe) Yes 🔨 Describe Recorded Data (stream gauge	e monitoring well, aerial photos, i	previous inspections).	if available:	
Describe Recorded Data (stream gaugi	et monitoring mont sonar buoroot (
Remarks:				
Remarks:				
Remarks:				

WETLAND DETERMINATION DATA FORM Western Mountains, Valleys, and Coast Region
Project/Site: Hart-Ranch City/County Siskiving Par Some Size 122/2011
Applicativowner: TAPT KANCh State: CA Sampling Point:
section, Township, Range: 1:45N, R 5W Sect 1.2+3
Subregion (LRR): MLKA 228
Soil Map Unit Name: 180 Duile Loam
Are Climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No Are Vegetation, Soil, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No
Remarks:

VEGETATION – Use scientific names of plants.

Tree Strategy (Plot size:)	Absolute Dominant Indicato	Dominance Test worksheet:
1)	% Cover Species? Status	Number of Dominant Species
2.		That Are OBL, FACW, or FAC: (A)
		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x1 =
3.		FACW species x2 =
1.		FAC species x3 =
5		FACU species $x_4 = 80$
102	= Total Cover	
Herb Stratum (Plot size: 1)		
1. 19 Danregrena spicata	40 4 100	Column Totals: (00 (A) (200 (B)
2. Festuch idak ponsis	20 9 FACU	Prevalence Index = B/A =
3. Bromus tectory	40 4 UPC	
		Hydrophytic Vegetation Indicators:
	South and the second	1 - Rapid Test for Hydrophytic Vegetation
	hear instances	2 - Dominance Test is >50%
		$3 - Prevalence index is < 3.0^{1}$
9		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10,		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	20 = Total Cover	¹ Indicators of hydric soll and wetland hydrology must be present, unless disturbed or problematic.
2	and the second	to Back
		Hydrophytic
% Bare Ground in Herb Stratum	= Total Cover	Vegetation Present? Yes No X
Remarks:		
1. 2001 FINDE FINDE	· · · · · · · · · · · · · · · · · · ·	
		1

					Spinieline Polis	BC
SOIL				he indicator or cr	nfirm the absence of indicators)	
	cription: (Describe	to the depth	needed to document ti	ne indicator or col x Features	nfirm the absence of indicators.)	
Depth	Color (moist)			6 Type	Loc ² Texture	Remarks
(inches)					- Doom	
0-10	1042313	100				
10-15	2,5 YR 6/3	100	<u> </u>		~Cam_	
<u></u>						
<u> </u>		<u> </u>				
		······································	<u> </u>	<u> </u>		
		<u> </u>				
<u></u>		<u> </u>				
					nd Grains, ² Location: PL=Pore L	inino, M=Matrix.
			educed Matrix, CS=Cov			
Hydric Soil	I Indicators: (Appli	cable to all L	RRs, unless otherwise	noted.)	Indicators for Problematic	; Hydric Solia .
Histoso	of (A1)		Sandy Redox (S5)		2 cm Muck (A10)	50)
Histic E	pipedon (A2)		Stripped Matrix (S6)		Red Parent Material (TI Very Shallow Dark Surf	*4) ace (TE12)
	listic (A3)		Loamy Mucky Mineral		Other (Explain in Rema	1ks)
	en Sulfide (A4)		Loamy Gleyed Matrix Depleted Matrix (F3)	([2]		
	ed Below Dark Surfac Dark Surface (A12)	≥(////)	Redox Dark Surface (F6)	³ Indicators of hydrophyl	ic vegetation and
	Mucky Mineral (S1)		Depleted Dark Surface	e (F7)	wetland hydrology must	t be present,
	Gleyed Matrix (S4)	1000	Redox Depressions (F	-8)	unless disturbed or prol	
						\checkmark
Restrictive La	ayer (if present):			Lindria Sa	il Present? Yes	No A
Туре:						
Depth (Inc	hes):			<u> </u>		
Remarks:						
			noindice	itor		
<u></u>						
HYDROLOG	GY					
Wetland Hvd	rology Indicators:			-	Secondary Indicators (2 or m	ore required)
Primary Indica	ators (minimum of or	ie required; cl	neck all that apply)	aves (B9) (except		9) (MLRA 1, 2,
Surface W	(atos (A1)		MLRA 1, 2, 4A, a	nd 48)	4A, and 4B)	
	er Table (A2)		Sait Crust (B11)	,	Drainage Patterns (B10)	
Saturation						
Water Mar	I (A3)		Aquatic Invertebra	ates (B13)	Drv-Season Water Table	(C2)
			Aquatic Invertebra	Odor (C1)	Dry-Season Water Table	(C2) ial Imagery (C9)
	rks (B1)		Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	ates (B13) Odor (C1) heres along Living	Dry-Season Water Table Saturation Visible on Aer	ial Imagery (C9)
Sediment	rks (B1) Deposits (B2)		Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3)	Odor (C1) heres along Living	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2	ial Imagery (C9)
	rks (B1) Deposits (B2)		Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu	Odor (C1) heres along Living uced Iron (C4)	Dry-Season Water Table Saturation Visible on Aer	ial Imagery (C9)
Sediment Drift Depo	rks (B1) Deposits (B2) sits (B3)		Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3)	Odor (C1) heres along Living uced Iron (C4)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2	ial Imagery (C9)
Sediment Drift Depo	rks (B1) Deposits (B2)		Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu	Odor (C1) heres along Living uced Iron (C4) uction in Tilled	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5)	ial Imagery (C9) 2)
Sediment Drift Depo	rks (B1) Deposits (B2) sits (B3) or Crust (B4)		Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A)	Odor (C1) heres along Living uced Iron (C4) uction in Tilled and Plants (D1)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	ial Imagery (C9) 2)) (LRR A)
Sediment Drift Depo Algal Mat Iron Depo Surface S	rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) coll Cracks (B6)		Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress	Odor (C1) heres along Living uced Iron (C4) uction in Tilled and Plants (D1)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5)	ial Imagery (C9) 2)) (LRR A)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation	rks (B1) Deposits (B2) or Crust (B4) sits (B5) coll Cracks (B6) n Visible on Aerial Im	lagery (B7)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A)	Odor (C1) heres along Living uced Iron (C4) uction in Tilled and Plants (D1)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	ial Imagery (C9) 2)) (LRR A)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior	rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) coll Cracks (B6)	lagery (B7) Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A)	Odor (C1) heres along Living uced Iron (C4) uction in Tilled and Plants (D1)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	ial Imagery (C9) 2)) (LRR A)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior Sparsely V	rks (B1) Deposits (B2) or Crust (B4) sits (B5) foll Cracks (B6) in Visible on Aerial Im Vegetated Concave	agery (B7) Surface (B8) 	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in	Odor (C1) heres along Living uced Iron (C4) uction in Tilled and Plants (D1)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	ial Imagery (C9) 2)) (LRR A)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundatior	rks (B1) Deposits (B2) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial Im Vegetated Concave S vations:	Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in	Odor (C1) wheres along Living uced Iron (C4) uction in Tilled and Plants (D1) Remarks)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	ial Imagery (C9) 2)) (LRR A) (D7)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely Field Obsern Surface Wate Water Table	rks (B1) Deposits (B2) Isits (B3) or Crust (B4) Isits (B5) Ioll Cracks (B6) In Visible on Aerial Im Vegetated Concave S Vegetated Concave S Vegetated Concave S Vegetated Concave S Vegetated Concave S Vegetated Concave S	Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in	Odor (C1) wheres along Living uced Iron (C4) uction in Tilled and Plants (D1) Remarks)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	ial Imagery (C9) 2)) (LRR A) (D7)
Sediment Drift Depo Algal Mat Iron Depo Surface S Sparsely V Field Obsern Surface Wate Water Table Saturation Pr	rks (B1) Deposits (B2) isits (B3) or Crust (B4) isits (B5) ioll Cracks (B6) in Visible on Aerial Im Vegetated Concave 3 vations: er Present? Yes Present? Yes	Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in Depth (inches):	Odor (C1) wheres along Living uced Iron (C4) uction in Tilled and Plants (D1) Remarks)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks	ial Imagery (C9) 2)) (LRR A) (D7)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely V Field Obsern Surface Wate Water Table Saturation Pr (includes cap	rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soll Cracks (B6) n Visible on Aerial Im Vegetated Concave s vations: er Present? Yes Present? Yes present? Yes	Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in Depth (inches): Depth (inches):	Odor (C1) wheres along Living uced Iron (C4) uction in Tilled and Plants (D1) Remarks)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks etland Hydrology Present? Yee	ial Imagery (C9) 2)) (LRR A) (D7)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely V Field Obsern Surface Wate Water Table Saturation Pr (includes cap	rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soll Cracks (B6) n Visible on Aerial Im Vegetated Concave s vations: er Present? Yes Present? Yes present? Yes	Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in Depth (inches):	Odor (C1) wheres along Living uced Iron (C4) uction in Tilled and Plants (D1) Remarks)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks etland Hydrology Present? Yee	ial Imagery (C9) 2)) (LRR A) (D7)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely V Field Obsern Surface Wate Water Table Saturation Pr (includes cap	rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soll Cracks (B6) n Visible on Aerial Im Vegetated Concave s vations: er Present? Yes Present? Yes present? Yes	Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in Depth (inches): Depth (inches):	Odor (C1) wheres along Living uced Iron (C4) uction in Tilled and Plants (D1) Remarks)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks etland Hydrology Present? Yee	ial Imagery (C9) 2)) (LRR A) (D7)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely V Field Observ Surface Wate Water Table Saturation Pr (includes cap Describe Reco	rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soll Cracks (B6) n Visible on Aerial Im Vegetated Concave s vations: er Present? Yes Present? Yes present? Yes	Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in Depth (inches): Depth (inches):	Odor (C1) wheres along Living uced Iron (C4) uction in Tilled and Plants (D1) Remarks)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks etland Hydrology Present? Yee	ial Imagery (C9) 2)) (LRR A) (D7)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely V Field Obsern Surface Wate Water Table Saturation Pr (includes cap	rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soll Cracks (B6) n Visible on Aerial Im Vegetated Concave s vations: er Present? Yes Present? Yes present? Yes	Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in Depth (inches): Depth (inches):	Odor (C1) wheres along Living uced Iron (C4) uction in Tilled and Plants (D1) Remarks)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks etland Hydrology Present? Yee	ial Imagery (C9) 2)) (LRR A) (D7)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely V Field Observ Surface Wate Water Table Saturation Pr (includes cap Describe Reco	rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soll Cracks (B6) n Visible on Aerial Im Vegetated Concave s vations: er Present? Yes Present? Yes present? Yes	Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in Depth (inches): Depth (inches):	Odor (C1) wheres along Living uced Iron (C4) uction in Tilled and Plants (D1) Remarks) We previous inspection	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks etland Hydrology Present? Ye ns), if available:	ial Imagery (C9) 2)) (LRR A) (D7)
Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely V Field Obsert Surface Wate Water Table Saturation Pr (includes cap Describe Reco	rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) soll Cracks (B6) n Visible on Aerial Im Vegetated Concave s vations: er Present? Yes Present? Yes present? Yes	Surface (B8)	Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in Depth (inches): Depth (inches):	Odor (C1) wheres along Living uced Iron (C4) uction in Tilled and Plants (D1) Remarks)	Dry-Season Water Table Saturation Visible on Aer Geomorphic Position (D2 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks etland Hydrology Present? Ye ns), if available:	ial Imagery (C9) 2)) (LRR A) (D7)

Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Andrea Rabe Landform (hillslope, terrace, etc.): hills I Subregion (LRR): MLRA 228 Soil Map Unit Name: 180 Day Are climatic / hydrologic conditions on the site to Are Vegetation, Soil, or Hydrol	City/County: State: CA San Section, Township, Range: Concave, con Local relief (concave, con Lat: 10,388713 Long: 41 Vpical for this time of year? Yes X N ogy No significantly disturbed? Ar	Indiana Point: Image: Point:
VEGETATION - Use scientific names		
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicato <u>% Cover Species?</u> Status = Total Cover = Total Cover	
4	he of stations	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
emarks:		

-

DIL			Sentigling: Polis	<u> 70</u>
Profile Description: (Describe to the	e depth needed to document the in	ndicator or confir	m the absence of indicators.	
Depth Matrix	Redox Fe	aluies .	Loc ² Texture	Remarks
D-11 2542121	00	&	ban	<u> </u>
1-18 2.5426/3 1	20		10am	<u> </u>
				<i>N</i>
				<u> </u>
		<u> </u>		
Type: C=Concentration, D=Depletion	n, RM=Reduced Matrix, CS=Covered	or Coated Sand	Grains. ² Location: PL=Pore	Lining, M=Matrix.
			Indicators for Problemat	ic Hydric Solis ³ :
Hydric Soil Indicators: (Applicable			2 cm Muck (A10)	
Histosol (A1)	Sandy Redox (S5) Stripped Matrix (S6)		Red Parent Material (TF2)
Histic Epipedon (A2)	Loamy Mucky Mineral (F1) (except MLRA 1	 Very Shallow Dark Su 	rface (TF12)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	en de Ello	Other (Explain in Rem	narks)
Depleted Below Dark Surface (A	11) Depleted Matrix (F3)		3	المحمد محافمة محمون ماقر
Thick Dark Surface (A12)	Redox Dark Surface (F6)	-	³ Indicators of hydroph wetland hydrology mu	yuc vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F	7)	unless disturbed or pr	oblematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)			· · · · · · · · · · · · · · · · · · ·
estrictive Layer (if present):				N (
		Hydric Soil P	Present? Yes	_ No 🗡
Type: Depth (inches):	· · · · · · · · · · · · · · · · · · ·			
				······
marks:				
	noindica			
etland Hydrology Indicators:	wind, shark all that apply)		Secondary Indicators (2 or	more required)
rimary Indicators (minimum of one rec	Water-Stained Leaves	s (B9) (except	Water-Stained Leaves	(B9) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, and 4	B)	4A, and 4B)	
High Water Table (A2)	Salt Crust (B11)		Drainage Patterns (B10)) Ja (C2)
Saturation (A3)	Aquatic Invertebrates	(B13)	Dry-Season Water Tab Saturation Visible on A	erial Imagery (C9)
Water Marks (B1)	Hydrogen Sulfide Ode	or (C1)		Chan integers ()
	Oxidized Rhizosphere Roots (C3)	S SIONG LIVING	Geomorphic Position ()
Sediment Deposits (B2)	Presence of Reduced	Iron (C4)	Shallow Aquitard (D3)	
Drift Deposits (B3)	Recent Iron Reductio	n in Tilled		
Algal Mat or Crust (B4)	Soils (C6)		FAC-Neutral Test (D5)	
-	Stunted or Stressed I	Plants (D1)	Raised Ant Mounds (D	6) (LRR A)
Iron Deposits (B5)	(LRR A)	oarke)	Frost-Heave Hummoci	
Surface Soil Cracks (B6)	Other (Éxplain in Rer	na Noj		
Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa	y (57) 100 (88)			
- Sharsely reference converse cons	···· \ /			
ield Observations:				
Surface Water Present? Yes	_ No 🦳 Depth (inches):			res No 🕅
Vater Table Present? Yes	🗌 No 🔀 Depth (inches): 🛛	(Wetla	and Hydrology Present?	
Saturation Present?	No Depth (inches):	[
includes capillary fringe) Yes	No/ Depth (inches):	ious inspections)	if available:	
escribe Recorded Data (stream gauge	, monitoring well, aerial protos, prev	ione in isheorionis)	·· ···········	
emarks:				
marks:	, 4 P	1		
emarks:	no indi	ntor	jan.	

WETLAND DETERMINA	TION DATA FORM - Western M	fountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Marta Rabe Landform (hillslope, terrace, etc.): hillslop Subregion (LRR): MLRA 22B Soil Map Unit Name: 180 Are climatic / hydrologic conditions on the site typ Are Vegetation , Soil , or Hydrolog Are Vegetation , Soil , or Hydrolog SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes X	City/County: Siski You Co State: CA Samp Section, Township, Range: Local relief (concave, conver Lat: 1223287:12 Long: Local for this time of year? Yes X No By ND significantly disturbed? Are NO naturally problematic? e map showing sampling point No Lis the Sampled Area with	Sampling Date: 8/23/2010 ing Point: 96 45N, K5W Sect 1, 2+3 x, none): CONCOLM, Slope (%): 6 79D.73 Datum: NAD &3 NWI classification: NIA (If no, explain in Remarks.) Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) Iocations, transects, important features, etc.
ditch		
VEGETATION – Use scientific names	of plants.	
The Charter (Distance)	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Strature (Plot size:) 1.	<u>% Cover Species? Status</u>	Number of Dominant Species
2		That Are OBL, FACW, or FAC: (A)
3.		Total Number of Dominant Species Across All Strata: (B)
4.		Percent of Dominant Species
	······································	That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1	······	Total % Cover of: Multiply by:
2		OBL species x1 =
3		FACW species x 2 =
5.		FAC species x 3 =
	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: MC)		UPL species x 5 =
1		Column Totals: (A) (B)
2		Prevalence Index = B/A =
3		
4		Hydrophytic Vegetation Indicators:
5	a di santa ang dipang di	1 - Rapid Test for Hydrophytic Vegetation
7.	have been the weat	2 - Dominance Test is >50%
8.		3 - Prevalence Index is ≤3.0 ¹
9		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
······································	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)		be present, unless disturbed or problematic,
1		and the second
		Hydrophytic
% Bare Ground in Herb Stratum	= Total Cover	
	Articl.	Present? Yes No
Remarks:	ANT MARCH	i adae
(Lei	Veg up matte	ma-mapping red
110	Drobuin	es when mise is daily
	veg open weit Problematic Dy	es Da-chandrupte dge es Da-chandrupte veg waard parse veg bsparse riparian

				.
SOIL			Sampling 2010	L
Profile Description: (Describe to the	depth needed to document the	he indicator or con	nim the absence of indicators.)	
Depth Matrix		x Features 6* Type'	Loc ² Texture Remarks	
(inches) Color (moist) %		o <u>Type</u>		
0-5 2.542 3 1) <i>0</i>		loam	<u> </u>
5-18 8.5V261,90	54R46 1	/3	PL Sandy/cam	
<u> 370 - 1607/ 10</u>	<u> </u>			
	8		<u> </u>	
		1	v	
				—
			d Grains. ² Location: PL=Pore Lining, M=Matri	~
¹ Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, CS=Cov	ered or Coated San	GrainsLocation: PL=Pore Lining, we wat	<u>~</u>
Hydric Soil Indicators: (Applicable t	o all LRRs, unless otherwise	noted.)	Indicators for Problematic Hydric Soils	4
			2 cm Muck (A10)	
Histosol (A1)	Sandy Redox (S5)		Red Parent Material (TF2)	
Histic Epipedon (A2)	<u>7</u> Stripped Matrix (S6)			
Black Histic (A3)	Loamy Mucky Mineral	(F1) (except MLRA	Other (Explain in Remarks)	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix	(F2)		
Depleted Below Dark Surface (A11) Depleted Matrix (F3)	50)	³ Indicators of hydrophytic vegetation a	nd
Thick Dark Surface (A12)	Redox Dark Surface (i		wetland hydrology must be present,	
Sandy Mucky Mineral (S1)	Depleted Dark Surface		unless disturbed or problematic	
Sandy Gleyed Matrix (S4)	Redox Depressions (F	-0)		
			A .	
Restrictive Layer (if present):			Present? Yes X No	
Туре:		Hydric Soll	Present? Yes No No	
Depth (inches):		_	-	
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:			Openanders Indicators (2 or more required)	
Primary Indicators (minimum of one requi	red; check all that apply)		Secondary Indicators (2 or more required)	
V	Water-Stained Lea	aves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,	,
Nurface Water (A1)	MLRA 1, 2, 4A, ar	1d 4B)	4A, and 4B)	
So High Water Table (A2)	Salt Crust (B11)		Drainage Patterns (B10)	
Saturation (A3)	Aquatic Invertebra	tes (B13)	Dry-Season Water Table (C2)	••
Water Marks (B1)	Hydrogen Sulfide		Saturation Visible on Aerial Imagery (C9)	"
—	Oxidized Rhizosph	neres along Living	On any angle Register (D2)	
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (D2)	
Drift Deposits (B3)	Presence of Redu		Shallow Aquitard (D3)	
	Recent Iron Redu	ction in Tilled		
Algal Mat or Crust (B4)	Soils (C6)		FAC-Neutral Test (D5)	
	Stunted or Stresse	ed Plants (D1)	But and Anthermode (DC) (LDD A)	
Iron Deposits (B5)	(LRR A)		Raised Ant Mounds (D6) (LRR A)	
Surface Soil Cracks (B6)	Other (Explain in I	Remarks)	Frost-Heave Hummocks (D7)	
	D7)			
Inundation Visible on Aerial Imagery (
Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface				
Sparsely Vegetated Concave Surface		7		
Sparsely Vegetated Concave Surface Field Observations:		Din		
Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes X	, (B8)	D N Wet	and Hydrology Present? Yes No	
Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Yes Yes	No Depth (inches):	Din Wet	and Hydrology Present? Yes No	
Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Saturation Present?	(B8) No Depth (inches): No Depth (inches):	Wet	and Hydrology Present? Yes No	
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Yes	(B8) No Depth (inches): No Depth (inches): No Depth (inches):			
Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Saturation Present?	(B8) No Depth (inches): No Depth (inches): No Depth (inches):			
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Yes	(B8) No Depth (inches): No Depth (inches): No Depth (inches):			
Sparsely Vegetated Concave Surface	(B8) No Depth (inches): No Depth (inches): No Depth (inches):			
Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Yes	(B8) No Depth (inches): No Depth (inches): No Depth (inches):			
Sparsely Vegetated Concave Surface	(B8) No Depth (inches): No Depth (inches): No Depth (inches):			

WETLAND DETERMIN	ATION DATA FORM - Westerr	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Hart Ranch Landform (hillslope, terrace, etc.): hillslop Subregion (LRR): MLRA 22B Soil Map Unit Name: 180 / Are Climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic	City/County: State: CA San Section, Township, Range: Local relief (concave, con Lat: 122,388779 Long: 11.6 Diff 100000 pical for this time of year? Yes X N pogy ND significantly disturbed? An Dogy ND naturally problematic? te map showing sampling poi No X Is the Sampled Area	$\begin{array}{c c} \hline & & \\ \hline \\ \hline$
Ut	ch bane	1
VEGETATION - Use scientific names	of planta	
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicate <u>% Cover Species? Status</u>	
Sapling/Shrub Sthatum (Plot size:) 1. 2. 3.	= Total Cover	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 =
Herb Stratum (Plot size: M ²) A. <u>Lentaunea</u> Sotstitialia 2	= Total Cover 409. Y UPL	FACU species $x 4 =$ UPL species 40 $x 5 = 100$ Column Totals: 40 (A) Prevalence index = $B/A =$ (B)
0	a gan tu tu gan Agan Ariptis a S	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹
1 (Plot size:)	UD = Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Bare Ground in Herb Stratum	≃ Total Cover	Hydrophytic Vegetation Present? Yes No
emarks:		

-

DIL			States (1997) - Postal	40
Profile Description: (Describe to the	e depth needed to document the i	ndicator or con	firm the absence of Indicators.	
Depth <u>Matrix</u>	REUUXITE	aluies	Loc ² Texture	Remarks
	6 Color (moist) %	_ Type		
D-10 asyrue 10	0		loam	
10-18 2.54RLAS 11	<u> 7</u>		MICH A	
		6 <u> </u>		
Type: C=Concentration, D=Depletion	RM=Reduced Matrix, CS=Covere/	d or Coated San	d Grains. ² Location: PL=Pore	Lining, M=Matrix.
			Indicators for Problemat	ic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable	to all LRRs, unless otherwise no	ted.)		ie nyano o ano .
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (A10) Red Parent Material (FE91
Histic Epipedon (A2)	Stripped Matrix (S6)			rface (TE12)
Black Histic (A3)	Loamy Mucky Mineral (F		Other (Explain in Rem	arks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2 Depleted Matrix (F3))		,
Depleted Below Dark Surface (A1	Redox Dark Surface (F6)		³ Indicators of hydroph	ytic vegetation and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Depleted Dark Surface (F	7)	wetland hydrology mu	st be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	-	unless disturbed or pr	oblematic
estrictive Layer (if present):				No X
Туре:		Hydric Soi	l Present? Yes	NO A
Depth (Inches):				
narks:				
/DROLOGY	noindicato			
Vetland Hydrology Indicators:			Occurrent and instant (2 or	more required)
rimary indicators (minimum of one req	uired; check all that apply)		Secondary Indicators (2 or Water-Stained Leaves	(R9) (MI RA 1, 2.
	Water-Stained Leave	s (89) (except	4A, and 4B)	
Surface Water (A1)	MLRA 1, 2, 4A, and	4D)	Drainage Patterns (B10))
High Water Table (A2)	Salt Crust (B11) Aquatic Invertebrates	(B13)	Dry-Season Water Tab	le (C2)
Saturation (A3)	Hydrogen Sulfide Od	or (C1)	Saturation Visible on A	erial Imagery (C9)
Water Marks (B1)	Oxidized Rhizospher			
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (I	J2}
Drift Deposits (B3)	Presence of Reduce	d Iron (C4)	Shallow Aquitard (D3)	
	Recent Iron Reduction	n in Tilled	FAC-Neutral Test (D5)	
Algal Mat or Crust (B4)	Soils (C6) Stunted or Stressed	Plante (D1)		
	(LRR A)		Raised Ant Mounds (D	6) (LRR A)
iron Deposits (B5) Surface Soil Cracks (B6)	Other (Explain in Re	marks)	Frost-Heave Hummoch	(D7)
Inundation Visible on Aerial Imagen		ŗ		
Sparsely Vegetated Concave Surfa	ce (B8)			
	\sim			
Field Observations:			tland Hydrology Present?	es No
Surface Water Present? Yes	No 🥍 Depth (inches):	1 94/-		
Surface Water Present? Yes	No / Depth (inches):	We	lianu Hydrology i reserier	ď
Surface Water Present? Yes Water Table Present? Yes Saturation Present?	No Depth (inches):	We		
Surface Water Present? Yes	No Depth (inches):		-	d
Surface Water Present? Yes	No Depth (inches):		-	
Water Table Present? Yes	No Depth (inches):	vious inspection	s), if available:	
Surface Water Present? Yes Water Table Present? Yes Saturation Present? Includes capillary fringe) Yes escribe Recorded Data (stream gauge	No Depth (inches):	vious inspection	s), if available:	
Surface Water Present? Yes Water Table Present? Yes Saturation Present? (Includes capiliary fringe) Yes escribe Recorded Data (stream gauge	No Depth (inches):	vious inspection	s), if available:	

Project/Site: HAAR AARCH State: State: Sampling Point Dot Applicant/Conner: HAAR'S CALLS Section. Township, Range: The State: Dot Stote: Dot Dot Dot Stote: Dot Dot	WETLAND DETERMINA	TION DATA FORM – Western	Mountains, Valleys, and Coast Region
VEGETATION - Use scientific names of plants. Image Stratum Indestratum Plot size: 1 Absolute Dominant 2 Status That Are OBL, FACW, or FAC: (A) 3	Project/Site: HAARAAAA Applicant/Owner: HAARAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	City/County: Siski Vou State: CA Sam Section, Township, Range: DOC Local relief (concave, com Lat: 122.381116 Long: 11 COMMENT Dical for this time of year? Yes X N Dy ND significantly disturbed? And Dy ND naturally problematic? Te map showing sampling point No X Is the Sampled Area of No X Is the Sampled Area of No X	Sampling Date: 8/23/2016 Signa Point: 100 Vex none): 000 Vex Slope (%): 5 Vex none): 000 Vex Slope (%): 5 Vex Datum: NAD 83 NWI classification: 010 (If no, explain in Remarks.) e "Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) mt locations, transects, important features, etc.
Inee Stratum (Rot size:) Absolute Dominant: Indicator 1. 2. Status Mumber of Dominant Species (A) 2. Total Number of Dominant Species (A) 3. Species 7 Status (B) 4. Percent of Dominant Species (B) 5. Total Number of Dominant Species (A) 7. Species Across All Stratus (B) 7. Percent of Dominant Species (A) 7. Species Across All Stratus (B) 7. Prevalence Index worksheet: (B) 7. Total % Cover of: Multiply by: 2. OB: species x1 = 5. FACW species x2 = FACW species x3 = FACW species x4 = 0. Species x3 = FACW species x4 = 0. Species x4 = Species x5 = 1. Cohrmit Totals (A) Species x4 = 1. Species x3 = Species x4 = 1. Species			
Inee Stratum (Rot size:			Dominance Test worksheet:
Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 Rapid Test for Hydrophytic Vegetation 2 Dominance Test is >60% 3 - Prevalence Index Is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 0 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) 1 - Problematic Hydrophytic vegetation ¹ (Explain) Modey Vine Stratum (Plot size:) Bare Ground in Herb Stratum 4/D = Total Cover Hydrophytic Vegetation Present? Yes No	1.	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species X1 = FACW species X2 = FAC species X3 = FACU species X4 = UPL species X5 =
Importation Importation	·		
1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is <3.01			Hydrophytic Vegetation Indicators:
2 - Dominance Test is >50% 3 - Prevalence Index Is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Bare Ground in Herb Stratum 4/b			1 - Rapid Test for Hydrophytic Vegetation
3 - Prevalence Index Is <3.0'		he - endfans	
A - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)			
0.			4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate speet)
Problematic Hydrophytic Vegetation ¹ (Explain) coody Vine Stratum (Plot size:)			
cody Vine Stratum (Plot size:)		the second second	
Bare Ground in Herb Stratum 40 = Total Cover 42 Hydrophytic Vegetation Present? Yes No	cody Vine Stratum (Plot size:)	(d) = Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Bare Ground in Herb Stratum = Total Cover Hydrophytic Vegetation Present? Yes No			
	Bare Ground in Herb Stratum		Vegetation
Ananks,	emarks:		

2.2.1			Settagine Pola	10a
SOIL Profile Description: (Describe to the dep	th needed to document the indice	ator or confirm the abs	sence of indicators.)	
Depth Matrix	Redox Feature	es		
(inches) Color (moist) %	Color (moist) %	Type Loc ²	Texture	Remarks
0-11 2.54242 100			lam.	
11-18 2 SUR 6/5 100			lam	
THE andres in				
	<u> </u>		<u> </u>	
		<u> </u>		
¹ Type: C=Concentration, D=Depletion, RM		Coated Sand Grains	² Location: PL=Pore L	ining. M=Matrix.
Hydric Soil Indicators: (Applicable to a			ators for Problematic	nyune solis :
Histosol (A1)	Sandy Redox (S5)		cm Muck (A10) ed Parent Material (TF	2)
Histic Epipedon (A2)	Stripped Matrix (S6) Loamy Mucky Mineral (F1) (ex		ery Shallow Dark Surfa	
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	0	ther (Explain in Remar	ks) Č
Depieted Below Dark Surface (A11)	Depleted Matrix (F3)			
Thick Dark Surface (A12)	Redox Dark Surface (F6)		ndicators of hydrophyti etland hydrology must	
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Depleted Dark Surface (F7) Redox Depressions (F8)	w Li	nless disturbed or prob	iematic
Type: Depth (inches): Remarks:		lydric Soil Present?	Yes	No <u></u>
HYDROLOGY	10 11	ndicators		
Wetland Hydrology Indicators:		Secon	lary Indicators (2 or mo	ore required)
Primary Indicators (minimum of one required	Water-Stained Leaves (B9)		ter-Stained Leaves (B	e) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, and 4B)	4A,	, and 4B)	
High Water Table (A2)	Salt Crust (B11)		inage Patterns (B10) -Season Water Table	(C2)
Saturation (A3)	Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C1		uration Visible on Aeri	al imagery (C9)
Water Marks (B1)	Oxidized Rhizospheres alo	ng Living		
Sediment Deposits (B2)	Roots (C3)	Ge	omorphic Position (D2))
Drift Deposits (B3)	Presence of Reduced Iron		allow Aquitard (D3)	
Algal Mat or Crust (B4)	Recent Iron Reduction in T Soils (C6)	FA	C-Neutral Test (D5)	
	Stunted or Stressed Plants	s (D1)	and Ant Mounda (DG)	
Iron Deposits (B5)	(LRR A) Other (Explain in Remarks		ised Ant Mounds (D6) ost-Heave Hummocks ((D7)
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7				<u> </u>
Sparsely Vegetated Concave Surface (B	, 8)			
Field Observations: Surface Water Present? Yes No	Depth (inches):			24
Surface Water Present? Yes No Water Table Present? Yes No		Wetland Hydrol	ogy Present? Yes	: No X
Saturation Present?	$\overline{\nabla}$	- -		,
(includes capillary fringe) Yes No				
Describe Recorded Data (stream gauge, mor	itoring well, aerial photos, previous i	inspections), if available	e:	
			··	

no indicators

WETLAND DETERMINA	TION DATA FORM - Western I	Mountains, Valleys, and Coast Region
Project/Site: Hark Ranch Applicant/Owner: Hart Ranch InvestIgator(s): Andrea Kabe Landform (hillslope, terrace, etc.) ILS IDDE Subregion (LRR): MLRA 22B Soil Map Unit Name: 180 Duit Are climatic / hydrologic conditions on the site type Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydrology Present? Yes Wetland Hydrology Present? Yes Wetland Hydrology Present? Yes Remarks:	City/County: Siski You C State: CA Samp Section, Township, Range: Local relief (concave, conve Lat: 22, 381049 Long: 41, 6 Market Conception Lat: 122, 381049 Long: 41, 6 Market Conception Market Conception Lat: 122, 381049 Long: 41, 6 Market Conception Market Conception Lat: 122, 381049 Long: 41, 6 Market Conception Market Conce	Sampling Date: 8/23/1016 Signature Stope (%): Signature St
diteh		
VEGETATION - Use scientific names of	of plants.	
Tree Stratum (Plot size:) 1. 2. 3.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:) 1. 2. 3. 4.		Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 =
Herb Stratum (Plot size: ~1/m ²) 1	= Total Cover	UPL species x 5 = Column Totals: (A) (B)
3		Prevalence index = B/A =
4,		Mudaanhudia Maanhati - ta ti
5	141.119 - 14 19 19 19 19 19 19 19 19 19 19 19 19 19	Hydrophytic Vegetation Indicators:
6	in a world as	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%

7.	in a second sign	2 - Dominance Test is >50%
8.		3 - Prevalence Index is ≤3.0 ¹
9.		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic,
1		
2	A Martin Araba	Hydrophytic
% Bare Ground in Herb Stratum	Total Cover	Vegetation
Remarks:	mater and	Jol Ki Jol
novegu	open water prici	annabriptedge (i panar
	The Organ	Barbabrered Strangered ripantan

					Second Million Pathi	106
SOIL Profile Description: (Describe to	41	to do our out the	Indicator or (confirm the a	bsence of indicators.)	
	the depth needed	Redox	Features			• •
Depth Matrix (inches) Color (moist)	% Color (Туре'	Loc ²	Texture	Remarks
D-6 25. YR 6/2	100				Loam	
		111. 10		PL		
618 2,5 YRUII	<u>90 541</u>	14/16 10	<u> </u>		_sand	
	÷ -					
				- <u>-</u>		
2-3-13						
						N
					_	
					² Location: PL=Pore L	ining M=Matrix
¹ Type: C=Concentration, D=Deplet	ion, RM≃Reduced	Matrix, CS=Cover	ed or Coated s	Sand Grains.		
Hydric Soil Indicators: (Application	ble to all URRs. un	less otherwise n	ioted.)	Ind	licators for Problematic	Hydric Soils':
		Redox (S5)			2 cm Muck (A10)	
Histosol (A1) Histic Epipedon (A2)		ed Matrix (S6)			Red Parent Material (TF	2)
Black Histic (A3)	Loamy	/ Mucky Mineral (F1) (except MI	LRA 1) 📃	Very Shallow Dark Surfa	ace (TF12)
Hydrogen Sulfide (A4)	Loamy	/ Gleyed Matrix (F	2)	<u></u>	Other (Explain in Remain	rks)
Depleted Below Dark Surface		ed Matrix (F3)			³ Indicators of hydrophyt	ic vegetation and
Thick Dark Surface (A12)		Dark Surface (FI			wetland hydrology must	be present.
Sandy Mucky Mineral (S1)		ed Dark Surface Depressions (F8			unless disturbed or prot	lematic
Sandy Gleyed Matrix (S4)			<u>/</u>		<u> </u>	
Restrictive Layer (if present):						
			Hydric	Soil Present	7 Yes <u>\</u>	No
Depth (inches):						
Remarks:						
rtendiks.						
		· · · · · · · · · · · · · · · · · · ·				
HYDROLOGY					<u> </u>	
Wetland Hydrology Indicators:					d Indiactors /2 or M	ore required)
Primary Indicators (minimum of one	required; check all I	hat apply)			ondary Indicators (2 or m Water-Stained Leaves (B	9) (MLRA 1. 2.
N	W	ater-Stained Leav LRA 1, 2, 4A, and	4 4 8 (13 8) (6 x C 6) 19 2 (13 9) (6 x C 6)	pr	4A, and 4B)	•)(
X)Surface Water (A1)		alt Crust (B11)	u -0)		Drainage Patterns (B10)	
High Water Table (A2) Saturation (A3)	A	quatic Invertebrat	es (B13)	_	Dry-Season Water Table	(C2)
Water Marks (B1)	— H	drogen Sulfide C	dor (C1)		Saturation Visible on Aer	ial Imagery (C9)
	— o	xidized Rhizosphi	eres along Livi	ng	Oceanambic Resition (D)	2
Sediment Deposits (B2)		oots (C3)			Geomorphic Position (D2 Shallow Aquitard (D3)	•)
Drift Deposits (B3)	P	resence of Reducted and Reducte	ied (ron (C4)	\rightarrow	Silanow Aquitard (DV)	
		oils (C6)			FAC-Neutral Test (D5)	
Algal Mat or Crust (B4)		tunted or Stresse	d Plants (D1)			
Iron Deposits (B5)	(1	.RR A)			Raised Ant Mounds (D6)	(LRR A)
Surface Soil Cracks (B6)		ther (Explain in R	emarks)	1	Frost-Heave Hummocks	(07)
Inundation Visible on Aerial Imag	jery (B7)					
Sparsely Vegetated Concave Su	rface (B8)					
			1		<u> </u>	
Field Observations: Surface Water Present? Yes		oth (Inches):	8.0			
Surface Water Present? Yes / Water Table Present? Yes		th (inches):		Wetland Hyd	Irology Present? Ye	s 🔀 No
Saturation Present?				·		
(includes capillary fringe) Yes	X No Dep	oth (inches):				
Describe Recorded Data (stream gau	ige, monitoring well	, aerial photos, pr	evious inspect	tions), if availa	able:	
1						

Remarks:

WETLAND DETERMINA	TION DATA FORM – Western i	Mountains, Valleys, and Coast Region
Project/Site: HARRARA Applicant/Owner: Hart Ranch Investigator(s): Andrea Rabe Landform (hillslope, terrace, etc.): Histor Subregion (LRR): MLRA 22B Soil Map Unit Name: 180 / 000 Are climatic / hydrologic conditions on the site typ Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	City/County: State: CA Same Section, Township, Range: Section, Township, Range: State St	Sampling Date: 8/23/2016 Sing Point: 10C Sorrer 1, 2+3 A Sorrer 1, 2+3 Sorrer
VEGETATION - Use scientific names Tree Stratum (Plot size:) 1. . 2. . 3. . 4. .	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Yercent of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: Yercent of Dominant Are OBL, FACW, or FAC: Yercent of Dominant Are OBL, FACW, or FAC:
Sapling/Shrub Stratum Plot size:) 1.	= Total Cover	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: $a =$ (A) $a =$ Prevalence index = B/A = $a =$
4.		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain)
Woody Vine Stratum (Plot size:) 1 2 % Bare Ground in Herb Stratum	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes
Remarks:	<u>-</u> 1	

IL				ACTIVISING TO SA	
Profile Description: (Describe to the de	epth needed to document	t the Indicator or co	onfirm the at	sence of Indicators	i.}
Depth Matrix	Rec	dox Features	Loc ²	Texture	Remarks
(inches) Color (moist) %	Color (moist)	% Type'	LUG		
D-10 2.54R63 10	0			<u></u>	7
				loon	14
0-18 254 R613 100				Gastrin vy vydr tydat af	· · · · · · · · · · · · · · · · · · ·
				·	· · · · · · · · · · · · · · · · · · ·
	×		<u> </u>		
			<u> </u>		
Type: C=Concentration, D=Depletion, R	M=Reduced Matrix, CS=C	overed or Coated Sa	and Grains.	² Location: PL=Por	e Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwi	se noted.)	 Indi	cators for Problema	ntic Hydric Soils ³ :
				2 cm Muck (A10)	
Histosol (A1)	Sandy Redox (S5) Stripped Matrix (S6)			Red Parent Material	(TF2)
Histic Epipedon (A2)	Loamy Mucky Miner	/ ral (E1) /excent MLI	RA 1) 📃 '	Very Shallow Dark S	urface (TF12)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleyed Matri			Other (Explain in Rer	narks)
Depleted Below Dark Surface (A11)					
Thick Dark Surface (A12)	Redox Dark Surface	e (F6)	:	Indicators of hydrop	hytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surfa	ace (F7)	,	wetland hydrology m	ust be present,
Sandy Gleyed Matrix (S4)	Redox Depressions	(F8)		unless disturbed or p	roplematic
	······				
strictive Layer (if present):					
Туре:		Hydric So	oil Present?	Yes	_ NoX
Depth (inches):		_			
	noir	dicator	5		
	noin	dicatos	5		
DROLOGY etland Hydrology Indicators:		dicatos			more required)
DROLOGY etland Hydrology Indicators:	ed: check all that apply)		Seco	ndary Indicators (2 or	more required) (B9) (MLRA 1, 2.
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require	ed; check all that apply) Water-Stained L	eaves (B9) (except	Secon W	ater-Stained Leaves	more required) (B9) (MLRA 1, 2,
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A,	eaves (B9) (except and 48)	Secon W	ater-Stained Leaves A, and 4B)	(B9) (MLRA 1, 2,
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2)	ed; check all that apply) Water-Stained I MLRA 1, 2, 4A, Salt Crust (B11)	_eaves (B9) (except and 4B)	Secon W 44	/ater-Stained Leaves A, and 4B) rainage Patterns (B1 rv-Season Water Tal	(B9) (MLRA 1, 2, 0) ble (C2)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Sait Crust (B11) Aquatic Invertet	_eaves (B9) (except and 4B)) prates (B13)	Secon W 44	/ater-Stained Leaves A, and 4B) rainage Patterns (B1 rv-Season Water Tal	(B9) (MLRA 1, 2, 0) ble (C2)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Sait Crust (B11) Aquatic Invertet Hydrogen Sulfid	_eaves (B9) (except and 4B)) prates (B13) de Odor (C1)	<u>Secor</u> W D D S	/ater-Stained Leaves A, and 4B) rainage Patterns (B1	(B9) (MLRA 1, 2, 0) ble (C2)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Sait Crust (B11) Aquatic Invertet Hydrogen Sulfid	_eaves (B9) (except and 4B)) prates (B13)	Secon W 44 D D S S	ater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A eomorphic Position ((B9) (MLRA 1, 2, 0) ble (C2) verial Imagery (C9) D2)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re	Leaves (B9) (except and 4B)) orates (B13) de Odor (C1) spheres along Living duced Iron (C4)	Secon W 44 D D S S	ater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A	(B9) (MLRA 1, 2, 0) ble (C2) verial Imagery (C9) D2)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red	Leaves (B9) (except and 4B)) orates (B13) de Odor (C1) spheres along Living duced Iron (C4)	Secon W 44 D D S S S S	ater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A eomorphic Position (hallow Aquitard (D3)	(B9) (MLRA 1, 2, 0) ble (C2) verial Imagery (C9) D2)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertek Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6)	Leaves (B9) (except and 4B)) orates (B13) Je Odor (C1) spheres along Living duced Iron (C4) duction in Tilled	Secon W 44 D D S S S S	ater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A eomorphic Position ((B9) (MLRA 1, 2, 0) ble (C2) verial Imagery (C9) D2)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Stree	Leaves (B9) (except and 4B)) orates (B13) de Odor (C1) spheres along Living duced Iron (C4)	<u>Secor</u> W D D S S S	ater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A reomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5)	(B9) (MLRA 1, 2, 0) le (C2) lerial Imagery (C9) D2)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Stree (LRR A)	Leaves (B9) (except and 48)) prates (B13) Je Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1)	<u>Secor</u> W D D S S S	ater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A ecomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (E	(B9) (MLRA 1, 2, 0) le (C2) lerial Imagery (C9) D2) D2)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Street (LRR A) Other (Explain I	Leaves (B9) (except and 48)) prates (B13) Je Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1)	<u>Secor</u> W D D S S S	ater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A reomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5)	(B9) (MLRA 1, 2, 0) le (C2) lerial (magery (C9) D2) D2)
DROLOGY etland Hydrology Indicators: Imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Street (LRR A) Other (Explain I	Leaves (B9) (except and 48)) prates (B13) Je Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1)	<u>Secor</u> W D D S S S F	ater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A ecomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (E	(B9) (MLRA 1, 2, 0) ble (C2) berial Imagery (C9) D2) D2)
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DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Street (LRR A) Other (Explain I	Leaves (B9) (except and 4B)) orates (B13) de Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1) in Remarks)	Secon W 44 D D S S S S F F F F	Vater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A ecomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5) assed Ant Mounds (E rost-Heave Hummoc	(B9) (MLRA 1, 2, 0) le (C2) lerial Imagery (C9) D2) 06) (LRR A) ks (D7)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (etd Observations: urface Water Present? Yes	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Street (LRR A) Other (Explain I (B8)	Leaves (B9) (except and 4B)) orates (B13) de Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1) in Remarks)	Secon W 44 D D S S S S F F F F	Vater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A reomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (E rost-Heave Hummoc	(B9) (MLRA 1, 2, 0) le (C2) lerial Imagery (C9) D2) D2)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (leid Observations: unface Water Present? Yes	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizot Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Stree (LRR A) Other (Explain I T) (B8) Depth (inches): Depth (inches):	Leaves (B9) (except and 4B)) orates (B13) de Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1) in Remarks)	Secon W 44 D D S S S S F F F F	Vater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A ecomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5) assed Ant Mounds (E rost-Heave Hummoc	(B9) (MLRA 1, 2, 0) le (C2) lerial Imagery (C9) D2) D2) 06) (LRR A) ks (D7)
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DROLOGY etland Hydrology Indicators: imary 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 (etd Observations: urface Water Present? Yes Vater Table Present? Yes Auturation Present? Yes nolucation Present? Yes	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Stree (LRR A) Other (Explain B T) (B8) Depth (inches): Depth (inches):	Leaves (B9) (except and 4B)) brates (B13) le Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1) in Remarks)	Secon W D D S S S F F F	Vater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A reomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5) assed Ant Mounds (D5) rost-Heave Hummoc	(B9) (MLRA 1, 2, 0) le (C2) verial Imagery (C9) D2) 06) (LRR A) ks (D7)
DROLOGY etland Hydrology Indicators: imary 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 (etd Observations: urface Water Present? Yes Vater Table Present? Yes Auturation Present? Yes nolucion Scapillary fringe) Yes	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Stree (LRR A) Other (Explain B T) (B8) Depth (inches): Depth (inches):	Leaves (B9) (except and 4B)) brates (B13) le Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1) in Remarks)	Secon W D D S S S F F F	Vater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A reomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5) assed Ant Mounds (D5) rost-Heave Hummoc	(B9) (MLRA 1, 2, 0) le (C2) verial Imagery (C9) D2) 06) (LRR A) ks (D7)
DROLOGY etland Hydrology Indicators: imary 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 (etd Observations: urface Water Present? YesN ater Table Present? YesN ater Table Present? YesN ater Table Present? YesN ater Table Present? YesN Scribe Recorded Data (stream gauge, mo	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Stree (LRR A) Other (Explain B T) (B8) Depth (inches): Depth (inches):	eaves (B9) (except and 4B)) prates (B13) le Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1) in Remarks)	ettand Hydrons), if availab	Vater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A reomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (E rost-Heave Hummoc blogy Present?	(B9) (MLRA 1, 2, 0) le (C2) verial Imagery (C9) D2) 06) (LRR A) ks (D7)
DROLOGY etland Hydrology Indicators: imary 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 (eld Observations: urface Water Present? Yes Vater Table Present? Yes Autor Present? Yes	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Stree (LRR A) Other (Explain B T) (B8) Depth (inches): Depth (inches):	eaves (B9) (except and 4B)) prates (B13) le Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1) in Remarks)	ettand Hydrons), if availab	Vater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A reomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (E rost-Heave Hummoc blogy Present?	(B9) (MLRA 1, 2, 0) le (C2) verial Imagery (C9) D2) 06) (LRR A) ks (D7)
DROLOGY etland Hydrology Indicators: mary 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 (eld Observations: unface Water Present? Yes Mater Table Present? Yes Autration Present? Yes Autration Present? Yes Scribe Recorded Data (stream gauge, model)	ed; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertet Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Re Recent Iron Red Soils (C6) Stunted or Stree (LRR A) Other (Explain B T) (B8) Depth (inches): Depth (inches):	Leaves (B9) (except and 4B)) brates (B13) le Odor (C1) spheres along Living duced Iron (C4) duction in Tilled ssed Plants (D1) in Remarks)	ettand Hydrons), if availab	Vater-Stained Leaves A, and 4B) rainage Patterns (B1 ry-Season Water Tal aturation Visible on A reomorphic Position (hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (E rost-Heave Hummoc blogy Present?	(B9) (MLRA 1, 2, 0) le (C2) verial Imagery (C9) D2) 06) (LRR A) ks (D7)

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

Project/Site: HARAA Applicant/Owner: Hart R Investigator(s): Hart R Landform (hillslope, terrace, etc.): Subregion (LRR): MLRA Soil Map Unit Name: 189 Are climatic / hydrologic conditions Are Vegetation , Soil Are Vegetation , Soil	CLOC Section, 7 COMACE Lo CADE Lo CADE Lo CLOC A CLOU son the site typical for this time , or Hydrology No signifi	State: <u>CA'</u> Samplin Fownship, Range: <u>State</u> ocal relief (concave, convex, <u>State</u> Concave, convex, <u>State</u> C	Point: A SN R5W Sect none): PGI Datum: NAT	.) ? Yes X_ No
SUMMARY OF FINDINGS	- Attach site map show	wing sampling point l	ocations, transects, im	portant features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No X Yes No X	Is the Sampled Area with		
Remarks:				······
	ditch bank	L		
VEGETATION - Use scient	ific names of plants.			
	Absolute	Dominant Indicator	Dominance Test workshee	et:

TEOETATION - Ose scientific hames	or plants.			
Tree Stratum (Plot size:)	Absolute		Indicator	
1)	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC:
2.				Total Number of Dominant
3		÷		Species Across All Strata: 2 (B)
4				Percent of Dominant Species
				That Are OBL, FACW, or FAC: (A/B)
		= Total Cover		
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:
1				Total % Cover of: Multiply by:
2				OBL species x1 ≈
3		······		FACW species x 2 =
4 5				FAC species x 3 =
v	<u> </u>	- 7.4.1.0		FACU species $60 \times 4 = 240$
Herb Stratum (Plot size: M2)		= Total Cover		UPL species $20 \times 5 = 100$
1. Eyous elumoides	loD	VEC	. – –	Column Totals: 80 (A) 340 (B)
2. Brannis tectorium	10	1 110		Prevalence Index = B/A = 4,25
3		7 4		
4				Hydrophytic Vegetation Indicators:
5				1 - Rapid Test for Hydrophytic Vegetation
6		Crameria L		2 - Dominance Test is >50%
7				3 - Prevalence Index is <3.0 ¹
8		1999 (A. 1997)		4 - Morphological Adaptations ¹ (Provide supporting
9				data in Remarks or on a separate sheet)
10				5 - Wetland Non-Vascular Plants ¹
11	-0			Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	=	Total Cover	1	¹ Indicators of hydric soil and wetland hydrology must
1.			L	be present, unless disturbed or problematic.
2.	• •	notes de la Categoria con		to the second
		Total Cover		Hydrophytic
% Bare Ground in Herb Stratum				Vegetation Present? Yes No X
Remarks:			[
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TopIte Description: (Description: (Description: Description: Description: (Description: Description: Des			sampline Politi 10
Indefense Color (moleti) % Type Loc Texture Remarks 21-13 21-15 yp 4/2-100 Clau	Profile Description: (Describe to the depth needed to docum	ent the indicator or confir	m the absence of indicators.)
2		Kedox Features	Loc ² Texture Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix, Mydric Solite*: Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix, Mydric Solite*: Histosci (A) Sandy Medix (S3) Loamy Medix (S6) Black Histo, CA) Loamy Medix (Minrail (F1) Pore Matrix (F2) Depleted Beark Microsci (F7) Thick Dark Surface (A1) Depleted Matrix (F2) Sandy McWark Mineral (S1) Depleted Matrix (F2) "Indicators of typersent" Sandy McWark Mineral (S1) Depleted Matrix (F2) "Indicators of typersent" Sandy McWark Mineral (S1) Depleted Matrix (F2) "Indicators of typersent" Sandy McWark Mineral (S1) Depleted Matrix (F2) "Indicators of typersent" Sandy McWark Mineral (S1) Depleted Matrix (F2) "Indicators of typersent" Sandy McWark Mineral (S1) Depleted Matrix (F2) Water Salined Lawres (F7) Surface Water (A1) Water Salined Lawres (F8) Water Salined Lawres (F7) Water Matrix (F2) Saturation (A3) Aquatal Crust (F1) Saturation (A3) Aquatal Crust (F2) Saturation (A3) Saturation (A3) Aquatal Crust (F1) Satura			
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Type: Control control in the contro	<u> </u>		· · · · · · · · · · · · · · · · ·
1/36: Controllington, 1/2 Deptodu (A2) Indicators (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Solls*: Histosol (A1) Sandy Radox (S5) 2 cm Muck (A10) Histosol (A2) Stripped Matrix (S6) 2 cm Muck (A10) Histosol (A1) Learny Gleyed Matrix (F2) Very Shallow Dark Surface (TF12) Depleted Matrix (F3) Thick Dark Surface (A11) Depleted Matrix (F3) ¹ Indicators of hydrophytic vegetation and weiland hydrology music be present. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) weiland hydrology music be present. Sandy Mucky Mineral (S1) Redox Dark Surface (F7) weiland hydrology music be present. Type: Pepleted Matrix (F3) Pepleted Dark Surface (F7) weiland hydrology music be present. Type: Pepleted Matrix (F3) No X Sandy Mucky Mineral (S1) Redox Dark Surface (F7) weiland hydrology music be present. Type: Present? Yes No X Surface Water (A1) Mult A 1, 2, 4, 4nd 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Dry-Basen Water Table (C2) Saturation (A3) Dry-Basen Water Table (C2) Saturation (A3) Dry-Base			
Type: Control control in the contro			
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Inface Water Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No turnation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Source Course capillary fringe) Yes No Depth (inches): Course capillary fringe) Yes No Depth (inches): Course capillary fringe) Yes No Source Course Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery (B7)		
ater Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No aturation Present? Includes capillary fringe) Yes No Depth (inches): Incribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)		
cludes capillary fringe) Yes <u>No Depth (inches):</u> cribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: narks:	Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) ald Observations:	n in Remarks)	Frost-Heave Hummocks (D7)
cribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) ald Observations: Inface Water Present? Yes No Depth (inches):	n in Remarks)	Frost-Heave Hummocks (D7)
narks:	Iron Deposits (B5) Stunted or St Surface Soil Cracks (B6) Other (Explain inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Other (Explain inundation Visible on Aerial Imagery (B7) Bild Observations: Yes Inface Water Present? Yes Ater Table Present? Yes No Depth (inches): Intraction Present? Yes No Depth (inches): Intraction Present? Yes	n in Remarks)	Frost-Heave Hummocks (D7)
	Iron Deposits (B5) Stunted or St Surface Soli Cracks (B6) Other (Explain the context of the	n in Remarks)	Trost-Heave Hummocks (D7)
	Iron Deposits (B5) Stunted or St Surface Soli Cracks (B6) Other (Explain the context of the	n in Remarks)	Frost-Heave Hummocks (D7)
no indi catro a	Iron Deposits (B5) Stunted or St Surface Soll Cracks (B6) Other (Explain invariant invarian	n in Remarks)	Trost-Heave Hummocks (D7)
no indi cata a	Iron Deposits (B5) Stunted or St Surface Soli Cracks (B6) Other (Explain the context of the	n in Remarks)	Frost-Heave Hummocks (D7)
	Iron Deposits (B5) Stunted or St Surface Soil Cracks (B6) Other (Explain the control of the	n in Remarks) Wetlar os, previous inspections), r	Frost-Heave Hummocks (D7)

WETLAND DETERMINA	TION DATA FORM – Western N	lountains, Valleys, and Coast Region
Project/Site: HAA Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillslope, terrace, etc.): Torra Subregion (LRR): MLRA 22B Soil Map Unit Name: 189 Mechan Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog SUMMARY OF FINDINGS - Attach sitt Hydrophytic Vegetation Present? Yes Yes Yes	City/County: State: CA Sampli Section, Township, Range: CA Local relief (concave, conver Lat: Local relief (concave, conver Lat: Local relief (concave, conver Lat: Local relief (concave, conver Local relief (concave	Sampling Date: 8/23/2016 Ing Point: 1.6 Slope (%): 1.2 Datum: NAD 63 NVI classification: PEML (If no, explain in Remarks.) Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) Iocations, transects, important features, etc. thin a Wetland? Yes X No
Remarks:		
	17-d-	
	inch	
VEGETATION - Use scientific names	of plants	
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicator	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
2		Total Number of Dominant
3		Species Across All Strata: (B) Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		_Total % Cover of: Multiply by:
1. 2. 3. 4.		OBL species x 1 =
3		FACW species x 2 =
5.		FAC species x 3 =
	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size:)	= Total Cover	UPL species x 5 =
1.		Column Totals: (A) (B)
2.		Prevalence Index = B/A =
3.		
4		Hydrophytic Vegetation Indicators:
5 6.		1 - Rapid Test for Hydrophytic Vegetation
7.	As an interestion of the	2 - Dominance Test is >50%
8		3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2		
· · · · · · · · · · · · · · · · · · ·	= Total Cover	Hydrophytic Pagetation
% Bare Ground in Herb Stratum	= Total Cover Her Matik Prophe a changed Prophe a changed	Present? Yes No
Remarks:	and and the	
LANCA DI	or othe awarsian	Deparse veripania
10-2-2	AT THE A CONT WICH	B-00" YY
	Try	Gry
JS Army Corps of Engineers	000	

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SOIL Profile Des	cription: (Describe to	the depth neede	to document the	indicator or co	nfirm the abser		
Depth	Matrix		Redox F	eatures			Demorter
(inches)	Color (moist)		(moist) %_	Type ¹		Texture	Remarks
0-18 in	<u>25424/2</u>	90 54			<u>M_50</u>	undyloa	<u>^</u>
						ocation: PL=Pore Lir	ning M=Matrix
	Concentration, D=Deple					······	
Histos Histos Black Hydrog Deplet Thick I Sandy	il Indicators: (Applica ol (A1) Epipedon (A2) Histic (A3) gen Sulfide (A4) red Below Dark Surface Dark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4)	(A11) Sand Loarr Loarr A (A11) Deple Redo Deple	y Redox (S5) bed Matrix (S6) y Mucky Mineral (F y Gleyed Matrix (F2 eted Matrix (F3) x Dark Surface (F6) bed Dark Surface (F8) x Depressions (F8)	1) (except MLR 2)) F7)	A 1) 2 cm Red Very Othe ³ Indi wetla	rs for Problematic I Muck (A10) Parent Material (TF2 Shallow Dark Surfac r (Explain in Remark cators of hydrophytic and hydrology must b ss disturbed or proble) e (TF12) s) vegetation and e present,
Restrictive L	.ayer (if present):			Lindala Cal	1) Decement 2	Yes X	lo
Type: Depth (in	ches):			Hyanc So	il Present?	1es r	
HYDROLO	GY Irology Indicators:						
Primary Indic	ators (minimum of one	required; check all	that apply)		Secondar	/ Indicators (2 or mor	e required)
Surface V	Vater (A1) er Table (A2)		/ater-Stained Leave LRA 1, 2, 4A, and alt Crust (B11)	4B)	4 A, ar Draina	-Stained Leaves (B9) d 4B) ige Patterns (B10) eason Water Table ((
Saturation Water Ma		<u> </u>	quatic Invertebrates ydrogen Sulfide Od	lor (C1)	Satura	tion Visible on Aeria	Imagery (C9)
Sediment	Deposits (B2) osits (B3)	R	odized Rhizospher oots (C3) resence of Reduced	d Iron (C4)		orphic Position (D2) w Aquitard (D3)	
Algal Mat	or Crust (B4)		ecent Iron Reductio oils (C6)	on in Tilled	FAC-N	leutral Test (D5)	
Iron Depo Surface S		gery (B7)	tunted or Stressed .RR A) ther (Explain in Rei			d Ant Mounds (D6) (I Heave Hummocks (I	
Field Obser Surface Wate Water Table Saturation Pl (includes cap	er Present? Yes Present? Yes resent? Xes pillary fringe) Yes	∑ No Der ≤ No Der	oth (inches): 22 th (inches):		tiand Hydrolog	y Present? Yes	× No —
Describe Reco	orded Data (stream gau	ge, monitoring well	, aerial photos, prev	vious inspection:	s), if available:		
Remarks:							·· · · · · · · · · · · · · · · · · · ·

	TOR DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch	City/County: Siski Vint A	8/22/20110
Applicant/Owner: Hart Ranch	State: CA Same	Sampling Date: 010010010
Investigator(s): Andrea Rabe	Section Township Range:	45N, R5W Sect 1,2+3
Landform (billslope, terrace, etc.)		
Subregion (LRR): MLRA 22B	Lat 2034 2/2 Long: L4 /	ex, none): YOY Slope (%):
Soil Map Unit Name: 189 Motor	cl (lay loan coo)	NWI classification:
Are climatic / hydrologic conditions on the site ty	pical for this time of year? Yes Y No	
Are Vegetation, Soil , or Hydrold	Day No significantly disturbed? Are	"Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrold	by NO naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach si	te mąp showing sampling poin	t locations, transects, important features, etc
Hydric Soil Present? Yes	No No Is the Sampled Area w	A
Wetland Hydrology Present? Yes	No X	
Remarks:		
	ditch bank	
VEGETATION - Use scientific names		
\	Absolute Dominant Indicator	Dominance Test worksheet:
ree Stratum (Plot size:)	% Cover Species? Status	Number of Dominant Species
·		That Are OBL, FACW, or FAC: (A)
	·····	Total Number of Dominant
<u> </u>		Species Across All Strata: (B)
		Percent of Dominant Species (A/B)
	= Total Cover	
apling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
		Total % Cover of: Multiply by:
		OBL species x1 =
		FACW species x 2 =
<u> </u>		FAC species x 3 =
·····		FACU species (0) x4 = 340
tommer provide look	= Total Cover	UPL species x 5 =
Elymus elymoides	60 Y FACU	Column Totals: UO (A) 240 (B)
		Prevalence index = B/A =
	······································	Hydrophytic Vegetation Indicators:
•	 Applied Applied 	1 - Rapid Test for Hydrophytic Vegetation
	Secure contract and a	2 - Dominance Test is >50%
		3 - Prevalence Index is ≤3.01
		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
		5 - Wetland Non-Vascular Plants ¹
		Problematic Hydrophytic Vegetation ¹ (Explain)
ody Vine Steelum (Block Jose	Total Cover	Indicators of hydric soil and wetland hydrology must
ody Vine Stratum (Plot size:)		be present, unless disturbed or problematic.
	A the of the	Literature and a second s
are Ground in Herb Stratum 40	= Total Cover	Hydrophytic Vegetation Present? Yes No
	•	

MATCH AND

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IL					Sameling Palat	
Profile Description: (Describe t	o the depth needed	to document the Redox F	indicator or co	onfirm the a	sence of indicators.)	
Depth <u>Matrix</u> (inches) Color (moist)	% Color (moist) %		Loc ²	Texture Rema	arks
17-18 2.54R41216					clauloam	
UTIO MIGIRINGI	<u> </u>					
				· · · ·		
	<u> </u>					
Type: C=Concentration, D≂Deple	etion, RM≈Reduced I	Matrix, CS=Covere	ed or Coated Sa	and Grains.	² Location: PL=Pore Lining, M=N	Vatrix.
Hydric Soil Indicators: (Applic					cators for Problematic Hydric S	oils ³ :
-		Redox (S5)	,		2 cm Muck (A10)	
Histosol (A1) Histic Epipedon (A2)		ed Matrix (S6)			Red Parent Material (TF2)	
Black Histic (A3)	Loamy	Mucky Mineral (F		RA 1) 📃 '	Very Shallow Dark Surface (TF12))
Hydrogen Sulfide (A4)		Gleyed Matrix (F2	2)		Other (Explain in Remarks)	
Depleted Below Dark Surface		ed Matrix (F3)	、 、	:	Indicators of hydrophytic vegetati	on and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)		Dark Surface (F6) ed Dark Surface (F			wetland hydrology must be preser	
Sandy Gleyed Matrix (S4)		Depressions (F8)			unless disturbed or problematic	•
		``				
strictive Layer (if present):					Yes No	[
Туре:			Hydric Se	oil Present?	Yes No	
Depth (inches):						
narks:						
			X	,		
		$-\infty$		Constant States		
		3 314 19	MA + CA	+7255		
		11011	<u>idica</u>	to(s)	<u></u>	
		11011	<u>vai ca</u>	tors		
etland Hydrology Indicators:			Varca	······	nden Indicators (2 or more require	ad)
etland Hydrology Indicators:	e required; check all th	nat apply)		Secor	ndary Indicators (2 or more require	ed) 1, 2,
etland Hydrology Indicators: mary Indicators (minimum of one	Wa	nat apply) ater-Stained Leave	es (B9) (except	<u>Secor</u>	ndary Indicators (2 or more require ater-Stained Leaves (B9) (MLRA A, and 4B)	ed) 1, 2,
stland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1)	Wa	nat apply) ater-Stained Leave .RA 1, 2, 4A, and	es (B9) (except	<u>Secor</u> W 4	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10)	ed) 1, 2,
tland Hydrology Indicators: mary Indicators (minimum of one	Wa 	nat apply) ater-Stained Leave RA 1, 2, 4A, and It Crust (B11) uatic Invertebrates	es (B9) (except 4B) s (B13)	Secor W 44 D	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)	1, 2,
stland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2)	Wa 	nat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od	es (B9) (except 4B) s (B13) lor (C1)	<u>Secor</u> W D D	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10)	1, 2,
tland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Wa 	nat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher	es (B9) (except 4B) s (B13) lor (C1)	<u>Secor</u> W D D S	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery	1, 2,
tland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Wa ML Sa Aq Hy Ox Ro	nat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3)	es (B9) (except 4B) s (B13) lor (C1) res along Living	<u>Secor</u> W D D S	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2)	1, 2,
tland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Wa ML Sa Aq Hy Ox Ro Pre	nat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) esence of Reduced	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4)	<u>Secor</u> W D D S	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery	1, 2,
tland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Wa ML Sa Aq Hy Ox Ro Ro Re	nat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3)	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4)	<u>Secor</u> W S	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2)	1, 2,
tiland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Alga! Mat or Crust (B4)	Wa ML Sa Aq Hy Ox Ro Ro Ro So St	nat apply) ater-Stained Leave RA 1, 2, 4A, and It Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) asence of Reduced cent Iron Reductic ils (C6) unted or Stressed	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled	<u>Secor</u> W G Si F	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5)	1, 2,
tland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Alga! Mat or Crust (B4) Iron Deposits (B5)	Wa Sa Aq Ro Ro Ro Ro Ro Ro Ro Ro So Stt	hat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) assence of Reduced cent Iron Reductic ils (C6) unted or Stressed RR A)	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1)	<u>Secor</u> W D D D D S S S	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) alsed Ant Mounds (D6) (LRR A)	1, 2,
tland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Alga! Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Wa 	nat apply) ater-Stained Leave RA 1, 2, 4A, and It Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) asence of Reduced cent Iron Reductic ils (C6) unted or Stressed	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1)	<u>Secor</u> W D D D D S S S	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5)	1, 2,
tland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Alga! Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image	Wa ML Sa Aq Hy Ox Ox Ba So Sta (LI Oth gery (B7)	hat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) assence of Reduced cent Iron Reductic ils (C6) unted or Stressed RR A)	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1)	<u>Secor</u> W D D D D S S S	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) alsed Ant Mounds (D6) (LRR A)	1, 2,
tiland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Alga! Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Wa ML Sa Aq Hy Ox Ox Ba So Sta (LI Oth gery (B7)	hat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) assence of Reduced cent Iron Reductic ils (C6) unted or Stressed RR A)	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1)	<u>Secor</u> W D D D D S S S	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) alsed Ant Mounds (D6) (LRR A)	1, 2,
tiland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Alga! Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave Sta	Wa ML Sa Aq Hy Ox Pre Re So St (LI gery (B7) urface (B8)	hat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) assence of Reduced cent Iron Reductio ils (C6) unted or Stressed RR A) her (Explain in Rei	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1)	<u>Secor</u> W D D D D S S S	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) alsed Ant Mounds (D6) (LRR A)	1, 2,
etland Hydrology Indicators: Imary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Alga! Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave St eld Observations: Inface Water Present? Yes	Wa MIL Sa Aq Hy Ox Pre Re So St (LI Gery (B7) urface (B8) No \ Depti	hat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) assence of Reduced cent Iron Reductic lis (C6) unted or Stressed RR A) her (Explain in Rei her (Explain in Rei	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1) marks)	Secor &W D D S G S F F	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) alsed Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)	1, 2, (C9)
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atland Hydrology Indicators: Imary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algat Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave St attrace Water Present? Yes atter Table Present? Yes atter Table Present? Yes	Wa MIL Sa Aq Hy Ox Pro Re So St Urface (B8) No No Depti No Depti	hat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) assence of Reduced cent Iron Reductic ils (C6) unted or Stressed RR A) her (Explain In Ref h (inches): h (inches):	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1) marks)	Secor t W D 	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) alsed Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)	1, 2, / (C9)
tiland Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Alga! Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave St Indication Visible on Aerial Ima Sparsely Vegetated Concave St Intrace Water Present? Yes ater Table Present? Yes Ituration Present? Yes	Wa MIL Sa Aq Hy Ox Pro Re So St Urface (B8) No No Depti No Depti	hat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) assence of Reduced cent Iron Reductic ils (C6) unted or Stressed RR A) her (Explain In Ref h (inches): h (inches):	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1) marks)	Secor t W D 	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) alsed Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)	1, 2, / (C9)
atland Hydrology Indicators: Imary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Alga! Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave Su and Cobservations: Inface Water Present? Yes ater Table Present? Yes Inturation Present?	Wa MIL Sa Aq Hy Ox Pro Re So St Urface (B8) No No Depti No Depti	hat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) assence of Reduced cent Iron Reductic ils (C6) unted or Stressed RR A) her (Explain In Ref h (inches): h (inches):	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1) marks)	Secor t W D 	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) alsed Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)	1, 2, (C9)
stiand Hydrology Indicators: mary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Alga! Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imal Sparsely Vegetated Concave Stater Table Present? Ves Iter Table Present? Yes Iter Table Present? Yes	Wa MIL Sa Aq Hy Ox Pro Re So St Urface (B8) No No Depti No Depti	hat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) assence of Reduced cent Iron Reductic ils (C6) unted or Stressed RR A) her (Explain In Ref h (inches): h (inches):	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1) marks)	Secor t W D 	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) alsed Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)	1, 2, (C9)
tiland Hydrology Indicators: mary 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) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave St Inundation Visible on Aerial Ima Sparsely Vegetated Concave St eld Observations: Inface Water Present? Yes ater Table Present? Yes	Wa MIL Sa Aq Hy Ox Ro Pro Re So Sta (LI Ott No Depti No Depti uge, monitoring well,	hat apply) ater-Stained Leave RA 1, 2, 4A, and it Crust (B11) uatic Invertebrates drogen Sulfide Od idized Rhizospher ots (C3) assence of Reduced cent Iron Reductic ils (C6) unted or Stressed RR A) her (Explain In Ref h (inches): h (inches):	es (B9) (except 4B) s (B13) lor (C1) res along Living d Iron (C4) on in Tilled Plants (D1) marks) www. vious inspection	Secor t W D 	ater-Stained Leaves (B9) (MLRA A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) alsed Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)	1, 2, (C9)

WETLAND DETERMINA	TION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch	City/County: Siski You C	5 Sampling Date: 8/23/2016
Landform (hillslope, terrace, etc.):	Section, Township, Range:	· TON, RSW Sect 1, 2+3
Soli wap onit Name: 101 YY 0/111	YA ALANDAR COM	All Add I and a her back
Are carnetic / hydrologic conditions on the site typ	Dical for this time of year? Yes 💙 No	
	By V Significantly disturbed? Are	"Normal Circumstances" present? You X No.
	by <u>ND</u> naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach sit	e map showing sampling poin	t locations, transects, important features, etc.
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No Is the Sampled Area w	vithin a Wetland? Yes X No
Remarks: Evano ditch		
VEGETATION - Use scientific names	of plants	
Sector Cost actentine frames (
Tree Stratum (Rlot size:) 1.)	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Number of Dominant Species
2		That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
2		Total % Cover of: Multiply by:
3.		OBL species x 1 =
4		FACW species x 2 =
5		FAC species x 3 =
	= Total Cover	FACU species x 4 = UPL species x 5 =
Herb Stratum (Plot size: 1)		
2.		Column Totals: (A) (B) Prevalence Index = B/A =
3.		
4	a star for a transfer to	Hydrophytic Vegetation Indicators:
6.		1 - Rapid Test for Hydrophytic Vegetation
7	As is which is a	2 - Dominance Test is >50%
8		3 - Prevalence Index is ≤3.0 ¹
8		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2		
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation
Remarks:	waters at	Present? Yes No
no v	eg open water off	a-chapruedge sparseveg in

L.

OIL			Seconding Pola	12a
Profile Description: (Describe to th	e depth needed to document the	indicator or co	onfirm the absence of indicators	
Depth Matrix	Redox	reatures		
DODUI	% Color (moist) %	Type	Loc ² Texture	Remarks
			m claus 100	1 miles
0-18 2.54E-412 8	5 <u>54R416 15</u>	-	m cauce and	/
			0	
· · · · · · · · · · · · · · · · · · ·				
		·		
				· · · · · · · · · · · · · · · · · · ·
		and or Control Sa	and Grains. ² Location: PL=Pore	Lining, M=Matrix.
¹ Type: C=Concentration, D=Depletion	n, RM=Reduced Matrix, CS=Cover	ed of Coaled Sa		
Hydric Soil Indicators: (Applicable	e to all LRRs, unless otherwise n	oted.)	Indicators for Problema	tic Hydric Solls":
			2 cm Muck (A10)	
Histosol (A1)	Sandy Redox (S5)		Red Parent Material (TF2)
Histic Epipedon (A2)	Stripped Matrix (S6)			urface (TF12)
Black Histic (A3)	Loamy Mucky Mineral (I		Other (Explain in Ren	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F	·2)		anoj
Depleted Below Dark Surface (A	11) 👿 Depleted Matrix (F3)		a	اسميم عندانهمه مرجوع كافري
Thick Dark Surface (A12)	Redox Dark Surface (F6		³ Indicators of hydroph	ytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface ((F7)	wetland hydrology mu	ist be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8		unless disturbed or p	oblematic
		<u> </u>		
			N	
estrictive Layer (if present):		Undelse Re	oil Present? Yes	No
Туре:		myaric sc		
Depth (Inches):				
			······	
emarks:			A	
		<u>f</u>	AND I ALL ALL AND A	£
~	CLARKER STAR VITA	AL. Part	en juchwage	1 I
(necked sail in	MA W	<u> </u>	<u></u>
	nd	7%) 		~ ↓
YDROLOGY		<u> </u>		
Netland Hydrology Indicators:	whet shad all that apply)		Secondary Indicators (2 or	more required)
Primary Indicators (minimum of one rec	uired; check all that apply)			(B9) (MLRA 1, 2,
	Water-Stained Leav		4A, and 4B)	(20) (
Surface Water (A1)	MLRA 1, 2, 4A, and	148)	Drainage Patterns (B1)	n\
High Water Table (A2)	Salt Crust (B11)			
Saturation (A3)	Aquatic Invertebrate	es (B13)	Dry-Season Water Tak	le (C2)
Saturation (AD)	Hydrogen Sulfide O	dor (C1)	Saturation Visible on A	erial Imagery (C9)
Water Marks (B1)	Oxidized Rhizosphe	ares along Living		
A		a so arong taring	Geomorphic Position (D2)
Sediment Deposits (B2)	Roots (C3)	ad Iron (CA)	Shallow Aquitard (D3)	
Drift Deposits (B3)	Presence of Reduc	eu iron (C4)		
	Recent Iron Reduct	tion in Tilled	TAO Novieni Test (DE)	
Algal Mat or Crust (B4)	Soils (C6)		FAC-Neutral Test (D5)	
	Stunted or Stressed	d Plants (D1)		
tran Departe (DE)	(LRR A)		Raised Ant Mounds (D	6) (LRR A)
	Other (Explain in R	emarks)	Frost-Heave Hummoc	ks (D7)
iron Deposits (B5)				
Surface Soil Cracks (B6)				
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager	y (B7)			
Surface Soil Cracks (B6)	y (B7)			
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager	y (B7)		·····	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa	y (B7)		<u></u>	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa	y (B7) ice (B8)	8 in		
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes	y (87) ice (88) No Depth (inches):	8 in w	letland Hydrology Present?	res No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes	y (B7) ice (B8)	<u>8 in</u> w	etland Hydrology Present?	/es No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Water Table Present? Saturation Present?	y (87) ice (88) No Depth (inches): No Depth (inches):	8 in w	etiand Hydrology Present?	/es No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	y (87) ice (88) No Depth (inches): No Depth (inches): K No Depth (inches):			/es No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	y (87) ice (88) No Depth (inches): No Depth (inches): K No Depth (inches):			res No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	y (87) ice (88) No Depth (inches): No Depth (inches): K No Depth (inches):			res No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	y (87) ice (88) No Depth (inches): No Depth (inches): K No Depth (inches):			/es No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes	y (87) ice (88) No Depth (inches): No Depth (inches): K No Depth (inches):			/es No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes	y (87) ice (88) No Depth (inches): No Depth (inches): K No Depth (inches):			/es No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Nater Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes	y (87) ice (88) No Depth (inches): No Depth (inches): K No Depth (inches):			No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes Saturation Present? Yes	y (87) ice (88) No Depth (inches): No Depth (inches): K No Depth (inches):			/es No
Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present?	y (87) ice (88) No Depth (inches): No Depth (inches): K No Depth (inches):			/es No

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

Project/Site: Hart Ranch City/County: Siski Vou Co. Sampling Date: 8/23/2016 Applicant/Owner: Hart Ranch State: CA Sampling Point: Date: 8/23/2016
Applicant/Owner: Hart Ranch State: CA Sampling Point: Die
Investigator(s): Marca Kabe Section Townshin Range T. 45N REAL Section Townshin Range
Landform (hillslope, terrace, etc.): TOY TO CL, Local relief (concave, convex, none):
Subregion (LRR): WLEKA ZZB Lat: 122, 39960 Long: 1, 683 774 Datum: NAN 83
Soil Map Unit Name: 189 MPAGD C (A) LOAM NWI classification
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation, Soll, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Hydric Soll Present? Wetland Hydrology Present?	Yes No Yes No Yes No Yes	is the Sampled Area within a Wetland?	Yes	No X	
Remarks:					

VEGETATION – Use scientific names of plants.

The Charter of the State	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Phot size:)	<u>% Cover Species? Status</u>	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x1 =
3		FACW species x 2 =
4	· · · · · · · · · · · · · · · · · · ·	FAC species x 3 =
5		FACU species SD x4 = 700
11-2	= Total Cover	UPL species $7D \times 5 = 100$
Herb Stratum (Plot size: 1972) 1. <u>Lentaunea solstitialis</u>	Ma 11 1101	Column Totals: 70 (A) 300 (B)
2. Elvtriaia recens	10 W NT	
3. Flumes elumnidas	LO W NLL	Prevalence Index = B/A = 4:2
4. Poa serinda	TO PHON	Hydrophytic Vegetation Indicators:
5.	10 Y FACK	24.
6		1 - Rapid Test for Hydrophytic Vegetation
7	A la sectió se y	2 - Dominance Test is >50%
8		3 - Prevalence index is ≤3.0 ¹
9		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11	1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Riot size:)	BD = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		to the second
	and the second sec	Hydrophytic
% Bare Ground in Herb Stratum 320	= Total Cover	Vegetation Present? Yes <u>No</u>
Remarks:		

SOIL				Selfare lineri - e	
Profile Description: (Describe to the depth needed to do	cument the ind	icator or co	nfirm the abs	sence of indicator	·s.)
Depth Matrix	Redox Feat	ures			
(inches) Color (moist) % Color (moist)	%	Type	Loc ²	Texture	Remarks
0-18 2.5VR412 100	<u> </u>				· · · · · · · · · · · · · · · · · · ·
				· · · · · · · · · · · · · · · · · · ·	
				<u>. </u>	
			s 		
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix,	CS=Covered o	Coated Sar	nd Grains.	² Location: PL=Po	re Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless o	thenvise noter	1	Indica	ators for Problem	atic Hydric Solls ³ :
Histosol (A1) Sandy Redox Histic Epipedon (A2) Stripped Mat Black Histic (A3) Loamy Muck Hydrogen Sutfide (A4) Loamy Gleye	k (S5) rix (S6) y Mineral (F1) (d Matrix (F2)		A 1) V(cm Muck (A10) ed Parent Material ery Shallow Dark S ther (Explain in Re	Surface (TF12)
	Surface (F6) rk Surface (F7)		W	ndicators of hydrop etland hydrology m hless disturbed or j	hytic vegetation and nust be present,
Sandy Gleyed Matrix (S4) Redox Depre	SSIUNS (FO)		ur		
estrictive Layer (if present):					
Туре:		Hydric Sol	I Present?	Yes	_ No <u>~</u>
Depth (inches):					
marks:					
noindicat	2.07				
		·		<u></u>	
YDROLOGY					
Atland Hydrology Indicators:					

Primary Indicators (minimur 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 Ae Sparsely Vegetated Cor	n of one required; check all that apply) Secondary indicators (2 or more required) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres along Living Sattors (C3) Presence of Reduced Iron (C4) Geomorphic Position (D2) Recent Iron Reduction in Tilled Soils (C6) Suited or Stressed Plants (D1) FAC-Neutral Test (D5) (LRR A) Other (Explain in Remarks) rial Imagery (B7) Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes No Depth (inches): Wetland Hydrology Present? Yes No Yes No Depth (inches): Wetland Hydrology Present? Yes No
	pam gauge, monitoring well, aerial photos, previous inspections), if available:

Project/Site: HAR Ranth City/County: Sisk: Sampling Date: S/23/2016 Applicant/Owner: MAAC BAACL Section: Towning: Flange: MS Store (12 ± 12) Landform (Initiappe, Instance: MAC BAACL Color Initiation: MS Store (12 ± 12) Subsection: MARCH Anne: MA MARCH Anne: MA Store (13): Sold Mau Dink Immer: MA March Anne: MA March Anne: MA And Vegetation: , Sold - City (10 Arming of year) Yeas No (If no. optain in Remarks.) No Are Vegetation: , Sold - Orthodotoy NS Isindicarity disturbed: Anno: (If no. optain in Remarks.) No Staff Augustication: Yeas No Is the Sampled Area within a Vectand? Yes No Staff Augustication: Yeas No Is the Sampled Area within a Vectand? Yes No Staff Augustication: Yeas No Is the Sampled Area within a Vectand? Yes No Staff Augustication: Yeas No Is the Sampled Area within a Vectand? Yea No Staff Augusticatis Augustication:<	WETLAND DETERMINATION DATA FORM – Western	n Mountains, Valleys, and Coast Region
VEGETATION – Use scientific names of plants. Tree Stratum (Plot size) Absolute Dominant Indicator 1. 2. Status Indicator Number of Dominant Species (A) 2. 3.	Project/Site: Hart Ranch City/County: Siski You Applicant/Owner: Hart Ranch State: CA Sate: Investigator(s): Andrea Ranch Section, Township, Range: Sate: CA Sate: Landform (hillslope, terrace, etc.): Herrace Local relief (concave, consubregion (LRR): MLRA 22B Lat: Local relief (concave, consubregion (LRR): Soil Map Unit Name: Ist MECHOVA clay Istme of year? Yes Are vegetation Soil , or Hydrology Significantly disturbed? A Are Vegetation , Soil , or Hydrology No significantly problematic? SUMMARY OF FINDINGS – Attach site map showing sampling po Hydrology Present? Yes No Is the Sampled Area Wetland Hydrology Present? Yes No Is the Sampled Area	Co. Sampling Date: Sl23/2016 mpling Point: Impling Point: Slope Impling Point: Impling Point: Impling Point: Impling Point: Imp
VEGETATION – Use scientific names of plants. Tree Stratum (Plot size) Absolute Dominant Indicator 1. 2. Status Indicator Number of Dominant Species (A) 2. 3.	ditchio	a.al/
Tree Stratum (Plot size Absolute Dominant Indicator 1. 2. Status Number of Dominant Species (A) 2. Total Number of Dominant Species (A) 3. (B) 4. (B) 2. (B) 3. (B) 9 creater of Dominant Species (A) 1. (B) 9 creater of Dominant Species (A) 1. (B) 2. (A) 3. (B) 2. (B) 2. (A) 3.	UTUND	
Tree Stratum (Plot size Absolute Dominant Indicator 1. 2. Status Number of Dominant Species (A) 3.	VEGETATION – Use scientific names of plants	
Sabilno/Shrub Stratum (Plot size:) 1.	Tree Stratum (Plot size:) Absolute % Cover Dominant Species? Indica 1.	Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species
1. Total % Cover of: Multiply by: 2. OBL species x 1 = 3. FACW species x 2 = 5. FAC species x 3 = 5. FACU species x 3 = 6. FACU species x 4 = 2. FACU species x 4 = UPL species Column Totals: Column Totals: 2. Sol Stitution (Plot size: Model of the species x 4 = 3. Facular species X 4 = UPL species X 4 = 2. Sol Stitution (Plot size: Model of the species X 4 = UPL species X 4 = 3. Facular species X 4 = UPL species X 4 = UPL species X 4 = 3. Facular species X 4 = UPL species X 4 = UPL species X 4 = Y 4 = <td></td> <td></td>		
2. OBL species x1 = 3. FACW species x2 = 4. FAC species x3 = 5. FAC species x3 = FACU species x4 = UPL species x60 x5 = 300 2. Sol statum 3. Image: sol statum 4. Image: sol statum 5. Image: sol statum 6. Image: sol statum 7. Image: sol statum 6. Image: sol statum 7. Image: sol		Prevalence index worksheet:
3.		Total % Cover of: Multiply by:
4.		OBL species x 1 =
5.	3	FACW species x 2 =
Herb Stratum (Plot size: M2 = Total Cover FACU species x4 = 1.	4.	FAC species x 3 =
Herb Stratum (Plot size: MZ x5 = 300 1.		FACU species x 4 =
1.		UPL species $\int aD = 3DO$
2. Prevalence Index = B/A = 3. Hydrophytic Vegetation Indicators: 4. I - Rapid Test for Hydrophytic Vegetation 5. I - Rapid Test for Hydrophytic Vegetation 6. 2 - Dominance Test is >50% 7. S - Prevalence Index is ≤3.01 8. - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) 5. - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) 5. - Wetland Non-Vascular Plants' 11. - Morphological Adaptations' (Explain) 11. - Moody Vine Stratum Woody Vine Stratum - Total Cover Hydrophytic - Total Cover Hydrophytic - No	1. POTOMOR SOLSATION LOD VILO	Column Totais: 60 (A) 300 (B)
4. Hydrophytic Vegetation Indicators: 5. 1 - Rapid Test for Hydrophytic Vegetation 6. 2 - Dominance Test is >50% 7. 3 - Prevalence Index is <3.01	2	Prevalence Index = B/A = 5
5.		Hydrophytic Vegetation Indicators:
6. 2 - Dominance Test is >50% 7. 3 - Prevalence Index is <3.01	5	
7. 3 - Prevalence Index is ≤3.01 8. 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 9. 5 - Wetland Non-Vascular Plants1 10. 5 - Wetland Non-Vascular Plants1 11. Problematic Hydrophytic Vegetation1 (Explain) 11. 9roblematic Hydrophytic Vegetation1 (Explain) 11. 1 12. 9roblematic Hydrophytic Vegetation1 (Explain) 13. 1 14. 1 15. 1 16. 1 17. 1 18. 1 19. 1 19. 1 19. 1 19. 1 10. 1 11. 1 11. 1 11. 1 11. 1 11. 1 11. 1 11. 1 11. 1 11. 1 11. 1 12. 1 13. 1 14	6 Vetramore and the later of the lat	2 - Dominance Test is >50%
4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Froblematic Hydrophytic Vegetation ¹ (Explain) 100 = Total Cover 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes No	7	3 - Prevalence Index is <3.0 ¹
a.		4 - Morphological Adaptations' (Provide supporting)
11.		
Moody Vine Stratum (Plot size:)	14	
Moody Vine Stratum (Plot size:)		
Bare Ground in Herb Stratum 40 = Total Cover Hydrophytic Vegetation Present? Hydrophytic Vegetation Present?		indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum 40 = Total Cover Hydrophytic Vegetation Present? Yes No		
Remarks:	= Total Cover	Vegetation
	Remarks:	

SOIL	Sentroling Fold 130
Profile Description: (Describe to the depth needed to document the Indicator or conf	firm the absence of indicators.)
Depth Matrix Redox Features	Loc ² Texture Remarks
(inches) Color (moist) % Type	
0-18 25112100	clayloan
r	R
	· · · · · · · · · · · · · · · · · · ·
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand	d 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 Epipedon (A2) Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA	1) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Hydrogen Sutfide (A4) Loamy Gleyed Matrix (F2) 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):	
Type: Hydric Soil I	Present? Yes No
Depth (inches):	
Remarks:	
noindicators	
HYDROLOGY	
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,

Primary Indicators (minimun	n of one required; check all that apply)	Secondary indicators (2 or more 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 Ae Sparsely Vegetated Con	Water-Stained Le MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Rede Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain in prial Imagery (B7)	Drainage Patterns (B10) ates (B13) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) oheres along Living Geomorphic Position (D2) uced Iron (C4) Shallow Aquitard (D3) FAC-Neutral Test (D5) sed Plants (D1) Raised Ant Mounds (D6) (LRR A)
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	Yes No Depth (Inches): Yes No Depth (inches): Yes No Depth (inches):	Wetland Hydrology Present? Yes No
	eam gauge, monitoring well, aerial photos,	previous inspections), if available:
Remarks:	1 011	ndicatoss

WETLAND DETERMINAT	FION DATA FORM - Western M	lountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillslope, terrace, etc.): <u>Hart Ranch</u> Subregion (LRR): <u>MLRA ZZB</u> Soil Map Unit Name: <u>ISG MectFor</u> Are climatic / hydrologic conditions on the site typic Are Vegetation <u>Soil</u> , or Hydrologic Are Vegetation <u>Soil</u> , or Hydrologic SUMMARY OF FINDINGS – Attach, site Hydrophytic Vegetation Present? Yes X	City/County: State: CA Sample State: CA Sample Section, Township, Range: T. Co. Local relief (concave, conver Lat: Tag. 201/16 Yong: 41.66 CA CALLOAM COO cal for this time of year? Yes X No y ND significantly disturbed? Are y ND naturally problematic? map showing sampling point No Is the Sampled Area wi	Sampling Date: 8/23/2016 Ing Point: 136 X, none):
VEGETATION - Use scientific names o	f plants.	
Tree Stratum (Plot size:) 1. 2.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant
4.	- Total Causa	Species Across All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:) 1.	= Total Cover	Prevalence index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 =
	= Total Cover	FACU species x 4 =

4. 5	= Total Cover	FAC species FACU species UPL species Column Totals: Prevalence Index = B	$\begin{array}{c} x & 2 = \\ x & 3 = \\ x & 4 = \\ x & 5 = \\ (A) \\ (A) \\ (B) \\ (A) \\ (B) \\ (A) \\ (B) \\ (A) \\ (B) \\ ($	
4. 5. 6. 7. 8.	and an	2 - Dominance Tes	Hydrophytic Vegetation t is >50%	arting
9	= Total Cover	5 - Wetland Non-Va	on a separate sheet) ascular Plants ¹ hytic Vegetation ¹ (Explain)	-
2	= Total Cover	Hydrophytic Vegetation Present? Yes	No	
Remarks: ProbU	maticitet very Openwar no UY	Sa-champt	sparse vepa	ugen

US Army Corps of Engineers

Western Mountains, Valla and Coset - Vareion 20

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			The second se	136
DIL Brotile Description: /Describe to	the depth needed to document th	ne indicator or con		
Depth Matrix	Redo)	K realuies		Dec. and
(inches) Color (moist)	% Color (moist) %		Loc ² <u>Texture</u>	Remarks
	10 54R416 10		M Clay loam	
1-18 254/R-4/2 9	<u>0 1816</u>			
	· · · · · ·			
······································				
¹ Type: C=Concentration D=Deple	tion, RM=Reduced Matrix, CS=Cove	ered or Coated San	d Grains. ² Location: PL=Pore Lir	ning, M=Matrix.
			Indicators for Problematic	Hydric Soile ^{3,}
Hydric Soil Indicators: (Applica	ble to all LRRs, unless otherwise	noted.)		nyune sons .
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (A10)	
Histic Epipedon (A2)	Stripped Matrix (S6)		Red Parent Material (TF2	2)
Black Histic (A3)	Loamy Mucky Mineral	(F1) (except MLR/	1) Very Shallow Dark Surface	ce (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix ((F2)	Other (Explain in Remark	(S)
Depleted Below Dark Surface		()		
Thick Dark Surface (A12)	Redox Dark Surface (I	F6)	³ Indicators of hydrophytic	vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface		wetland hydrology must t	present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F		unless disturbed or proble	ematic
Galidy Gleyed Induity (0-1)				
Restrictive Layer (if present):				
		Hydric Soi	Present? Yes X	No
Туре:		- , a		
Depth (inches):				
Netland Hydrology Indicators:			Secondary Indicators (2 or mo	re required)
Netland Hydrology Indicators:	required; check all that apply)		Secondary Indicators (2 or mo	re required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one	Water-Stained Lea	aves (B9) (except	Water-Stained Leaves (B9	re required)) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1)	Water-Stained Lea MLRA 1, 2, 4A, ar	aves (B9) (except nd 4B)	Water-Stained Leaves (B9 4A, and 4B)	re required)) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11)	nd 4B)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10)) (MLRA 1, 2,
Vetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra	nd 4B) ates (B13)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Drv-Season Water Table ()) (MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide	nd 4B) ates (B13) Odor (C1)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10))) (MLRA 1, 2, C2)
Vetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl	nd 4B) ates (B13) Odor (C1)	Water-Stained Leaves (89 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria) (MLRA 1, 2, C2) al Imagery (C9)
Vetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3)	nd 4B) ates (B13) Odor (C1) heres along Living	Water-Stained Leaves (89 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2)) (MLRA 1, 2, C2) al Imagery (C9)
Vetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu	nd 4B) ates (B13) Odor (C1) heres along Living uced Iron (C4)	Water-Stained Leaves (89 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria) (MLRA 1, 2, C2) al Imagery (C9)
Vetland 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)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu Recent Iron Redu	nd 4B) ates (B13) Odor (C1) heres along Living uced Iron (C4)	Water-Stained Leaves (89 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3)) (MLRA 1, 2, C2) al Imagery (C9)
Vetland Hydrology Indicators: Primary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu Recent Iron Redu Solls (C6)	nd 4B) ates (B13) Odor (C1) heres along Living uced Iron (C4) ction in Tilled	Water-Stained Leaves (89 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2)) (MLRA 1, 2, C2) al Imagery (C9)
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)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu Recent iron Redu Soils (C6) Stunted or Stresse	nd 4B) ates (B13) Odor (C1) heres along Living uced Iron (C4) ction in Tilled	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)) (MLRA 1, 2, C2) al Imagery (C9)
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 Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu Recent Iron Redu Solls (C6) Stunted or Stresso (LRR A)	nd 4B) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) ((MLRA 1, 2, C2) al Imagery (C9)
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) Surface Soil Cracks (B6)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu Recent iron Redu Soils (C6) Stunted or Stresse (LRR A) Other (Explain in	nd 4B) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	(MLRA 1, 2, C2) al Imagery (C9)
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) Surface Soil Cracks (B6) Inundation Visible on Aerial Image	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu Recent Iron Redu Solls (C6) Stunted or Stresse (LRR A) Other (Explain in gery (B7)	nd 4B) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) ((MLRA 1, 2, C2) al Imagery (C9)
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) Surface Soil Cracks (B6)	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu Recent Iron Redu Solls (C6) Stunted or Stresse (LRR A) Other (Explain in gery (B7)	nd 4B) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) ((MLRA 1, 2, C2) al Imagery (C9)
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 Imag Sparsely Vegetated Concave Su	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu Recent Iron Redu Solls (C6) Stunted or Stresse (LRR A) Other (Explain in gery (B7)	nd 4B) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) ((MLRA 1, 2, C2) al Imagery (C9)
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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) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Su Field Observations: Surface Water Present?	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu Recent iron Redu Soils (C6) Stunted or Stresse (LRR A) Other (Explain in gery (B7) urface (B8) No Depth (inches):	nd 4B) ates (B13) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1) Remarks)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (Frost-Heave Hummocks ((MLRA 1, 2, C2) I Imagery (C9) (LRR A) D7)
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) Surface Soil Cracks (B6) inundation Visible on Aerial Image Sparsely Vegetated Concave Su Field Observations: Surface Water Present? Yes	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic invertebra Hydrogen Sulfide Oxidized Rhizospl Roots (C3) Presence of Redu Recent iron Redu Solls (C6) Stunted or Stresse (LRR A) Other (Explain in Ingery (B7) urface (B8)	nd 4B) ates (B13) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1) Remarks)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (Frost-Heave Hummocks ((MLRA 1, 2, C2) al Imagery (C9)
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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) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Sufface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Yes Yes	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic invertebra Hydrogen Sulfide Oxidized Rhizospi Roots (C3) Presence of Redu Recent iron Redu Solis (C6) Stunted or Stresso (LRR A) Other (Explain in gery (B7) urface (B8) No Depth (inches): No Depth (inches):	nd 4B) ates (B13) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1) Remarks) We	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (Frost-Heave Hummocks ((MLRA 1, 2, C2) I Imagery (C9) (LRR A) D7)
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) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Sufface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Yes Yes	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic invertebra Hydrogen Sulfide Oxidized Rhizospi Roots (C3) Presence of Redu Recent iron Redu Solis (C6) Stunted or Stresse (LRR A) Other (Explain in I gery (B7) urface (B8) No Depth (inches): No Depth (inches):	nd 4B) ates (B13) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1) Remarks) We	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (Frost-Heave Hummocks ((MLRA 1, 2, C2) I Imagery (C9) (LRR A) D7)
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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) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Sufface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes Yes Yes	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic invertebra Hydrogen Sulfide Oxidized Rhizospi Roots (C3) Presence of Redu Recent iron Redu Solis (C6) Stunted or Stresso (LRR A) Other (Explain in gery (B7) urface (B8) No Depth (inches): No Depth (inches):	nd 4B) ates (B13) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1) Remarks) We	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (Frost-Heave Hummocks ((MLRA 1, 2, C2) I Imagery (C9) (LRR A) D7)
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Vetland Hydrology Indicators: Immary 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) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Water Present? Yes Saturation Present?	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic invertebra Hydrogen Sulfide Oxidized Rhizospi Roots (C3) Presence of Redu Recent iron Redu Solis (C6) Stunted or Stresso (LRR A) Other (Explain in gery (B7) urface (B8) No Depth (inches): No Depth (inches):	nd 4B) ates (B13) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1) Remarks) We	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (Frost-Heave Hummocks ((MLRA 1, 2, C2) I Imagery (C9) (LRR A) D7)
Vetland Hydrology Indicators: rimary 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) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Water Present? Yes Saturation Present? Yes Saturation Present?	Water-Stained Lea MLRA 1, 2, 4A, ar Salt Crust (B11) Aquatic invertebra Hydrogen Sulfide Oxidized Rhizospi Roots (C3) Presence of Redu Recent iron Redu Solis (C6) Stunted or Stresso (LRR A) Other (Explain in gery (B7) urface (B8) No Depth (inches): No Depth (inches):	nd 4B) ates (B13) Odor (C1) heres along Living iced Iron (C4) iction in Tilled ed Plants (D1) Remarks) We	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (Frost-Heave Hummocks ((MLRA 1, 2, C2) I Imagery (C9) (LRR A) D7)

WETLAND DETERMINA	TION DATA FORM Western I	Mountains, Valleys, and Coast Region
Project/Site: HAARAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	City/County: State: CA' Samp Section, Township, Range: Section, Townsh	Sampling Date: 8/23/2016 Jing Point: 3C SN, R5W Sect 1, 2+3 px, none): Neme Slope (%): 3C Skope (%): 3C NWI classification: NIA (If no, explain in Remarks.) No *Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) No t locations, transects, important features, etc. No
	ditchbank	
VEGETATION - Use scientific names	of planta	
		Denie Testus I. (
Tree Stratum (Plot size:)	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species
1		That Are OBL, FACW, or FAC:
2		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC:
Sapling/Shrub Stratum (Plot size:)	= Total Cover	Prevalence Index worksheet:
1		
2.		Total % Cover of: Multiply by:
3.		
4.		FACW species x 2 = FAC species x 3 =
5		
	= Total Cover	FACU species $x 4 =$ UPL species $50 x 5 = 250$
Herb Stratum (Plot size: M/4)	1. 1. 1. 1. 1. 1.	
· Centaurca soistitial	<u>50 4 UPL</u>	Column Totals: <u>SO</u> (A) <u>250</u> (B)
3.		Prevalence index = B/A =
E	- El Contra Casa an	Hydrophytic Vegetation Indicators:
6.		1 - Rapid Test for Hydrophytic Vegetation
7		2 - Dominance Test is >50%
B		4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Noody Vine Stratum (Plot size:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		With States
···	as the state of the	Hydrophytic
6 Bare Ground in Herb Stratum	= Total Cover	Vegetation Present? Yes No
Remarks:		

Profile Description: (Describe to Depth Matrix	the deput		Redox Fea	tures	iniimi uie a	Dence of indicators	19. A
(inches) Color (moist)	%	Color (moist)	<u>%</u>	Туре	Loc ²	Texture	Remarks
2-16 2.5424/2 6-16 1042313	100	·				Clay loan	h
· ·							<u> </u>
Type: C=Concentration, D=Deple						² Location: PL=Pon	
Hydric Soil Indicators: (Applica Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)		LRRs, unless othe Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed N Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	5) (S6) lineral (F1) Aatrix (F2) (F3) face (F6) Surface (F7)	(except MLR	(A 1)	icators for Problema 2 cm Muck (A10) Red Parent Material (Very Shallow Dark St Other (Explain in Rer ³ Indicators of hydropl wetland hydrology mi unless disturbed or p	TF2) Inface (TF12) narks) nytic vegetation and ust be present,
strictive Layer (if present): Type: Depth (inches):				Hydric So	il Present?	Yes	No <u>×</u>
narks:	<u></u>			carto			
			INON	COLLO.	VS .		

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 (B7) Sparsely Vegetated Concave Surface (B	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solis (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) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? (Includes capillary fringe) Yes No	Depth (inches): Wet	land Hydrology Present? Yes No 🎾
	MD 1 Add Con	

WETLAND DETERMIN	ATION DATA FORM – Western	Mountains, Valleys, and Coast Region
Project/Site: HAA Ranch Applicant/Owner: Hart Ranch Investigator(s): Andréa Rabe Landform (hillslope, terrace, etc.): Subregion (LRR): MLRA ZZB Soil Map Unit Name: 180 000 Are climatic / hydrologic conditions on the site to Are Vegetation, Soil, or Hydrol Are Vegetation, Soil, or Hydrol	City/County: State: CA Sam Section, Township, Range: Section, Township, Range: Section, Township, Range: Local relief (concave, conv Lat: 100,370993 Long: LLG FIE (OA/M vpical for this time of year? Yes X N ogy No significantly disturbed? Are ogy No naturally problematic? ite map showing sampling point No X Is the Sampled Area of No X Is the Sampled Area of	Sampling Date: 8/23/2016 Define Point: 4 Some (%): 2 Some (%): 2 Datum: NAD 63 NVI classification: N/A O (If no, explain in Remarks.) e "Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) Int locations, transects, important features, etc. within a Wetland? Yes No
	Siped &	Franci Cield
VEGETATION - Use scientific names	of plante	all
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicato <u>% Cover Species? Status</u>	
Sapling/Shrub_Stratum (Plot size:) 1.	= Total Cover	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Golumn Totals: 90 (A) 450 Prevalence Index = B/A = $5,0$
4		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must
1		be present, unless disturbed or problematic.
8 & Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No X
Remarks:		

DIL				SOMPHINE FOI	
Profile Description: (Describe to the	he depth needed to document	the indicator or co	nfirm the absence	e of indicators	i.)
Depth Matrix	red	ox Features % Type	Loc ²	Texture	Remarks
(inches) Color (moist)		<u>% </u>		am	
0-11 2542.612 10				, , , , , , , , , , , , , , , , , , ,	
11-18 254R6/2 11	<u> </u>			Mam_	
			<u> </u>		
		14.00 mm3			
<u></u>	·····				
			<u> </u>		
¹ Type: C=Concentration, D=Depletic	on, RM=Reduced Matrix, CS=Co	vered or Coated Sa	nd Grains. ² Lo	ation: PL=Por	e Lining, M=Matrix.
Hydric Soil Indicators: (Applicabl				s for Problema	tic Hydric Solls ³ :
	Sandy Redox (S5)		2 cm	Muck (A10)	
Histosol (A1) Histic Epipedon (A2)	Stripped Matrix (S6)			arent Material	(TF2)
Black Histic (A3)	Loamy Mucky Minera	al (F1) (except MLR	A1) Very	Shallow Dark S (Explain in Rei	ufface (1F12) narks)
Hydrogen Sulfide (A4)	Loarny Gleyed Matrix Depleted Matrix (F3)				
Depleted Below Dark Surface (A Thick Dark Surface (A12)	Redox Dark Surface	(F6)	³ Indic	ators of hydrop	hytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surfa	ce (F7)	wetla	nd hydrology m s disturbed or p	ust be present,
Sandy Gleyed Matrix (S4)	Redox Depressions	(F8)	unies	s disturbed or p	
and stations I gover /if proceently					
estrictive Layer (if present):		Hvdric So	il Present?	/es	_ No <u>X</u>
Type: Depth (inches):	·····	- '			
marks:	noi	indicata	Y.S	<u>.,, </u>	
	noi	indicati	W.S	<u></u>	
YDROLOGY Vetland Hydrology Indicators:		indicati			
YDROLOGY	ouired: check all that apply)		Secondary	Indicators (2 or	more required) (B9) (MLRA 1, 2,
(DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one re	equired; check all that apply) Water-Stained L	eaves (B9) (except	Secondary Water 4A, an-	Stained Leaves 1 4B)	(B9) (MLRA 1, 2,
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one re Surface Water (A1)	equired; check all that apply) Water-Stained L MLRA 1, 2, 4A, a Salt Crust (B11)	eaves (B9) (except and 4B)	Secondary Water4A, and Drainad	Stained Leaves 1 4B) ge Patterns (B1	(B9) (MLRA 1, 2, 0)
(DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one re	equired; check all that apply) Water-Stained L MLRA 1, 2, 4A, a Salt Crust (B11) Aquatic Inverteb	eaves (B9) (except and 4B) rates (B13)		Stained Leaves 1 4B) ge Patterns (B1 ason Water Tal	(B9) (MLRA 1, 2, 0) ble (C2)
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(DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	equired; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos	eaves (B9) (except and 4B) rates (B13)	Secondary Water 4A, and Draina Draina Dry-Se Satura	Stained Leaves 1 4B) ge Patterns (B1 ason Water Tal	(B9) (MLRA 1, 2, 0) ble (C2) Aerial Imagery (C9)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	equired; check all that apply) Water-Stained L MLRA 1, 2, 4A, i Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec	eaves (B9) (except and 4B) rates (B13) e Odor (C1) pheres along Living duced fron (C4)		Stained Leaves 1 4B) ge Patterns (B1 ason Water Ta ion Visible on A	(B9) (MLRA 1, 2, 0) ble (C2) Verial imagery (C9) D2)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	equired; check all that apply) Water-Stained L MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent Iron Red	eaves (B9) (except and 4B) rates (B13) e Odor (C1) pheres along Living duced fron (C4)	Secondary Water- 4A, and Drainag Dry-Se Satura Geomo Shallon	Stained Leaves d 4B) ge Patterns (B1 ason Water Ta lon Visible on A orphic Position (v Aquitard (D3)	(B9) (MLRA 1, 2, 0) ble (C2) Aerial Imagery (C9) D2)
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YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Aquired; check all that apply) Water-Stained L MLRA 1, 2, 4A, i Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent Iron Red Soils (C6) Stunted or Stres (LRR A)	eaves (B9) (except and 4B) rates (B13) e Odor (C1) pheres along Living duced fron (C4) fuction in Tilled uction in Tilled	<u>Secondary</u> Water 4A, and Drainag Dry-Se Satura Satura Shallou FAC-N Raisec	Stained Leaves 1 4B) ge Patterns (B1 ason Water Tailon lon Visible on A prphic Position (v Aquitard (D3) eutral Test (D5 Ant Mounds (I	(B9) (MLRA 1, 2, 0) 0le (C2) Aerial Imagery (C9) D2) 0) 06) (LRR A)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one re 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)	Aquired; check all that apply) Water-Stained L MLRA 1, 2, 4A, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent Iron Red Soils (C6) Stunted or Stres (LRR A) Other (Explain in	eaves (B9) (except and 4B) rates (B13) e Odor (C1) pheres along Living duced fron (C4) fuction in Tilled uction in Tilled	<u>Secondary</u> Water 4A, and Drainag Dry-Se Satura Satura Shallou FAC-N Raisec	Stained Leaves 1 4B) ge Patterns (B1 ason Water Tailon Visible on A orphic Position (v Aquitard (D3) eutral Test (D5	(B9) (MLRA 1, 2, 0) 0le (C2) Aerial Imagery (C9) D2) 0) 06) (LRR A)
(DROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one re 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	Aquired; check all that apply) Water-Stained Li MLRA 1, 2, 4A, i Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent Iron Red Soils (C6) Stunted or Stres (LRR A) Other (Explain in ry (B7)	eaves (B9) (except and 4B) rates (B13) e Odor (C1) pheres along Living duced fron (C4) fuction in Tilled uction in Tilled	<u>Secondary</u> Water 4A, and Drainag Dry-Se Satura Satura Shallou FAC-N Raisec	Stained Leaves 1 4B) ge Patterns (B1 ason Water Tailon lon Visible on A prphic Position (v Aquitard (D3) eutral Test (D5 Ant Mounds (I	(B9) (MLRA 1, 2, 0) Die (C2) Aerial Imagery (C9) D2)) 06) (LRR A)
/DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one re 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)	Aquired; check all that apply) Water-Stained Li MLRA 1, 2, 4A, i Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent Iron Red Soils (C6) Stunted or Stres (LRR A) Other (Explain in ry (B7)	eaves (B9) (except and 4B) rates (B13) e Odor (C1) pheres along Living duced fron (C4) fuction in Tilled uction in Tilled	<u>Secondary</u> Water 4A, and Drainag Dry-Se Satura Satura Shallou FAC-N Raisec	Stained Leaves 1 4B) ge Patterns (B1 ason Water Tailon lon Visible on A prphic Position (v Aquitard (D3) eutral Test (D5 Ant Mounds (I	(B9) (MLRA 1, 2, 0) Die (C2) Aerial Imagery (C9) D2)) 06) (LRR A)
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YDROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one re 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 Surface Surface Water Present? Yes Water Table Present? Yes	Aquired; check all that apply) Water-Stained L MLRA 1, 2, 4A, 4 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfid Oxidized Rhizos Roots (C3) Presence of Rec Recent Iron Red Soils (C6) Stunted or Stres (LRR A) Other (Explain in ry (B7) ace (B8)	eaves (B9) (except and 4B) rates (B13) e Odor (C1) pheres along Living duced fron (C4) fuction in Tilled ased Plants (D1) n Remarks)	<u>Secondary</u> Water 4A, and Drainag Dry-Se Satura Satura Shallou FAC-N Raisec	Stained Leaves 1 4B) ge Patterns (B1 ason Water Tallon lon Visible on A prphic Position (v Aquitard (D3) eutral Test (D5 Ant Mounds (I leave Hummod	(B9) (MLRA 1, 2, 0) ble (C2) Aerial Imagery (C9) D2) 06) (LRR A) ks (D7)
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YDROLOGY Yetland Hydrology Indicators: rimary Indicators (minimum of one re 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- Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	Aquired; check all that apply) Water-Stained L MLRA 1, 2, 4A, 3 Salt Crust (B11) Aquatic Inverteb Hydrogen Sulfide Oxidized Rhizos Roots (C3) Presence of Rec Recent Iron Red Soils (C6) Stunted or Stres (LRR A) Other (Explain in ry (B7) ace (B8) No No Depth (inches): No Depth (inches):	eaves (B9) (except and 4B) rates (B13) e Odor (C1) pheres along Living duced fron (C4) fuction in Tilled ased Plants (D1) in Remarks)	Secondary Water4A, and Drainag Dry-Se Satural Geomo Shallow FAC-N Raiseo Frost-h etiand Hydrology	Stained Leaves 1 4B) ge Patterns (B1 ason Water Tallon lon Visible on A prphic Position (v Aquitard (D3) eutral Test (D5 Ant Mounds (I leave Hummod	(B9) (MLRA 1, 2, 0) ble (C2) Aerial Imagery (C9) (D2) 06) (LRR A) ks (D7)
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WETLAND DETERMIN	ATION DATA FORM – Western i	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch InvestIgator(s): Marta Ranch Landform (hillslope, terrace, etc.): Subregion (LRR): MLRA 22B Soil Map Unit Name: 199 mcdf Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic	City/County: Siski Vou C State: CA Samp Section, Township, Range: T CC Local relief (concave, conve Lat: 122, 37347) Long: 41.6 Dr.A (100M pical for this time of year? Yes X No pay No significantly disturbed? Are pay No naturally problematic?	Imp Point: SQ 45N R5W 953 Datum: NWI classification: NAD §3 (If no, explain in Remarks.) "Normal Circumstances" present? Yes (If needed, explain any answers in Remarks.)
Hydric Soil Present? Yes Wetland Hydrology Present? Yes		t locations, transects, important features, etc ithin a Wetland? Yes No
Remarks: VEGETATION - Use scientific names	ditch banky	next to alkallatield
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Yercent of Dominant Species Percent of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Percent of Dominant Species That Are OBL, FACW, or FAC: (A)
Sapling/Shrub Stratum (Plot size:) 1.	= Total Cover = Total Cover 30 U D.PL	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 3 =$ FACU species $x 4 =$ UPL species $0 = x 5 = 300$ Column Totals: $20 =$ (A) 3000 (B)
2. <u>lactuca serviola</u> 3. <u>Elymile Chymoideus</u> 4 5 6 8	$\frac{OU}{30} \neq \frac{UPL}{UPL}$ $\frac{10}{10} \neq \frac{FACU}{FACU}$	Prevalence Index = B/A = 4.6 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting
9	20 = Total Cover	data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum 30	= Total Cover	Hydrophytic Vegetation Present? Yes No

SOIL						Steicefolie		ia
Profile Description: (Describe to	o the depth	needed to docum	ent the inc	licator or cor	nfirm the a	bsence of indi	cators.)	
Depth Matrix			Redox Fea	tures		Texture	_	marks
(inches) Color (moist)	%	Color (moist)	<u>%</u>	Type'	Loc ²			
0-18 2.542412	100					Claye	DCM*	<u> </u>
¹ Type: C=Concentration, D≂Depl	etion, RM=F	Reduced Matrix, CS	=Covered	or Coated San	d Grains.	² Location: P	L=Pore Lining, N	1=Matrix.
Hydric Soil Indicators: (Applic						licators for Pro		; Soils ³ :
Histosol (A1)		_ Sandy Redox (S	5)			2 cm Muck (A1		
Histic Epipedon (A2)	_	Stripped Matrix (S6)	(and and her Di		Red Parent Ma	ark Surface (TF	12)
Black Histic (A3)	5 P	Loamy Mucky M		(except mLR/	A 1)	Other (Explain	in Remarks)	,
Hydrogen Sulfide (A4)	. (644)	Loamy Gleyed N Depleted Matrix					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Depleted Below Dark Surface Thick Dark Surface (A12)	e (ATT)	Redox Dark Surf				³ Indicators of h	ydrophytic veget	ation and
Sandy Mucky Mineral (S1)		Depleted Dark S		1		wetland hydrold	gy must be prea	sent,
Sandy Gleyed Matrix (S4)		Redox Depression				unless disturbe	d or problematic	;
Restrictive Layer (if present):								\checkmark
Туре:				Hydric Soi	Present'i	Yes	No	
Depth (inches):								
Remarks:				·				
xemanxo.								
		÷.	. E	. i –				
			DAVA	11 Cati	1			

HYDROLOGY

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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solls (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	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) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No (includes capillary fringe) Yes No Describe Recorded Data (stream gauge, monit	Depth (inches):	iland Hydrology Present? Yes No
Remarks:	5	oindicators

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch City/County: Siski You Co sampling Date: 8/23/2016 Applicant/Owner: Hart Ranch State: CA Sampling Point: So Sect 1,2+3 Investigator(s): Andrea Rabe Section, Township, Range: 1.45N, 85W Sect 1,2+3
Investigator(s): Andrea Kabe Section, Township, Range: T.45N, K5W Sect 1,2+3 Landform (hillislope, terrace, etc.): Local relief (concave, convex, none): CM 142K Slope (%): 2
Soil Map Unit Name: 184 MCd for d California and NWI destification: N/A
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X
Are Vegetation, Soil, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No	Is the Sampled Area within a Wetland?	Yes No
Remarks:	ditch		

VEGETATION – Use scientific names of plants.

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover Species? Status</u>	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species
		That Are OBL, FACW, or FAC: _/00 (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species $LO = x_1 = 10$
3		FACW species x 2 =
4		FAC species x 3 =
5		
	= Total Cover	
Herb Stratum (Plot size: 111-)		
1. Spherroplactus acutus	10 Y OBC	Column Totals: $(A) / O$ (B)
2		Prevalence Index = B/A = 1,50
3		
4		Hydrophytic Vegetation Indicators:
5	1 42 1 4 1 2 4 Fe	1 - Rapid Test for Hydrophytic Vegetation
6		2 - Dominance Test is >50%
7		3 - Prevalence Index is ≤3.0 ¹
8.		4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants1
11		Problematic Hydrophytic Vegetation ¹ (Explain)
	= Total Cover	¹ indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot vize:)		be present, unless disturbed or problematic.
1	F	210 g (1)
2.	and the second second	the second se
	= Total Cover	Hydrophytic Vegetation
% Bare Ground in Herb Stratum90		Present? Yes No
Remarks:		
	1 and water	
morty	- Upen were la	ribarian
	L open water 6" band of	

OIL							Satagling Point NO	:
Profile Des	cription: (Describe	to the dept	h needed to docun	nent the inc	licator or co	onfirm the	absence of indicators.)	
Depth	Matrix			Redox Fea	tures		· ·	
(inches)	Color (moist)	%	Color (moist)	%	Туре	Loc ²	Texture Remark	ks
1-18	2.548412	90	542416	10		M	clau joann	
10	2-13 / P-11=		9 1 1 1 1 1	<u></u>		T,		
					· · · · · · · · · · · · · · · · · · ·		3°	-
						·····		
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	·							
<u> </u>			<u> </u>				ā <u> </u>	
			· · · · · · · · · · · · · · · · · · ·	-				
	<u> </u>						2	-
Type: C=C	oncentration, D=Dep	oletion, RM≍l	Reduced Matrix, CS	=Covered of	or Coated Sa	ind Grains.	² Location: PL=Pore Lining, M=Ma	atrix.
Hydric Sol	Indicators: (Appli	cable to all	RRs. unless othe	rwise note	d.)	Inc	dicators for Problematic Hydric So	ils ³ :
-	•						2 cm Muck (A10)	
Histoso		-	_ Sandy Redox (S				Red Parent Material (TF2)	
	pipedon (A2)	-	 Stripped Matrix (avent MI F		Very Shallow Dark Surface (TF12)	
	listic (A3)		Loamy Mucky M		except MLP	<u> </u>	Other (Explain in Remarks)	
	en Sulfide (A4)		Loamy Gleyed N				Other (Explain in Kennanka)	
	d Below Dark Surfa		Depleted Matrix Redox Dark Sur				³ Indicators of hydrophytic vegetation	n enr
	ark Surface (A12)		Depleted Dark Sun				wetland hydrology must be present,	
	Mucky Mineral (S1) Gleyed Matrix (S4)		Redox Depress				unless disturbed or problematic	,
	Gieyeu Matrix (04)				1			
strictive La	ayer (if present):				1		\sim	
Type:	- j (p ,				Hydric So	il Present'	Yes No	
· · ·	han):							
Depth (inc	nes).				<u> </u>		······································	
narks:								
		~	1 . I N	Se Ma	Arte	Λ.	1 Mat	
		- N	INDPIL VD	MA M	Carle	11	y in Oct	
			/ vec. v n	*		C 7.4	<u> </u>	
							J	
DROLOG								
etiand Hyd	rology Indicators: itors (minimum of on	o required: c	hack all that apply)			Sec	ondary Indicators (2 or more required)
intary marce	itors (minimum or on	e required, c	Water-Staine	d Leaves /	R0) (excent		Water-Stained Leaves (B9) (MLRA 1	. 2.
Surface W	otor (A1)		MLRA 1, 2, 4	4A and 4R			4A, and 4B)	, _,
Lich Mate	r Table (A2)		Salt Crust (B		/		Drainage Patterns (B10)	
Saturation	(A3)		Aquatic Inve	rtebrates (R	(13)		Dry-Season Water Table (C2)	
Water Mar	(73) ke (R1)		Hydrogen Su	alfide Odor i	(C1)		Saturation Visible on Aerial Imagery ((C9)
AAGTOL INIGI			Oxidized Rhi				• • •	
Sediment I	Deposits (B2)		Roots (C3)	2000110100		1	Geomorphic Position (D2)	
Drift Depos			Presence of	Reduced in	on (C4)		Shallow Aquitard (D3)	
Diffe Depot			Recent Iron					
Aloal Mat d	or Crust (B4)		Soils (C6)			288	FAC-Neutral Test (D5)	
, agai mar (Stunted or S	tressed Pla	nts (D1)			
Iron Depos	sits (B5)		(LRR A)				Raised Ant Mounds (D6) (LRR A)	
	oil Cracks (B6)		Other (Expla	in in Rema	rks)	12000	Frost-Heave Hummocks (D7)	
	Visible on Aerial Im	agery (B7)	-		-			
	egetated Concave S							
· •	-							
eld Observ	ations:	J		19.1				
urface Wate		<u>I</u> NO _	Depth (inches)		Δ			_
ater Table F	Present? Yes	V No	Depth (inches)	:	We	tiand Hyd	rology Present? Yes No	·
aturation Pre	esent?	$\overline{\mathbf{V}}$						
ncludes capi		No _	Depth (inches)					
scribe Recor	ded Data (stream ga	uge, monito	ring well, aerial pho	tos, previou	is inspection	s), if availa	ble:	
narks:			· ···					

	ATION DATA FORM – Western	Mountains, Valleys, and Coast Region
Project/Site: Hark Ranch Applicant/Owner: Hart Ranch Investigator(s): Angle Rabe Landform (hillslope, terrace, etc.): Cont Subregion (LRR): MLRA ZZB Soil Map Unit Name: 189 MM Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrole Are Vegetation, Soil, or Hydrole SUMMARY OF FINDINGS – Attach si Hydrophytic Vegetation Present? Yes Hydroc Soil Present?	City/County: Siski Vou C State: CA Sam Section, Township, Range: T Local relief (concave, conv Lat: 122,3735272 cong: 4) DYA CALL LOGMY (DO Plical for this time of year? Yes X No ogy No significantly disturbed? Are ogy No naturally problematic?	ax, none): <u>COMMENT</u> Slope (%): <u>2</u> ax, none): <u>COMMENT</u> Slope (%): <u>2</u> axe of the sector of the secto
Wetland Hydrology Present? Yes	No 🔀	
Remarks:	ditch bank	
VEGETATION Use scientific names	of plante	
	A1 1 4	
Tree Stratum (Rot size:)	Absolute Dominant Indicator <u>% Cover Species? Status</u>	
1		Number of Dominant Species That Are OBL, FACW, or FAC:
2		Total Number of Dominant
		Species Across All Strata: (B)
·		Percent of Dominant Species That Are OBL, FACW, or FAC:
apling/Shrub Stratum (Riot size:)	= Total Cover	Prevalence Index worksheet;
·/		
		Total % Cover of: Multiply by: OBL species x 1 =
		FACW species x2 =
		FAC species x3 =
		FACU species x4 =
erb Stratum (Plot size:	= Total Cover	UPL species $50 \times 5 = 400$
	. 110 1102 11	Column Totais: SO (A) 400 (B)
Captaine altinati	2 TU UPC 9	
	- 40 OPG Y	Prevalence Index = B/A =
		Hydrophytic Vegetation Indicators:
	· · · · · · · · · · · · · · · · · · ·	1 - Rapid Test for Hydrophytic Vegetation
		2 - Dominance Test is >50%
		3 - Prevalence index is $\leq 3,0^1$
	a a Mérica i	4 - Morphological Adaptations ¹ (Provide supporting)
		data in Remarks or on a separate sheet)
		5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
ody Vine Stratum (Plot size:)	82 = Total Cover	³ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic,
	an and the state of the state o	the state of the s
Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No

OIL			Schulgling	
Profile Description: (Describe to the dep	th needed to document the in	dicator or cor	firm the absence of indica	tors.)
Depth Matrix	Redox Fe	atures		
(inches) Color (moist) %	Color (moist) %	Type'	Loc ² Texture	Remarks
)-18 2,5 YRY/2100		<u> </u>	lam	
				Pore Lining, M=Matrix.
¹ Type: C=Concentration, D=Depletion, RM:	=Reduced Matrix, CS=Covered	or Coated Sar	d Grains. Location. PL-	
				ematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to al	I LRRs, unless otherwise not	ea.)		
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (A10)	
Histic Epipedon (A2)	Stripped Matrix (S6)		Red Parent Mate	rial (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLR		rk Surface (TF12)
	Loamy Gleyed Matrix (F2)	,	Other (Explain in	
Hydrogen Sulfide (A4)				-
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		³ Indicators of hv	irophytic vegetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6)	7)	wetland hydrolog	y must be present,
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F	()	unless disturbed	or problematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		Unices distanced	
				λ.
Restrictive Layer (if present):				X
		Hydric Soi	Present? Yes	No
Туре:				
Depth (Inches):		<u> </u>	······	· · · · · · · · · · · · · · · · · · ·
emarks:				
		1 . A.	k	
	NB		cators	
	()0	1	1 C O V O 3 3	
			·····	
IYDROLOGY				
	· · · · · · · · · · · · · · · · · · ·			
Wetland Hydrology Indicators:		<u> </u>	Socondan: Indicators	(2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required;	; check all that apply)		Secondary Indicators	(2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required,	Water-Stained Leaves	(B9) (except	Water-Stained Lea	(2 or more required) aves (B9) (MLRA 1, 2,
Primary Indicators (minimum of one required	Water-Stained Leaves MLRA 1, 2, 4A, and 4	i (B9) (except B)	Water-Stained Lea 4A, and 4B)	aves (B9) (MLRA 1, 2,
Primary Indicators (minimum of one required; Surface Water (A1)	Water-Stained Leaves MLRA 1, 2, 4A, and 4	i (B9) (except B)	Water-Stained Lea 4A, and 4B) Drainage Patterns	aves (B9) (MLRA 1, 2, (B10)
Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11)	B)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate	aves (B9) (MLRA 1, 2, (B10) 7 Table (C2)
Primary Indicators (minimum of one required: Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates	(B13)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate	aves (B9) (MLRA 1, 2, (B10) 7 Table (C2)
Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd	(B13) or (C1)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate	aves (B9) (MLRA 1, 2, (B10)
Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere	(B13) or (C1)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9)
Primary Indicators (minimum of one required: Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Roots (C3)	(B13) or (C1) is along Living	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2)
Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Roots (C3) Presence of Reduced	(B13) or (C1) is along Living Iron (C4)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2)
Primary Indicators (minimum of one required: Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odc Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction	(B13) or (C1) is along Living Iron (C4)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit Shallow Aquitard	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2) (D3)
Primary Indicators (minimum of one required: Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6)	(B13) or (C1) or along Living fron (C4) n in Tilled	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Water Saturation Visible Geomorphic Posit	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2) (D3)
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 MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odc Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction	(B13) or (C1) or along Living fron (C4) n in Tilled	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard of FAC-Neutral Test	aves (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5)
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 MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction Soils (C6) Stunted or Stressed F	(B13) or (C1) or along Living fron (C4) n in Tilled	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard of FAC-Neutral Test Raised Ant Mount	ives (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) ds (D6) (LRR A)
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 MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction Solis (C6) Stunted or Stressed F (LRR A)	(B13) or (C1) is along Living fron (C4) in In Tilled Plants (D1)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard of FAC-Neutral Test	ives (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) ds (D6) (LRR A)
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-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction Solis (C6) Stunted or Stressed F (LRR A) Other (Explain in Ren	(B13) or (C1) is along Living fron (C4) in In Tilled Plants (D1)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard of FAC-Neutral Test Raised Ant Mount	ives (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) ds (D6) (LRR A)
rimary 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 (B7)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction Solis (C6) Stunted or Stressed F (LRR A) Other (Explain in Ren	(B13) or (C1) is along Living fron (C4) in In Tilled Plants (D1)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard of FAC-Neutral Test Raised Ant Mount	ives (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) ds (D6) (LRR A)
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-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction Solis (C6) Stunted or Stressed F (LRR A) Other (Explain in Ren	(B13) or (C1) is along Living fron (C4) in In Tilled Plants (D1)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard of FAC-Neutral Test Raised Ant Mount	ives (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) ds (D6) (LRR A)
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 (B7) Sparsely Vegetated Concave Surface (Bi	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction Solis (C6) Stunted or Stressed F (LRR A) Other (Explain in Ren	(B13) or (C1) is along Living fron (C4) in In Tilled Plants (D1)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard of FAC-Neutral Test Raised Ant Mount	ives (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) ds (D6) (LRR A)
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 (B7) Sparsely Vegetated Concave Surface (Bi Field Observations:	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd Oxidized Rhizosphere Roots (C3) Presence of Reduced Recent Iron Reduction Solis (C6) Stunted or Stressed F (LRR A) Other (Explain in Ren 8)	(B13) or (C1) is along Living fron (C4) in In Tilled Plants (D1)	Water-Stained Lea 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard of FAC-Neutral Test Raised Ant Mount	ives (B9) (MLRA 1, 2, (B10) Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) ds (D6) (LRR A) mocks (D7)
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WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Hart Ranch City/County: Siski Vou Co. sampling pate: 8/23/2016
Application Where States A Sampling Point
Investigator(s): Marca Kabe Section Township Pages T'46N Chilling Section 7
Landform (hillslope, terrace, etc.):
Subregion (LRR): WLENH ZZB Lat-122 STUTH R Long UI LOGI & Datum NAM P2
Soli Map Unit Name: MCGTDYO (10.V 100/A NWI description: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

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

VEGETATION - Use scientific names of plants.

Tone Thesham (Distance)	Absolute Dominant Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:) 1	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
3.		OBL species x1 = FACW species x2 =
4		FACW species x 2 = FAC species x 3 =
5		FACU species x 4 =
Hat Statum (Station) 100 7	= Total Cover	UPL species $8D \times 5 = \sqrt{00}$
Herb Stratum (Plot size:) MZ) 1. MUDICODE CONTINA	80 Y UPL	Column Totals: (A) (B)
2.		A Contraction of the second se
3		Prevalence Index = B/A =
4 5		Hydrophytic Vegetation Indicators:
	- 200	1 - Rapid Test for Hydrophytic Vegetation
6	A d rating	2 - Dominance Test is >50%
7 8	and the second s	3 - Prevalence index is ≤3.0 ¹
8		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10.		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	SO = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.	a set and	117 日本語後一一一一日
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		

e Loc ² Texture Remarks
e Loc Remarks
<u> </u>
•
ed Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Indicators for Problematic Hydric Soils ³ :
2 cm Muck (A10)
Red Parent Material (TF2)
t MLRA 1) Very Shallow Dark Surface (TF12)
Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation and
wetland hydrology must be present,
unless disturbed or problematic
ric Soil Present? Yes No
<u></u>
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)
i vino
Living
Geomorphic Position (D2)
Geomorphic Position (D2) Shallow Aquitard (D3)
Geomorphic Position (D2) Shallow Aquitard (D3)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes No
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Project/Site: Hart Ranch Applicant/Owner: Hart Ranch	City/county: Siskiyou Co	Sampling Date: 8/23/2016
Investigator(s): Marca Kabe	Section, Townshin Banger T	45N REIL SPALL 2 12
Landform (hillslope, terrace, etc.):	Local relief (concave, conver	(, none): 1770 (Slope (%): 2
Subregion (LKK):	_ Lat: 122, 372477Long: 41.6	90480 Datum: NAD 83
Soil Map Unit Name: SD Louie Are climatic / hydrologic conditions on the site		NWI classification:
Are Vegetation . Soll or Hydro	North ND significantly disturbed 2 No	(If no, explain in Remarks.) Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydro	plogy ND naturally problematic?	Normal Circumstances" present? Yes A No
		(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach s Hydrophytic Vegetation Present? Yes X	site map showing sampling point	locations, transects, important features, etc.
Hydric Soil Present? Yes	No Is the Sampled Area wi	
Wetland Hydrology Present? Yes	No	
Remarks:		1
		ditch
VEGETATION - Use scientific name	s of plants	
Tree Stratum (Rlot size:)	Absolute Dominant Indicator <u>% Cover Species?</u> Status	Dominance Test worksheet:
1	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4	ar <u>patterne</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:)	= Total Cover	Prevalence index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x1 =
3		FACW species x2 =
4		FAC species x 3 =
5		FACU species x 4 =
Herb Stratum (Plot size:	= Total Cover	UPL species x 5 =
1		Column Totals: (A) (B)
2.		Prevalence index = B/A =
3		
4		Hydrophytic Vegetation Indicators:
6.	1 4 4 4 1 1 1 4 4 1 4 5 4 7 6 1 4	1 - Rapid Test for Hydrophytic Vegetation
7.	le engré le s	2 - Dominance Test is >50%
8		3 - Prevalence index is ≤3.0 ¹
9		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
113		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.		and a state of the
	= Total Cover	Hydrophytic This T
% Bare Ground in Herb Stratum		Vegetation Present? Yes No
Remarks:	- oto - oto	W. Me
no veg	n water natici Proble Dyes a-chai	A Sparseriponion

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

US Army Corps of Engineers

Western Mountains Valleye and Coast - Version 2.0

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SOIL	Alama / 19 11 4	a 4ha d44	mandad to doc-	nent the P	dicator or co	nfirm the sh	sence of indicators)
	tion: (Describe t Matrix	o the depth		Redox Fe	atures			•
Depth _ (inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Remarks
		100	·				Dam	
	5426/2		ma contra.	ě		70		
10-15 2	SYR63	90	SYRYIL	10		PL	loam/sa	<u>ad</u>
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	<u></u>	. <u> </u>			<u> </u>		· · · · · · · · · · · · · · · · · · ·	
							<u>_</u> ,	
¹ Type: C=Cond	centration, D=Depl	etion, RM=F	Reduced Matrix, C	S=Covered	or Coated Sa	nd Grains.	² Location: PL=Pore	Lining, M=Matrix.
Hydric Soil In	dicators: (Applic	able to all	RRs, unless oth	erwise not	ed.)	India	ators for Problemat	ic Hydric Soils ³ :
-		X	Sandy Redox (2	cm Muck (A10)	
Histosol (A Histic Epip		~	Stripped Matrix			F	Red Parent Material (
Black Histi		-	Loamy Mucky	Aineral (F1)) (except MLR	(A 1) \	/ery Shallow Dark Su	rface (TF12)
	Sulfide (A4)		Loamy Gleyed				Other (Explain in Rem	arks)
	Below Dark Surfac	e (A11)	Depleted Matrix					
Thick Dark	Surface (A12)	100	Redox Dark Su			3	Indicators of hydroph	ytic vegetation and
	cky Mineral (S1)	_	Depleted Dark		7)	N.	vetland hydrology mu inless disturbed or pr	st be present,
Sandy Gle	yed Matrix (S4)		Redox Depress	ions (F8)		(
-	<i>(17</i>							
Restrictive Laye	r (ir present):				Hudric So	il Present?	Yes	No
Type:			<u> </u>		Injune So	I Fleetici		
Depth (Inches	s):		······································					· · · · · · · · · · · · · · · · · · ·
					<u> </u>	<u></u>		<u></u>
HYDROLOGY			<u> </u>					· ····································
Wetland Hydrold	ogy Indicators:	a required: c	heck all that apply	1		Secor	idary Indicators (2 or	more required)
Primary Indicator	s printindi o on	e required, c	Water-Stair	/	(89) (except		ater-Stained Leaves	(B9) (MLRA 1, 2,
Surface Wate	r (A1)		MLRA 1, 2,			4/	A, and 4B)	
High Water Ti			Salt Crust (Dr	ainage Patterns (B10))
Saturation (A	3)		Aquatic Inv			Dr	y-Season Water Tab	le (C2)
Water Marks			Hydrogen S			Sa	aturation Visible on A	enal imagery (Ca)
					s along Living	6	eomorphic Position (I	101
Sediment Dep			Roots (C3)				nailow Aquitard (D3)	,
Drift Deposits	(83)		Presence o Recent Iror			0.	ianon riquitara (20)	
Algol Motor (Sound (BA)		Soils (C6)	Requisitor		E/	AC-Neutral Test (D5)	
Algal Mat or 0	21051 (04)		Stunted or	Stressed P	lants (D1)			
Iron Deposits	(B5)		(LRR A)		()		aised Ant Mounds (D	
Surface Soil (Other (Exp	lain in Rem	arks)	Fi	rost-Heave Hummock	is (D7)
	sible on Aerial Ima	agery (B7)						
Sparsely Veg	etated Concave S	urface (B8)						
								<u> </u>
Field Observati		V		. 🦅 '	A Sum.			~
Surface Water P		<u> </u>	Depth (inches			Mand Hydro	logy Present? Y	'es 🔨 No
Water Table Pre		<u>≻</u> № .	Depth (inches	»)			nafit teacuri	
Saturation Prese		× No	Depth (inches	s):				
(includes capillar Describe Recorde			ming well series of	otos previ	ous inspection	ns), if availab	le:	<u> </u>
Describe Recorde	o Data (stream ga	iuge, monito	ning wen, aenai pi	iotoa, pievi		wy n wywnole		
Remarks:	<u></u>		·····					
Remarks:			· · · · · · · · · · · · · · · · ·					
Remarks:		<u> </u>			i i <u>_</u>			

WETLAND DETERMINA	TION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Hart Ranch Landform (hillslope, terrace, etc.): Halls Subregion (LRR): MLRA 22B Soil Map Unit Name: ISD (DUIP Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wortics of Hydrologic Summary Present?	City/County: Siski You State: CA Sam Section, Township, Range: T Doc Local relief (concave, conv Lat: 100.372518 Long: 41.4 Dical for this time of year? Yes X No gy No significantly disturbed? Are gy No naturally problematic?	D. Sampling Date: Signature pling Point: IT Image: Signature Signature Image: Signature Si
Remarks:		
		bank/ alfalfa field
VEGETATION - Use scientific names	of plants.	
Incestratum (Plot size:) 1.	Absolute Dominant Indicato <u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:) 1.		Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: D (A) D Prevalence Index = B/A = 5
4		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1
11	1 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
Woody Vine Stratum (Plot size:)	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2	A STATE AND A STAT	Service and Antonio and
% Bare Ground in Herb Stratum Zo	= Total Cover	Hydrophytic Vegetation Present? Yes No X
Remarks:		

			રહોલો જેવા છે.	
OIL Profile Description: (Describe to the o	lepth needed to document the inc	dicator or confirm	the absence of indicators.)	
Depth Matrix	Kedox rea	lures		Remarks
(inches) Color (moist) %	Color (moist) %	Type L		
D-10 2,5424/210	0		<u>loam</u>	
			loam_	
10-18 <u>2.5420/310</u>	<u> </u>			
				<u> </u>
		<u> </u>		
	_			,
¹ Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, CS=Covered	or Coated Sand Gr	ains. ² Location: PL=Pore I	ining, M=Matrix.
			Indicators for Problemation	: Hydric Soils ³ :
Hydric Soil Indicators: (Applicable t		.u.)		•
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (A10) Red Parent Material (T	=9)
Histic Epipedon (A2)	Stripped Matrix (S6)		Very Shallow Dark Sur	-∠) iece (T F1 2)
Black Histic (A3)	Loamy Mucky Mineral (F1)	(except MLRA 1)	Other (Explain in Rema	aug (11 14) inks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)			and y
Depleted Below Dark Surface (A11) Depleted Matrix (F3)		³ Indicators of hydrophy	tic vegetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6)	`	wetland hydrology mus	t be present.
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7))	unless disturbed or pro	blematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)			<i>A</i>
				X
estrictive Layer (if present):		thudele Coll Dre	sent? Yes	No
		Hydric Soil Pre		
Depth (inches):		l		<u> </u>
DROLOGY			<u> </u>	
Vetland Hydrology Indicators:			Secondary Indicators (2 or m	ore required)
rimary Indicators (minimum of one requ	Water-Stained Leaves	(B9) (except	Water-Stained Leaves (E	39) (MLRA 1, 2,
0	MLRA 1, 2, 4A, and 4E	3)	4A, and 4B)	
Surface Water (A1)	Salt Crust (B11)	-/	Drainage Patterns (B10)	
High Water Table (A2)	Aquatic Invertebrates (I	B13)	Dry-Season Water Table	e (C2)
Saturation (A3) Water Marks (B1)	Hydrogen Sulfide Odor	(C1)	Saturation Visible on Ae	rial Imagery (C9)
vvater marks (DT)	Oxidized Rhizospheres	along Living		
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (D)	2)
Drift Deposits (B3)	Presence of Reduced I	Iron (C4)	Shallow Aquitard (D3)	
Din Dopuble (20)	Recent Iron Reduction	in Tilled		
	Solis (C6)		FAC-Neutral Test (D5)	
Algal Mat or Crust (B4)				
Algal Mat or Crust (B4)	Stunted or Stressed Pl	ants (D1)	Defeed Ant Mounds (D6	
Algal Mat or Crust (B4) iron Deposits (B5)	(LRR A)		Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6)	(LRR A) Other (Explain in Rema		Raised Ant Mounds (D6) (LRR A) ; (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery	(LRR A) Other (Explain in Rema (B7)		Raised Ant Mounds (D6) (LRR A) ; (D7)
iron Deposits (B5) Surface Soil Cracks (B6)	(LRR A) Other (Explain in Rema (B7)		Raised Ant Mounds (D6) (LRR A) ; (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface	(LRR A) Other (Explain in Rema (B7)		Raised Ant Mounds (D6) (LRR A) ; (D7)
iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations:	(B7) (B7) (B7)		Raised Ant Mounds (D6	; (D7)
iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	(B7) (B7) (B7) (B8) No X Depth (inches):	arks)	Frost-Heave Hummocks	; (D7)
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	(B7) (B7) (B7)	arks)	Frost-Heave Hummocks	; (D7)
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?	(B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (Dther (Explain in Remain (Dther (Dther (Dt	arks)	Frost-Heave Hummocks	; (D7)
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 Cincludes capillary fringe) Yes	(B7) (B7) (B7) (B7) (B7) (B6) No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches):	arks)	Frost-Heave Hummocks	; (D7)
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?	(B7) (B7) (B7) (B7) (B7) (B6) No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches):	arks)	Frost-Heave Hummocks	; (D7)
iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes Includes capillary fringe) Yes	(B7) (B7) (B7) (B7) (B7) (B6) No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches):	arks)	Frost-Heave Hummocks	; (D7)
iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes Includes capillary fringe) Yes	(B7) (B7) (B7) (B7) (B7) (B6) No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches):	arks)	Frost-Heave Hummocks	; (D7)
iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface ield Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes	(B7) (B7) (B7) (B7) (B7) (B6) No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches):	arks)	Frost-Heave Hummocks	; (D7)
iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface ield Observations: urface Water Present? Yes dater Table Present? Yes aturation Present? Yes acturation Present? Yes scribe Recorded Data (stream gauge, r	(B7) (B7) (B7) (B7) (B7) (B6) No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches):	arks)	Frost-Heave Hummocks	; (D7)
iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface ield Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes includes capillary fringe) Yes	(B7) (B7) (B7) (B7) (B7) (B6) No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches):	arks)	Frost-Heave Hummocks	(D7)
iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface ield Observations: urface Water Present? Yes dater Table Present? Yes aturation Present? Yes acturation Present? Yes scribe Recorded Data (stream gauge, r	(B7) (B7) (B7) (B7) (B7) (B6) No Depth (inches): No Depth (inches): No Depth (inches): Depth (inches):	arks)	Frost-Heave Hummocks	(D7)

ų.

Projectistie: Hart Ranch State: CA sampling Date: SIZ3/2016 Applicant/Owner: Hart Ranch State: CA sampling Part ISU SIZE (1,2+2) Landform (Nistope, terrore, etc.): State: CA sampling Part ISU SIZE (1,2+2) Subregion (LRR): MLRA 22B Lat: CA sampling Part ISU Size: No Sold Map Unit Name: ISU Model Conditions on the site typical for this tim of year? Yes No (If no, explain In Remarks) Are Vegetation . Soil . or Hydrology Ns significantific disturbers? No Are Vegetation No Are Vegetation . Soil . or Hydrology Ns significantific disturbers? No Are Vegetation results on the site typical for this tim of year? Yes No Hydro Soil Vegetation . Soil . or Hydrology Ns significantific disturbers? No Are Vegetation results on the site typical sectors of the site typical sectors of the sectors	WEILAND DETERMIN	ATION DATA FORM Western M	Iountains, Valleys, and Coast Region
Tree Stratum (Pot size:) Absolute % Cover Dominants Species? Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:(A) 3.	Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Hart Ranch Landform (hillslope, terrace, etc.): hills Subregion (LRR): MLRA 22.8 Soil Map Unit Name: 139 mcd Are climatic / hydrologic conditions on the site fy Are Vegetation, Soil, or Hydrol Are Vegetation, Soil, or Hydrol Are Vegetation, Soil, or Hydrol SUMMARY OF FINDINGS - Attach si Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	City/County: Siski You Ca State: CA Samp Section, Township, Range: Comparison of the state of	Sampling Date: S/23/2016 Ing Point: Secf 1,2+3 #SN K5W #SN K5W #SN K5W Stope (%): Stope (%): GUB2 @ Datum: NWI classification: N/A (If no, explain in Remarks.) No "Normal Circumstances" present? Yes X (If needed, explain any answers in Remarks.) No t locations, transects, important features, etc
Interstratum (Pot size:) Absolute % Cover Dominant Species? Dominant Species Status Dominant Species That Are OBL, FACW, or FAC:A (A) 3.		- NATIEIS	
Tree Stratum (Plot size:) Absolute % Cover Dominant Species? Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:(A) 3.	VEGETATION – Use scientific names	of plants.	
Sabiling/Shrub Stratum (Plot size:) Prevalence Index worksheet: 1.	Tree Stratum (Plot size:)	Absolute Dominant Indicator	Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species
4. Hydrophytic Vegetation Indicators: 5. 1 - Rapid Test for Hydrophytic Vegetation 8. 2 - Dominance Test is >50% 3. 3 - Prevalence Index is <3.01	1.	= Total Cover	Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: 100 (A)
Voody Vine Stratum (Piot size:) = Total Cover ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	4	- Al al la construit - La construit de la construit - Al Al Anterna de la construit	 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index Is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants¹
	•		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
the second s	<u> </u>		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
6 Bare Ground in Herb Stratum = Total Cover Hydrophytic Vegetation Present? Yes No			
Remarks:	emarks:		

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SOIL					Series Monther Pla		6
Profile Description: (Describe t	o the depth needed t	o document the ir	ndicator or confi	firm the abs			
Depth Matrix		Redox Fe	atures				
(inches) Color (moist)	% Color (n	noist) %	_Type'	Loc ²	Texture		narks
0-18 2.5 YR.6/3	100				Clayloa	η	
						9	
	<u> </u>						
				·		. <u></u>	
						. <u></u>	
			<u> </u>				
				·			
¹ Type: C=Concentration, D=Depl	etion, RM=Reduced N	atrix, CS=Covered	or Coated Sand	I Grains.	² Location: PL=Po	re Lining, M=	-Matrix.
Hydric Soil Indicators: (Applic	able to all LRRs, unle	as otherwise not	ed.)	Indica	ators for Problem	atic Hydric (Soils ³ :
Histosol (A1)		Redox (S5)			cm Muck (A10)		
Histic Epipedon (A2)	Stripped	d Matrix (S6)			ed Parent Material	(TF2)	•
Black Histic (A3)		Mucky Mineral (F1)		1) Ve	ery Shallow Dark S	Surface (1+1)	2)
Hydrogen Sulfide (A4)		Gleyed Matrix (F2)		0	ther (Explain in Re	marks)	
Depleted Below Dark Surfac	e (A11) Deplete	d Matrix (F3) Dark Surface (F6)		3 ₁ ,	ndicators of hydror	hytic vedeta	tion and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Deplete	d Dark Surface (F7	7)	W	etland hydrology n	nust be prese	ent,
Sandy Gleyed Matrix (S4)		Depressions (F8)	,	ur	nless disturbed or	problematic	
			-r				
Restrictive Layer (if present):				B us s = 40	Maa	No	X
Туре:			Hydric Soil I	Present?	Yes		
Depth (inches):					······································		
emarks:							
	4 . 1						
nnin	hi cotovs						
11011	ALCIA LI Verse						
YDROLOGY	_						
Netland Hydrology Indicators:		-4		Second	ary Indicators (2 o	r more requi	red)
Primary Indicators (minimum of one	required; check all the	at apply) ter-Stained Leaves	(PO) (except	Wa	ter-Stained Leave	(B9) (MLR/	A 1. 2.
Surface Water (A1)		RA 1, 2, 4A, and 4			and 4B)		,
High Water Table (A2)		Crust (B11)	-,	Dra	iinage Patterns (B	10)	
Saturation (A3)		atic Invertebrates ((B13)	Dry	-Season Water Ta	ble (C2)	
Water Marks (B1)		rogen Sulfide Odor		Sat	uration Visible on	Aeriai Image	ry (C9)
		dized Rhizospheres	s along Living	6.	omorphic Position	(1)2)	
_ Sediment Deposits (B2)		ots (C3)	Inora (CA)		allow Aquitard (D3)		
_ Drift Deposits (B3)		sence of Reduced cent Iron Reduction		0116		,	
Algal Mat or Crust (B4)		is (C6)		FA	C-Neutral Test (D5	i)	
	Stu	nted or Stressed Pl	lants (D1)			-	
Iron Deposits (B5)	(LR	RA)			ised Ant Mounds (i		
Surface Soil Cracks (B6)	Oth	er (Explain in Rem	arks)	Fro	st-Heave Hummo	cks (D7)	
Inundation Visible on Aerial Ima							
Sparsely Vegetated Concave S	urface (B8)						
Field Observations:	• •	<u> </u>					
Surface Water Present? Yes	No X Depth	(inches):					~
Water Table Present? Yes		(inches):	Wetla	and Hydrol	ogy Present?	Yes	No <u></u>
Saturation Present?	- 17			-			
(includes capillary fringe) Yes		(inches):					F
escribe Recorded Data (stream ga	uge, monitoring well, a	erial photos, previo	ous inspections),	, if available	:		
emarks:	·		·	<u></u>			
31101113			a 5				
		A 1 1	All and the				
		now	N. Cata	El			

WETLAND DETER	RMINATION DATA FORM -	Western Mountains.	Valleys, and Coast Region
		,	and obust Region

Project/Site: Hart Kanch	City/County: Siskivou	9. Sampling Date: 8/23/20110
Applicant/Owner: Hart Kanch	State: CA Sam	pling Point: 19a
Investigator(s): marca Kabe	Section, Township, Range:	$\begin{array}{c} \textbf{D} & \textbf{Sampling Date:} & \textbf{O} / 23 / 2016 \\ \hline \textbf{pling Point:} & \textbf{Q} & \textbf{Q} \\ \hline \textbf{45N} & \textbf{K} & \textbf{5W} & \textbf{5ect} 1, 2+3 \\ \hline \end{array}$
Landform (hillslope, terrace, etc.):		
	_ Lat: 1010, J01030 Long: 41.0	287333 Datum: NAD 63
Soil Map Unit Name: 180 014		
Are climatic / hydrologic conditions on the site ty	vpical for this time of year? Yes X No	
	1097 IN Significantly disturbed? Are	e "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrol	ogy ND naturally problematic?	(if needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach si	ite man showing compliant and	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No	it locations, transects, important features, etc.
	No Is the Sampled Area v	vithin a Wetland? Yes X No
Remarks:	No	
Nonaris.		
d	itch	
VEGETATION - Use scientific names	of plants.	
	About a main a	Dominance Test worksheet:
Tree Stratum (Plot size:)	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Number of Dominant Species
1	·	That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across Ali Strata: (B)
*		Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
`		(A/B)
Sapling/Shrub Statum (Plot size:)	= Total Cover	Prevalence index worksheet:
1 /		
2.		Total % Cover of: Multiply by: OBL species x 1 =
3		
		FACW species x 2 =
		FAC species x3 =
1	= Total Cover	FACU species x 4 =
erb Stratum (Plot size: 1 m /)		UPL species x 5 =
3		Column Totals: (A) (B)
		Prevalence Index = B/A =
		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
	he was enoted in a	2 - Dominance Test is >50%
	1980 and 1980	3 - Prevalence Index is ≤3.0 ¹
		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
		5 - Wetland Non-Vascular Plants ¹
·		Problematic Hydrophytic Vegetation ¹ (Explain)
	SD = Total Cover	¹ Indicators of hydric soil and wetland hydrology must
oodv Vine Stratum (Plat size:)		be present, unless disturbed or problematic,
	and the second sec	Business in the second s
Port Crowned in Linet Structure MD	= Total Cover	Hydrophytic Vegetation
Bare Ground in Herb Stratum	der	Present? Yes No
mater to the total	le le al	
no vegloperation	CONSTRUCT	g-ripanion
10 " South 119	Da-chabbrupe	a-2: Danne
HIND YO	na morse ve	דיו כ
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US Army Corps of Engineers

Western Mountains Vallage and Coast - Varian 2.0

DIL			shareline P	<u>190</u>
Profile Description: (Describe to the dep	th needed to document t	he indicator or cor x Features	firm the absence of indicato	[5.]
Depth Matrix (inches) Color (moist) %	and the second se	% Type'	Loc ² Texture	Remarks
$\frac{\text{(inches)}}{0-10} = \frac{2,5}{2,5} \frac{9}{2,100}$			Loann	
	ETLANDI III		PL Sandy	10AM
6-18 2157443 90	DAKATO TO	<u> </u>	ma sanay	I V MIN
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	<u></u>			
¹ Type: C=Concentration, D=Depletion, RM	=Reduced Matrix, CS=Cov	vered or Coated Sar	nd Grains. ² Location: PL=P	ore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to a			Indicators for Problem	natic Hydric Soils ³ :
	Sandy Redox (S5)		2 cm Muck (A10)	
Histosol (A1) Histic Epipedon (A2)	Stripped Matrix (S6)		Red Parent Materia	al (TF2)
Black Histic (A3)	Loamy Mucky Minera		A 1) Very Shallow Dark	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix	(F2)	Other (Explain in R	emarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		³ Indicators of hydro	phytic vegetation and
Thick Dark Surface (A12)	Redox Dark Surface (Depleted Dark Surface)		wetland hydrology	must be present.
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Redox Depressions (unless disturbed or	problematic
estrictive Layer (if present):			li Present? Yes X	No
Туре:		- Hydric So	li Present? Yes	
Depth (inches):		<u> </u>		· · · · · · · · · · · · · · · · · · ·
Depth (inches):	6/		1.00	
1 CAN VIL	N. Augh	LAGIA A	nce nt	* -
et d	/ pint care i	IN ALKANA ST	July in Oct	
/	<u></u>		7	
YDROLOGY				
Vetland Hydrology Indicators:			Secondary Indicators (2	or more required)
rimary Indicators (minimum of one required	; check all that apply)	aves (B9) (except		es (B9) (MLRA 1, 2,
	vvaler-Stamed Le	aves (DS) (except	4A, and 4B)	
(Surface Water (A1)	MLRA 1, 2, 4A, a	(na 46)		
C Surface Water (A1)			Drainage Patterns (E	310) Setter (200)
Surface Water (A1) High Water Table (A2) Saturation (A3)	Salt Crust (B11) Aquatic Invertebra	ates (B13)	Drainage Patterns (E	able (C2)
Kigh Water Table (A2)	Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide	ates (B13) o Odor (C1)	Drainage Patterns (E Dry-Season Water T Saturation Visible or	310) 'able (C2)) Aerial Imagery (C9)
High Water Table (A2) Saturation (A3) Water Marks (B1)	Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp	ates (B13)	Drainage Patterns (E Dry-Season Water T Saturation Visible or	able (C2) Aerial Imagery (C9)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide	ates (B13) 9 Odor (C1) 9heres along Living	Drainage Patterns (E Dry-Season Water T Saturation Visible or	able (C2) Aerial Imagery (C9) n (D2)
High Water Table (A2) Saturation (A3) Water Marks (B1)	Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu	ates (B13) Odor (C1) oheres along Living uced Iron (C4)	Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D	able (C2) Aerial Imagery (C9) 1 (D2) 3)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Salt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6)	ates (B13) Odor (C1) oheres along Living uced Iron (C4) uction in Tilled	Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position	able (C2) Aerial Imagery (C9) n (D2) 3)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress	ates (B13) Odor (C1) oheres along Living uced Iron (C4) uction in Tilled	Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D	able (C2) n Aerial Imagery (C9) n (D2) 3))5)
 High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) 	Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A)	ates (B13) Odor (C1) wheres along Living uced Iron (C4) uction in Tilled sed Plants (D1)	Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D FAC-Neutral Test (D	able (C2) n Aerial Imagery (C9) n (D2) 3) (D6) (LRR A)
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)	Satt Crust (B11) Aquatic Invertebra Hydrogen Sutfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain In	ates (B13) Odor (C1) wheres along Living uced Iron (C4) uction in Tilled sed Plants (D1)	Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D FAC-Neutral Test (D Raised Ant Mounds	able (C2) n Aerial Imagery (C9) n (D2) 3) (D5) (D6) (LRR A)
 High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) 	Satt Crust (B11) Aquatic Invertebra Hydrogen Sutfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain In	ates (B13) Odor (C1) wheres along Living uced Iron (C4) uction in Tilled sed Plants (D1)	Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D FAC-Neutral Test (D Raised Ant Mounds	able (C2) n Aerial Imagery (C9) n (D2) 3) (D5) (D6) (LRR A)
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 (B	Satt Crust (B11) Aquatic Invertebra Hydrogen Sutfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain In	ates (B13) Odor (C1) wheres along Living uced Iron (C4) uction in Tilled sed Plants (D1)	Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D FAC-Neutral Test (D Raised Ant Mounds	able (C2) n Aerial Imagery (C9) n (D2) 3) (D6) (LRR A)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) fron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B Field Observations:	Satt Crust (B11) Aquatic Invertebra Hydrogen Sutfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain In B)	ates (B13) Odor (C1) oheres along Living uced Iron (C4) uction in Tilled sed Plants (D1) Remarks)	Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D FAC-Neutral Test (C Raised Ant Mounds Frost-Heave Hummer	able (C2) A Aerial Imagery (C9) 1 (D2) 3) (D6) (LRR A) ocks (D7)
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High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) fron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B Field Observations: Surface Water Present? Yes X No Water Table Present? Yes No	Satt Crust (B11) Aquatic Invertebra Hydrogen Sutfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain In B)	ates (B13) Odor (C1) oheres along Living uced Iron (C4) uction in Tilled sed Plants (D1) Remarks)	Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D FAC-Neutral Test (C Raised Ant Mounds Frost-Heave Hummer	able (C2) A Aerial Imagery (C9) 1 (D2) 3) (D6) (LRR A) ocks (D7)
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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 Aeriat Imagery (B7) Sparsely Vegetated Concave Surface (B Field Observations: Surface Water Present? Saturation Presen	Satt Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosp Roots (C3) Presence of Redu Recent Iron Redu Soils (C6) Stunted or Stress (LRR A) Other (Explain In B) Depth (inches): Depth (inches): Depth (inches):	ates (B13) o Odor (C1) oheres along Living uced Iron (C4) uction in Tilled sed Plants (D1) Remarks)	Drainage Patterns (E Dry-Season Water T Saturation Visible or Geomorphic Position Shallow Aquitard (D FAC-Neutral Test (D Raised Ant Mounds Frost-Heave Humme etland Hydrology Present?	able (C2) A Aerial Imagery (C9) 1 (D2) 3) (D6) (LRR A) ocks (D7)

WETLAND DETERMIN	ATION DATA FORM – Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillslope, terrace, etc.): Subregion (LRR): MLRA 22B Soit Map Unit Name: 180 [D Are climatic / hydrologic conditions on the site to Are Vegetation, Soil, or Hydro Are Vegetation, Soil, or Hydro	City/County: Siski You C State: CA Samp Section, Township, Range: T Ca Ca Local relief (concave, convo Lat: 122, 324851 Long: 41,4 Ule Carrow ypical for this time of year? Yes X No logy NO significantly disturbed? Are logy NO naturally problematic? Site map showing sampling point No No No No No	D. Sampling Date: Sampling Date: Sampling Date: pling Point: IGD IGD
		<u>pank</u>
VEGETATION - Use scientific names	s of plants.	
Tree Stratum (Plotisize:) 1. 2. 3.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Decies Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: (A) Anticology Anticology
4. 5. Herb Stratum (Plot size: $1mZ$) 1. <u>medicago sativa</u> 2. 3.	= Total Cover = Total Cover 904	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: (A) Prevalence Index = B/A = (A)
4		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
·		the second second
Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
lemarks:		

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							Statungtinger Polla	
SOIL		Aba dandi	noodod to door	ant the indi	cator or co	firm the a	bsence of indicators.)	196
	cription: (Describe to Matrix	o the depth	needed to docum	Redox Featu	res			
Depth (inches)	Color (moist)	%	Color (moist)	%	Туре	Loc ²	Texture	Remarks
7 1	the state of the s						loam	
0-11		100		<u> </u>			100.00	
-18	2 51/2/3	<u> 100 </u>					loam_	
×								
			· · · · · ·					
<u></u>		<u> </u>					² Location: PL=Pore	Lining M=Matrix
	Concentration, D=Deple					io Grains.		
Hydric So	il Indicators: (Applica	able to all L	RRs, unless othe	erwise noted	.)	Ind	licators for Problemati	c Mydric Solis":
Histos			Sandy Redox (S				2 cm Muck (A10)	
	Epipedon (A2)	-	Stripped Matrix	(S6)			Red Parent Material (T	F2) faan (TE12)
Black I	Histic (A3)		Loamy Mucky M	Aineral (F1) (e	except MLR	A1)	Very Shallow Dark Sur Other (Explain in Rema	(800 (17 12) arks)
Hydrog	gen Sulfide (A4)		Loamy Gleyed I					
Deplet	ed Below Dark Surface	B (A11)	Depleted Matrix Redox Dark Sul				³ Indicators of hydrophy	tic vegetation and
Thick I	Dark Surface (A12) Mucky Mineral (S1)		Depleted Dark S	Surface (F7)			wetland hydrology mus	t be present,
Sandy	Gleyed Matrix (S4)	-	Redox Depress				unless disturbed or pro	blematic
Galicy						······		
Restrictive L	ayer (if present):							
Type:					Hydric So	il Present?	Yes	No
Depth (in								· _ · · · · · · · · · · · · · · · · · ·
emarks:								
IYDROLO								
			······································					
Primary India	drology Indicators: cators (minimum of one	required: cl	neck all that apply)		Seco	ondary Indicators (2 or r	nore required)
Primary Indic	drology Indicators: cators (minimum of one	required; cl	Water-Stain	ied Leaves (B			Nater-Stained Leaves (nore required) B9) (MLRA 1, 2,
Primary Indic Surface V	cators (minimum of one Water (A1)	required; cl	MLRA 1, 2,	ed Leaves (B 4A, and 4B)			Water-Stained Leaves (i 1A, and 4B)	B9) (MLRA 1, 2,
Primary Indic Surface V High Wate	cators (minimum of one Water (A1) ter Table (A2)	required; cl	MLRA 1, 2, Sait Crust (ed Leaves (8 4A, and 4B) B11)			Water-Stained Leaves (i 1 A, and 4B) Drainage Patterns (B10)	B9) (MLRA 1, 2,)
Primary Indic Surface V High Wate Saturation	cators (minimum of one Water (A1) ter Table (A2) n (A3)	required; cl	Water-Stain MLRA 1, 2, Sait Crust (Aquatic Inve	ed Leaves (B 4A, and 4B) B11) ertebrates (B1	13)		Water-Stained Leaves (1A, and 4B) Drainage Patterns (B10) Drv-Season Water Table	B9) (MLRA 1, 2,) a (C2)
Primary Indic Surface V High Wate	cators (minimum of one Water (A1) ter Table (A2) n (A3)	required; C	Water-Stain MLRA 1, 2, Sait Crust (I Aquatic Invo Hydrogen S	ed Leaves (B 4A, and 4B) B11) ertebrates (B1 Sulfide Odor (6)	13) C1)		Water-Stained Leaves (i 1 A, and 4B) Drainage Patterns (B10)	B9) (MLRA 1, 2,) a (C2)
Primary Indic Surface V High Wate Saturation Water Ma	cators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1)	required; C	Water-Stain MLRA 1, 2, Sait Crust (I Aquatic Invo Hydrogen S Oxidized Ri	ed Leaves (B 4A, and 4B) B11) ertebrates (B1	13) C1)		Water-Stained Leaves (i IA, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D	B9) (MLRA 1, 2,) 9 (C2) rial Imagery (C9)
Primary Indic Surface V High Wate Saturation Water Ma Sediment	cators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	required; cl	Water-Stain MLRA 1, 2, Sait Crust (I Aquatic Inver Hydrogen S Oxidized Ri Roots (C3) Presence o	ed Leaves (B 4A, and 4B) B11) ertebrates (B ¹ Sulfide Odor (¹ hizospheres a f Reduced Iro	13) C1) along Living on (C4)		Water-Stained Leaves (i IA, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae	B9) (MLRA 1, 2,) 9 (C2) rial Imagery (C9)
Primary Indic Surface V High Wate Saturation Water Ma Sediment	cators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1)	required; cl	Water-Stain MLRA 1, 2, Sait Crust (I Aquatic Inve Hydrogen S Oxidized RI Roots (C3) Presence o Recent Iron	ed Leaves (B 4 A, and 4B) B11) ertebrates (B1 Sulfide Odor (4 hizospheres a	13) C1) along Living on (C4)		Water-Stained Leaves (i IA, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D Shallow Aquitard (D3)	B9) (MLRA 1, 2,) 9 (C2) rial Imagery (C9)
Primary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo	cators (minimum of one Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	required; cl	Water-Stain MLRA 1, 2, Sait Crust (I) Aquatic Inver- Hydrogen S Oxidized Ri Roots (C3) Presence o Recent Iron Soils (C6)	ed Leaves (B 4A, and 4B) B11) ertebrates (B1 Gulfide Odor (hizospheres a f Reduced Iro a Reduction in	13) C1) along Living on (C4) n Tilled		Water-Stained Leaves (i IA, and 4B) Drainage Patterns (B10) Dry-Season Water Table Saturation Visible on Ae Geomorphic Position (D	B9) (MLRA 1, 2,) 9 (C2) rial Imagery (C9)
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	TION DATA FORM - Western	Mountains, Valleys, and Coast Region
Applicant/Owner: Hart Ranch Investigator(s): Angrea Rabe Landform (hillslope, terrace, etc.): +0000	Sigkium !!	8/10/1
Landform (hillslone terrace etc.):	Section, Township, Range:	- 5N, 85W Sect 1,2+3
Landform (hillslope, terrace, etc.):	Local relief (concave, conv	/ex, none): Slope (%):
Soil Map Unit Name: 189 medfo	Lat: 100, 34001 Long: 71, 6	Yex, none): NONL Slope (%): 761.32 Datum: NAD 83
Are climatic / hydrologic conditions on the site ty		
Are Vegetation . Soil or Hydrolo	NOV ND significantly disturbed	o (If no, explain in Remarks.) e "Normai Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydroid	99 NO naturally problematic?	e "Normal Circumstances" present? Yes X No
SUMMARY OF FINDINGS – Attach sit	te map showing sampling poi	nt locations, transects, important features, etc
Hydric Soil Present? Yes		
Wetland Hydrology Present? Yes	No is the Sampled Area	within a Wetland? Yes No
Remarks:		
	astruce	
VEGETATION - Use scientific names	of plants.	
	Absolute Dominant Indicato	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species? Status	
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species
\sim		That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratume (Plot size:)	= Total Cover	
1)		Prevalence Index worksheet:
2.		Total % Cover of: Multiply by:
3.		OBL species x1 =
4		FACW species x 2 =
5.		FAC species x 3 =
		FACU species SO x4 = 200
Herb Stratum (Plot size: m2)	= Total Cover	UPL species $20 \times 5 = 100$
1. Elymus elymoldus	SA VEACH	Column Totals: 70 (A) 300 (B)
2. Bromus fector um	20 1110	i al
3. Poa secunda	5 N Par	Prevalence index = B/A = 47.2
4.	S N Fra	Hydrophytic Vegetation Indicators:
5	e give the equipation	
6	Active emption in a	1 - Rapid Test for Hydrophytic Vegetation
7		2 - Dominance Test is >50%
8		
9		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10.		5 - Wetland Non-Vascular Plants ¹
1		Problematic Hydrophytic Vegetation ¹ (Explain)
	70 = Total Cover	¹ indicators of hydric soil and wetland hydrology must
Noody Vine Stratum (Plot size:)		be present, unless disturbed or problematic.
2	the second second	1944 (3) -
	= Total Cover	Hydrophytic
6 Bare Ground in Herb Stratum		Vegetation Present? Yes <u>No</u>
Remarks:		

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F

Depth M	atrix		adox Featu	res				emodes
nches) Color (mois	st) %	Color (moist)	%	Type'	Loc ^z	Texture		lemarks
	Theo					Carl	<u>oam</u>	
- 10 wain							- -	
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ype: C=Concentration, D)=Depletion, RM	=Reduced Matrix, CS=C	Covered or	Coated Sand	d Grains.	² Location: Pi	_=Pore Lining,	M=Matrix.
Histosol (A1) Histic Epipedon (A2)	-	Sandy Redox (S5) Stripped Matrix (S6)	5)			2 cm Muck (A10 Red Parent Ma	terial (TF2)	
Histic Epipedon (A2) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix (Surface (A11) 12) (S1)	Sandy Redox (SS) Stripped Matrix (S6 Loamy Mucky Mine Loamy Gleyed Matrix (F3 Depleted Matrix (F3 Redox Dark Surfac Depleted Dark Surfac Redox Depression	5) eral (F1) (e trix (F2) 3) 2e (F6) face (F7)	xcept MLRA	(1)		terial (TF2) ark Surface (T in Remarks) ydrophytic veg ogy must be pr	etation and
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix (Surface (A11) 12) (S1) (S4)	Stripped Matrix (S6 Loamy Mucky Mine Loamy Gieyed Mat Depleted Matrix (F3 Redox Dark Surfac Depleted Dark Surfac	5) eral (F1) (e trix (F2) 3) 2e (F6) face (F7)		.1)	Red Parent Mai Very Shallow D Other (Explain i ³ Indicators of hy wetland hydrolo unless disturbed	terial (TF2) ark Surface (T in Remarks) ydrophytic veg ogy must be pr	etation and
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Sandy Mucky Mineral Sandy Gleyed Matrix (Strictive Layer (If presen Type:	Surface (A11) 12) (S1) (S4) t):	Stripped Matrix (S6 Loamy Mucky Mine Loamy Gleyed Mat Depleted Matrix (F3 Redox Dark Surfac Depleted Dark Surfac Redox Depression	5) eral (F1) (e trix (F2) 3) 2e (F6) face (F7)	xcept MLRA Hydric Soll	.1)	Red Parent Mai Very Shallow D Other (Explain i ³ Indicators of hy wetland hydrolo unless disturbed	terial (TF2) ark Surface (T in Remarks) ydrophytic veg ogy must be pr d or problema	etation and
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix (Surface (A11) 12) (S1) (S4) t):	Stripped Matrix (S6 Loamy Mucky Mine Loamy Gleyed Mat Depleted Matrix (F3 Redox Dark Surfac Depleted Dark Surfac Redox Depression	5) eral (F1) (e trix (F2) 3) 2e (F6) face (F7)		.1)	Red Parent Mai Very Shallow D Other (Explain i ³ Indicators of hy wetland hydrolo unless disturbed	terial (TF2) ark Surface (T in Remarks) ydrophytic veg ogy must be pr d or problema	etation and
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix (strictive Layer (If presen Type:	Surface (A11) 12) (S1) (S4) t):	Stripped Matrix (S6 Loamy Mucky Mine Loamy Gleyed Mat Depleted Matrix (F3 Redox Dark Surfac Depleted Dark Surfac Redox Depression	5) eral (F1) (e trix (F2) 3) 2e (F6) face (F7)		.1)	Red Parent Mai Very Shallow D Other (Explain i ³ Indicators of hy wetland hydrolo unless disturbed	terial (TF2) ark Surface (T in Remarks) ydrophytic veg ogy must be pr d or problema	etation and
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark 3 Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix (strictive Layer (If presen Type: Depth (Inches):	Surface (A11) 12) (S1) (S4) t):	Stripped Matrix (S6 Loamy Mucky Mine Loamy Gleyed Matrix Depleted Matrix (F3 Redox Dark Surfac Depleted Dark Surfac Redox Depressions	5) eral (F1) (e trix (F2) 3) te (F6) face (F7) s (F8)	Hydric Soll	(1) Present?	Red Parent Mai Very Shallow D Other (Explain i ³ Indicators of hy wetland hydrolo unless disturbed	terial (TF2) ark Surface (T in Remarks) ydrophytic veg ogy must be pr d or problema	etation and
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark 3 Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix (strictive Layer (If presen Type: Depth (Inches):	Surface (A11) 12) (S1) (S4) t):	Stripped Matrix (S6 Loamy Mucky Mine Loamy Gleyed Matrix Depleted Matrix (F3 Redox Dark Surfac Depleted Dark Surfac Redox Depressions	5) eral (F1) (e trix (F2) 3) te (F6) face (F7) s (F8)	Hydric Soll	(1) Present?	Red Parent Mai Very Shallow D Other (Explain i ³ Indicators of hy wetland hydrolo unless disturbed	terial (TF2) ark Surface (T in Remarks) ydrophytic veg ogy must be pr d or problema	etation and
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark 3 Thick Dark Surface (A Sandy Mucky Mineral Sandy Gleyed Matrix (strictive Layer (If presen Type: Depth (Inches):	Surface (A11) 12) (S1) (S4) t):	Stripped Matrix (S6 Loamy Mucky Mine Loamy Gleyed Matrix Depleted Matrix (F3 Redox Dark Surfac Depleted Dark Surfac Redox Depressions	5) eral (F1) (e trix (F2) 3) te (F6) face (F7) s (F8)		(1) Present?	Red Parent Mai Very Shallow D Other (Explain i ³ Indicators of hy wetland hydrolo unless disturbed	terial (TF2) ark Surface (T in Remarks) ydrophytic veg ogy must be pr d or problema	etation and

Primary Indicators (minimum of one required; c	check all that apply)	Secondary indicators (2 or more 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 (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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solls (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	AA, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? (includes capillary fringe) Yes No	Copth (inches):	Vetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previous inspectio	ns), r avaliable:
Remarks:		indicators
	1/0	Marcarovs

WETLAND DETERMINA	TION DATA FORM - Western	Mountains, Valleys, and Coast Region
Applicant/Owner: Hart Ranch Investigator(s): Marta Ranch	City/County: Siskivou C State: CA Sam	D. Sampling Date: 8/23/2010
Lanutorni (nuistope, terrace, etc.):	C C I cost rollof (concerve	
Soli Iviap Unit Name:	CIALLIAAU & mark	All All a local and local
Are carried of hydrologic conditions on the site typ	ICal for this time of year? Vec 💙 🔊 🗤	
	IV IND Significantly disturbed? Are	
Are Vegetation, Soil, or Hydrolog	Ny NO naturally problematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach of		
Hydrophytic Vegetation Present? Yes	No	nt locations, transects, important features, etc.
Hydric Soil Present? Yes V	NO Is the Sempled Area u	
Wetland Hydrology Present? Yes	No	
Remarks:		· · · · · · · · · · · · · · · · · · ·
Citch		
VEGETATION - Use scientific names of	of plants.	
Tran Stantum (Red Start	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Phot size:)	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
4.		Species Across All Strata: (B) Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x1 =
3		FACW species x2 =
4		FAC species x3 =
5		FACU species x4 =
Herb Stratum (Plot size: M2	= Totał Cover	UPL species x 5 =
1.		
2		
3.		Prevalence Index = B/A =
4		Hydrophytic Vegetation Indicators:
5	a data a Marina a	- Pro
6	24.12 H1264	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
7		3 - Prevalence Index is ≤3.0 ¹
8		4 - Morphological Adaptations ¹ (Provide supporting
9		data In Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Piocsize:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.	19 1 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 495 (94)
	= Total Covor	Hydrophytic
% Bare Ground in Herb Stratum		Vegetation X
	- National	Present? Yes / No
Remarks:	CH VI AND	A ARE ANT
noveglor	= Total Cover	prupted ge
	000	(C) ~ (

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	206
60 <u>1L</u>	Sampling 200
	lepth needed to document the Indicator or confirm the absence of Indicators.) Redox Features
Depth <u>Matrix</u> (inches) Color (moist) <u>i</u> %	Color (moist) % Type1 Loc2 Texture Remarks
A A A A A A A A A A A A A A A A A A A	5484/10 M clayloam
0-18 2.5 VRT1240	
	PM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5) 2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Hydrogen Sulfide (A4)	
Depleted Below Dark Surface (A11	Reday Dark Surface (F6) "Indicators of hydrophytic vegetation and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Depleted Dark Surface (E7) wetland hydrology must be present,
Sandy Mocky Milleria (C1) Sandy Gleyed Matrix (S4)	Redox Depressions (F8) unless disturbed or problematic
Restrictive Layer (if present):	Hydric Soil Present? Yes X No
Туре:	Hydric Soil Present? Yes <u>No</u>
Depth (inches):	
YDROLOGY Wetland Hydrology Indicators:	
Primary Indicators (minimum of one requi	red; check all that apply) Secondary Indicators (2 or more required)
1	Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (inclusion) and
X Surface Water (A1)	
High Water Table (A2)	Salt Crust (B11) Drainage Patterns (B10) Aquatic Invertebrates (B13) Dry-Season Water Table (C2)
< Saturation (A3)	Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9)
_ Water Marks (B1)	Oxidized Rhizospheres along Living
Sediment Deposits (B2)	Boots (C3) Geomorphic Position (U2)
	Presence of Reduced Iron (C4) Shallow Aquitard (D3)
Drift Deposits (B3)	Recent Iron Reduction in Tilled
	Recent Iron Reduction in Tilled FAC-Neutral Test (D5)
Drift Deposits (B3) Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Recent Iron Reduction in Tilled
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Recent Iron Reduction in Tilled
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface	Recent Iron Reduction in Tilled
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:	Recent Iron Reduction in Tilled
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	Recent Iron Reduction in Tilled
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	Recent Iron Reduction in Tilled
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? Water Table Present? Yes Saturation Present? Yes X	Recent Iron Reduction in Tilled
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? Water Table Present? Yes Saturation Present? Yes X	Recent Iron Reduction in Tilled
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? Water Table Present? Yes Saturation Present? Yes X	Recent Iron Reduction in Tilled
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 P	Recent Iron Reduction in Tilled
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? Water Table Present? Yes Saturation Present? Yes X	Recent Iron Reduction in Tilled
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: Surface Water Present? Vater Table Present? Vater Table Present? Saturation Present? Includes capillary fringe) Secribe Recorded Data (stream gauge, n	Recent Iron Reduction in Tilled

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

Project/Site: Hart Ranch City/County: Siski Vol Co. sampling Date: 8/23/2016 Applicant/Owner: Hart Ranch State: CA Sampling Point: DOC Investigator(s): Andréa Rabe Section, Township, Range: T.45N, R5W Sect 12+3 Landform (hillslope, terrace, etc.): terrace
Subregion (LRR): MLRA 22.8 Lat: Do 37005 Long: 41.674178 Datum: NAD 83 Soil Map Unit Name: 189 medford Clay Datw COOL NWI classification: U/A
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No No Are "Normal Circumstances" present? Yes X No No Are Vegetation, Soil, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.
Hydric Soil Present? Yes No Ye

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VEGETATION - Use scientific names of plants.

Remarks:

Tree Stratum (Plot size:)	Absolute Dominant Indicator % Cover Species? Status	
1	<u>% Cover Species? Status</u>	Number of Dominant Species
2.		That Are OBL, FACW, or FAC: (A)
		Total Number of Dominant
3		Species Across All Strata:(B)
4		Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x 1 =
3		
4.		FACW species x 2 =
5		FAC species x 3 =
		FACU species x 4 =
Herb Stratum (Plot size:) (m2)	= Total Cover	UPL species $(00 \times 5 = 300)$
1. Elymus elymours	C.D. VI U.O.	Column Totals: 60 (A) 300 (B)
2	GO Y UPL	
3		Prevalence Index = B/A =
3		
		Hydrophytic Vegetation Indicators:
	- 100 C - 20 - 20 - 20 - 20 - 20 - 20 - 20	1 - Rapid Test for Hydrophytic Vegetation
6		2 - Dominance Test is >50%
/		1.
8	2464	3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting
9.		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
	(aD) = Total Cover	
Woody Vine Stratum (Not size:)	= rotar cover	¹ Indicators of hydric soil and wetland hydrology must
1/		be present, unless disturbed or problematic.
2.	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	the second second
	and the state of t	Hydrophytic
% Bare Ground in Herb Stratum	= Total Cover	Vegetation
	-	Present? Yes No
Remarks:		

NII.						Serial office Pollar	20C
DIL Brofile Description: //	Describe to the	depth needed to docu	nent the ind	icator or co	nfirm the a	bsence of indicators.)	
Depth	Matrix		Redox Feat	uřes			
(inches) Color (Color (moist)	%	Type	Loc ²	Texture	Remarks
	YRYIQ10	0				Chy loan	
	TENOLIO	<u> </u>					
	<u></u>		<u></u>			·	
						······	
	·						
<u> </u>		RM=Reduced Matrix, C	S-Covered o	r Coated Sa	nd Grains.	² Location: PL=Pore I	_ining, M=Matrix.
		to all LRRs, unless oth			 Ind	icators for Problematic	c Hydric Solls ³ :
Histosol (A1) Histic Epipedon (/ Black Histic (A3) Hydrogen Sulfide Depleted Below D	A2) (A4)	Sandy Redox (Stripped Matrix Loamy Mucky I Loamy Gleyed Depleted Matrix	S5) (S6) Mineral (F1) (Matrix (F2) k (F3)		EA 1)	2 cm Muck (A10) Red Parent Material (TI Very Shallow Dark Surf Other (Explain in Rema ³ Indicators of hydrophy	iace (TF12) inks)
Thick Dark Surfac		Redox Dark Su Depleted Dark				wetland hydrology mus	t be present.
Sandy Mucky Min		Redox Depress				unless disturbed or pro	blematic
Sandy Gleyed Ma							· · · · · · · · · · · · · · · · · · ·
Restrictive Layer (if pro	esent):						
Type:				Hydric Sc	oil Present?	Yes	No <u>X</u>
Depth (inches):							
emarks:		<u></u>					
			· •				
		n	oindi	cate	<u>~</u>		
						<u> </u>	

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

WETLAND DETERMIN	ATION DATA FORM – Western	Mountains, Valleys, and Coast Region
Project/Site: HARARAAAA Applicant/Owner: Hart Ranch Investigator(s): Andrea Rabe Landform (hillslope, terrace, etc.): bills Subregion (LRR): MLRA 22B Soil Map Unit Name:	City/County: Siski Vou C State: CA Samp Section, Township, Range: T Section, Township, Range: T Local relief (concave, convo Lat: 123 389187 Long: 41.0 CU SILE (Dam pical for this time of year? Yes X No pical for this time of year? Yes X No Section 700 X No No X Is the Sampled Area w	Sampling Date: 8/23/2016 Sign Point: Siope (%): Siope
VEGETATION - Use scientific names	of plants.	
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapting/Shrub Stratum (Plot size:) 1.	= Total Cover	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 = 300$ Column Totals: 60 (A)Bob (B)Prevalence Index = B/A =
4	CO2_ = Total Cover	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1 2 % Bare Ground in Herb Stratum <u>40</u> Remarks:	= Total Cover	Hydrophytic Vegetation Present? Yes No

	Alams (Describer 4	a the death	needed to docum	nent the indicator of	r confirm the	absence of Indicato	rs.)
		to the depth		Redox Features			
Depth _	Matrix	8/	Color (moint)	% Type	Loc ²	Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	ла туре		loam	
2-10	10424/2	100				LOWM	
<u> </u>						Tann	
» − ()	104RW2	100					
2-100	IDYRALI	1000				Siltloam	
015	UYK U	102					
				· · · · · · · · · · · · · · · · · · ·			
	···						
	<u>. </u>						
	······						
<u> </u>	m					- <u> </u>	
Type: C=Conr	centration. D=Den	letion. RM=F	Reduced Matrix, CS	S=Covered or Coate	d Sand Grains.	"Location: PL=Po	ore Lining, M=Matrix.
							estia Undria Batta ³ .
Hydric Soil In	dicators: (Applic	cable to all I	LRRs, unless othe	erwise noted.)	In	dicators for Problen	natic myoric solis :
-			Sandy Redox (S			2 cm Muck (A10)	
Histosol (A	,				·	Red Parent Materia	II (TF2)
Histic Epip		_	Stripped Matrix	(GO) Almonol (Ed.) (avenue)	MI DA 4)	Very Shailow Dark	Surface (TF12)
Black Histi			_ Loamy MUCKY N	Aineral (F1) (except		Other (Explain in R	emarks)
	Sulfide (A4)		Loamy Gleyed I		-		ondinoj
Depleted E	Below Dark Surfac	æ (A11) 📃	Depleted Matrix			5. u	أدعيم كالفسقيد ورزحاه بباد
Thick Dark	Surface (A12)		Redox Dark Su			"Indicators of hydro	phytic vegetation and
	cky Mineral (S1)		Depleted Dark S	Surface (F7)		wetland hydrology r	must be present,
	yed Matrix (S4)		Redox Depress	ions (F8)		unless disturbed or	problematic
		<u></u>	<u> </u>				
strictive Laye	r (if present).						\checkmark
-	n fu biesendi			د سي من	c Soll Present	? Yes	No 🔨
Туре:			· · · · ·	nyari			
Depth (inches	s):						
narks:				al	Kalnole		
narks:				al	Kalnole	<u> </u>	
				al	Kalnoe		
DROLOGY				al	Kalnoe		
DROLOGY	ogy Indicators:			///	Ser	condary Indicators (2	or more required)
	ogy Indicators:	e required; c	check all that apply)	Sec	condary Indicators (2	or more required)
DROLOGY etland Hydrolo imary Indicator	ogy Indicators: rs (minimum of on	e required; c	Water-Stair) ned Leaves (89) (exc	Sec	condary Indicators (2 Water-Stained Leave	or more required) es (B9) (MLRA 1, 2,
DROLOGY fetland Hydrolo rimary Indicator Surface Wate	ogy Indicators: rs (minimum of one er (A1)	e required; c	Water-Stain MLRA 1, 2,) 1ed Leaves (89) (exc 4A, and 48)	Sec	condary Indicators (2 Water-Stained Leave 4A, and 4B)	es (B9) (MLRA 1, 2,
DROLOGY etland Hydrolo imary Indicator Surface Wate	ogy Indicators: rs (minimum of one er (A1)	e required; c	Water-Stain MLRA 1, 2, Salt Crust () led Leaves (59) (exc 4 A, and 4B) 511)	cept	condary Indicators (2 Water-Stained Leave 4A, and 4B) Drainage Patterns (B	es (B9) (MLRA 1, 2, 310)
DROLOGY etland Hydrolo imary Indicator Surface Wate High Water T	ogy Indicators: rs (minimum of on r (A1) able (A2)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (Aquatic Inve) led Leaves (B9) (exc 4 A, and 4B) B11) ertebrates (B13)	cept	condary Indicators (2 Water-Stained Leave 4A, and 4B) Drainage Patterns (E Dry-Season Water T	es (B9) (MLRA 1, 2, 310) able (C2)
DROLOGY etland Hydrolo imary Indicator Surface Wate High Water T Saturation (A	ogy Indicators: rs (minimum of on er (A1) able (A2) 3)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S) ted Leaves (B9) (exc 4 A, and 4B) B11) ertebrates (B13) Sulfide Odor (C1)	sept	condary Indicators (2 Water-Stained Leave 4A, and 4B) Drainage Patterns (B	es (B9) (MLRA 1, 2, 310) able (C2)
DROLOGY fetland Hydrolo imary Indicator Surface Wate High Water T	ogy Indicators: rs (minimum of on er (A1) able (A2) 3)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S) ted Leaves (B9) (exc 4 A, and 4B) B11) ertebrates (B13) Sulfide Odor (C1)	sept	condary Indicators (2 Water-Stained Leave 4A, and 4B) Drainage Patterns (E Dry-Season Water T Saturation Visible on	es (B9) (MLRA 1, 2, 810) able (C2) a Aerial Imagery (C9)
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DROLOGY etland Hydroli imary Indicator Surface Wate High Water Ti Saturation (A' Water Marks Sediment Dej Drift Deposits Algal Mat or (Iron Deposits Surface Soil (Inundation Vi Sparsely Veg ield Observati urface Water P /ater Table Pre aturation Presencludes capilla scribe Recorde	ogy Indicators: rs (minimum of oni- able (A2) 3) (B1) posits (B2) 5 (B3) Crust (B4) 5 (B5) Cracks (B6) sible on Aerial Imagetated Concave S ons: present? Yes sent? Yes ant? Yes	agery (87) Surface (88)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Invo Hydrogen S Oxidized Ri Roots (C3) Presence o Recent Iron Soils (C6) Stunted or (LRR A) Other (Expl Depth (inches Depth (inches) led Leaves (B9) (exc 4A, and 4B) B11) ertebrates (B13) Sulfide Odor (C1) hizospheres along Li f Reduced fron (C4) h Reduction in Tilled Stressed Plants (D1 lain in Remarks) (b): (c):	ving	condary Indicators (2 Water-Stained Leave 4A, and 4B) Drainage Patterns (E Dry-Season Water T Saturation Visible on Geomorphic Positior Shaliow Aquitard (D FAC-Neutral Test (D Raised Ant Mounds Frost-Heave Hummo	es (B9) (MLRA 1, 2, able (C2) Aerial Imagery (C9) n (D2) 3) (D6) (LRR A) pocks (D7)

WETLAND DETERMINA	TION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Hart Ranch Landform (hillslope, terrace, etc.): Herror Subregion (LRR): MLRA 22B Soil Map Unit Name: 53 005 Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydroic Soil Present?	City/County: Siski Vou C State: CA Sam Section, Township, Range: T Local relief (concave, conv Lat: 20,389200 Long: 41,6 CC Local relief (concave, conv Lat: 20,389200 Long: 41,6 CC Local relief (concave, conv Local relief (con	0. Sampling Date: Sampling Date: 2110 2110
VEGETATION - Use scientific names		
Tree Stratum (Plot size:) 1.	Absolute Dominant indicator <u>% Cover Species?</u> Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: IDO Percent of Dominant Species That Are OBL, FACW, or FAC: IDO Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species $A1 = COO$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: OO (A) OO (B) Prevalence Index = $B/A =$
3.		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		

US Army Corps of Engineers

SOIL						Senaralitien Politi	
Profile Descr	iption: (Describe	to the depth	needed to docur	nent the indicator Redox Features	or confirm the	absence of indicators	J an Angeland
Depth (inches)	Color (moist)	%	Color (moist)	% Type	Loc ²	Texture	Remarks
	10 yeld2					loam	
						Silt Loa	
8 - 18	1042.8/1	(00)		<u> </u>			
				<u> </u>			
							<u> </u>
					24		
	<u> </u>						
17	ncentration, D=Dep		aduced Matrix C	S=Covered or Coate	d Sand Grains	2 Pocation: PL=Pore	Lining, M=Matrix.
						ndicators for Problema	
Hydric Soil	Indicators: (Applie	able to all L				2 cm Muck (A10)	ie riyane eone i
Histosol			Sandy Redox (Stripped Matrix	55) (SB)		Red Parent Material ((F2)
Black His	hipedon (A2) stic (A3)		Loamv Mucky N	lineral (F1) (except	MLRA 1)	Very Shallow Dark Su	rface (TF12)
Hydroge	n Sulfide (A4)		Loamy Gleyed	Matrix (F2)	2	7	arks)
Depleted	Below Dark Surfac	æ (A11) 📃	Depleted Matrix			³ Indicators of hydroph	vtic venetation and
	irk Surface (A12)		Redox Dark Su Depleted Dark \$	nace (Fo) Surface (F7)		wetland hydrology mu	st be present,
	lucky Mineral (S1) ileyed Matrix (S4)	-	Redox Depress	ions (F8)		unless disturbed or pr	oblematic
			·				
Restrictive La	yer (if present):			Librate	ic Soil Preser	nt? Yes 🗙	No
Type:					C JUIL FIESES	((1 168 <u>/)</u>	
Depth (inch	es):	<u></u>			<u> </u>		
emarks:			. A s a				
	A	1CAUM	HOU AHOU	N	011	time soils n	in and ar
	<u> </u>	x auna	ted diach	1	UTEO	TIME SUIS !!	YIUVEAUN
YDROLOG	T ology Indicators:		<u></u>			<u> </u>	
Primary Indicat	ors (minimum of on	e required; c	heck all that apply)		condary Indicators (2 or Water-Stained Leaves	
			Water-Stair	ned Leaves (B9) (ex	cept	4A, and 4B)	(D9) (MILION 1, 4)
Surface Wa			Salt Crust (4A, and 4B)	10	Drainage Patterns (B10))
High Water Saturation (Aquatic Inv	ertebrates (B13)		Dry-Season Water Tab	le (C2)
Water Mark	s (B1)		Hydrogen S	Sulfide Odor (C1)		Saturation Visible on A	erial Imagery (C9)
	11- (00)			hizospheres along L	iving	Geomorphic Position (I	02)
Sediment D Drift Depos	eposits (B2)		Roots (C3)	f Reduced Iron (C4		Shallow Aquitard (D3)	
_ Drint Depos	its (D3)			Reduction in Tilled			
Algal Mat o	r Crust (B4)		Soils (C6)		,	FAC-Neutral Test (D5)	
Demos			Stunted or (LRR A)	Stressed Plants (D1)	Raised Ant Mounds (D	6) (LRR A)
Iron Deposition Surface So	il Cracks (B6)			ain in Remarks)	· · · ·	Frost-Heave Hummock	
Inundation	Visible on Aerial Im	agery (B7)					
Sparsely V	egetated Concave S	Surface (B8)					
	tions				<u> </u>		· <u>···</u> ······
Field Observa Surface Water		X No	Depth (inches	s): Rin			. 🗸
Water Table P			Depth (inches		Wetland Hy	ydrology Present? Y	'es X No
Saturation Pre	sent?	て					
(includes capil	iary fringe) Yes	<u>X</u> No	Depth (inches	s):	(internet if ave	ilable:	
escribe Record	ded Data (stream ga	auge, monito	nng well, aerial pr	iotos, previous insp	suuns), ii ava	11GV16-	
Remarks:	·						

WETLAND DETERMINA	TION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: HAVA RAACA Applicant/Owner: Havt Ranch Investigator(s): Mart Ranch Landform (hilislope, terrace, etc.): hillslop Subregion (LRR): MLRA 22B Soil Map Unit Name: 153 QO 200 Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic	City/County: Siski You State: CA Sam Section, Township, Range: Local relief (concave, conv Lat: 122.389179 Long: 41.4 CS11+ COAM pical for this time of year? Yes X N pay No significantly disturbed? Are pay No naturally problematic?	Sampling Date: 8/23/2016 pling Point: 91 Siope (%): 2 Siope (%): 2 Siope (%): 2 Siope (%): 2 NWI classification: NAD §3 NWI cl
	diddalaa.	
	ditchbank 15	agebruch
VEGETATION - Use scientific names	of planta	0
N See Section and		
Tree Stratum (Plot size:) 1. 2.	Absolute Dominant Indicato	
Sapling/Shrub Stratum (Plot size:) 1. 2.	= Total Cover	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 =
Herb Stratum (Plot size:) 1. <u>(Controurea solstitiallo</u> 2. <u>Syssimbraum altissimum</u> 3. <u>Reudoregneria spirata</u> 4.	$= Total Cover$ $= Total Cover$ $= 30 \ Y \ OPL$ $= 40 \ Y \ OPL$	FACU species $x 4 =$ UPL species BD Column Totals: BD (A) $4DO$ Prevalence Index = B/A =
5. 6. 7. 8. 9. 10. 11.		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain)
Noody Vine Stratum (Plot size:)	SD = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
lemarks:		Present? Yes <u>No </u>

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rofile Description: (Describe	to the depth	needed to docum	ent the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth Matrix			Redox Featur	es Type	Loc ²	Textu		Remarks
nches) Color (moist)	<u>%</u>	Color (moist)				1		
-6 104R412	100	<u> </u>		<u> </u>		lam		
-11 1042 6/2	100					Dam	<u> </u>	
	100		-			Silt	loam	
1-18 1042.8/1		e	•			and \$ (*6	N	
					-			
								<u>×</u>
				Costed Sa		² l ocation:	PL≂Pore L	ining, M=Matrix.
ype: C=Concentration, D=De								Hydric Soils ³ :
lydric Soil Indicators: (Appl	icable to all)	117	2 cm Muck (
_ Histosol (A1)		_ Sandy Redox (S				Red Parent l		2)
Histic Epipedon (A2)		Stripped Matrix (Loamy Mucky M	(S0) iperat (E1) (e)	rcent MLR	(A 1)	Very Shallov	v Dark Surfa	, ace (TF12)
Black Histic (A3) Hydrogen Sulfide (A4)		Loamy Mucky M		wahr meu		Other (Expla		
Depleted Below Dark Surfa	ace (A11)	Depleted Matrix				• •		
Thick Dark Surface (A12)		Redox Dark Sur	face (F6)			³ Indicators o	f hydrophyt	ic vegetation and
Sandy Mucky Mineral (S1)		Depleted Dark S				wetland hydi	ology must	be present,
Sandy Gleyed Matrix (S4)	_	Redox Depressi	ons (F8)			unless distu	bea or proc	
								~ ~ ~
strictive Layer (if present):			1			• V		No X
Туре:				Hydric So	il Present	? Yes _		NU /-
Depth (Inches):								
arks:								
arks:								
DROLOGY								
DROLOGY	ne required: (Sec	ondary Indica	tors (2 or m	ore required)
DROLOGY	ne required; (check all that apply) Water-Stain	ed Leaves (B	9) (except		ondary Indica Water-Stained	tors (2 or m	ore required) 9) (MLRA 1, 2,
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of o	ne required; c	Water-Stain	ed Leaves (B	9) (except		Water-Stained 4A, and 4B)	Leaves (B	ore required) 9) (MLRA 1, 2,
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1)	ne required; c	Water-Stain MLRA 1, 2, 4 Salt Crust (E	ed Leaves (B) 4A, and 4B) 311)			Water-Stained 4 A, and 4B) Drainage Patt	l Leaves (B erns (B10)	9) (MLRA 1, 2,
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of o Surface Water (A1) High Water Table (A2)	ne required; c	Water-Stain MLRA 1, 2, 4 Salt Crust (E Aquatic Inve	ed Leaves (B 4A, and 4B) 311) artebrates (B1	3)		Water-Stained 4 A, and 4B) Drainage Patt Dry-Season V	l Leaves (B erns (B10) /ater Table	9) (MLRA 1, 2, (C2)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3)	ne required; o	Water-Stain MLRA 1, 2, 4 Salt Crust (E Aquatic Inve	ed Leaves (B 4 A, and 4B) 311) artebrates (B1 ulfide Odor (C	3) ;1)		Water-Stained 4 A, and 4B) Drainage Patt Dry-Season V	l Leaves (B erns (B10) /ater Table	9) (MLRA 1, 2,
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3)	ne required; o	Water-Stain MLRA 1, 2, Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh	ed Leaves (B 4A, and 4B) 311) artebrates (B1	3) ;1)		Water-Stained 4 A, and 4B) Drainage Patt Dry-Season V Saturation Vis	l Leaves (B erns (B10) /ater Table ible on Aer	9) (MLRA 1, 2, (C2) iai Imagery (C9)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ne required; o	Water-Staind MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3)	ed Leaves (B 4 A, and 4B) 311) intebrates (B1 ulfide Odor (C izospheres al	3) 21) Iong Living		Water-Stained 4 A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2	9) (MLRA 1, 2, (C2) ial Imagery (C9)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ne required; o	Water-Staind MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of	ed Leaves (B 4 A, and 4B) 311) Intebrates (B1 ulfide Odor (C izospheres al Reduced Iroi	3) :1) long Living n (C4)		Water-Stained 4 A, and 4B) Drainage Patt Dry-Season V Saturation Vis	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2	9) (MLRA 1, 2, (C2) ial Imagery (C9)
OROLOGY tland Hydrology Indicators: nary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ne required; o	Water-Staint MLRA 1, 2, Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron	ed Leaves (B 4 A, and 4B) 311) intebrates (B1 ulfide Odor (C izospheres al	3) :1) long Living n (C4)		Water-Stained 4 A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3)	9) (MLRA 1, 2, (C2) ial Imagery (C9)
OROLOGY tland Hydrology Indicators: nary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ne required; o	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6)	ed Leaves (B 4A, and 4B) 311) intebrates (B1 ulfide Odor (C izospheres al Reduced Irol Reduction in	3) (1) long Living n (C4) Tilled		Water-Stained 4 A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5)	9) (MLRA 1, 2, (C2) iai Imagery (C9) :)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	ne required; o	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S	ed Leaves (B 4 A, and 4B) 311) Intebrates (B1 ulfide Odor (C izospheres al Reduced Iroi	3) (1) long Living n (C4) Tilled		Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6)	9) (MLRA 1, 2, (C2) iai Imagery (C9) !) (LRR A)
DROLOGY tiand Hydrology Indicators: nary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5)	ne required; o	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A)	ed Leaves (B 4A, and 4B) 311) intebrates (B1 ulfide Odor (C izospheres al Reduced Iron Reduced Iron Reduction in Stressed Plan	3) (1) long Living n (C4) Tilled ts (D1)		Water-Stained 4 A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6)	9) (MLRA 1, 2, (C2) iai Imagery (C9) !) (LRR A)
DROLOGY Iland Hydrology Indicators: nary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	<u>ne required; (</u>	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A)	ed Leaves (B 4A, and 4B) 311) intebrates (B1 ulfide Odor (C izospheres al Reduced Irol Reduction in	3) (1) long Living n (C4) Tilled ts (D1)		Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6)	9) (MLRA 1, 2, (C2) iai Imagery (C9) !) (LRR A)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of o 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 Soli Cracks (B6) Inundation Visible on Aerial Ir	ne required; (nagery (B7)	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Sti Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B 4A, and 4B) 311) intebrates (B1 ulfide Odor (C izospheres al Reduced Iron Reduced Iron Reduction in Stressed Plan	3) (1) long Living n (C4) Tilled ts (D1)		Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6)	9) (MLRA 1, 2, (C2) iai Imagery (C9) !) (LRR A)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Ir	ne required; (nagery (B7)	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Sti Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B 4A, and 4B) 311) intebrates (B1 ulfide Odor (C izospheres al Reduced Iron Reduced Iron Reduction in Stressed Plan	3) (1) long Living n (C4) Tilled ts (D1)		Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6)	9) (MLRA 1, 2, (C2) iai Imagery (C9) !) (LRR A)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ir Sparsely Vegetated Concave	nagery (B7) Surface (B8)	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Sti Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B 4A, and 4B) 311) intebrates (B1 ulfide Odor (C izospheres al Reduced Iroi Reduction in Stressed Plan ain In Remark	3) (1) long Living n (C4) Tilled ts (D1)		Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6)	9) (MLRA 1, 2, (C2) ial Imagery (C9)) (LRR A) (D7)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Id Observations: rface Water Present? Yes	magery (B7) Surface (B8)	Muran 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Sti Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B) 4A, and 4B) 311) intebrates (B1 ulfide Odor (C izospheres al Reduced Iron Reduction in Stressed Plan ain in Remark	3) (1) ong Living n (C4) Tilled ts (D1) s)		Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6) Hummocks	9) (MLRA 1, 2, (C2) ial Imagery (C9)) (LRR A) (D7)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Id Observations: rface Water Present? Yest ater Table Present? Yest	magery (B7) Surface (B8)	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Sti Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B) 4A, and 4B) 311) intebrates (B1 ulfide Odor (C izospheres al Reduced Iron Reduction in Stressed Plan ain in Remark	3) (1) ong Living n (C4) Tilled ts (D1) s)		Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6) Hummocks	9) (MLRA 1, 2, (C2) ial Imagery (C9)) (LRR A) (D7)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Id Observations: rface Water Present? Yea turation Present?	magery (B7) Surface (B8) s No s No	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B) 4A, and 4B) an (1) prebrates (B1 ulfide Odor (C) izospheres al Reduced Iron Reduction in Stressed Plan ain in Remark	3) (1) ong Living n (C4) Tilled ts (D1) s)		Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6) Hummocks	9) (MLRA 1, 2, (C2) ial Imagery (C9)) (LRR A) (D7)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Id Observations: rface Water Present? Yes tater Table Present? Yes turation Present? Yes	magery (B7) Surface (B8) s No s No s No	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B) 4A, and 4B) an (1) prebrates (B1 ulfide Odor (C izospheres al Reduced Iron Reduced Iron Reduced Iron Stressed Plan ain In Remark):):	3) (1) long Living n (C4) Tilled ts (D1) (D1) (S) We	etland Hyd	Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6) Hummocks	9) (MLRA 1, 2, (C2) ial Imagery (C9)) (LRR A) (D7)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Id Observations: rface Water Present? Yes tater Table Present? Yes turation Present? Yes	magery (B7) Surface (B8) s No s No s No	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B) 4A, and 4B) an (1) prebrates (B1 ulfide Odor (C izospheres al Reduced Iron Reduced Iron Reduced Iron Stressed Plan ain In Remark):):	3) (1) long Living n (C4) Tilled ts (D1) (D1) (S) We	etland Hyd	Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6) Hummocks	9) (MLRA 1, 2, (C2) ial Imagery (C9)) (LRR A) (D7)
Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ir Sparsely Vegetated Concave ald Observations: Inface Water Present? Yes ater Table Present? Yes	magery (B7) Surface (B8) s No s No s No	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B) 4A, and 4B) an (1) prebrates (B1 ulfide Odor (C izospheres al Reduced Iron Reduced Iron Reduced Iron Stressed Plan ain In Remark):):	3) (1) long Living n (C4) Tilled ts (D1) (D1) (S) We	etland Hyd	Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6) Hummocks	9) (MLRA 1, 2, (C2) iai Imagery (C9) ?) (LRR A) (D7)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ir Sparsely Vegetated Concave ald Observations: rface Water Present? Yea turation Present? Yea turation Present? Yea fucues capillary fringe) Yea	magery (B7) Surface (B8) s No s No s No	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B) 4A, and 4B) an (1) prebrates (B1 ulfide Odor (C izospheres al Reduced Iron Reduced Iron Reduced Iron Stressed Plan ain In Remark):):	3) (1) long Living n (C4) Tilled ts (D1) (D1) (S) We	etland Hyd	Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6) Hummocks	9) (MLRA 1, 2, (C2) ial Imagery (C9)) (LRR A) (D7)
DROLOGY tland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ir Sparsely Vegetated Concave Id Observations: rface Water Present? Yeater Table Present? Yeater Table Present? Yeater Concave Id Observations: rface Water Present? Yeater Table Present? Yeater Table Present? Yeater Concave Surface Concave Conc	magery (B7) Surface (B8) s No s No s No	Water-Staint MLRA 1, 2, 4 Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expla	ed Leaves (B) 4A, and 4B) an (1) prebrates (B1 ulfide Odor (C izospheres al Reduced Iron Reduced Iron Reduced Iron Stressed Plan ain In Remark):):	3) (1) long Living n (C4) Tilled ts (D1) (D1) (S) We	etland Hyd	Water-Stained 4A, and 4B) Drainage Patt Dry-Season V Saturation Vis Geomorphic F Shallow Aquit FAC-Neutral Raised Ant M Frost-Heave I	I Leaves (B erns (B10) Vater Table ible on Aer Position (D2 ard (D3) Test (D5) ounds (D6) Hummocks	9) (MLRA 1, 2, (C2) ial Imagery (C9)) (LRR A) (D7)

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site: HARARAACA City/County: Siski you Co. sampling Date: 8/23/2010 Applicant/Owner: Hart Ranch State: CA Sampling Point: Sampling Date: 8/23/2010 Investigator(s): Mart Ranch Section, Township, Range: 1.45N, R5W Sect 1, 2+3 Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Solver Slope (%): 10 Subregion (LRR): MLRA 22B, Lat: Local relief (concave, convex, none): MARA 83 Soil Map Unit Name: ISO Image: No NWI classification: Marks.) Are Vegetation , Soil , or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No Are Vegetation , Soil , or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Yes
Remarks:

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute Dominant Indicator	Dominance Test worksheet:
1	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
1. 2	= Total Cover	
Sapling/Skrub Stratum (Plot size: M ²)		Prevalence Index worksheet:
1	·	Total % Cover of: Multiply by:
2		OBL species x 1 =
		FACW species x 2 =
4		FAC species x 3 =
···		FACU species x 4 =
Herb Stratum (Plot size: MT	= Total Cover	UPL species 40 x 5 = 200
1. Contaunea 50/stiti	alia 10 10 Mai	Column Totals: (A) (A)
2. Reudoregreriaspicata	30 1/ 401	
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 ¹
8	Contract Con	4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover	¹ indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2	A Section 2	an a
	= ≈ Total Cover	Hydrophytic
6 Bare Ground in Herb Stratum		Vegetation Present? Yes No
Remarks;		

SOIL Profile Description: (Describe to the	donth nonded to desument th	e indicator or confirm	the absence of indicators.)
Profile Description: (Describe to the Depth Matrix	Redox	Features	
	% Color (moist) %		c ² Texture Remarks
	00 00		loam
11-18 2.54R6310	<u> </u>		
			······
¹ Type: C=Concentration, D=Depletion		ered or Coated Sand Gra	ins. ² Location: PL=Pore Lining, M=Matrix.
			Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable		notea.)	
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (A10) Red Parent Material (TF2)
Histic Epipedon (A2)	Stripped Matrix (S6) Loamy Mucky Mineral	(E1) (excent MLRA 1)	Very Shallow Dark Surface (TF12)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (Other (Explain in Remarks)
Depleted Below Dark Surface (A		· - /	
Thick Dark Surface (A12)	Redox Dark Surface (F		³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface		wetland hydrology must be present, unless disturbed or problematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F		
Restrictive Layer (if present):			V
_		Hydric Soil Pres	sent? Yes No
Depth (inches):			
Remarks:			
Nemara.			
	100 1	Acril 1 march Ca	
	<u> </u>	contars_	
HYDROLOGY	· · · · · · · · · · · · · · · · · · ·		
Wetland Hydrology Indicators: Primary Indicators (minimum of one req	uired: check all that apply)		Secondary Indicators (2 or more required)
Printiary andicators (maintain or one rea		(DO) (average	Water-Stained Leaves (B9) (MLRA 1, 2,
	Water-Stained Lea	aves (Da) (excehr	Water-Stallieu Leaves (DD) (Michor 1) -
Surface Water (A1)	Water-Stained Lea MLRA 1, 2, 4A, ar	nd 4B) (except	4A, and 4B)
High Water Table (A2)	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11)	nd 4B)	4A, and 4B) Drainage Patterns (B10)
High Water Table (A2) Saturation (A3)	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra	n d 4B) ites (B13)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
High Water Table (A2)	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide	nd 4B)	4A, and 4B) Drainage Patterns (B10)
High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph	nd 4B)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizospi Roots (C3) Presence of Redu	nd 4B) Ites (B13) Odor (C1) heres along Living iced Iron (C4)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc	nd 4B) Ites (B13) Odor (C1) heres along Living iced Iron (C4)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solls (C6)	nd 4B) ttes (B13) Odor (C1) heres along Living ced Iron (C4) ction in Tilled	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Soils (C6) Stunted or Stresse	nd 4B) ttes (B13) Odor (C1) heres along Living ced Iron (C4) ction in Tilled	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)
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 Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solls (C6) Stunted or Stresse (LRR A)	nd 4B) tes (B13) Odor (C1) neres along Living ced Iron (C4) ction in Tilled ed Plants (D1)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6)	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solls (C6) Stunted or Stresse (LRR A) Other (Explain In 1	nd 4B) tes (B13) Odor (C1) neres along Living ced Iron (C4) ction in Tilled ed Plants (D1)	 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)
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 Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain In 1)	nd 4B) tes (B13) Odor (C1) neres along Living ced Iron (C4) ction in Tilled ed Plants (D1)	 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)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soll Cracks (B6) Inundation Visible on Aerial Imagen	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain In 1)	nd 4B) tes (B13) Odor (C1) neres along Living ced Iron (C4) ction in Tilled ed Plants (D1)	 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)
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 Imagen Sparsely Vegetated Concave Surface Field Observations:	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain In 1 (B7) ce (B8)	nd 4B) tes (B13) Odor (C1) neres along Living ced Iron (C4) ction in Tilled ed Plants (D1)	 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)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface Field Observations: Surface Water Present?	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain In I y (B7) ce (B8) No Depth (inches):	nd 4B) tes (B13) Odor (C1) neres along Living reed Iron (C4) ction in Tilled ed Plants (D1) Remarks)	 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) 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 Imagen Sparsety Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain In 1 (B7) ce (B8)	nd 4B) tes (B13) Odor (C1) neres along Living reed Iron (C4) ction in Tilled ed Plants (D1) Remarks)	 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagen Sparsely Vegetated Concave Surfa Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present?	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain in 1) (B7) ce (B8) No Depth (inches):	nd 4B) tes (B13) Odor (C1) neres along Living reed Iron (C4) ction in Tilled ed Plants (D1) Remarks)	 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) 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 Imagen Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Saturation Present? Yes	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain in 1) (B7) ce (B8) No Depth (inches): No Depth (inches):	Intes (B13)	 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) Hydrology Present? Yes No X
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagen Sparsely Vegetated Concave Surfate Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present?	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain in 1) (B7) ce (B8) No Depth (inches): No Depth (inches):	Intes (B13)	 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) Hydrology Present? Yes No X
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 Imagen Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Saturation Present? Yes	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain in 1) (B7) ce (B8) No Depth (inches): No Depth (inches):	Intes (B13)	 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) Hydrology Present? Yes No X
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 Imagen Sparsely Vegetated Concave Surface Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain in 1) (B7) ce (B8) No Depth (inches): No Depth (inches):	ates (B13)	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) Hydrology Present? Yes No X vailable:
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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 Imagen Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Describe Recorded Data (stream gauge	Water-Stained Lea MLRA 1, 2, 4A, ar Sait Crust (B11) Aquatic Invertebra Hydrogen Sulfide Oxidized Rhizosph Roots (C3) Presence of Redu Recent Iron Reduc Solis (C6) Stunted or Stresse (LRR A) Other (Explain in 1) (B7) ce (B8) No Depth (inches): No Depth (inches):	Intes (B13)	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) Hydrology Present? Yes No X vailable:

Projection Start City/County: Siskii/Du (b Sampling Date: Sign (b) Landform (Histope, terrace, etc.) Sampling Date: Start Start	WETLAND DETERMINATIO	N DATA FORM - Western N	ountains, Valleys, and Coast Region
Wetland Hydrology Present? Yes No No No No Remarks:	Project/Site: HAARAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Are the showing sampling point	Sampling Date: <u>S/23/2016</u> Ing Point: <u>S3</u> <u>45N, K5W Sect 1, 2 + 3</u> <u>45N, K5W Sect 1, 2 + 3</u> <u>50650</u> Datum: <u>NAN 83</u> NWI classification: <u>V/A</u> (If no, explain in Remarks.) Normal Circumstances' present? Yes X No (If needed, explain any answers in Remarks.) Convex Slope (%): <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u> <u>10</u>
VEGETATION – Use scientific names of plants. Tree Stratum (Plot sec:			thin a Wetland? Yes No
Tree Stratum (Plot size:) Absolute 20 cover Dominant indicator 1.	Remarks:		
1. Image: Additional Species (A) 2. Total Number of Dominant Species (A) 3. Total Number of Dominant Species (A) 3. Secies Across All Strata: (B) 4.		Absolute Dominant Indicator	
2. Total Number of Dominant Species Arrors All Strata: 3. 4. Percent of Dominant Species Arrors All Strata: 3. 4. Percent of Dominant Species That Are OBL, FACW, or FAC: 4. 5. Total Cover Prevalence Index worksheet: 1. Arttime Gia tri de attacts 20 Y 2. Charu Schtham Duis Dallo LOSILO 20 Y UR 3. Total Ko Cover of: Multiply by: 2. Dallo LOSILO 20 UR 3. FACW species x2 = 5. FACW species x3 = 6. FACU species x3 = 1. Brownils tectborium 10 Y 2. Interpretation Indicators: 10 FACU species 3. Interpretation Indicators: 10 10 10 2. Interpretation Indicators: 10 10 10 10 3. Interpretation Indicators: 10 10 10 10 10 3. Interpretation Indicators: 10 10 10 10 10 10 10		ALCOVEL SPECIES ! STATUS	
3.			
Sapling/Shrub Stratum (Piot size: MP2) 1. Arthorne Sign trideration 2. Arthorne Sign trideration 3.	3		Species Across All Strata: (B)
Saplind/Shrub Stratum (Plot size: M2) = Total Cover 1. Arteme Sia tridematic 20 Y UPL 2. Arteme Sia tridematic 20 Y UPL 3. Arteme Sia tridematic 20 Y UPL 9. Arteme Sia tridematic 20 Y UPL 9. Arteme Sia tridematic 20 Y UPL 9. Brownus End tridematic 20 Y UPL 9. Brownus End tridematic 20 Y UPL 1. Brownus End tridematic 20 X = End tridematic 21 1. Brownus End tridematic Y UPL Column Totals: So (A) (B) 2. Intermatics on a separate sheet 1 Rapid Test for Hydrophytic Vegetation for (Provide supporting data in Rematics on on a separate sheet) 1 5 </td <td>4</td> <td></td> <td></td>	4		
% Bare Ground in Herb Stratum = Total Cover % Bare Ground in Herb Stratum = Total Cover Present? Yes No	1. Arteme Sia tridentata 2. 2. 3. 4. 5.	$\frac{10}{3} + \frac{10}{20} + \frac{10}$	Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species x 5 = 750 Column Totals: (A) Column Totals: (A) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is <3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1 Problematic Hydrophytic Vegetation1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Present? Yes No			nyaropnytic
Remarks:	% Bare Ground in Herb Stratum		
	Remarks:		

 ${\boldsymbol{v}}_{a}$

		State Internation	23
SOIL Profile Description: (Describe to the depth needed to document the inc	licator or confirm th	e absence of indicators.)	
	fures		
Depth Matrix Recox rea (inches) Color (moist) % Color (moist) %	Type Loc	Texture	Remarks
		nam	
	·····		
10-18 2.542613 100		10am	
	<u> </u>		
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered of	or Coated Sand Grain	ns. ² Location: PL=Pore	Lining, M=Matrix.
		Indicators for Problemati	c Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise note	u.j		
Histosol (A1) Sandy Redox (S5)	_	2 cm Muck (A10) Red Parent Material (T	E2)
Histic Epipedon (A2) Stripped Matrix (S6)	(averant ML DA 1)	Very Shallow Dark Sur	
Black Histic (A3) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	(except without)	Other (Explain in Rema	arks)
	-		/
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6)		³ Indicators of hydrophy	rtic vegetation and
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)	1	wetland hydrology mus	st be present,
Sandy Macky Mineral (01) Sandy Gleyed Matrix (S4) Redox Depressions (F8)		unless disturbed or pro	blematic
Restrictive Layer (if present):			X
Туре:	Hydric Soil Prese	nt? Yes	No <u>~</u>
Depth (inches):			
Remarks:	· · · · · · · · · · · · · · · · · · ·	<u></u>	
	icators		
Y D INO	11 CATDYS		<u> </u>
	4		
HYDROLOGY			<u></u>
Wetland Hydrology Indicators:		1	
Primary Indicators (minimum of one required; check all that apply)		econdary Indicators (2 or n Water-Stained Leaves (I	
Water-Stained Leaves ((B9) (except	Vater-Stained Leaves (I 4A, and 4B)	00) (MILINA 1, 4;
Surface Water (A1) MLRA 1, 2, 4A, and 4B	بن ے ۲	Drainage Patterns (B10)	
High Water Table (A2) Salt Crust (B11) Saturation (A3) Aquatic Invertebrates (I		Dry-Season Water Table	e (C2)
	(C1)	Saturation Visible on Ae	rial Imagery (C9)
Water Marks (B1) Hydrogen Sulfide Odor Oxidized Rhizospheres	alono Livino		
Sediment Deposits (B2) Roots (C3)		Geomorphic Position (D	2)
Drift Deposits (B3)	ron (C4)	Shallow Aquitard (D3)	
Recent Iron Reduction			

EAC Neutral	Teet	
FAC-Neutral	rest	(D0)

Raised Ant Mounds (D6) (LRR A)
 Frost-Heave Hummocks (D7)

Iron Deposits (B5) Surface Soil Cracks (B6 Inundation Visible on Ae Sparsely Vegetated Cor	erlat Imagery (B7)		(LRR A) Other (Explain In Rem	narks)	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Field Observations:	Vac	No	Depth (inches):		1
Surface Water Present?	Yes Yes	No	_ Depth (inches):		Wetland Hydrology Present? Yes No
Water Table Present? Saturation Present?	163				
(includes capillary fringe)	Yes	No	Depth (inches):		
Describe Recorded Data (str				ious insp	ections), if available:
Describe Recorded Data (su	can ga	uge, monton			· · · · · · · · · · · · · · · · · · ·
Remarks:					
				no	indicators.

Soils (C6) Stunted or Stressed Plants (D1) (LRR A)

Algal Mat or Crust (B4)

WE I LAND DETERMIN	ATION DATA FORM – Western I	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillslope, terrace, etc.): hill Subregion (LRR): MLRA 22,B Soil Map Unit Name: 188 mary Are climatic / hydrologic conditions on the site to Are Vegetation, Soil, or Hydrol Are Vegetation, Soil, or Hydrol	City/County: Siski You C State: CA Samp Section, Township, Range: T Slore Local relief (concave, conve Lat: 122, Y01463Long: 11, C Yoch Out Crag Vpical for this time of year? Yes X No ogy ND significantly disturbed? Are	Sampling Date: 8/23/2016 Siope (%): Si
Sac	alexander alle	b a
	elorush millisic	
VEGETATION - Use scientific names	of plants	
Tree Stratum (Plot size:) 1	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
2. 3. 4.		Total Number of Dominant Species Across All Strata: 2 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 2 (A/B)
Sapling/Shrub Stratum (Plot size: <u>12</u>) 1. <u>Artemosia</u> + <u>19</u> evertata 2 3	= Total Cover	Prevalence Index worksheet:
5	D = Total Cover 20 Y UPL	FACU species $x3 =$ FACU species $x4 =$ UPL species 36 Column Totals: 30 (A) 152 Prevalence Index = $B/A =$
4		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants1
1	20 = Total Cover	 Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
emarks:		

F

50"				Deloatellater Polla	んて
SOIL Profile Description: (Describe to the dept	h needed to document the	indicator or o	confirm the abs		
Depth Matrix	Redox F	eatures			Demarka
(inches) Color (moist) %	Color (moist) %	Туре	Loc ²	Texture /	Remarks
D-10 1.04R3/3 100				<u>arawi/100</u>	m
				TIOAS	
10-18 1042 314 100				<u> </u>	
				<u> </u>	<u> </u>
		-	· · · · · · · · · · · · · · · · · · ·		
					<u> </u>
¹ Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, CS=Covere	ed or Coated S	Sand Grains.	Location: PL=Pore Lin	ing, M=Matrix.
Hydric Soil Indicators: (Applicable to all				tors for Problematic h	lydric Soils ³ :
Ayone Soil indicators: (Applicable to all		,		cm Muck (A10)	-
Histosol (A1)	Sandy Redox (S5)			d Parent Material (TF2))
Histic Epipedon (A2)	Stripped Matrix (S6) Loamy Mucky Mineral (F	(avcent MI	and the second se	ry Shallow Dark Surfac	
Black Histic (A3)	Loamy Gleyed Matrix (F2	7) (except min		her (Explain in Remark	
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	-,		` ,	
Thick Dark Surface (A12)	Redox Dark Surface (F6))	³ lr	dicators of hydrophytic	vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (W	atland hydrology must b	e present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		ur	less disturbed or proble	matic
Restrictive Layer (if present):					N.2
		Hydric S	Soil Present?	Yes N	
Type: Depth (inches):					
Remarks:					
,	ina la ali a	¢			
	mindicas	1085			
·	· · · · · · · · · · · · · · · · · · ·		··· ··· ···	·····	
	<u>,</u>				
Wetland Hydrology Indicators:	check all that ann(v)		Second	ary Indicators (2 or mor	e required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required;	check all that apply)	es (B9) (excer		ary Indicators (2 or mor ter-Stained Leaves (B9)	e required) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required;	Water-Stained Leave	es (B9) (excer 4B)	ot Wa	ary Indicators (2 or mor ler-Stained Leaves (B9) and 4B)	e required) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1)	Water-Stained Leave MLRA 1, 2, 4A, and	es (B9) (excer 4B)	ot Wa' 4 A, Dra	ter-Stained Leaves (B9) and 4B) inage Patterns (B10)	(MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2)	Water-Stained Leave MLRA 1, 2, 4A, and Sait Crust (B11)	4B)	ot Wa 4A, Dra Dry	ter-Stained Leaves (B9) and 4B) inage Patterns (B10) -Season Water Table (C	(MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leave MLRA 1, 2, 4A, and Sait Crust (B11) Aquatic Invertebrates	4B) s (B13)	ot Wa 4A, Dra Dry	ter-Stained Leaves (B9) and 4B) inage Patterns (B10)	(MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2)	Water-Stained Leave MLRA 1, 2, 4A, and Sait Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc	4B) s (B13) dor (C1)	ot Wa 4A, Dra Dry Sat	ter-Stained Leaves (B9) and 4B) inage Patterns (B10) -Season Water Table (uration Visible on Aerial	(MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leave MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Oc Oxidized Rhizosphere	4B) s (B13) dor (C1)	ot Wa 4A, Dra Dry Sat	ter-Stained Leaves (B9) and 4B) inage Patterns (B10) -Season Water Table (C	(MLRA 1, 2, C2)
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 Leave MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Roots (C3)	4B) s (B13) dor (C1) res along Livin	ot Wa 4A, Dra Dra Dry Sat	ter-Stained Leaves (B9) and 4B) inage Patterns (B10) -Season Water Table (uration Visible on Aerial	(MLRA 1, 2, C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leave MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Roots (C3) Presence of Reduce	4B) s (B13) dor (C1) res along Livin ed Iron (C4)	ot Wa 4 A , Dra Dry Sat 3g Gee Sha	ter-Stained Leaves (B9) and 4B) -Season Water Table (uration Visible on Aerial proorphic Position (D2) allow Aquitard (D3)	(MLRA 1, 2, C2)
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 Leave MLRA 1, 2, 4A, and Sait Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Roots (C3) Presence of Reduce Recent Iron Reduction	4B) s (B13) dor (C1) res along Livin ed Iron (C4)	ot Wa 4 A , Dra Dry Sat 3g Gee Sha	ter-Stained Leaves (B9) and 4B) inage Patterns (B10) -Season Water Table (C uration Visible on Aerial omorphic Position (D2)	(MLRA 1, 2, C2)
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 Leave MLRA 1, 2, 4A, and Salt Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Roots (C3) Presence of Reduce	4B) s (B13) for (C1) res along Livin od Iron (C4) on In Tilled	ot Wa 4 A , Dra Dry Sat 3 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	ter-Stained Leaves (B9) and 4B) inage Patterns (B10) -Season Water Table (C uration Visible on Aerlal pmorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5)	(MLRA 1, 2, C2) I Imagery (C9)
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 Leave MLRA 1, 2, 4A, and Sait Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Roots (C3) Presence of Reduce Recent iron Reduction Soils (C6) Stunted or Stressed (LRR A)	4B) dor (C1) res along Livin ed Iron (C4) on In Tilled Plants (D1)	ot Wa 4 A , Dra Dry Sat 9 Geo Sha FA4 Rai	ter-Stained Leaves (B9) and 4B) inage Patterns (B10) -Season Water Table ((uration Visible on Aerlal pmorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I	(MLRA 1, 2, C2) I Imagery (C9)
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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 (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Saturation Present? Yes No Saturation Present? Yes	Water-Stained Leave MLRA 1, 2, 4A, and Sait Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizosphen Roots (C3) Presence of Reduce Recent Iron Reductio Soils (C6) Stunted or Stressed (LRR A) Other (Explain in Re Depth (inches): Depth (inches): Depth (inches): toring well, aerial photos, pre	4B) s (B13) for (C1) res along Livin on In Tilled Plants (D1) emarks)	ot Wa 4A, Dra Dry Sat Sat Sat PA A PA Rai Fro Wetland Hydrol ons), if available	ter-Stained Leaves (B9) and 4B) inage Patterns (B10) -Season Water Table ((uration Visible on Aerlal pmorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I st-Heave Hummocks (I ogy Present? Yes	(MLRA 1, 2, C2) I Imagery (C9) LRR A) 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 (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Sectional Recorded Data (stream gauge, monited)	Water-Stained Leave MLRA 1, 2, 4A, and Sait Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizospher Roots (C3) Presence of Reduce Recent Iron Reduction Soils (C6) Stunted or Stressed (LRR A) Other (Explain in Re Depth (Inches): Depth (Inches):	4B) s (B13) for (C1) res along Livin on In Tilled Plants (D1) emarks)	ot Wa 4A, Dra Dry Sat Sat Sat PA A PA Rai Fro Wetland Hydrol ons), if available	ter-Stained Leaves (B9) and 4B) inage Patterns (B10) -Season Water Table ((uration Visible on Aerlal pmorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I st-Heave Hummocks (I ogy Present? Yes	(MLRA 1, 2, C2) I Imagery (C9) LRR A) 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 (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Sective Recorded Data (stream gauge, monited to the stream ga	Water-Stained Leave MLRA 1, 2, 4A, and Sait Crust (B11) Aquatic Invertebrate: Hydrogen Sulfide Oc Oxidized Rhizosphen Roots (C3) Presence of Reduce Recent Iron Reductio Soils (C6) Stunted or Stressed (LRR A) Other (Explain in Re Depth (inches): Depth (inches): Depth (inches): toring well, aerial photos, pre	4B) s (B13) for (C1) res along Livin on In Tilled Plants (D1) emarks)	ot Wa 4A, Dra Dry Sat Sat Sat PA A PA Rai Fro Wetland Hydrol ons), if available	ter-Stained Leaves (B9) and 4B) inage Patterns (B10) -Season Water Table ((uration Visible on Aerlal pmorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) sed Ant Mounds (D6) (I st-Heave Hummocks (I ogy Present? Yes	(MLRA 1, 2, C2) I Imagery (C9) LRR A) D7)

Projectistis: Harth Ranch City/County: Siskii/Quir.Gr. Same: Ch. Samping Date: S/23/2010/ Applicant/Ourse: Harth Ranch Section, Township, Range:	WETLAND DETERMIN/	ATION DATA FORM - Western	Mountains, Valleys, and Coast Region
So get st use h Willigde VEGETATION - Use scientific names of plants. Dominant Indicator Incestination Absolute Stream Dominant Indicator 1. Absolute Stream Dominant Indicator 2. Absolute Stream Indicator 3. Provide To Dominant Species (A) 4. Provide To Dominant Species (AB) 5. Provide To Dominant Species (AB) 5. Provide To Dominant Species (AB) 7. Prevalence Index worksheet: (AB) 1. Prevalence Index worksheet: (AB) 2. Prevalence Index worksheet: (AB) 3. Prevalence Index worksheet: (AB) 4. Prevalence Index worksheet: (AB) 5. Prevalence Index worksheet: (AB) 7. Prevalence Index worksheet: (AB) 1. Prevalence Index worksheet: (AB) 2. Prevalence Index worksheet: (AB) 3. Prevalence Index worksheet: (AB) 4. Prevalence Index worksheet: (AB) 5. Pre	Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Andrea Rabe Landform (hillslope, terrace, etc.): Hart Subregion (LRR): MLRA 228 Soil Map Unit Name: 180 Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrold Are Vegetation, Soil, or Hydrold SUMMARY OF FINDINGS – Attach si Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	City/County: Siski Vou C State: CA Sample Section, Township, Range: Section, Township, Range: Local relief (concave, conv Lat: 12), 40200 Long: Local for this time of year? Yes X No Section Township, Range: Local relief (concave, conv Lat: 12), 40200 Long: Mo X Is the Sampled Area v	D. Sampling Date: Sampling Date: Sampling Date: Ding Point: Sampling Date: Sampling Date: Sampling Date: Signa Point: Sampling Date: Sampling Date: Sampling Date: Signa Point: Sampling Date: Sampling Date: Sampling Date: Signa Point: Sampling Date: Sampling Date: Sampling Date: Sex. none): On VeV Slope (%): Datum: Sampling Date: NAD & 3 Nad Addition: Nad Addition: Sampling Date: Nad Addition: Nad Addition: Nad Additio: Sampling
VEGETATION – Use scientific names of plants. Tree Strates Dominant Indicator 1. 2. 3. 4. Ascolute Dominant Species 1. 2. 3. 3. Species? Status Total Number of Dominant Species (A) 3.	Remarks:		
VEGETATION – Use scientific names of plants. Tree Strates Dominant Indicator 1. 2. 3. 4. Ascolute Dominant Species 1. 2. 3. 3. Species? Status Total Number of Dominant Species (A) 3.	Sagel	Krich Willedo	
Tree Straten (Plot size:) Absolute Species? Dominant Status Indicator Indicator Dominant Species That Are OBL, FACW, or FAC: (A) 1.		and and a second	
1. 3. 3. (r) of size: (A) 2. 3. Total Number of Dominant Species (A) 3. Total Number of Dominant Species (A) 3. (A) 3. (A) 4. (A) 2. (A) 3. (A) 3. (A) (A) 3. (A) (A) 3. (A) (A) (A) 4. (A) (A) 1. <td>VEGETATION - Use scientific names</td> <td>of plants.</td> <td></td>	VEGETATION - Use scientific names	of plants.	
3.	1	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant
Percent of Dominant Species (AVB) Saplino/Staub Stratum (Plot size: [M ²]) = Total Cover Prevalence Index worksheet: 1	3		
Sapling/Strub Stratum (Plot size: 111 ²) = Total Cover Prevalence Index worksheet: 1. Total % Cover of: Multiply by: 3. OBL species x1 = 4. FACW species x2 = 5. = Total Cover FACW species x3 = FAC species x3 = FAC species x3 = FAC species x3 = FAC species x3 = 1. BTD MALS Forthory with Stratum Sofa Yup L Column Totals: (A) ISOB 2. Sofa Yup L Column Totals: (A) ISOB (A) ISOB 2. Sofa Yup L Column Totals: (A) ISOB (A) ISOB 2. Sofa Yup L Column Totals: (A) ISOB (A) ISOB 2. Sofa Yup L Sofa (A) ISOB (A) ISOB 3. Sofa Prevalence Index is \$50% (A) Sofa (A) ISOB 3. Sofa Sofa Sofa Sofa (A) Sofa <t< td=""><td>4</td><td></td><td></td></t<>	4		
Herb Stratum (Plot size: 1m²)	1. 2. 3. 4.		Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 =
Herb Stratum (Plot size: IM2) 1. Brownus Herb Stratum 2. 30% 3. (A) 3. (A) 4. (A) 5. (A) 6. (A) 7. <		= Table Course	FACU species x 4 =
4. Hydrophytic Vegetation Indicators: 5. 1 - Rapid Test for Hydrophytic Vegetation 6. 2 - Dominance Test is >50% 3. 3 - Prevalence Index is ≤3.01 4. Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 5. 5 - Wetland Non-Vascular Plants1 1. SD = Total Cover 1. 1 Voody Vine Stratum Plot size: 1. = Total Cover Hydrophytic Vegetation 4. Hydrophytic Vegetation1 (Explain) 1. SD = Total Cover 1. Hydrophytic Vegetation1 (Explain) SD = Total Cover Hydrophytic Vegetation2 4. Hydrophytic Vegetation3 5. Hydrophytic Vegetation3 6. SD = Total Cover 1. Hydrophytic Vegetation4 4. Hydrophytic 4. Hydrophytic <	1. Bronous tectorium S	30% Yupu	Column Totals: 30 (A) 150(B)
5. 1 - Rapid Test for Hydrophytic Vegetation 6. 2 - Dominance Test is >50% 3. 3 - Prevalence Index is <3.01			Hydrophytic Vegetation Indicators
3. 2. Dominance Test is >50% 3. 3. Prevalence index is ≤3.01 4. Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) 0. 1. 3. 1. 3. Yoody Vine stratum (Plot size:) a. a. a. a. b. b. b. b. b. b. c. c. <t< td=""><td>5</td><td>1.400 (1.6. N.2471)</td><td>2 m ·</td></t<>	5	1.400 (1.6. N.2471)	2 m ·
3 - Prevalence Index is \$\leq3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 0. 1. 3. Yoody Vine Stratum Bare Ground in Herb Stratum	B	he was not as i	
A - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) 0.	ſ		3 - Prevalence Index is ≤3.01
0.			4 - Morohological Adaptations' (Provide supporting (
Bare Ground in Herb Stratum Problematic Hydrophytic Vegetation ¹ (Explain) ************************************			
Voody Vine Stratum (Plot size:)	1	the second se	
Bare Ground in Herb Stratum		<u>SD</u> = Total Cover	findicators of hydric soil and wetland hydrology must
Bare Ground in Herb Stratum	· ·		All and
	6 Bare Ground in Herb Stratum		Vegetation
emarks:	emarks:		

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						- 25
SOIL					Serengeliner P.	
Profile Description: (Describe to the d Depth Matrix	epth needed to docum	nent the in Redox Fea	dicator or co	onfirm the a	bsence of indicato	
(inches) Color (moist) %	Color (moist)	%	Туре	Loc ²	Texture	Remarks
					loam	
					Inc.	
11-18 2,5 YELD'S 101	<u> </u>				<u>loam</u>	
			<u> </u>		<u> </u>	
		-			<u> </u>	
						A
					· · · · · ·	
				<u> </u>		
¹ Type: C=Concentration, D=Depletion, F	M=Reduced Matrix CS	=Covered	or Coated Sa	ind Grains.	² Location: PL=P	ore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to						natic Hydric Soils ³ :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Sandy Redox (S Stripped Matrix (Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	(S6) lineral (F1) Aatrix (F2) (F3) face (F6) Surface (F7		RA 1)	2 cm Muck (A10) Red Parent Materia Very Shallow Dark Other (Explain in R ³ Indicators of hydro wetland hydrology i unless disturbed or	Surface (TF12) emarks) phytic vegetation and must be present,
Sandy Gleyed Matrix (S4)	Redox Depressi					
Restrictive Layer (if present): Type: Depth (inches):			Hydric So	oil Present?	Yes	No
	· · · · · · · · · · · · · · · · · · ·		·			
Remarks:						
		_		A	. Bre	
		00	India	CUTU	1.>	
HYDROLOGY						
Wetland Hydrology Indicators:	<u> </u>					(h
Primary Indicators (minimum of one requir	ed; check all that apply))		<u>Seco</u>	ndary Indicators (2	or more required) es (B9) (MLRA 1, 2,
	Water-Stain	ed Leaves	(B9) (except		A, and 4B)	
Surface Water (A1)	MLRA 1, 2,		•))rainage Patterns (B	310)
High Water Table (A2)	Salt Crust (E Aquatic Inve	213) vtobratoc (B13))ry-Season Water T	
Saturation (A3)		ultida Odar	(C1)	,	Saturation Visible or	Aerial Imagery (C9)
Water Marks (B1)	- Ovidiand Ph	unue odui	along Living			••••
Sadimont Deposite (P2)	Roots (C3)	introah liei es	along Living	C	Geomorphic Position	
Sediment Deposits (B2) Drift Deposits (B3)	Presence of	Reduced	Iron (C4)		Shallow Aquitard (D	
	- Recent Iron			·		

A

 Iron Deposits (B5) Surface Soil Cracks (B6)	_
 Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	

Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)		Soils (C6) Stunted or Stree (LRR A) Other (Explain i	ssed Plants (D1)	FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)		
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	Yes No 7	Depth (inches): Depth (inches): Depth (inches):		Wetland Hydrology Present?	Yes No	
Describe Recorded Data (str	eam gauge, monito	ring well, aerial photos	, previous inspec	ctions), if available:		
Remarks:		, <u> </u>	no	Indicator	7	

WETLAND DETERMINATION DATA FORM - We	stern Mountains, Valleys, and Coast Region
Project/Site: HARRANCA City/County: Sisking Applicant/Owner: Hart Ranch State: CA Investigator(s): Hart Ranch State: CA Investigator(s): Hart Ranch State: CA Subregion (LRR): MLRA 22.8 Section, Township, Range Soil Map Unit Name: NMLRA 22.8 Lat 122.402774 Long: Soil Map Unit Name: NMLRA 22.8 Lat 122.402774 Long: Soil Map Unit Name: NMLRA 22.8 Lat 122.402774 Long: Are climatic / hydrologic conditions on the site typical for this time of year? Yes Are Vegetation, Soil, or Hydrology ND significantly disturbed Are Vegetation, Soil, or Hydrology ND naturally problematic? SUMMARY OF FINDINGS - Attach site map showing samplin Hydrophytic Vegetation Present? Yes No	OULCO
Kocky Hat	
VEGETATION – Use scientific names of plants.	
	ndicator Dominance Test worksheet:
	Status Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2	Total Number of Dominant
	Species Across All Strata: (B)
	Percent of Dominant Species
	That Are OBL, FACW, or FAC: (A/B)
apling/Shruti Stratum (Plot size:) = Total Cover	
·)	Prevalence Index worksheet:
	Total % Cover of: Multiply by:
	OBL species x1 =
	FACW species x2 =
	FAC species x 3 =
	FACU species x 4 =
erb Stratum (Plot size: ML)	UPL species $(00) \times 5 = 322$
Bromustertorum 10 V UPI	Column Totals: 60 (A) 300 (B)
Preudoregneria spicata 50 y Up	Prevalence Index = B/A =
	Hydrophytic Vegetation Indicators:
he yest Mr. et a	1 - Rapid Test for Hydrophytic Vegetation
	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹
计图象 分子	4 - Morphological Adaptations ¹ (Provide supporting
	data in Remarks or on a separate sheet)
	5 - Wetland Non-Vascular Plants ¹
	Problematic Hydrophytic Vegetation ¹ (Explain)
odv Vine Stratum (Plot size:) = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
= Total Cover	Hydrophytic
Bare Ground in Herb Stratum	Vegetation Present? Yes No
	1

001							સ્ટાલાનાં જિલ્લાઓ	26
SOIL	Intions (Deceribo)	the depth	needed to docum	ent the indi	cator or co	nfirm the a	bsence of indicators	
Depth	Aption: (Describe) Matrix	o ne depui	TREASE IN GOVUI	Redox Featu	res			
(inches)	Color (moist)	%	Color (moist)	%	Type	LOC ²	Texture,	Remarks
	8						gravello	am
0-25	IOYREAN	100						1 11.4
81						2	O VOCILL	to dig
							1	
	<u> </u>		•			•		
	 	÷ *		·		<u> </u>	<u> </u>	
				55			<u> </u>	
				<u> </u>				
¹Type: C≂Cor	ncentration, D=Dep	letion, RM=F	Reduced Matrix, CS	S=Covered or	Coated Sal		² Location: PL=Por	
Hydric Soil I	ndicators: (Applie	able to all t	RRs. unless othe	erwise noted.	.)	Ind	licators for Problema	tic Hydric Soils ³ :
			Sandy Redox (S		•		2 cm Muck (A10)	
Histosol (• •		Stripped Matrix				Red Parent Material ((TF2)
	ipedon (A2)		Loamy Mucky M	(30) lineral (F1) (e	vcent MLR	(A 1)	Very Shallow Dark Su	
Black His			Loamy Gleyed N		and the second of		Other (Explain in Ren	
	n Sulfide (A4) Below Dark Surfac	νe (Δ11)	Depleted Matrix				· · · · · • • • • • • • • • • • • • •	-
	rk Surface (A12)	~~~~···	Redox Dark Sur				³ Indicators of hydroph	nytic vegetation and
	ucky Mineral (S1)	1	Depleted Dark S				wetland hydrology mi	ust be present,
	leyed Matrix (S4)	-	 Redox Depressi 				unless disturbed or pr	roblematic
						·	×	
Restrictive Lay	ver (if present):							.1
Type:					Hydric So	il Present'i	Yes	_ No
Depth (inch			·····		•			
							····	
Remarks:								
			noindi	rations				
			1 14 17 10(1)					
HYDROLOG								
		. <u></u> .						
Wetland Hydro	logy Indicators:					Sec	andary Indicators (2 OF	more required)
Wetland Hydro Primary Indicate		e required; c	heck all that apply)		<u>Secc</u>	ondary Indicators (2 or Water-Stained Leaves	more required) (B9) (MLRA 1, 2,
Primary Indicate	ology Indicators: ors (minimum of on	e required; c	Water-Stain	ed Leaves (B	9) (except		Water-Stained Leaves	more required) (B9) (MLRA 1, 2,
Primary Indicate	blogy Indicators: ors (minimum of on ter (A1)	e required; c	Water-Stain MLRA 1, 2,	ed Leaves (B 4A, and 4B)	9) (except		Water-Stained Leaves	(B9) (MLRA 1, 2,
Primary Indicate	ology Indicators: ors (minimum of on ter (A1) Table (A2)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (f	ed Leaves (B 4A, and 4B) B11)			Water-Stained Leaves I A, and 4B) Drainage Patterns (B10 Drv-Season Water Tab	(B9) (MLRA 1, 2, 0) ole (C2)
Primary Indicate Surface Water High Water Saturation (A	ology Indicators: ors (minimum of on ter (A1) Table (A2) A3)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (f Aquatic Inve	ed Leaves (B 4A, and 4B) B11) ertebrates (B1	13)		Water-Stained Leaves I A, and 4B) Drainage Patterns (B10 Drv-Season Water Tab	(B9) (MLRA 1, 2, 0) ole (C2)
Primary Indicate	ology Indicators: ors (minimum of on ter (A1) Table (A2) A3)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (f Aquatic Inve Hydrogen S	ed Leaves (B 4A, and 4B) B11) ertebrates (B1 Sulfide Odor (C	13) C1)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10	(B9) (MLRA 1, 2, 0) ole (C2)
Primary Indicate Surface Wat High Water Saturation (A Water Marks	ology Indicators: ors (minimum of on ter (A1) Table (A2) A3) s (B1)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (f Aquatic Inve Hydrogen S Oxidized Rh	ed Leaves (B 4A, and 4B) B11) ertebrates (B1	13) C1)		Water-Stained Leaves I A, and 4B) Drainage Patterns (B10 Drv-Season Water Tab	(B9) (MLRA 1, 2, 0) ble (C2) verial Imagery (C9)
Primary Indicate Surface Wat High Water Saturation (A Water Marks	ology Indicators: ors (minimum of on ter (A1) Table (A2) A3) s (B1) eposits (B2)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (f Aquatic Inve Hydrogen S Oxidized Rh Roots (C3)	ed Leaves (B 4 A, and 4B) B11) ertebrates (B1 sulfide Odor (C hizospheres a	I3) C1) Iong Living		Water-Stained Leaves I A, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A	(B9) (MLRA 1, 2, 0) ble (C2) verial Imagery (C9)
Primary Indicate Surface Wat High Water Saturation (A Water Marks	ology Indicators: ors (minimum of on ter (A1) Table (A2) A3) s (B1) eposits (B2)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (If Aquatic Inve Hydrogen S Oxidized Rh Roots (C3) Presence of	ed Leaves (B 4A, and 4B) B11) entebrates (B1 sulfide Odor (C hizospheres a f Reduced Iro	I3) C1) Ilong Living In (C4)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (1	(B9) (MLRA 1, 2, 0) ble (C2) verial Imagery (C9)
Primary Indicate Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit	ology Indicators: ors (minimum of on ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rh Roots (C3) Presence of Recent Iron	ed Leaves (B 4 A, and 4B) B11) ertebrates (B1 sulfide Odor (C hizospheres a	I3) C1) Ilong Living In (C4)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (1	(B9) (MLRA 1, 2, 0) ble (C2) verial Imagery (C9) D2)
Primary Indicate Surface Wat High Water Saturation (A Water Marks	ology Indicators: ors (minimum of on ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6)	ed Leaves (B 4 A, and 4B) B11) entebrates (B1 iulfide Odor (C nizospheres a f Reduced Iro Reduction in	13) C1) Ilong Living In (C4) Tilled		Water-Stained Leaves IA, and 4B) Drainage Patterns (B11 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (Shallow Aquitard (D3) FAC-Neutral Test (D5)	(B9) (MLRA 1, 2, 0) le (C2) lerial Imagery (C9) D2)
Primary Indicate Surface Wat High Water Saturation (Water Marks Sediment De Drift Deposit Algal Mat or	ology Indicators: ors (minimum of on Table (A2) A3) s (B1) eposits (B2) ts (B3) • Crust (B4)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (f Aquatic Inve Hydrogen S Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S	ed Leaves (B 4A, and 4B) B11) entebrates (B1 sulfide Odor (C hizospheres a f Reduced Iro	13) C1) Ilong Living In (C4) Tilled		Water-Stained Leaves IA, and 4B) Drainage Patterns (B11 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D	(B9) (MLRA 1, 2, 0) le (C2) lerial Imagery (C9) D2) 06) (LRR A)
Primary Indicate Surface Water Saturation (Water Market Sediment De Drift Deposition Algal Mat or Iron Deposition	blogy Indicators: ors (minimum of on Table (A2) A3) s (B1) eposits (B2) ts (B3) • Crust (B4) ts (B5)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized RH Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A)	ed Leaves (B 4A, and 4B) B11) ertebrates (B1 iulfide Odor (C nizospheres a f Reduced tro Reduction in Stressed Plan	13) C1) Iong Living n (C4) Tilled nts (D1)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B11 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (Shallow Aquitard (D3) FAC-Neutral Test (D5)	(B9) (MLRA 1, 2, 0) le (C2) lerial Imagery (C9) D2) 06) (LRR A)
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Primary Indicate Surface Wat High Water Saturation (A Water Market Drift Deposit Algal Mat or Iron Deposit Surface Soil inundation N	blogy Indicators: ors (minimum of on Table (A2) A3) s (B1) eposits (B2) ts (B3) • Crust (B4) ts (B5) I Cracks (B6) Visible on Aerial Imagetated Concave S	agery (B7)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized RH Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expl	ed Leaves (B 4A, and 4B) B11) entebrates (B1 iulfide Odor (C nizospheres a f Reduced Iro Reduction in Stressed Plan ain in Remark	13) C1) Iong Living n (C4) Tilled nts (D1)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B11 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D	(B9) (MLRA 1, 2, 0) le (C2) lerial Imagery (C9) D2) 06) (LRR A)
Primary Indicate Surface Water Saturation (Water Market Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation V Sparsely Ve	blogy Indicators: ors (minimum of on Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) is (B5) Crust (B4) is (B5) Cracks (B6) Visible on Aerial Im- septated Concave S	agery (B7)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized RH Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expl	ed Leaves (B 4A, and 4B) B11) entebrates (B1 iulfide Odor (C nizospheres a f Reduced tro Reduction in Stressed Plan ain in Remark	I3) C1) Iong Living In (C4) Tilled hts (D1) ks)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B1(Dry-Season Water Tat Saturation Visible on A Geomorphic Position (i Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummoc	(B9) (MLRA 1, 2, 0) le (C2) .erial Imagery (C9) D2) 06) (LRR A) ks (D7)
Primary Indicate Surface Water Saturation (Water Market Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soil Inundation N Sparsely Ve	blogy Indicators: ors (minimum of on ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) is (B5) Crust (B4) is (B5) Cracks (B6) Visible on Aerial Im- septated Concave S tions: Present? Yes	agery (B7) Surface (B8)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized RH Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expl	ed Leaves (B 4A, and 4B) B11) entebrates (B1 iulfide Odor (C nizospheres a f Reduced tro Reduction in Stressed Plan ain in Remark	I3) C1) Iong Living In (C4) Tilled hts (D1) ks)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B11 Dry-Season Water Tat Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummoc	(B9) (MLRA 1, 2, 0) le (C2) lerial Imagery (C9) D2) 06) (LRR A)
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Primary Indicate Surface Wat High Water Saturation (Water Marks Sediment De Drift Deposit Algal Mat or iron Deposit Surface Soil inundation V Sparsely Ve Field Observa Surface Water Water Table Pr Saturation Pres (includes capill Describe Record	blogy Indicators: ors (minimum of on ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) Cracks (B6) Visible on Aerial Im- sgetated Concave S tions: Present? Yes resent? Yes ary fringe) Yes	agery (B7) Surface (B8)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expl Depth (inches Depth (inches	ed Leaves (B 4A, and 4B) B11) ertebrates (B1 iulfide Odor (C inizospheres a f Reduced Iro Reduction in Stressed Plan ain in Remark	I3) C1) Iong Living In (C4) Tilled Its (D1) (s) We s inspection	atland Hyd	Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tat Saturation Visible on A Geomorphic Position (1 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummoch Frost-Heave Hummoch	(B9) (MLRA 1, 2, 0) le (C2) .erial Imagery (C9) D2) 06) (LRR A) ks (D7)
Primary Indicate Surface Wat High Water Saturation (Water Marks Sediment De Drift Deposit Algal Mat or iron Deposit Surface Soil inundation V Sparsely Ve Field Observa Surface Water Water Table Pr Saturation Pres (includes capill Describe Record	blogy Indicators: ors (minimum of on ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5) Cracks (B6) Visible on Aerial Im- sgetated Concave S tions: Present? Yes resent? Yes ary fringe) Yes	agery (B7) Surface (B8)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rh Roots (C3) Presence of Recent Iron Soils (C6) Stunted or S (LRR A) Other (Expl Depth (Inches Depth (Inches Depth (Inches Depth (Inches	ed Leaves (B 4A, and 4B) B11) ertebrates (B1 iulfide Odor (C nizospheres a f Reduced Iro Reduction in Stressed Plan ain in Remark	I3) C1) Iong Living In (C4) Tilled Its (D1) (s) We s inspection	atland Hyd	Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tat Saturation Visible on A Geomorphic Position (1 Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummoch Frost-Heave Hummoch	(B9) (MLRA 1, 2, 0) le (C2) .erial Imagery (C9) D2) 06) (LRR A) ks (D7)

WETLAND DETERMINA	TION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: HAARAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	City/County: SiSKi VOU State: CA Sam Section, Township, Range: Local relief (concave, conv Lat:AUI??? Long: Dical for this time of year? Yes X No gy ND significantly disturbed? Are gy ND naturally problematic?	D. Sampling Date: Sampling Date: Sampling Date: pling Point: Sampling Date: Sampling Date: Sampling Date: 45 N, K5W Sect 1, 2+3 ex, none): On MC X Slope (%): ex, none): On MC X Slope (%): GATCING Datum: NAD § 3 NWI classification: N/A- (If no, explain in Remarks.) "Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) ht locations, transects, important features, etc.
	Shelf above	drainant
		- CURITICAC
VEGETATION - Use scientific names		0
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant
4		Species Across All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:) 1 2 3 4 4 4 5 1		Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 = UPL species 20 x 5 = Column Totals: 20 (A) (DO Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
	in a scott of	2 - Dominance Test is >50%
·		3 - Prevalence index is <3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting
		data In Remarks or on a separate sheet)
)	the second se	5 - Wetland Non-Vascular Plants ¹
	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
cody Vine Stratum (Plot size:)		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
· · · · · · · · · · · · · · · · · · ·	and the standard	
Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
marks:		
		1

OIL	સંસ્કૃતિવાસિંહિત	
Profile Description: (Describe to the d	epth needed to document the indicator or confirm the absence of indicators. Redox Features	
Depth <u>Matrix</u> (inches) Color (moist), <u>%</u>		Remarks
(1101100)		1.MA
V I WILSH MS		
9+	too roduto	
	}	*
		<u></u>
¹ Type: C=Concentration, D=Depletion, R	M≃Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore	
Hydric Soll Indicators: (Applicable to	all LRRs, unless otherwise noted.) Indicators for Problema	tic Hydric Soils ³ :
	Sandy Redox (S5) 2 cm Muck (A10)	
Histosol (A1) Histic Epipedon (A2)	Stripped Matrix (S6) Red Parent Material (
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Su	rface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2) Other (Explain in Rem	arks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	المحمد متعاقمة محمد حاف
Thick Dark Surface (A12)	Redox Dark Surface (F6) Indicators of hydroph	ytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7) wetland hydrology mu unless disturbed or pr	nblematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F8) unless disturbed or pr	
estrictive Layer (if present):	1	× /
_	Hydric Soil Present? Yes	No X
Type:		,
Depth (inches):		
YDROLOGY Vetiand Hydrology Indicators:		
rimary Indicators (minimum of one require	ed; check all that apply) Secondary Indicators (2 or	more required)
	Water-Stained Leaves (B9) (except vvater-Stained Leaves	(89) (MLKA 1, ∡,
Surface Water (A1)	MLRA 1, 2, 4A, and 4B) 4A, and 4B) 4A, and 4B) Drainage Patterns (B10	N .
High Water Table (A2)		') le (C2)
Saturation (A3)		erial Imagery (C9)
Water Marks (B1)	Hydrogen Sulfide Odor (C1) Saturation Visible on A Oxidized Rhizospheres along Living	
Sadimont Daposits (P2)	Roots (C3) Geomorphic Position (I	02)
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Reduced Iron (C4) Shallow Aquitard (D3)	
Dur Dehoard (DA)	Recent Iron Reduction in Tilled	
Algal Mat or Crust (B4)	Soils (C6) FAC-Neutral Test (D5)	
	Stunted or Stressed Plants (D1)	
Iron Deposits (B5)	(LRR A) Raised Ant Mounds (D	
Surface Soil Cracks (B6)	Other (Explain in Remarks) Frost-Heave Hummock	(D1)
Inundation Visible on Aerial Imagery (E	87)	
Sparsely Vegetated Concave Surface	(22)	
ield Observations:		
	No X Depth (inches):	X
	No Sept (inches): Wetland Hydrology Present? Y	'es No
Saturation Present?		
includes capillary fringe) Yes	No Depth (inches):	
escribe Recorded Data (stream gauge, m	onitoring well, aerial photos, previous inspections), if available:	
emarks:		
5) 2 53.	logical de la ser	
	noivelleato s	
	VIOTANICATO 3	

WETLAND DETERMIN	ATION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: HAARAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	City/County: Siski You State: CA Sam Section, Township, Range: T Local relief (concave, conv Lat: 122, 4018D4 Long: 41 DOXEVDIS BOCK OUTCOP pical for this time of year? Yes X Ni Doy ND significantly disturbed? Are Doy ND naturally problematic? te map showing sampling poin No Is the Sampled Area v	D. Sampling Date: Sampling Date: pling Point: D= HSN RSW Sex, none): OnCarre Slope (%): Siope (%): PNWI classification: NIAD §3 PNWI classification: NIAD §3 PNWI classification: NIA MAD §3 Datum: Nomal Circumstances" present? Yes No (If needed, explain any answers in Remarks.) Int locations, transects, important features, etc. within a Wetland? Yes
cliaw ~ du	4) springflow	is only
VEGETATION - Use scientific names	of plants.	
Tree Stratum (Plot size:) 1.	Absolute Dominant Indicato <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
2		Total Number of Dominant
4.		Species Across All Strata: (B) Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:) 1.	= Total Cover	Prevalence Index worksheet:
Herb Stratum (Plot size: 1772)	= Total Cover	UPL species x 5 =
1.		Column Totals: (A) (B)
2.		Prevalence Index = B/A =
3		
4	- e ²	Hydrophytic Vegetation Indicators:
6.		1 - Rapid Test for Hydrophytic Vegetation
7	the second side	2 - Dominance Test is >50%
8		3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Piot size:) 1	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:	- Indraw 1	i marrarist dut
noveg dry	Proble matrices	Hydrophytic Vegetation Present? Yes X No dry draw por Shirt CLM dry draw por Shirt CLM te mpor an of the shirt of the shir

OIL			Statianaline Polini 271
Profile Description: (Describe to the	depth needed to document the	indicator or confirm th	e absence of indicators.)
Depth Matrix	Redox	-eatures	
(inches) Color (moist) %			gravel laam
0-8 104R34 100			
5-100			rorius to aig
			_
			<u> </u>
Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, CS=Cover	ed or Coated Sand Grain	ns. ² Location: PL=Pore Lining, M=Matrix
Hydric Soll Indicators: (Applicable)			Indicators for Problematic Hydric Soils ³
	Sandy Redox (S5)	•	2 cm Muck (A10)
Histosol (A1) Histic Epipedon (A2)	Stripped Matrix (S6)		Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (I		Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F	2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A1'	 Depleted Matrix (F3) Redox Dark Surface (F6) 	3)	³ Indicators of hydrophytic vegetation ar
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Depieted Dark Surface (wetland hydrology must be present,
Sandy Mildky Milleral (S7) Sandy Gleyed Matrix (S4)	Redox Depressions (F8		unless disturbed or problematic
estrictive Layer (if present):		It while Dail Deepe	nt? Yes X No
Туре:	····	Hydric Soil Prese	ant 169 <u>7.5</u> No
Depth (Inches):		I	
narks:	5 5 1 A	ALL ALL	. Oyes
ucaetated	sand/gravel	withinflood	plann Oyes
man draman	2 ontherms		5.4
- Crail Vola			24/2
DROLOGY			
etland Hydrology Indicators:		ç	econdary Indicators (2 or more required)
rimary indicators (minimum of one requ	Water-Stained Leav		Water-Stained Leaves (89) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, and	48)	4A, and 4B)
High Water Table (A2)	Salt Crust (B11)	×	Drainage Patterns (B10)
Saturation (A3)	Aquatic Invertebrate	es (B13)	Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9
Water Marks (B1)	Hydrogen Sulfide O	dor (C1)	
De dies ant Demosite (B2)	Oxidized Rhizosphe Roots (C3)	res along Living	K Geomorphic Position (D2)
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Reduc	ed Iron (C4)	Shallow Aquitard (D3)
Sint Boboons (Boy	Recent Iron Reduct	ion in Tilled	
Algal Mat or Crust (B4)	Soils (C6)	(Diapte (D4)	FAC-Neutral Test (D5)
In Departite (DE)	Stunted or Stressed (LRR A)		Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6)	Other (Explain in R	emarks)	Frost-Heave Hummocks (D7)
inundation Visible on Aerial Imagery			
Sparsely Vegetated Concave Surface	e (B8)		
-			
			A
Field Observations:	No V Donth (Inchor)		lydrology Present? Yes 🗶 No
Surface Water Present? Yes	No / Depth (inches):	Wetland	
Surface Water Present? Yes Water Table Present? Yes	No X Depth (inches):	Wetland I	
Surface Water Present? Yes Vater Table Present? Yes Saturation Present? includes capillary fringe) Yes	No Z Depth (inches): No Depth (inches):		
Surface Water Present? Yes Vater Table Present? Yes Saturation Present? includes capillary fringe) Yes	No Z Depth (inches): No Depth (inches):		
Surface Water Present? Yes Vater Table Present? Yes Saturation Present?	No Z Depth (inches): No Depth (inches):		
Surface Water Present? Yes Vater Table Present? Yes Saturation Present? includes capillary fringe) Yes escribe Recorded Data (stream gauge,	No Z Depth (inches): No Depth (inches):		
urface Water Present? Yes Vater Table Present? Yes aturation Present? ncludes capillary fringe) Yes	No Z Depth (inches): No Depth (inches):		
urface Water Present? Yes /ater Table Present? Yes aturation Present? ncludes capillary fringe) Yes scribe Recorded Data (stream gauge,	No <u>Pepth (inches):</u> No <u>Depth (inches):</u> monitoring well, aerial photos, pr	evious inspections), if av	ailable:
urface Water Present? Yes ater Table Present? Yes aturation Present? includes capillary fringe) Yes scribe Recorded Data (stream gauge,	No Z Depth (inches): No Depth (inches):	evious inspections), if av	ailable:

WETLAND DETERMINATION DATA FORM Western Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch City/County: Siskiyou Co. Sampling Date: S/23/2010 Applicant/Owner: Hart Ranch State: CA Sampling Point: Doc Investigator(s): Marca Kabe Section, Township, Range: 1.45N, K5W Sect 1, 2+3 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Con Case Slope (%): 2 Subregion (LRR): MLRA 22B Lat: 1.2.401836 Long: 1.698131 Datum: NAD 83 Soil Map Unit Name: 1.27 1.44C haplokefolls Dockefolls Dockefolls Dockefolls Dockefolls Datum: NAD 83 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 No naturally problematic? (If needed, explain any answers in Remarks.) No
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.
Hydric Soil Present? Yes Yes No Is the Sampled Area within a Wetland? Yes No No
Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum Rot size:)		licator	Dominance Test	worksheet:	
		tatus	Number of Domina	int Species	
2.			That Are OBL, FAC		(A)
3			Total Number of De Species Across All	Strata:	(B)
4			Percent of Dominal That Are OBL, FAC	nt Species CW, or FAC: _	(A/B)
Sapling/Shrub Stratum (Plot size:)	= Total Cover		Prevalence Index	worksheet:	
			Total % Cover of:		(by:
2.				x1=	by.
3				x 2 =	
				x3=	a sugar
5				x3=	
1.1.2	= Total Cover				
Herb Stratum (Plot size: 1m2)			Column Totals:	x5=	<u>(</u>)
1		``		(A)	(B)
2		F	Prevalence Index =	B/A =	
4			lydrophytic Vegeta	ation Indicato	rs:
5	1990 - 1997 (1997) 1997 - 1997 (1997)	10	1 - Rapid Test for		1
6	At 12 (24)/45 (1)		2 - Dominance Te		(ogenation)
7		4	3 - Prevalence In		
8. 9.	A CARLEN STATE			Adaptations ¹	Provide supporting
10			5 - Wetland Non-		
11.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Problematic Hydro		
Woody Vine Stratum (Plot size:)	= Total Cover	1	ndicators of hydric s a present, unless dis	oil and wetlan	d hydrology must
2.	the state and state			1 · · · ·	"Shile :
		— н	drophytic	n tan ita	C. Sec.
% Bare Ground in Herb Stratum	= Total Cover	Ve	getation	V	
	Leave of	Pr	esent? Yes	<u> </u>	<u> </u>
Remarks:	- dille il c'		- All	U ift	chy
no veg	rocuy robu matty	s_d	ryd (an pora) tem pora) tem pora	arian	
	V. OB	<u> </u>	pt rip		

US Army Corps of Engineers

Western Mountaine Vollow and Coast Version 9.0

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OIL Profile Description: (Describe	to the depth	needed to docume	at the indicator o	r confirm the		
	to the depth	Deeded to documen	edox Features			
Depth Matrix	%	Color (moist)	% Type	Loc ²	Texture	Remarks
(inches) Color (moist)			<u></u>			
D-8 IDYR314	<u>ino</u>				Gravel 1100y	<u>y</u>
	16.2				o rockil to	10
					10 T DC ENT 100	
1 - 1980-						
20-	 -					
		0.0				
	()					
						·
		······································				
¹ Type: C=Concentration, D=Dep	aletion RM=6		Covered or Coater	d Sand Grains.	² Location: PL=Pore	Lining, M=Matrix.
					dicators for Problemat	ic Hydric Soils ³ :
Hydric Soil Indicators: (Appli	cable to all L					
Histosol (A1)		Sandy Redox (S5)			2 cm Muck (A10)	
Histic Epipedon (A2)		Stripped Matrix (Se	3)		Red Parent Material (1	
Black Histic (A3)		Loamy Mucky Min		MLRA 1)	Very Shallow Dark Su	
Hydrogen Sulfide (A4)		Loamy Gleyed Ma	trix (F2)	X.	Other (Explain in Rem	arks)
Depleted Below Dark Surface	ce (A11)	Depleted Matrix (F				
Thick Dark Surface (A12)	· · · · · · · · · · · · · · · · · · ·	Redox Dark Surfac			³ Indicators of hydrophy	tic vegetation and
Sandy Mucky Mineral (S1)		Depleted Dark Sur			wetland hydrology mu	
Sandy Gleyed Matrix (S4)		Redox Depression			unless disturbed or pro	oblematic
Oundy Cloyed Induix (0.17					· · · · · · · · · · · · · · · · · · ·	
Restrictive Layer (if present):					Y I	
_			Hudel	c Soil Present	7 Yes	No
Туре:		<u> </u>	<u> </u>	0.0011100011		
Depth (inches):			<u> </u>			
YDROLOGY					rainage	
Wetland Hydrology Indicators:					Level allowform (Cons	mana maulicad)
Primary Indicators (minimum of or	ne required; c	heck all that apply)	(1)		condary Indicators (2 or r	DOV (ALL DA 1 2
		Water-Stained	Leaves (B9) (exc	ept	Water-Stained Leaves (09) (MILION 1, 2,
Surface Water (A1)		MLRA 1, 2, 44			4A, and 4B)	`
High Water Table (A2)		Salt Crust (B1)	1)		Drainage Patterns (B10)
Saturation (A3)		Aquatic Inverte	ebrates (B13)		Dry-Season Water Tabl	e (C2)
Water Marks (B1)		Hydrogen Sulf	ide Odor (C1)		Saturation Visible on Ae	erial Imagery (C9)
		Oxidized Rhiz	ospheres along Li	ving		
Sediment Deposits (B2)		Roots (C3)	· •		Geomorphic Position (D	2)
Drift Deposits (B3)			educed Iron (C4)		Shallow Aquitard (D3)	
			eduction in Tilled			
Algal Mat or Crust (B4)		Soils (C6)			FAC-Neutral Test (D5)	
			essed Plants (D1))		
(ron Deposits (B5)		(LRR A)			Raised Ant Mounds (D6	6) (LRR A)
		Other (Explain	in Remarks)		Frost-Heave Hummock	s (D7)
			, in rearison			
Inundation Visible on Aerial Im	iayory (D7) Surface (D8)					
Sparsely Vegetated Concave						
					· ····	
Field Observations:	F • -					4.4
· · · · · · · · · · · · · · · · · · ·	NO J	Depth (inches):		Wattand Use	drology Present? Ye	es 🗶 No
Surface Water Present? Yes	· · · · · · · · · · · · · · · · · · ·			AAAAIGUUU LAA	analogy i nooriet i ti	
Surface Water Present? Yes Water Table Present? Yes	· · · · · · · · · · · · · · · · · · ·	Depth (inches):				
Surface Water Present? Yes Water Table Present? Yes Saturation Present?	No No]		
Surface Water Present? Yes Water Table Present? Yes Saturation Present? (includes capillary fringe) Yes	No No	Depth (inches):				
Surface Water Present? Yes Water Table Present? Yes Saturation Present?	No No	Depth (inches):	s, previous inspe	ctions), if avail	able:	
Surface Water Present? Yes Water Table Present? Yes Saturation Present? (includes capillary fringe) Yes	No No	Depth (inches):	is, previous inspe	ctions), if avail	able:	
Surface Water Present? Yes Water Table Present? Yes Saturation Present? (includes capillary fringe) Yes escribe Recorded Data (stream g	No No	Depth (inches):	is, previous inspe	ctions), if avail	able:	
Surface Water Present? Yes Water Table Present? Yes Saturation Present? (includes capillary fringe) Yes	No No	Depth (inches):	is, previous inspe	ctions), if avail	able:	
Surface Water Present? Yes Water Table Present? Yes Saturation Present? (includes capillary fringe) Yes escribe Recorded Data (stream g	No No	Depth (inches): rring well, aerial photo		<u> </u>		
Surface Water Present? Yes Water Table Present? Yes Saturation Present? includes capillary fringe) Yes escribe Recorded Data (stream g	No No	Depth (inches): rring well, aerial photo		<u> </u>		<u> </u>
Surface Water Present? Yes Water Table Present? Yes Saturation Present? (includes capillary fringe) Yes escribe Recorded Data (stream g	No No	Depth (inches): rring well, aerial photo		<u> </u>		

WETLAND DETERMIN	ATION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: HARRANCH Applicant/Owner: Hart Ranch Investigator(s): Andréa Rabe Landform (hillslope, terrace, etc.): Valle Subregion (LRR): MLRA 22,B Soil Map Unit Name: I>7 har Are climatic / hydrologic conditions on the site Are Vegetation, Soil, or Hydro	City/County: Siski You State: CA sam Section, Township, Range: Local relief (concave, conv Lat: 122, 401 8.36 Long: 41.00 Charlen Conception of year? Yes X No plogy No significantly disturbed? And plogy No naturally problematic?	Sampling Date: 8/23/2016 Ding Point: 986 Sect 1, 2+3 Associate the sector of the se
	a) (Catanua a)	Let a N
· · · · · · · · · · · · · · · · · · ·	shelfaboue c	A Law
VEGETATION - Use scientific name	s of plants.	
Instruction Plot size:) 1	Absolute Dominant Indicato <u>% Cover Species? Status</u>	
Sapling/Shrub Stratum (Plot size: M ²) 1. Chrup Satham mus nause 2.	OBUD 30 YUPL	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 = FACU species x 4 =
Herb Stratum (Plot size: 1m ²) 1. <u>Bromus fectorum</u> 2.	<u>30</u> = Total Cover <u>20 </u>	UPL species $5D$ $x5 = 25D$ Column Totals: $5D$ (A) $25D$ (B) Prevalence Index = B/A =
3.		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
3 D 10 1		3 - Prevalence Index Is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
Voodv Vine Stratum (Rot size:)	SD = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
emarks:		

SOIL	eded to document the indicator or confirm the absence of indicators.)
Depth Matrix	Redox Features
	otor (moist) % Type Loc ² Texture Remarks
O Q INVARIA LOO	gravel/loan
4-18	
<u></u>	
¹ Type: C=Concentration, D=Depletion, RM=Reduc	
Hydric Soil Indicators: (Applicable to all LRRs	s. unless otherwise noted.) Indicators for Problematic Hydric Soils ³ :
	andy Redox (S5) 2 cm Muck (A10)
	tripped Matrix (S6) Red Parent Material (TF2)
Histic Epipedon (A2) St Black Histic (A3) Lo	which Wineral (F1) (excent MLRA 1) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	pamy Gleyed Matrix (F2) Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	epleted Matrix (F3)
Thick Dark Surface (A12)	edox Dark Surface (F6) ³ Indicators of hydrophytic vegetation and expleted Dark Surface (F7) wetland hydrology must be present,
	epleted Dark Surface (F7) wetland hydrology must be present, edox Depressions (F8) unless disturbed or problematic
Sandy Gleyed Matrix (S4)	
Restrictive Layer (if present):	
	Hydric Soll Present? Yes No
Type: Depth (inches):	
Remarks:	
	Noindicatora
HYDROLOGY	
Wetland Hydrology Indicators:	s all that apply) Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; check	Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2,
	MLRA 1, 2, 4A, and 4B)
Surface Water (A1) High Water Table (A2)	Salt Cruet (B11) Drainage Patterns (B10)
Saturation (A3)	Aquatic Invertebrates (B13) Dry-Season Water Table (C2)
	Coturation Michiele on Aerial (manery (C9)
Water Marks (B1)	Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9)
Water Marks (B1)	Ovidized Bhizoshares along Living
Water Marks (B1)	Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2)
	Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Geomorphic Position (D2) Shallow Aquitard (D3)
Sediment Deposits (B2) Drift Deposits (B3)	Oxidized Rhizospheres along Living Geomorphic Position (D2) Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled FAO Neutral Text (D5)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Geomorphic Position (D2) Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Sturted or Stressed Plants (D1) FAC-Neutral Test (D5)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Oxidized Rhizospheres along Living Geomorphic Position (D2) Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Solis (C6) Raised Ant Mounds (D6) (LRR A)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5)	Oxidized Rhizospheres along Living Geomorphic Position (D2) Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Sturted or Stressed Plants (D1) FAC-Neutral Test (D5)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Solis (C6) Raised Ant Mounds (D6) (LRR Å)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5)	Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Solis (C6) Raised Ant Mounds (D6) (LRR Å)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Solis (C6) Raised Ant Mounds (D6) (LRR Å)
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) Field Observations:	Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Solis (C6) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7)
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) Field Observations: Surface Water Present? YesNo	Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Solls (C6) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7)
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) Field Observations: Surface Water Present? Yes No Water Table Present? Yes No	Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Shallow Aquitard (D3) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Recent Iron Reduction in Tilled Solis (C6) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7)
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) Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present?	Dividized Rhizospheres along Living Geomorphic Position (D2) Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Solls (C6) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Depth (inches): Wetland Hydrology Present? Yes No
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) Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No	Dividized Rhizospheres along Living Geomorphic Position (D2) Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Solls (C6) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Depth (inches): Wetland Hydrology Present? Yes Depth (inches): No X
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) Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No	Dividized Rhizospheres along Living Geomorphic Position (D2) Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Solls (C6) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Depth (inches): Wetland Hydrology Present? Yes No
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) Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No	Dividized Rhizospheres along Living Geomorphic Position (D2) Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Solls (C6) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Depth (inches): Wetland Hydrology Present? Yes Depth (inches): Vestion
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) Field Observations: Surface Water Present? YesNo Water Table Present? YesNo Saturation Present? Yes	Dividized Rhizospheres along Living Geomorphic Position (D2) Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Solls (C6) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Depth (inches): Wetland Hydrology Present? Yes Depth (inches): Vestion
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) Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No	Dividized Rhizospheres along Living Geomorphic Position (D2) Roots (C3) Shallow Aquitard (D3) Presence of Reduced Iron (C4) FAC-Neutral Test (D5) Recent Iron Reduction in Tilled FAC-Neutral Test (D5) Solls (C6) Raised Ant Mounds (D6) (LRR A) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Depth (inches): Wetland Hydrology Present? Yes Depth (inches): Vestion
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Project/Site: Hark Ranch City/County: Siski/VOU Co. Sampling Date: Sampling Date	WETLAND DETERMIN	ATION DATA FORM - Western M	fountains, Valleys, and Coast Region
VEGETATION - Use scientific names of plants. Indicator Dominant Indicator Indicator Dominant Species 1. 3.<	Project/Site: Harf Ranch Applicant/Owner: Harf Ranch Investigator(s): Marf Ranch Landform (hillslope, terrace, etc.): Chroa Subregion (LRR): MLRA 22B Soil Map Unit Name: 154 Accelled Are climatic / hydrologic conditions on the site ty Are Vegetation Soil or Hydrold Are Vegetation Soil or Hydrold Are Vegetation Present? Yes Hydrophytic Vegetation Present? Yes Wetland Hydrology Present? Yes Wetland Hydrology Present? Yes Remarks:	City/County: Siski Vou Co State: CA Sample Section, Township, Range: Local relief (concave, conver Lat: 122, 49122 Long: 41.7 Vav and Sandy (lay low /pical for this time of year? Yes X No ogy No significantly disturbed? Are ogy No naturally problematic? ite map showing sampling point No No X Is the Sampled Area wi	Sampling Date: <u>8/23/2016</u> Ing Point: <u>898</u> X, none): <u>CONVEX</u> Slope (%): <u>2</u> WVI classification: <u>NAD 63</u> NVII classification: <u>NAD 63</u> NVII classification: <u>NAD 63</u> NOTAL 100 (If noe explain any answers in Remarks.) I locations, transects, important features, etc
Tree Stratum Plot size:) Absolute Dominant Indicator 2. Species? Status Number of Dominant Species (A) 3. Total Number of Dominant Species (A) 4. (B) 2. (B) 3. (B) 4. (B) 2. (B) 2. (B) 2. (AB) 3. (AB) 2. (AB) 3.			
3.	Tree Stratum (Plot size:) 1.	Absolute Dominant Indicator	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
Sapling/Shrub Stratum (Piot size:) 1.			Species Across All Strata: (B) Percent of Dominant Species
Bit is a series Image: Serie	I/	= Total Cover	
Image: Stratum (Plot size: Im2) = Total Cover FAC species $x 3 = 1$ Image: Stratum (Plot size: Im2) = Total Cover UPL species 50 $x 5 = 250$ Stratum (Plot size: Im2) 30 y UPL Column Totals: 50 (A) 250 (B) Stratum altissimum 20 y UPL Prevalence Index = B/A = 1 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations ¹ (Provide supportin			OBL species x1 =
lerb Stratum (Plot size: $1m^2$) = Total Cover UPL species $x 5 = 250$ Statement Statement Statement (A) $x 5 = 250$ Statement Statement Statement (B) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: Image: Statement Image: Statement Image: Statement Image:			
Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting)	Bronus tectoraina	30 1/10	UPL species $50 \times 5 = 250$
I - Rapid Test for Hydrophytic Vegetation I - Rapid Test for Hydrophytic Vegetat			
		- 2011 (P. 102 (P. 1	
4 - Morphological Adaptations ¹ (Provide supporting			3 - Prevalence index is <3.01
data in Remarks or on a separate sheet)			4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation ¹ (Explain)	·	SD = Total Course	Problematic Hydrophytic Vegetation ¹ (Explain)
be present, unless disturbed or problematic.	pody Vine Stratum (Plot size:)	rotar Cover	
Hudronhutia		4.6. Carolin	and the second sec
Bare Ground In Herb Stratum = Total Cover Hydrophytic Vegetation Present? Yes No	Bare Ground in Herb Stratum		Vegetation
marks:	marks:		

0.0H		Searapolitizer Politan XMA
SOIL Profile Description: (Describe to the de	epth needed to document the indicator or	
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type1	
0-12 10 yR6/2 100		sandy toam
12-18 10YR412 100	2	sand/ Cemented hardpan
10-10 IVIR1 100		
······		
	N	
Trues O-Concentration D-Deplotion P	M=Reduced Matrix, CS=Covered or Coated	Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
		Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwise noted.)	
Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	ILRA 1) Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except N Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Depleted Matrix (F2)	
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:	Hydric	Soil Present? Yes No
Depth (Inches):		
emarks:		
IYDROLOGY	o indicators	
Wetland Hydrology Indicators:	······································	
Wetland Hydrology Indicators: Primary Indicators (minimum of one require	d; check all that apply)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one require	Water-Stained Leaves (B9) (exci	Water-Stained Leaves (B9) (MLRA 1, 2,
Primary Indicators (minimum of one require Surface Water (A1)	Mater-Stained Leaves (B9) (exc MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (exco 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 require Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) (exc 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 require Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (exc 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 require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (exco MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv	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)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (exc MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) 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)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) (exco MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (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)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (exc MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) 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) Geomorphic Position (D2)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1)	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)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5)	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) 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) Raised Ant Mounds (D6) (LRR A)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6)	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solis (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) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) 7)	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)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6)	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) 7)	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)
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Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations:	Water-Stained Leaves (B9) (exc MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) B8)	apt 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 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
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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? YesN Water Table Present? YesN Saturation Present?	Water-Stained Leaves (B9) (exc MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 7) B8) Depth (inches):	apt 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 Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes N Saturation Present? Yes N	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) 7) B8) Depth (inches): 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)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes N Saturation Present? Yes N	Water-Stained Leaves (B9) (exc MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) 7) B8) 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)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes N Water Table Present? Yes Naturation Present? Yes	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) 7) B8) Depth (inches): 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)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes N Saturation Present? Yes Mater Table Present? Yes Sective Recorded Data (stream gauge, model)	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) 7) B8) Depth (inches): 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)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes N Water Table Present? Yes Naturation Present? Yes	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) 7) B8) Depth (inches): 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)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes N Saturation Present? Yes Includes capillary fringe) Yes Describe Recorded Data (stream gauge, model)	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) B8)	apt Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Primary Indicators (minimum of one require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B Sparsely Vegetated Concave Surface (Field Observations: Surface Water Present? Yes N Saturation Present? Yes Includes capillary fringe) Yes Describe Recorded Data (stream gauge, model)	Water-Stained Leaves (B9) (excl MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) 7) B8) Depth (inches): Depth (inches):	apt Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch City/County: Siskiyou Co. Sampling Date: 8/23/2010 Applicant/Owner: Hart Ranch State: CA Sampling Point: 96 Investigator(s): Marca Rabe Section, Township, Range: 1.45N, R5W Sect 1,2+3 Landform (hillislope, terrace, etc.): VOILey Local relief (concave, convex, none): Concare Sibpe (%): Subregion (LRR): MLRA 22B Lat: 132. You?!!! Long: 117007933 Datum: NAD 83 Soil Map Unit Name: 154. 0024(10 v an amb Sanda Concave, convex, none): 000000000000000000000000000000000000
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes Yes No Is the Sampled Area within a Wetland? Yes No Hydric Soil Present? Yes Yes No Is the Sampled Area within a Wetland? Yes No
Remarks:

draw

VEGETATION - Use scientific names of plants.

Tree Stratum Riot size:		ndicator	Dominance Test wo	orksheet:	
1.	<u>% Cover</u> <u>Species?</u>	<u>Status</u>	Number of Dominant That Are OBL, FACV	t Species	(4)
2			Total Number of Don		- (^)
3			Species Across All Si	trata:	(B)
4			Percent of Dominant That Are OBL, FACW	Species /, or FAC:	(A/B)
Desting to be a set of the set of the set	= Total Cover			· · · · · · · · · · · · · · · · · · ·	
Sapling/Shrub Stratum (Plot size:)			Prevalence Index wo		
1			Total % Cover of:	Multiply by:	
2			OBL species	x1=	
3.			FACW species	x 2 =	
4			FAC species	x3=	
5	- 7-1-1-0			x 4 =	
Herb Stratum (Plot size: 1m ²)	= Total Cover			x5=	
1.			Column Totals:		(B)
2			Prevalence Index = B/	/Δ = ·····	
3					
4			Hydrophytic Vegetati	on Indicators:	10
5	16. V 16.		1 - Rapid Test for H	ydrophytic Vegetati	on
6	to be written b		2 - Dominance Test	· · ·	
7	8/		3 - Prevalence Inde	x is ≤3.0 ¹	
8		!	4 - Morphological A	daptations1 (Provide	supporting
9 10			data in Remarks or 5 - Wetland Non-Va) (1
11	· · · · · · · · · · · · · · · · · · ·		Problematic Hydrop		
	= Total Cover	7			
Woody Vine Stratum (Plot size:)			¹ Indicators of hydric soil be present, unless distu	I and wetland hydro	logy must
1					
2	and the second secon			inden Andere	
% Bare Ground in Herb Stratum			Hydrophytic	and the second	
% Bare Ground in Herb Stratum	Gran -	.	Present? . Yes	× No	
	"gran".	0		wift	-
Remarks:	N CVUS - A		I ARA ALS	111	
No.	= Total Cover = Total Cover Way 1 OCLUY 1 OC		Hydrophytic Vegetation Present? Yes Chains Algorials Chains por Algorials Chains Algorials	a nour	1
1) YU	A go al	a.	terion	· · ·	
0.	J V UM	2 1	(4) (1)		

US Army Corps of Engineers

Western Mountaine Valleur and Coast Version Co.

SOIL						Second Rolling Polling	016
Profile Desc	ription: (Describe	to the dept	h needed to docum	ent the indicator	or confirm the	e absence of indicators.)	
Depth	Matrix			Redox Features			Remarks
(inches)	Color (moist)	%	Color (moist)	Тур	e Loc ²		
D-H	104R6/2	100				_sanayloan	
ILLa	IDYR412		572416	10		M- COL	nented In
<u> 1718</u>	1072710	-70	VICIO	<u> </u>	-		
				<u> </u>	-		
<u> </u>							
		<u> </u>				2	
¹ Type: C=Co	oncentration, D=De	pletion, RM≍	Reduced Matrix, CS	=Covered or Coal			
Hydric Soil	Indicators: (Appl	icable to all	LRRs, unless othe	rwise noted.)	1	ndicators for Problemation	: Hydric Soils":
Histosol			X Sandy Redox (S			2 cm Muck (A10)	
	pipedon (A2)	-	Stripped Matrix (S6)		Red Parent Material (T	-2)
	istic (A3)		Loamy Mucky M	ineral (F1) (excep	t MLRA 1) 📃	Very Shallow Dark Sur	
	an Sulfide (A4)	_	Loamy Gleyed N	latrix (F2)	_	Other (Explain in Rema	rks)
	d Below Dark Surfa	ace (A11) 📋	Depleted Matrix	(F3)	_	9	
Thick D	ark Surface (A12)		Redox Dark Sur			³ Indicators of hydrophy	uc vegetation and
	Aucky Mineral (S1)		Depleted Dark S			wetland hydrology mus unless disturbed or pro	t de present,
Sandy C	Gleyed Matrix (S4)		Redox Depression	ons (F8)		uniess disturbed of pro-	
Restrictive La	iyer (if present):			Lind	ric Soil Preser	nt? Yes 📈	No
Туре:			····	^{nya}	ric oui riesei		
Depth (incl	hes):	<u> </u>					
emarks:							
YDROLOG							
Wetland Hydr	ology Indicators:	na required:	check all that apply)		Se	econdary Indicators (2 or m	ore required)
Primary Indica	tors (minimum or c	ne required,	Water-Staine	d Leaves (B9) (e		Water-Stained Leaves (E	9) (MLRA 1, 2,
Y Surface Wa	ator (A1)		MLRA 1, 2, 4	4A. and 4B)		4A, and 4B)	
	Table (A2)		Salt Crust (B			Drainage Patterns (B10)	
Saturation	(43)			rtebrates (B13)	1.21.21.21	Dry-Season Water Table	(C2)
Water Marl				ulfide Odor (C1)		Saturation Visible on Aer	ial Imagery (C9)
-			Oxidized Rh	izospheres along	Living		
Sediment [Deposits (B2)		Roots (C3)			Geomorphic Position (D2	2)
Drift Depos				Reduced Iron (C4		Shaliow Aquitard (D3)	
_				Reduction in Tille	d	FAC-Neutral Test (D5)	
Algal Mat of Al	or Crust (B4)		Soils (C6)			_ FAC-Neutral (est (00)	
				itressed Plants (D	' 1)	Raised Ant Mounds (D6)	(LRR A)
Iron Depos			(LRR A)	In in Remarks)		Frost-Heave Hummocks	
	oil Cracks (B6)				12		· /
- Inundation	Visible on Aerial In regetated Concave	Ragery (D7)	a				
_ Sparsely v	regetated Concave	Sunace (BO	<i></i>				
	ations:		<u> </u>				
Field Observ		s 🖌 No	Depth (inches)	: 6m			\sim .
Field Observa	r Present? Ye	5 X 110			Wetland H	ydrology Present? Ye	
Surface Wate			Depth (inches)	•			s
Surface Wate Water Table F	Present? Ye		Depth (inches)				s <u>/</u>
Surface Wate Water Table F Saturation Pre (includes capi	Present? Ye esent? Illary fringe) Ye	s X No	Depth (inches)	:			s
Surface Wate Water Table F Saturation Pre (includes capi	Present? Ye esent? Illary fringe) Ye	s X No	Depth (inches)	:			s
Surface Wate Water Table F Saturation Pre (includes capi	Present? Ye esent? Illary fringe) Ye	s X No		:			s
Surface Wate Water Table F Saturation Pre (includes capi	Present? Ye esent? Illary fringe) Ye	s X No	Depth (inches)	:			s
Surface Wate Water Table F Saturation Pre (includes capi	Present? Ye esent? Illary fringe) Ye	s X No	Depth (inches)	:			s <u>/ </u>
Surface Wate Water Table F Saturation Pre (Includes capi lescribe Record	Present? Ye esent? Illary fringe) Ye	s X No	Depth (inches)	:			s
Surface Wate Water Table F Saturation Pre (Includes capi lescribe Record	Present? Ye esent? Illary fringe) Ye	s X No	Depth (inches)	:			s

WETLAND DETERMIN	ATION DATA FORM – Westerr	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Andrea Rabe Landform (hillslope, terrace, etc.): <u>terrac</u> Subregion (LRR): <u>MLRA 22B</u> Soil Map Unit Name: <u>154 go Wile V</u> Are climatic / hydrologic conditions on the site to Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic	City/County: State: CA Sar Section, Township, Range: Cocal relief (concave, con Lat: TDD, Y01,263 Long: 477 Coviant Sandy Mat/Joan ypical for this time of year? Yes X r logy ND significantly disturbed? Al logy ND naturally problematic?	Domesting Date: 8/23/1016 Impling Point: 990 Impling Point: 900 Impling Point: 900
Wetland Hydrology Present? Yes	No K Is the Sampled Area	within a Wetland? Yes No
Remarks:		
	bank	above draw
VEGETATION - Use scientific names	s of plante	
Tree Stratum (Riot size:) 1.	Absolute Dominant Indicat <u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across All Strata: (B)
Sapling/Shrub Stratum (Plot size: 1/1/2)	= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) Prevalence Index worksheet:
1. <u>All temesia tridenta</u> 2		Total % Cover of: Multiply by: OBL species x 1 = FACW species x 2 = FAC species x 3 =
5	10 = Total Cover 20 Y UPL Num 10 4 UPL	FACU species $x 4 =$ UPL species 52 $x 5 =$ Column Totals: 52 (A) 252 (B) Prevalence index = B/A =
3 4 5 3		Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
7	<u></u>	2 - Dominance Test is >50% 3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations ¹ (Provide supporting
9 10 1		data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
Voody Vine Stratum (Plot size:)	<u>40</u> = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 Bare Ground In Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		

OIL							Standke 2		Ľ,
Profile Desci	ription: (Describe to	o the depth	needed to docum	ent the ind	icator or c	onfirm the	absence of indicato	rs.)	
Depth	Matrix			Redox Feat	ures	Loc ²	Texture		narks
inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type'			_	
2-12	10YB 6/2	100				a <u>— —</u>	Sandyl		
12-18	104R412	1 A					reminer	Gand	
10	-MARTIC								
	<u> </u>								
					<u> </u>		+		_
	ncentration, D=Dep	otion PM-E	Reduced Matrix, CS	=Covered o	r Coated S	and Grains.	² Location: PL=P	ore Lining, M	=Matrix.
~~~~									
Hydric Soil	Indicators: (Applic	able to all l	LRRs, unless othe	rwise noted	±.}	In	dicators for Probler	natic myoric	30113 .
Histosof	(A1)		Sandy Redox (S	5)			2 cm Muck (A10)		
	pipedon (A2)		Stripped Matrix	(S6)			Red Parent Materia	ll (152) Surface (TE1	2)
Black H	istic (A3)		Loamy Mucky N	lineral (F1) (	except ML	.KA 1)	Very Shallow Dark Other (Explain in R	emarks)	~/
	en Sulfide (A4)		Loamy Gleyed Matrix					ontainoj	
	d Below Dark Surface	e (A11)	Redox Dark Sur	(F3) face (E6)			³ Indicators of hydro	phytic vegeta	tion and
	ark Surface (A12) /lucky Mineral (S1)		Depleted Dark S	Surface (F7)			wetland hydrology	must be pres	ent,
	Sleyed Matrix (S4)		Redox Depressi				unless disturbed or	problematic	
			<b>-</b>		<u> </u>				
strictive La	yer (if present):								$\mathbf{V}$
Type:					Hydric S	ioil Present	? Yes	No	
Depth (incl									
arks:									
DROLOG	ology Indicators:		<u></u>						
imarv Indica	tors (minimum of one	e required; q	check all that apply	)			condary Indicators (2	or more requ	
			Water-Stain	ed Leaves (	89) ( <b>exce</b> p	ət 👘	Water-Stained Leave 4A, and 4B)	s (69) (mr.c	A 1, 4,
Surface Wa			MLRA 1, 2,	4A, and 48	)		Drainage Patterns (F	10)	
	Table (A2)		Salt Crust (I	311) ertebrates (E	12)		Dry-Season Water T		
Saturation			Hydrogen S	ulfide Odor	(C1)		Saturation Visible or	Aerial Imag	ery (C9)
Water Marl	KS (B1)		Ovidized Ri	nizospheres	along Livin	a		-	
Sediment [	Deposits (B2)		Roots (C3)			·	Geomorphic Position		
Drift Depos			Presence o	f Reduced Ir	on (C4)	_	Shallow Aquitard (D	3)	
	V 17			Reduction i	n Tilled		- EAC Novinal Tast /F	5)	
Algal Mat o	or Crust (B4)		Solls (C6)	Manage of Di-			FAC-Neutral Test (C	oj.	
	N- (DC)			Stressed Pla	mus (D1)		Raised Ant Mounds	(D6) (LRR A	)
Iron Depos			(LRR A) Other (Evol	ain in Rema	rks)		Frost-Heave Humm	ocks (D7)	•
Surrace So	oil Cracks (B6) Visible on Aerial Ima	oerv (B7)		un ni i como					
Sparsely V	egetated Concave S	urface (B8)							
opaiooij v		\>							
eld Observ	ations:		1						
urface Wate		No 🕅			[.	Madicari II	dealanty Deatant?	Vae	No
ater Table F		No ]	Depth (inches	i):	[ <b>`</b>	wetiano Hy	drology Present?	Yes	
aturation Pre		Ma	X Depth (inches	ð.					
ncludes capi	llary fringe) Yes	No 2			us inepectiv	ons) if avail	able:		
scribe Recor	rded Data (stream ga	luge, monito	orang well, aertai pri		a napeon	onen n avan			
marks:									
marks:					~	h			
marks:			A.	) in	dic	atoro	)		

WEILAND DEI ERMINA	ATION DATA FORM – Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillslope, terrace, etc.): Horo Subregion (LRR): MLRA 22B Soil Map Unit Name: 154 Mart 1 Are climatic / hydrologic conditions on the site ty Are Vegetation , Soil , or Hydrolo Are Vegetation , Soil , or Hydrolo SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	City/County: SisKi You C State: CA Same Section, Township, Range: Local relief (concave, conve Lat: 22 40 3393 Long: 41, 7 Variant Sandy / Auro pical for this time of year? Yes X No pigy No significantly disturbed? Are popy No naturally problematic? te map showing sampling poin No 2	<b>D</b> . Sampling Date: $8/23/2010$ Ding Point: 30 245N R5W Sect 1, 2+3 ex, none): $20700$ Me Slope (%): 2 Datum: NAD 83
	dia	tida
	CVY C	AITCH
VEGETATION – Use scientific names		
Tree Stratum         (Plot size:)           1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:         Dominant Species         Species Across All Strata:         Percent of Dominant Species
Sapling/Shrub Stratum         (Plot size:)           1.	= Total Cover	That Are OBL, FACW, or FAC:       O         Prevalence Index worksheet:       (A/B)         Total % Cover of:       Multiply by:         OBL species       x 1 =         FACW species       x 2 =
5 Herb Stratum (Plot size: 1 m ² ) 1 2 3	Total Cover	FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 = /00$ Column Totals: $20$ (A) $100$ Prevalence Index = B/A = $5$
4.		Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is ≤3.01         4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)         5 - Wetland Non-Vascular Plants1
Moody Vine Stratum (Plot size:)	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic, Hydrophytic Vegetation Present? Yes No
Remarks:		Present? Yes No

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								<u>ini</u>
Profile Desci	ription: (Describe	to the depth	needed to docum	nent the indica	itor or con	firm the ab	sence of indicat	ors.)
Depth	Matrix			Redox Feature	rype'	Loc ²	Texture	Remarks
(inches)	Color (moist)	%	Color (moist)		Type			7
0-11	104212	100			<u> </u>		Sandy	
11-18	IDYRH/2						1 cm Mas	ed Sand
	101040		<u> </u>					
			<u> </u>			<u> </u>		
							. <u> </u>	
	<u> </u>							
1					oated San	d Grains	² Location: PL=	ore Lining, M=Matrix.
	oncentration, D=Dep							
Hydric Soil	Indicators: (Appli	cable to all 1	.RRs, unless othe	rwise noted.)		Indie	cators for Proble	matic Hydric Soils ³ :
Histosol			Sandy Redox (S				2 cm Muck (A10)	
	pipedon (A2)		Stripped Matrix (	(S6)			Red Parent Mater	
Black Hi	istic (A3)		Loamy Mucky M		cept MLRA		/ery Shallow Darl	
Hydroge	en Sulfide (A4)		Loamy Gleyed N			(	Other (Explain in I	temarks)
	d Below Dark Surfa	ce (A11)	Depleted Matrix	(F3) face (F0)		3	Indiantam of hud-	ophytic vegetation and
Thick Da	ark Surface (A12)		Redox Dark Sur			,	indicators of hydrology	must be present,
	Aucky Mineral (S1)		Depleted Dark S Redox Depressi			1	unless disturbed o	r problematic
Sandy G	Bleyed Matrix (S4)							
estrictive La	yer (if present):							
Туре:				E F	lydric Soil	Present?	Yes	No
	nes):	<u></u>			•			
				1 3 B # 8	100	et i i		
				A A A A	<u>la</u>	dill		
DROLOG	Y			A A A A A		<u>da (</u>		
Vetland Hydro	ology Indicators:							or more required)
etland Hydro	Y ology Indicators: tors (minimum of or	ne required; c	heck all that apply)	)		Secon	dary indicators (2	or more required) es (B9) (MLRA 1, 2,
fetland Hydro rimary Indicat	ology Indicators: tors (minimum of or	ne required; c	Water-Stain	) ed Leaves (B9)		Secon W	dary Indicators (2 ater-Stained Leav	es (B9) (MLRA 1, 2,
rimary Indicat Surface Wa	ology Indicators: tors (minimum of or ater (A1)	ne required; c	Water-Stain MLRA 1, 2,	) ed Leaves (B9) 4A, and 4B)		Secon W	dary Indicators (2 ater-Stained Leav A, and 4B) ainage Patterns (	es (B9) ( <b>MLRA 1, 2,</b> B10)
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WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch city/County: Siski Vou Co. sampling Date: 8/23/2016 Applicant/Owner: Hart Ranch State: CA sampling Point: 31
Landform (hillslope, terrace, etc.): TEMACE Local relief (concave, convex, none): Covir a ve Slope (%): 3
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydric Soil Present? Wetland Hydrology Present?	Yes No No Yes	Is the Sampled Area within a Wetland?	Yes	No X
Remarks:				

#### VEGETATION - Use scientific names of plants.

Tree Stratum (Plotsize: )	Absolute Dominant Indicato	Dominance Test worksheet:
1/	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2	·····	Total Number of Dominant Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC:
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2	· · · · · · · · · · · · · · · · · · ·	OBL species x 1 =
3		FACW species $40 \times 2 = 80$
5.		FAC species x 3 =
	- T-thi O	FACU species x 4 =
Herb Stratum (Plot size: 102)	= Total Cover	UPL species x 5 =
1. Distichilissoicata	UN VI TAM	Column Totals: 40 (A) (B)
2		Prevalence Index = B/A =
3		
4		Hydrophytic Vegetation Indicators:
	1 8 1 1 9 1 9 1 9 1 1 1 1 1 1 1 1 1 1 1	X 1 - Rapid Test for Hydrophytic Vegetation
6	- he is server	A 2 - Dominance Test is >50%
7		3 - Prevalence index is ≤3.0 ¹
0.		4 - Morphological Adaptations ¹ (Provide supporting)
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: )	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must
1.	1	be present, unless disturbed or problematic.
2.	An and the second se	· · · · · · · · · · · · · · · · · · ·
A	= Total Cover	Hydrophytic
% Bare Ground in Herb Stratum	-	Present? Yes No
Remarks:		

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2011			
SOIL Profile Description: (Describe to the	depth needed to document the inc	dicator or confin	
Depth Matrix	Redox Fea	atures	
(inches) Color (moist) %	Color (moist) %	_Type'I	Loc ² Texture Remarks
0-12 10ye 4/2 10	D		<u>Sandy/ Dam</u>
12 10 10/10/16 10	<u> </u>		Nornented Inam
10-18 104ETIC ID	2		
··			······································
¹ Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, CS=Covered	or Coated Sand C	Grains, ² Location: PL=Pore Lining, M=Matrix.
			Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable t			
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (A10) Red Parent Material (TF2)
Histic Epipedon (A2)	Stripped Matrix (S6) Loamy Mucky Mineral (F1)	(except MI RA 1)	
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	(except menor i)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11			
Thick Dark Surface (A12)	Redox Dark Surface (F6)		3Indicators 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):		l.	
Type:		Hydric Soil Pr	resent? Yes No
Depth (inches):			
Remarks:		<u> </u>	
	moundia		
HYDROLOGY		<u></u> , .	
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi	ired: check all that apply)		Secondary Indicators (2 or more required)
Finally indicators (minimum or one regain	Water-Stained Leaves	(B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, and 4E	3)	4A, and 4B)
High Water Table (A2)	Salt Crust (B11)	540	Drainage Patterns (B10) Dry-Season Water Table (C2)
Saturation (A3)	Aquatic Invertebrates (I		Saturation Visible on Aerial Imagery (C9)
Water Marks (B1)	Hydrogen Sulfide Odor Oxidized Rhizospheres		
Sediment Deposits (B2)	Roots (C3)	elong crong	Geomorphic Position (D2)
Drift Deposits (B3)	Presence of Reduced 1	iron (C4)	Shallow Aquitard (D3)
	Recent Iron Reduction	in Tilled	
Algal Mat or Crust (B4)	Soils (C6)	lanta (Dd)	FAC-Neutral Test (D5)
	Stunted or Stressed Pla	ants (U1)	Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5)	(LRR A) Other (Explain in Rema	arks)	Frost-Heave Hummocks (D7)
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (		21107	
Sparsely Vegetated Concave Surface	(B8)		
Field Observations:		1	
Surface Water Present? Yes	No 👗 Depth (inches):		nd Hydrology Present? Yes No 🞾_
Water Table Present? Yes	No 🔀 Depth (inches):	Wetlar	nd Hydrology Present? Yes No <u>}</u>
Saturation Present?	No × Depth (inches):		
(includes capillary fringe) Yes Describe Recorded Data (stream gauge, r		us inspections) i	f available:
Describe Recorded Data (stream gauge, r	normoning wen, densi priotos, previo	and the providence of the	
Remarks:	MI		
		S	
	nana Bi nal	Che Sh.	Signian booking
	marginal	ly in	rigated, hocky

#### WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region Kanch city/county: Siski You Co. sampling Date: Project/Site: 2010 Applicant/Owner: Hart Ranch State: CA' Sampling Point: Investigator(s): Andrea Rabe Section, Township, Range: _____45N, SW sect Landform (hillslope, terrace, etc.): +CWACC Local relief (concave, convex, none): COMGANC Slope (%): Subregion (LRR): MLRA 22.B Lat: 122.39641 Long: 41.7004769 Datum: NAD 83 Soil Map Unit Name: 154 no zelle stariants and 100m NWI classification: PEMA Are climatic / hydrologic conditions of the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.) Are Vegetation _____, Soil ____, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes Are Vegetation _____, Soil ____, or Hydrology NO naturally problematic? No (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes Is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No Remarks: VEGETATION - Use scientific names of plants. Absolute Dominance Test worksheet: Dominant Indicator Tree Stratum (Plot size ) <u>% Cover</u> Species? Status Number of Dominant Species 1. That Are OBL, FACW, or FAC: (A) 2. Total Number of Dominant Species Across All Strata: **(B)** Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) = Total Cover Sapling/Shrub Stratum (Piot size: Prevalence Index worksheet: 1. Total % Cover of: Multiply by: 2. **OBL** species x1= 3. **FACW** species x 2 = 4. FAC species x 3 = 5. FACU species x 4 = = Total Cover Herb Stratum (Plot size: ) M UPL species x 5 = Pentaunea addition into 11 Column Totals: 600 (A) 1. 1101

2		Prevalence index = B/A =
4 5	10 mg	Hydrophytic Vegetation Indicators:
6		1 - Rapid Test for Hydrophytic Vegetation     2 - Dominance Test is >50%     3 - Prevalence Index is ≤3.0 ¹
8 9 10		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹
11	00 = Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic,
1		Hydrophytic
% Bare Ground in Herb Stratum	= Total Cover	Vegetation Present? Yes No X
Remarks:		<u></u>

OIL Brofile Desci							Seneral Rev Review	
LINUE Desci	ription: (Describe t	o the depth	needed to docum	nent the indica	ator or c	onfirm the	absence of indicators.)	
Depth	Matrix	%	Color (moist)	Redox realure	es Type'	Loc ²	Texture	Remarks
(inches)	Color (moist)						Sandy loam	
		100			_ <u>_</u> `		semented	sand
11-18	10424/2	100					<u>Nearanana (a</u>	
				<u> </u>				
						<u> </u>		
				62				<u> </u>
<u> </u>								
	· <u>····</u>			_				
				· · · · · · · · · · · · · · · · · · ·				
¹ Type: C=Co	ncentration, D=Depl	etion, RM=R	educed Matrix, CS	S=Covered or (	Coated S	and Grains.	² Location: PL=Pore Linir	ng, M=Matrix.
	Indicators: (Applic						dicators for Problematic Hy	ydric Solls ³ :
			Sandy Redox (S				2 cm Muck (A10)	
Histosol Histic Er	oipedon (A2)	-	Stripped Matrix	(S6)			Red Parent Material (TF2)	(7540)
Black H	istic (A3)		Loamy Mucky M		ccept ML	.RA 1)	Very Shallow Dark Surface Other (Explain in Remarks	)
Hydroge	en Sulfide (A4) d Below Dark Surfac	e (A11)	Loamy Gleyed Note: Depleted Matrix					
	ark Surface (A12)		Redox Dark Sur	face (F6)			³ Indicators of hydrophytic v wetland hydrology must be	regetation and
	Aucky Mineral (S1)		Depleted Dark S Redox Depress				unless disturbed or probler	natic
Sandy C	Sleyed Matrix (S4)				·			<u>,                                     </u>
Restrictive La	yer (if present):						? Yes No	
Туре:				<u> </u>	Hydric S	ioil Present	7 Tes Ku	
Depth (incl	nes):			<u> </u>				
emarks:					,	1.0		
				$\sim$	n 'in	dice	xtors	
				<u> </u>				
<b>Vetland Hydr</b>	ology Indicators:	e required; c	heck all that apply	)			ondary Indicators (2 or more	required)
Wetland Hydr Primary Indica	ology Indicators: tors (minimum of one	e required; c	Water-Stain	ned Leaves (BS	9) (excep	t .	Water-Stained Leaves (B9)	e required) (MLRA 1, 2,
Wetland Hydr Primary Indica Surface Wa	ology Indicators: tors (minimum of one ater (A1)	e required; c	Water-Stain MLRA 1, 2,	ed Leaves (B9 4A, and 4B)	9) (excep	n	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10)	(MLRA 1, 2,
Vetland Hydr Primary Indica Surface Wa High Water	ology Indicators: tors (minimum of on ater (A1) 7 Table (A2)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve	ed Leaves (89 4 <b>A, and 4B)</b> B11) ertebrates (B13	3)	n	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C	(MLRA 1, 2, 2)
Wetland Hydr Primary Indica Surface Wa	ology Indicators: tors (minimum of on- ater (A1) r Table (A2) (A3)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S	ned Leaves (B8 <b>4A, and 4B)</b> B11) ertebrates (B13 Sulfide Odor (C	3) ;1)	• 	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10)	(MLRA 1, 2, 2)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark	ology Indicators: tors (minimum of on- ater (A1) r Table (A2) (A3) ks (B1)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Invo Hydrogen S Oxidized Rt	ed Leaves (89 4 <b>A, and 4B)</b> B11) ertebrates (B13	3) ;1)	• 	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C	(MLRA 1, 2, 2)
Vetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I	ology Indicators: tors (minimum of on- ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Invo Hydrogen S Oxidized Rt Roots (C3) Presence o	ed Leaves (BS 4 <b>A, and 4B</b> ) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror	3) ;1) ong Livin n (C4)	• 	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial	(MLRA 1, 2, 2)
Vetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I Drift Depos	ology Indicators: tors (minimum of on- ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rf Roots (C3) Presence o Recent Iron	and Leaves (BS <b>4A, and 4B)</b> B11) ertebrates (B1: Suffide Odor (C hizospheres all	3) ;1) ong Livin n (C4)	• 	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3)	(MLRA 1, 2, 2)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I Drift Depos	ology Indicators: tors (minimum of on- ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I) Aquatic Inver- Hydrogen S Oxidized Rf Roots (C3) Presence o Recent Iron Solls (C6)	ed Leaves (BS 4 <b>A, and 4B</b> ) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror h Reduction in	3) ;1) ong Livin n (C4) Tilled	• 	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	(MLRA 1, 2, 2) Imagery (C9)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I Drift Depos	ology Indicators: tors (minimum of one r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	e required; c	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or S (LRR A)	ed Leaves (BS 4 <b>A, and 4B</b> ) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror h Reduction In Stressed Plant	3) :1) ong Livin n (C4) Tilled ts (D1)	• 	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L	(MLRA 1, 2, 2) Imagery (C9) RR A)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Marl Drift Depose Algal Mat c Iron Depose Surface So	ology Indicators: tors (minimum of on- ater (A1) Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bill Cracks (B6)		Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or S (LRR A)	ed Leaves (BS 4 <b>A, and 4B</b> ) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror h Reduction in	3) :1) ong Livin n (C4) Tilled ts (D1)	• 	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	(MLRA 1, 2, 2) Imagery (C9) RR A)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Marl Drift Depos Algal Mat c iron Depos Surface So Inundation	ology Indicators: tors (minimum of on- ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6) Visible on Aerial Ima	agery (B7)	Water-Stain MLRA 1, 2, Salt Crust (  Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or 3 (LRR A) Other (Expl	ed Leaves (BS 4 <b>A, and 4B</b> ) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror h Reduction In Stressed Plant	3) :1) ong Livin n (C4) Tilled ts (D1)	• 	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L	(MLRA 1, 2, 2) Imagery (C9) RR A)
Wetland Hydr Primary Indica Surface Wa Saturation Water Mark Sediment I Drift Depos Algal Mat c Iron Depos Surface Sc Inundation	ology Indicators: tors (minimum of on- ater (A1) Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bill Cracks (B6)	agery (B7)	Water-Stain MLRA 1, 2, Salt Crust (  Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or 3 (LRR A) Other (Expl	ed Leaves (BS 4 <b>A, and 4B</b> ) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror h Reduction In Stressed Plant	3) :1) ong Livin n (C4) Tilled ts (D1)	• 	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L	(MLRA 1, 2, 2) Imagery (C9) RR A)
Primary Indica Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat co Iron Depos Surface Sc Inundation Sparsely V Field Observer	ology Indicators: tors (minimum of one ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Ima /egetated Concave S	agery (B7) Surface (B8)	Water-Stain MLRA 1, 2, Salt Crust (  Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or 3 (LRR A) Other (Expl	ed Leaves (BS 4 <b>A, and 4B</b> ) B11) ertebrates (B1: Suffice Odor (C hizospheres all f Reduced Iror n Reduction in Stressed Plant lain in Remark	3) :1) ong Livin n (C4) Tilled ts (D1)	• 	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L	(MLRA 1, 2, 2) Imagery (C9) RR A)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V	ology Indicators: tors (minimum of one ater (A1) r Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	agery (B7) Surface (B8)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or S (LRR A) Other (Expl	ed Leaves (BS 4A, and 4B) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror n Reduction in Stressed Plant lain in Remark	3) :1) ong Livin n (C4) Tilled ts (D1) s)	g	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L Frost-Heave Hummocks (D	(MLRA 1, 2, 2) Imagery (C9) RR A)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat o iron Depos Surface So Inundation Sparsely V Field Observ Surface Wate Water Table F	ology Indicators: tors (minimum of on- ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Ima regetated Concave S ations: r Present? Yes	agery (B7) Surface (B8)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or S (LRR A) Other (Expl	ed Leaves (BS 4A, and 4B) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror n Reduction in Stressed Plant lain in Remark bit	3) :1) ong Livin n (C4) Tilled ts (D1) s)	g	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L Frost-Heave Hummocks (D	(MLRA 1, 2, 2) Imagery (C9) RR A) 7)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I Drift Depos Algal Mat c Iron Depos Surface So Inundation Sparsely V Field Observ Surface Wate Water Table F Saturation Pre (includes cap)	ology Indicators: tors (minimum of on- ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Ima- regetated Concave S ations: r Present? Yes Present? Yes Present? Yes	agery (B7) Surface (B8)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or (LRR A) Other (Expl	ed Leaves (BS 4A, and 4B) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror n Reduction in Stressed Plant lain in Remark (S):	3) -1) ong Livin 1 (C4) Tilled ts (D1) s)	g	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L Frost-Heave Hummocks (D drology Present? Yes	(MLRA 1, 2, 2) Imagery (C9) RR A) 7)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I Drift Depos Algal Mat c Iron Depos Surface So Inundation Sparsely V Field Observ Surface Wate Water Table F Saturation Pre (includes cap)	ology Indicators: tors (minimum of one ater (A1) r Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A) (A) (A) (A) (A) (A) (A) (A	agery (B7) Surface (B8)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or (LRR A) Other (Expl	ed Leaves (BS 4A, and 4B) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror n Reduction in Stressed Plant lain in Remark (S):	3) -1) ong Livin 1 (C4) Tilled ts (D1) s)	g	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L Frost-Heave Hummocks (D drology Present? Yes	(MLRA 1, 2, 2) Imagery (C9) RR A) 7)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I Drift Depos Algal Mat c Iron Depos Surface So Inundation Sparsely V Field Observ Surface Wate Water Table F Saturation Pre (Includes cap)	ology Indicators: tors (minimum of one ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Ima regetated Concave S ations: r Present? Yes Present? Yes esent? liary fringe) Yes rded Data (stream ga	agery (B7) Surface (B8) No No No auge, monito	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or 3 (LRR A) Other (Expl	ed Leaves (BS 4A, and 4B) B11) ertebrates (B1: Sufide Odor (C hizospheres all f Reduced Iror h Reduction in Stressed Plant lain in Remarks (a): (a): (b): (b): (c): (c): (c): (c): (c): (c): (c): (c	3) 1) ong Livin 1 (C4) Tilled Is (D1) s) inspection	g	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L Frost-Heave Hummocks (D drology Present? Yes	(MLRA 1, 2, 2) Imagery (C9) RR A) 7)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I Drift Depos Algal Mat c Iron Depos Surface So Inundation Sparsely V Field Observ Surface Wate Water Table F Saturation Pre (Includes cap)	ology Indicators: tors (minimum of one ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Ima regetated Concave S ations: r Present? Yes Present? Yes esent? liary fringe) Yes rded Data (stream ga	agery (B7) Surface (B8) No No No auge, monito	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or 3 (LRR A) Other (Expl	ed Leaves (BS 4A, and 4B) B11) ertebrates (B1: Sufide Odor (C hizospheres all f Reduced Iror h Reduction in Stressed Plant lain in Remarks (a): (a): (b): (b): (c): (c): (c): (c): (c): (c): (c): (c	3) 1) ong Livin 1 (C4) Tilled Is (D1) s) inspection	g	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L Frost-Heave Hummocks (D drology Present? Yes	(MLRA 1, 2, 2) Imagery (C9) RR A) 7)
Wetland Hydr Primary Indica Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observ Surface Wate Water Table F Saturation Pro (Includes capi Describe Record	ology Indicators: tors (minimum of one ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Ima regetated Concave S ations: r Present? Yes Present? Yes esent? liary fringe) Yes rded Data (stream ga	agery (B7) Surface (B8) No No No auge, monito	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or 3 (LRR A) Other (Expl	ed Leaves (BS 4A, and 4B) B11) ertebrates (B1: Sufide Odor (C hizospheres all f Reduced Iror h Reduction in Stressed Plant lain in Remarks (a): (a): (b): (b): (c): (c): (c): (c): (c): (c): (c): (c	3) 1) ong Livin 1 (C4) Tilled Is (D1) s) inspection	g	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L Frost-Heave Hummocks (D drology Present? Yes	(MLRA 1, 2, 2) Imagery (C9) RR A) 7)
Vetland Hydr Primary Indica Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat o iron Depos Surface So Inundation Sparsely V Field Observ Surface Water Water Table F Saturation Pre (Includes capi escribe Record	ology Indicators: tors (minimum of one ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial Ima regetated Concave S ations: r Present? Yes Present? Yes esent? liary fringe) Yes rded Data (stream ga	agery (B7) Surface (B8)	Water-Stain MLRA 1, 2, Salt Crust (I Aquatic Inve Hydrogen S Oxidized Rt Roots (C3) Presence o Recent Iron Solls (C6) Stunted or 3 (LRR A) Other (Expl	ed Leaves (BS 4A, and 4B) B11) ertebrates (B1: Suffide Odor (C hizospheres all f Reduced Iror n Reduction in Stressed Plant lain in Remark (S):	3) 1) ong Livin 1 (C4) Tilled Is (D1) s) inspection	g	Water-Stained Leaves (B9) ( 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L Frost-Heave Hummocks (D drology Present? Yes	(MLRA 1, 2, 2) Imagery (C9) RR A) 7)

WETLAND DETERMINATION DATA	FORM Western Mountains,	Valleys, and	<b>Coast Region</b>

Project/Site: Hart Ranch City/County: Siski Vou Co. sampling Date: 8/23/2016
State: ( A Sampling Point:
Investigator(s): MULA KADE Section Township Papara
Landrorm (mastope, terrace, etc.): TCIVACE Local relief (concave, convex none):
Soil Map Unit Name: 153 Magacille Stiet 100 ma
Are climate / hydrologic conditions on the site typical for this time of year? Yes X No (If no explain in Remarks )
Ale vegetallori, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology ND naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No	is the Sampled Area within a Wetland?	Yes		FIC.
Remarks:				······································	$\neg$

#### VEGETATION – Use scientific names of plants.

£

Tree Stratum (Plot size: )	Absolute Dominant Indicato	r Dominance Test worksheet:
1.	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4	\	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size: )		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
		OBL species x 1 =
3		FACW species x 2 =
4	\	FAC species x 3 =
5		FACU species x 4 =
Herb Stratum (Plot size: 1002)	= Total Cover	UPL species x 5 =
1. <u>Alkali blue a rass</u>		Column Totals: (A) (B)
2. basimusildrine		
3. <u>alkalisacation</u>		Prevalence index = B/A =
4.		Hydrophytic Vegetation Indicators:
4		
6		1 - Rapid Test for Hydrophytic Vegetation
7		2 - Dominance Test is >50%
8.		3 - Prevalence Index is ≤3,01
9	·	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stretum (Plot size:)		be present, unless disturbed or problematic.
1		
2	the the state and a	The second
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		

0								33
SOIL Brofile Desc	ription: (Describe	to the depth	needed to docum	ent the ind	icator or co	nfirm the a	bsence of indicators	
Depth	Matrix	to the depth		Redox Fea	ures			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
$\bigcirc \neg \langle \rho \rangle$	104R4h	100					15am	
	1.110 7.69	100					Clay loon	M7
0-10	1015-TI K	100					ellula.	
12-18	IDYR 8/1	JOU.			<u> </u>		<u>crayiua</u>	//
		10					<u> </u>	
						<u> </u>		
							·	
¹ Type: C=C(	oncentration, D≂Dep	letion. RM=R	educed Matrix. CS	=Covered o	r Coated Sar	nd Grains.	² Location: PL=Por	e Lining, M=Matrix.
							icators for Problema	tic Hydric Soils ³ :
Hydric Soil	Indicators: (Appli	cable to all L			a.)	1164		no nyano eene i
Histosol			Sandy Redox (S				2 cm Muck (A10) Red Parent Material	(TE2)
	pipedon (A2)		Stripped Matrix ( Loamy Mucky M	S6) inerel (E1) (	aveant MI D	A 1)	Very Shallow Dark S	
	istic (A3)	-	Loamy Gleyed N	inerai (F1) ( Astrix (E2)	except write	<u> </u>	Other (Explain in Re	narks)
	en Sulfide (A4) d Below Dark Surfa	ce (A11)	Depleted Matrix					
	ark Surface (A12)	~ (((())	Redox Dark Sur				³ Indicators of hydrop	
	Mucky Mineral (S1)		Depleted Dark S				wetland hydrology m	ust be present,
	Gleyed Matrix (S4)		Redox Depression	ons (F8)			unless disturbed or p	roblematic
Restrictive La	iyer (if present):				11	U. 19	Yes	
Type:					Hydric So	il Present i	109	- ""
Depth (incl	nes):				1	·		
HYDROLOG		<u></u>						
Wetland Hydr	ology Indicators:							
Primary Indica	tors (minimum of or	e required; ch	eck all that apply)		00) (	_ <u>_ Seco</u>	ndary Indicators (2 or Vater-Stained Leaves	
			Water-Staine MLRA 1, 2, 4				A, and 4B)	
Surface Wa	ater (A1) r Table (A2)		Salt Crust (B		,		Drainage Patterns (B1	0)
Saturation			Aquatic Inve		13)		Prv-Season Water Tai	ole (C2)
Water Marl	ks (B1)		Hydrogen St	ulfide Odor	(C1)	5	Saturation Visible on A	verial Imagery (C9)
			Oxidized Rhi	izospheres	along Living		Deserved in Desilies (	D0)
	Deposits (B2)		Roots (C3)	-	(04)		Seomorphic Position ( Shallow Aquitard (D3)	U2)
Drift Depos	sits (B3)		Presence of Recent Iron			`		
Alcal Matr	or Crust (B4)		Soils (C6)	Reduction		F	AC-Neutral Test (D5	)
			Stunted or S	stressed Pla	nts (D1)			
Iron Depos	iits (B5)		(LRR A)				Raised Ant Mounds (I	06) (LRR A)
	oil Cracks (B6)		Other (Expla	ain in Rema	rks)		Frost-Heave Hummoo	KS (D7)
lnundation	Visible on Aerial Im	agery (B7)						
Sparsely V	egetated Concave	Surface (B8)						
Field Observa	-110001		^					
Surface Wate		No 🗡	Depth (Inches)	)t				1.
Water Table F			Depth (inches)		We	tland Hydi	rology Present?	Yes No 🗶
Saturation Pre		— . <i>T</i>				-		·· •••••
(includes capi	llary fringe) Yes	NOK	Depth (inches)					
Describe Recor	ded Data (stream g	auge, monitor	ing well, aerial pho	otos, previo	us inspection:	s), if availai	ble:	
	-							
			ginally				<u></u>	
Remarks:			Abal	6000	S & A	nu.		
			Mino:	110%	SAUM .	Law -		
		mAVI	and I		U'U			
		1101.	J	7	-			
			Ψ					

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

Project/Site: Hart Ranch City/County: Siski You Co. sampling Date: 8/23/2016 Applicant/Owner: Hart Ranch State: CA Sampling Point: Sy
Applicant/Owner: Hart Ranch State: A Sampling Point:
investigator(s): INUKO KOUC Section, Township Range
Landroini (hinisiope, terrace, etc.);
I the same of hydrologic containers of the site typical for this time of year? Yes X No (If no explain in Permarka)
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes	Is the Sampled Area within a Wetland?	Yes	No X_
Remarks:		<u>.</u>		

#### VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: )	Absolute Dominant Indicator	Dominance Test worksheet;
Tree Stratum         (Plot size:         )           1.	% Cover Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2	· · · · · · · · · · · · · · · · · · ·	Total Number of Dominant Species Across All Strata: 2 (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot shae:)	= Total Cover	Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x1 =
3		FACW species x 2 =
4		FAC species x 3 =
5		FACU species x 4 =
11000	= Total Cover	UPL species $40 \times 5 = 200$
Herb Stratum (Plot size:		Column Totals: 40 (A) 200 (B)
1. Poa juncifolia	20 Y UR	
2. Sporsbolus alloide	ad y FAC	Prevalence Index = B/A =
		I had to be a start of the star
		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
6		2 - Dominance Test is >50%
8	1994 Barrier 19	3 - Prevalence Index is ≤3.01
9		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
	- Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)		be present, unless disturbed or problematic,
1		173 - 1996 ;
2.	A the second	The same of the
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Set Carbon Vegetation Present? Yes No X
Remarks:		

•.

DIL			Seitatella	34
Profile Description: (Describe to the depth needed to document the In	dicator or conf	firm the a	bsence of indic	ators.)
Depth Matrix Redox.Fei	atures		,	
	Type	Loc ²	Texture	Remarks
0-7 104R412 100			min	
			DA	0.0 MA
7-11 10427/2 100			Clayle	
1-18 MURSA: 100			CAN	MM
			U	- According
		<del></del>		
	<u> </u>			
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered	or Coated Sand	d Grains.	² Location: PL	=Pore Lining, M=Matrix.
				Jamatia Usulata Balla ³ .
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise not	ed.)			ematic Hydric Soils ³ :
Histosol (A1) Sandy Redox (S5)			2 cm Muck (A10	
Histic Epipedon (A2) Stripped Matrix (S6)			Red Parent Mat	erial (1F2) ark Surface (TF12)
Black Histic (A3)	(except MLRA	· · · · ·	Other (Explain i	n Pemarks)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)		—	Other (Explain i	n nemarka)
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6)			³ todicators of hy	drophytic vegetation and
	'n			gy must be present,
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7 Sandy Gleved Matrix (S4) Redox Depressions (F8)	,		unless disturbed	or problematic
	1	<u></u>		······
estrictive Layer (if present):				
Type:	Hydric Soil	Present?	Yes	No
Depth (inches):				
	·			
marks:			.ŧ	
1 A A A	indi	1 Martin	65 1	
Y I V	111001	MARIE	C. Count	

#### HYDROLOGY

Wetland Hydrology Indica	ors: of one required; check all that apply) Secondary Indicators (2 or more required)	
Primary Indicators (minimum 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 Ae Sparsely Vegetated Con	Water-Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Salt Crust (B11)       Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Oxidized Rhizospheres along Living       Dray-Season Water Table (C2)         Roots (C3)       Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled       Soils (C6)         Stunted or Stressed Plants (D1)       FAC-Neutral Test (D5)         (LRR A)       Other (Explain In Remarks)         ial Imagery (B7)       Frost-Heave Hummocks (D7)	
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stre	Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No         Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No         Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No         Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No         Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No	-
Remarks:	Goodwrigated	

Project/Site:       HARRAN       State:       Siski Yoli (b. :       Sampling Date:       S/23/2010         Appleant/Comer:       hard Carceho       Estate:       C. Sampling Date:       S/23/2010         Indestgating:       hard Carceho       iconstatip, Rage:	Project/Site:       Hark Ranch       Sitki Upu (b):       Sampling Pate:       Source (C):       Source (C)	WETLAND DETERMINATION	ON DATA FORM - Western I	Mountains, Valleys, and Coast Region
Tree Stratum       (Plot size:       Absolute       Dominant       Indicator       Dominance Test worksheet:         1.       2.       That Are OBL, FACW, or FAC:       (A)         2.       Total Number of Dominant Species       (B)         3.	Image Stratum       (Plot size:       Absolute       Dominant       Indicator       Dominance Test worksheet:         1.	Project/Site: HAARAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Sity/County: State: CA Samp Section, Township, Range: Section, Townshi	Sampling Date:       8/23/2010         Jing Point:       35         45N       R5W       Sect 1, 2+3         ex, none):       Concase       Slope (%):         98464       Datum:       NAD A3         NWI classification:       NIA-        (If no, explain in Remarks.)       No         "Normal Circumstances" present?       Yes X       No         (If needed, explain any answers in Remarks.)       t         t locations, transects, important features, etc.       t
Tree Stratum       (Plot size:       Absolute       Dominant       Indicator       Dominance Test worksheet:         1.       2.       That Are OBL, FACW, or FAC:       (A)         2.       Total Number of Dominant Species       (B)         3.	Image Stratum       (Plot size:       Absolute       Dominant       Indicator       Dominance Test worksheet:         1.			
Tree Stratum       (Plot size:       Absolute       Dominant       Indicator       Dominance Test worksheet:         1.       2.       That Are OBL, FACW, or FAC:       (A)         2.       Total Number of Dominant Species       (B)         3.	Image Stratum       (Plot size:       Absolute       Dominant       Indicator       Dominance Test worksheet:         1.	VEGETATION (los scientific norma d		/
Interesting       (Plot size:       Yesters       Yesters       (A)         1       2       Total Number of Dominant Species       (A)         3       Secters       Al Are OBL, FACW, or FAC:       (A)         4       Percent of Dominant Species       (B)         5       Total Number of Dominant Species       (B)         7       Percent of Dominant Species       (B)         7       Total Number of Dominant Species       (A)         8       Percent of Dominant Species       (B)         9       Prevalence Index worksheet:       (A)         1       Total % Cover of:       Multiply by:         0BL species       X1 =       FACU species       X2 =         7       Provalence Index worksheet:       Total % Cover of:       Multiply by:         1       Total % Cover       FACU species       X4 =         1       Provalence Index       Size       Size       Size         2       Provalence Index       Size       Size       Size       Size	Interstation       (Piot size:       34 Cover       Status       Number of Dominant Species       (A)         2       Total Number of Dominant Species Arross All Strata:       3 (B)         3.       Status       Status       Status       (A)         4.       Status       Status       (A)       Status       (A)         5.       Status       Prevalence Index worksheet:       (A)       (A)         1.       Status       (Plot size:       (Plot size:       (Plot size:       (Plot size:       (A)         2.       Status       (Plot size:       (	TEGETATION - Use scientific names of		
1.       That Are BBL, FACW, or FAC:       (A)         2.       Total Number of Dominant Species       (B)         4.       Total Number of Dominant Species       (B)         4.       Total Number of Dominant Species       (B)         5.       Percent of Dominant Species       (C)         7.       Total % Cover of       Multiply by:         3.       Total % Cover of       Multiply by:         0BL species       x1 =	1.       That Are OBL, FACW, or FAC:       (A)         2.       Total Number of Dominant       3         3.       Total Number of Dominant       3         4.       Species Access All Stratus:       3         5.       Free of Dominant       3         7.       Total Are OBL, FACW, or FAC:       3         4.       Total Are OBL, FACW, or FAC:       3         5.       Free of Dominant Species       3         7.       Total Are OBL, FACW, or FAC:       3         2.       OBL species       X1 =         7.       Free of Multiply by:       0         2.       OBL species       X2 =         5.       FAC species       X2 =         FAC species       X2 =       FAC species         7.       Total Cover       FACU species       X3 = [50]         7.       Total Cover       FACU species       X4 =         UPL species       SO (A)       SO (B)       Free of Column Totals:       SO (A)         2.       DO yoracherics       SO (A)       SO (B)       Free of the species in the	Tree Stratum (Plot size:		1
2       Total Number of Dominant Species Across All Strata:       (B)         3.	2.       Total Number of Dominant Species Across All Strata:       (B)         3.       Percent of Dominant Species Across All Strata:       (B)         4.       Percent of Dominant Species That Are OBL, FACW, or FAC: 33       (A/B)         3.       = Total Cover       Prevalence Index worksheet:         1.       Total % Cover of:       Multiply by:         2.       OBL species       x1 =         4.       FACW species       x2 =         5.       FAC species       x3 = i SD         4.       FAC species       x3 = i SD         5.       FAC species       x3 = i SD         6.       SD       Y FAC         7.       Poal paratemosis       SD         2.       SD       Y FAC         3.       SD       Y FAC         4.       SD       Y UP         1.       Poal paratemosis       SD         2.       SD       Y FAC         3.       SD       Y PAC         3.       SD       Y UP         1.       Poal paratemosis       SD         3.       SD       Y PAC         3.       SD       Y PAC         3.       SD       Y PAC	1		
3.	3.			Total Number of Dominant
Sapling/Shrub Stratum       (Plot size: )       = Total Cover       Prevalence index worksheet:         1.       Total % Cover of:       Multiply by:         2.       OBL species       x1 =	Sabiling/Shrub Stratum       (Plot size: ) )       = Total Cover       Prevalence Index worksheet:         1.	3		Species Across All Strata: (B)
Sapling/Shub Stratum       (Plot size: )         1.	Sabiling/Shrub Stratum       (Plot size: )	4		Percent of Dominant Species
Sabino/Shub Stratum       (Plot size:)         1.	Sapiling/Shrub Stratum       (Plot size:)         1.	-		
1.       Total % Cover of:       Multiply by:         2.	1.       Total % Cover of:       Multiply by:         2.       OBL species       x1 =         3.       FACW species       x2 =         5.       FAC species       x3 =         5.       FAC species       x4 =         FAC species       x4 =       UPL species         2.       Paudori constra       So y         1.       Poa orraters) s       So y         2.       Paudori constra       So y         3.       UPL       Prevalence index = B/A =         3.       UPL       Prevalence index is 3.0 ¹ 4.       UPL       UPL         Provalence index is 3.0 ¹ So y         4.       UPL         Prevalence index is 3.0 ¹ So y         4.       UPL         Hydrophytic Vegetation Indicators:       1 - Rapid Test for Hydrophytic Vegetation         2.       Obligue Adaptations' (Provide supporting data in Remarks or on a separate sheet)         5.       Weitand Non-Vascular Plants'         0.       Statum         1.       Problematic Hydrophytic Vegetation' (Explain)         Moder       So y         1.       Proteineric or problematic.         1.       Proteineric or problemati	Sapling/Shrub Stratum (Plot size)	# Total Cover	Prevalence Index wasteheat
2.       OBL species       x1 =         3.	2.       OBL species       x1 =         3.       FACW species       x2 =         4.       FACW species       x2 =         5.       FACU species       x4 =         UPL species       x4 =         UPL species       x4 =         UPL species       x6 =         2.       SD       Y         3.       SD       Y         4.       DOA       Prevalence index = B/A =         3.       SD       Y         4.       DO       Y         5.       SD       Y         5.       Y       Y         5.       Y       Y         2.       DOA       Y         3.       DOA       Y         3.       DOA       Y         4.       Hydrophytic Vegetation       Y			
3.	3.	2		
4.	4.			
5.	S.	4		
Herb Stratum (Plot size: 1007)	Herb Stratum       (Plot size: 1m ² )	5		
1.       POA oratersis       So       Y       FAC       Column Totals:       SO       (A)       Boo (B)         2.       Pstudom gravina       So       Y       FAC       Column Totals:       SO       (A)       Boo (B)         3.       Poa yurcifolia       So       Y       UPL       Prevalence Index = B/A =       Bit So         4.       Io       Y       Y       Piantic So       Y       Hydrophytic Vegetation Indicators:         5.       Io       Y       Y       Piantic So       Y       Hydrophytic Vegetation Indicators:         6.       Io       Y       Y       Y       Piantic So       Y       Y         8.       Io       Y       Y       Y       Y       Y       Y       Y         8.       Io       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y       Y	Image: Second	Horth Stratum (Block along ) m2	= Total Cover	
2.       DScudoring nerical Spiritical       D       VIPL       Prevalence Index = B/A =       3.         3.       Poal unreifolia       D       VPL       Prevalence Index = B/A =       3.         4.       D       VPL       Hydrophytic Vegetation Indicators:       1.       1.         5.       Image: Constraint of the state	Pscudoricareira       Spiritia       D       VPL       Prevalence Index = B/A =       3.5         Poa       Junci faila       D       VPL       Hydrophytic Vegetation Indicators:         1	$\frac{1}{2} \frac{1}{2} \frac{1}$	ENC.	
3.       Poaryuncifatia       ID       UPL         4.       ID       UPL         5.       ID       UPL         6.       ID       UPL         7.       ID       UPL         8.       ID       ID         9.       ID       UPL         9.       ID       UPL         10.       ID       ID         10.       ID       ID         10.       ID       ID         10.       ID       ID         11.       ID       ID         12.       ID       ID         13.       ID       ID <tr< td=""><td>Bare Ground in Herb Stratum       20         Bare Ground in Herb Stratum       20</td><td>2. Psudorennoa Solada</td><td></td><td>0.00</td></tr<>	Bare Ground in Herb Stratum       20         Bare Ground in Herb Stratum       20	2. Psudorennoa Solada		0.00
4.       Hydrophytic Vegetation Indicators:         5.       1 - Rapid Test for Hydrophytic Vegetation         6.       2 - Dominance Test is >50%         7.       3 - Prevalence Index is ≤3.01         8.       4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)         10.       5 - Wetland Non-Vascular Plants1         11.       Problematic Hydrophytic Vegetation 1 (Explain)         14.       Problematic Hydrophytic Vegetation 1 (Explain)         15.       1 - Rapid Test for Hydrophytic Vegetation 1 (Explain)         10.       5 - Wetland Non-Vascular Plants1         Problematic Hydrophytic Vegetation 1 (Explain)       1 - Problematic Hydrophytic Vegetation 1 (Explain)         11.       Problematic Hydrophytic Vegetation 1 (Explain)         12.       1 - Total Cover         14.       Hydrophytic Vegetation 1 (Explain)         15.       1 - Total Cover         16.       1 - Total Cover         17.       1 - Total Cover         18.       1 - Total Cover         19.       1 - Total Cover         10.       1 - Tot	Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is <3.01	3. Poa unrifolia		Prevalence index = $B/A = 2 \cdot 7$
5.       1 - Rapid Test for Hydrophytic Vegetation         8.       2 - Dominance Test is >50%         3.       3 - Prevalence Index is <3.01	1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is <3.01		0 - V - V - C	Hydrophytic Vegetation Indicators
2 - Dominance Test is >50%         3.       3 - Prevalence Index is ≤3.01         4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)         5 - Wetland Non-Vascular Plants1         10.       5 - Wetland Non-Vascular Plants1         11.       Problematic Hydrophytic Vegetation1 (Explain)         12.       SD = Total Cover         13.       Image: Stratum         14.       Problematic Hydrophytic Vegetation1 (Explain)         15.       SD = Total Cover         16.       Hydrophytic         17.       Image: Stratum         18.       Image: Stratum         19.       Image: Stratum </td <td>2 - Dominance Test is &gt;50%         3 - Prevalence Index is &lt;3.01</td> 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)         0.         1.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         3.         2.         3.         2.         2.         2.         2.         2.         2.         2.         2.         2.         2.         3.         2.         3.         2.         2.         2.         2.         2.         2.         2.	2 - Dominance Test is >50%         3 - Prevalence Index is <3.01	5	A AN A CAR A AND A	**
3.       3 Prevalence Index is <3.01	3 - Prevalence Index is <3.01		A CALLER ALL A	2 - Dominance Test is >50%
A.       4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)         10.       5 - Wetland Non-Vascular Plants ¹ 11.       Problematic Hydrophytic Vegetation' (Explain)         Woody Vine Stratum       Plot size:         Woody Vine Stratum       Plot size:         A Bare Ground in Herb Stratum       Zo	4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)         0.       5 - Wetland Non-Vascular Plants ¹ 1.       Problematic Hydrophytic Vegetation ¹ (Explain)         Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)       5 - Wetland Non-Vascular Plants ¹ 1.       Problematic Hydrophytic Vegetation ¹ (Explain)         Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)       1         1.       Problematic Hydrophytic Vegetation ¹ (Explain)         Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)       1         1.       Problematic Hydrophytic Vegetation ¹ (Explain)         Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)       1         Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)       1         Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)       1         Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)       1         Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)       1         Morphological Adaptations' (Plot size:)       1         Bare Ground in Herb Stratum       1       1         Morphological Adaptation       1       1 <td></td> <td></td> <td>3 - Prevalence index is &lt;3 0¹</td>			3 - Prevalence index is <3 0 ¹
10.	0.			4 - Morphological Adaptations' (Provide supporting
Woody Vine Stratum       (Plot size:)         Bare Ground in Herb Stratum       Zo           Problematic Hydrophytic Vegetation ¹ (Explain)           ************************************	1.       Problematic Hydrophytic Vegetation ¹ (Explain)         /oody Vine Stratum       Plot size:         )       Image: Stratum         Bare Ground in Herb Stratum       Image: Stratum         Image: Stratum			
Woody Vine Stratum       (Plot size:)         Bare Ground in Herb Stratum       Zo             Bare Ground in Herb Stratum       Zo             Image: Stratum       Image: Stratum              Image: Stratum       Image: Stratum             Image: Stratum       Image: Stratum             Image: Stratum       Image: Stratum             Image: Stratum       Image: Stratum             Image: Stratum       Image:	Accordy Vine Stratum       (Plot size:)         Bare Ground in Herb Stratum       20    Earl Cover          * Total Cover       * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.          * Hydrophytic       * Total Cover         * Total Cover       * Total Cover	1.		
Woody Vine Stratum     (Plot size:)       Bare Ground in Herb Stratum     20	And the stratum     (Plot size:)       Bare Ground in Herb Stratum     20         Image: Stratum     Image: Stratum         Image: Stratum         Image: Stratum         Image: Stratum         Image: Stratum         Image: Stratum         Image: Stratum             Image: Stratum         Image: Stratum         Image: Stratum         Image: Stratum		D = Total Cover	
Bare Ground in Herb Stratum 20 Hydrophytic Vegetation Present? Yes No X	Bare Ground in Herb Stratum 20 = Total Cover Hydrophytic Vegetation Present? Yes No X	Voody Vine Stratum (Plot size:)		be present, unless disturbed or problematic.
6 Bare Ground In Herb Stratum 20 = Total Cover Hydrophytic Vegetation Present? Yes No X	Bare Ground in Herb Stratum 20 = Total Cover Hydrophytic Vegetation Present? Yes No X		2	
6 Bare Ground in Herb Stratum Zo = 10 at cover Vegetation Present? Yes No	Bare Ground in Herb Stratum 20 Vegetation Present? Yes No			Hydrophytic
		6 Bare Ground in Herb Stratum		Vegetation 🖌
(emarks:	emarks:			
		emarks:		

SOIL Sandalization SS				
Profile Description: (Describe to the depth	n needed to document the ind	icator or confirm	the absence of indicators.)	
Depth <u>Matrix</u> (inches) Color (moist) %	Color (moist) %	Type L	oc ² Texture Remarks	
		<u></u>	loam	
0-6 104R412100				
6-18 104242 100			Cemented Sand	
	<u> </u>			
¹ Type: C=Concentration, D=Depletion, RM=I	Reduced Matrix, CS=Covered o	r Coated Sand G	rains. ² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators: (Applicable to all	LRRs, unless otherwise noted	1.)	Indicators for Problematic Hydric Solls ³ :	
-	Sandy Redox (S5)	•	2 cm Muck (A10)	
Histosol (A1)     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)		8	
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, unless disturbed or problematic	
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)			
Restrictive Layer (if present):				
		Hydric Soil Pre	asent? Yes No 🗶	
Type: Depth (inches):		injune com n		
Remarks:		·		
HYDROLOGY		· · · · · · · · · · · · · · · · · · ·		
Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)	
	check all that apply)	20) (exection	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of	Water-Stained Leaves (		Water-Stained Leaves (B9) (MLRA 1, 2,	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; of 	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B)		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; of the second se	Water-Stained Leaves (I 	)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; of the second se	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B	13)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; of the second se	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (	) 13) (C1)	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)	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B	) 13) (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) Geomorphic Position (D2)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; of the second se	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres = Roots (C3) Presence of Reduced Int	) (C1) along Living on (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)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; of the second se	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres Roots (C3) Presence of Reduced In Recent Iron Reduction in	) (C1) along Living on (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)	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; of the second se	Water-Stained Leaves ( MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced In Recent Iron Reduction in Soils (C6)	) (C1) along Living on (C4) n Tilled	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; of 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 ( MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced In Recent Iron Reduction in Soils (C6) Stunted or Stressed Pla	) (C1) along Living on (C4) n Tilled	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; 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)	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres Roots (C3) Presence of Reduced In Recent Iron Reduction in Soils (C6) Stunted or Stressed Pla (LRR A)	) (C1) along Living on (C4) n Tilled nts (D1)	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; of surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         tron Deposits (B5)         Surface Soil Cracks (B6)	Water-Stained Leaves ( MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced In Recent Iron Reduction in Soils (C6) Stunted or Stressed Pla	) (C1) along Living on (C4) n Tilled nts (D1)	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; of surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         tron Deposits (B5)         Surface Soil Cracks (B6)         inundation Visible on Aerial Imagery (B7)	Water-Stained Leaves (I MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres = Roots (C3) Presence of Reduced Irr Recent Iron Reduction in Soils (C6) Stunted or Stressed Pla (LRR A) Other (Explain in Remain	) (C1) along Living on (C4) n Tilled nts (D1)	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)	
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WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch City/County: Siski Vou Co. sampling Date: 8/23/2010 Applicant/Owner: Hart Ranch State: CA Sampling Point: 36
Applicant/Owner: Hart Ranch State: CA Sampling Point: 36
Landform (hillslope, terrace, etc.): <u>terrace</u> Local relief (concave, convex, none): <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u> Slope (%): <u>Local relief (concave, convex, none)</u> : <u>Concave</u>
Are alimatic / hydrologic and this and the war and sandy clay own classification:
Are climatic / hydrologic conditions of the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soll, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No

Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes	Is the Sampled Area within a Wetland?	Yes No
Remarks:			

## VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:	Absolute Dominant Indicator	Dominance Test worksheet:
1 (Plot size:)	% Cover Species? Status	Number of Dominant Species
2		That Are OBL, FACW, or FAC: (A) Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Phot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2	· · · · · · · · · · · · · · · · · · ·	OBL species x 1 =
3.           4.		FACW species x 2 =
5.		FAC species x 3 =
	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: MC.)		UPL species $30 \times 5 = 150$
1. Poa uncitolia	30 Y UPL	Column Totals: <u>30</u> (A) <u>150</u> (B)
2. Etytritzia repens	TOO Y NI	Prevalence Index = B/A = 5
4		Hydrophytic Vegetation Indicators:
5.		1 - Rapid Test for Hydrophytic Vegetation
6.	As a shorts - S	2 - Dominance Test is >50%
7		3 - Prevalence Index is <3.0 ¹
0.	1784 S. F. L.	4 - Morphological Adaptations' (Provide supporting)
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
· · · · · · · · · · · · · · · · · · ·	9D = Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: )	<u> </u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.	and the second se	
% Bare Ground in Herb Stratum	- Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		
		ĺ

					21
SOIL			<u> </u>	আঁত্রনি ভারী ভারতি হ	<u> </u>
Profile Description: (Describe to the dept	needed to document the ind Redox Feat	icator or con	tirm the abs	ence of indicators.	
Depth <u>Matrix</u> (inches) Color (moist) %	Color (moist) %	Type ¹	Loc ²	Texture	Remarks
				sandy	MIN
0-11 10486/2 100					
11-18 104R4/2100		<u> </u>		Cemtis	<u>Ann</u>
		······			
				<u> </u>	
					<u>×</u>
			4		
¹ Type: C=Concentration, D=Depletion, RM=I	Reduced Matrix, CS=Covered or	r Coated San	d Grains.	Location: PL=Pore	Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all	RRs. unless otherwise noted	(.)	Indica	tors for Problemat	c Hydric Soils ³ :
	Sandy Redox (S5)	•		m Muck (A10)	
Listosol (A1) Histic Epipedon (A2)	Stripped Matrix (S6)		Re	d Parent Material (T	F2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (	except MLR/		ry Shallow Dark Sur	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	-	Ot	her (Explain in Rem	arks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)				
Thick Dark Surface (A12)	Redox Dark Surface (F6)		^a ln	dicators of hydrophy	tic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)		We	tland hydrology mu	st be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		un	less disturbed or pro	
					$\mathbf{N}$
Restrictive Layer (if present):		thursda Rail	Bronont2	Yes	No X
Туре:		Hydric Soil	Fresentr	169	
Depth (Inches):					
Remarks:					
	noindi	Mitor	<		
		<u> </u>			
HYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required; of	heck all that apply)		Second	ary Indicators (2 or r	nore required)
	Water-Stained Leaves (B	39) (except		er-Stained Leaves (	09) ( <b>MLKA 1, 2,</b>
Surface Water (A1)	MLRA 1, 2, 4A, and 4B)	1		and 4B) nage Patterns (B10)	
High Water Table (A2)	Salt Crust (B11)	42)		Season Water Tabl	, a (C2)
Saturation (A3)	Aquatic Invertebrates (B	13)	Dry-	uration Visible on Ae	rial Imagery (C9)
Water Marks (B1)	Hydrogen Sulfide Odor (			AUDIT VISING UN AU	
	Oxidized Rhizospheres a	aong civing	Geo	morphic Position (D	2)
Sediment Deposits (B2)	Roots (C3) Presence of Reduced In	on (C4)		llow Aquitard (D3)	•
Drift Deposits (B3)	Recent Iron Reduction in		-	······	
Algal Mat or Crust (B4)	Soils (C6)		FAC	C-Neutral Test (D5)	
	Stunted or Stressed Plan	nts (D1)			
Iron Deposits (B5)	(LRR A)			sed Ant Mounds (D6	
Surface Soil Cracks (B6)	Other (Éxplain in Remar	ks)	Fro	st-Heave Hummocks	s (U7)
Inundation Visible on Aerial Imagery (B7)					

Field Observations: Surface Water Present?	Yes _		Depth (inches):		Wetland Hydrology Present?	Yes	No X
Water Table Present? Saturation Present?	Yes _	_ No 🗡	Depth (inches):		AAGUSUG LIAGUOODA LIESEULI		
(includes capillary fringe)	Yes		Depth (inches):				
Describe Recorded Data (str	eam gauge	, monitoring	well, aerial photo	s, previous Inspe	ections), if available:		

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

Project/Site: Hart Ranch city/County: Siski Vou Co.: sampling Date: 8/23/2016 Applicant/Owner: Hart Ranch State: CA Sampling Point: 37
Applicant/Owner: Hart Ranch State: CA Sampling Point: 37
Investigator(s): MOVED KOVE Section, Township, Range; SKAN, KGW SECT 1, 2+2
Landform (hillslope, terrace, etc.):
Subregion (LRR): MLANAZZA Lat: -100 38 3254 ong: 44, SRAUL Datum NANA2
Soil Map Unit Name: ISY MARTHE LANDAR O HULLAAANWI classification DEAAA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, exclain in Remarks.)
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology ND naturally problematic? (If needed, explain any answers In Remarks.)

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes	Is the Sampled Area within a Wetland?	Yes No
Remarks:	· · · · · · · · · · · · · · · · · · ·		

### VEGETATION – Use scientific names of plants.

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum         (Plot size:)           1.        )	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.	· · · · · · · · · · · · · · · · · · ·	Total Number of Dominant
3.		Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2	· · · · · · · · · · · · · · · · · · ·	OBL species x 1 =
3		FACW species x 2 =
4		FAC species $20 \times 3 = 00$
5		FACU species x 4 =
Imz	= Total Cover	UPL species $20 \times 5 = 100$
Herb Stratum (Plot size:		Column Totals: 10 (A) 160 (B)
1. Poa unciforia	$\frac{70}{20}$ Y TAC.	
2. Poa. Oratensis		Prevalence Index = B/A =
3. Slutrigion repens	SO Y NE	
5.	- 20 11 T - 20 12 13	Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
	14 14 12 12 12 12 14 1 14 1 14 14 14 14 14 14 14 14 14 14	2 - Dominance Test is >50%
7 8.		
8. 9.		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11.	· ** ** 46 ***	Problematic Hydrophytic Vegetation ¹ (Explain)
	90 = Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: )		be present, unless disturbed or problematic.
1		to all all all all all all all all all al
2.	and the second se	27
	= Total Cover	Hydrophytic Vegetation
% Bare Ground in Herb Stratum 10	_	Present? Yes No
Remarks:		

۰.

SOIL	Sampling Pola	37
Profile Description: (Describe to the depth needed to document the in	cator or confirm the absence of indicators.)	
Depth Matrix Redox Fea (inches) Color (moist) % Color (moist) %	Type ¹ Loc ² Texture	Remarks
		A ma
0-13 10486/2100		
13-18 TOYR6/4100	comente	d camp
		£ 440
	<u></u> >	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered	Coated Sand Grains. ² Location: PL=Pore Li	ning, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise note	.) Indicators for Problematic	Hydric Soils ³ :
· · · · · · · · · · · · · · · · · · ·	2 cm Muck (A10)	-
Histic Epipedon (A2)  Histic Epipedon (A2)  Stripped Matrix (S6)	Red Parent Material (TF)	2)
Black Histic (A3)	xcept MLRA 1) 📃 Very Shallow Dark Surfa	ce (TF12)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Other (Explain in Remark	
Depleted Below Dark Surface (A11) Depleted Matrix (F3)		
Thick Dark Surface (A12) Redox Dark Surface (F6)	³ Indicators of hydrophytic	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleved Matrix (S4) Redox Depressions (F8)	wetland hydrology must unless disturbed or prob	
Sandy Gleyed Matrix (S4) Redox Depressions (F8)		
Restrictive Layer (if present):		
Type:	Hydric Soil Present? Yes	No $\mathcal{V}$
Depth (inches):		
	······································	·
Remarks:		
	-	
DOIN	dicato s	
Doin	dicato s	
	dicato is	
HYDROLOGY Wetland Hydrology Indicators:	dicato is	
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or mo	re required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Leaves (	Secondary Indicators (2 or mo 9) (except Water-Stained Leaves (B9	re required) ) (MLRA 1, 2,
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         Surface Water (A1)	9) (except Secondary Indicators (2 or mo 4A, and 4B)	re required) ) (MLRA 1, 2,
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         Surface Water (A1)         High Water Table (A2)    Water-Stained Leaves (B11)	9) (except —	) (MLRA 1, 2,
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         Surface Water (A1)         High Water Table (A2)         Saturation (A3)	9) (except 9) (ex	) ( <b>MLRA 1, 2,</b> C2)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)	9) (except       Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9	) ( <b>MLRA 1, 2,</b> C2)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)	9) (except       Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9	) ( <b>MLRA 1, 2,</b> C2)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         MLRA 1, 2, 4A, and 4B         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	9) (except       Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (response)         C1)       Saturation Visible on Aeria         long Living       Geomorphic Position (D2)         n (C4)       Shallow Aquitard (D3)	) ( <b>MLRA 1, 2,</b> C2)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         MLRA 1, 2, 4A, and 4B         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table ( Saturation Visible on Aeria         Iong Living       Geomorphic Position (D2)         n (C4)       Shallow Aquitard (D3)	) ( <b>MLRA 1, 2,</b> C2)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         MLRA 1, 2, 4A, and 4B         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table ( Saturation Visible on Aeria         long Living       Geomorphic Position (D2)         n (C4)       Shatlow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)	) ( <b>MLRA 1, 2,</b> C2)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         Surface Water (A1)       Water-Stained Leaves (         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebrates (E         Water Marks (B1)       Hydrogen Sulfide Odor         Oxidized Rhizospheres       Roots (C3)         Drift Deposits (B2)       Presence of Reduced Ir         Recent Iron Reduction i       Solis (C6)         Stunted or Stressed Pla       Stunted or Stressed Pla	9) (except       Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (C21)         Charlen Living       Geomorphic Position (D2)         an (C4)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)	) (MLRA 1, 2, C2) Il Imagery (C9)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         Surface Water (A1)       Water-Stained Leaves (         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebrates (E         Water Marks (B1)       Hydrogen Sulfide Odor         Oxidized Rhizospheres       Roots (C3)         Drift Deposits (B2)       Presence of Reduced tr         Algal Mat or Crust (B4)       Soils (C6)         Iron Deposits (B5)       LLRR A)	9) (except       Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (         C1)       Saturation Visible on Aeria         long Living       Geomorphic Position (D2)         n (C4)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         ts (D1)       Raised Ant Mounds (D6) (I	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         Surface Water (A1)       Water-Stained Leaves (         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebrates (E         Water Marks (B1)       Hydrogen Sulfide Odor         Oxidized Rhizospheres       Roots (C3)         Drift Deposits (B2)       Presence of Reduced Ir         Algal Mat or Crust (B4)       Solis (C6)         Iron Deposits (B5)       (LRR A)         Surface Soli Cracks (B6)       Other (Explain In Remati	9) (except       Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (         C1)       Saturation Visible on Aeria         long Living       Geomorphic Position (D2)         n (C4)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         ts (D1)       Raised Ant Mounds (D6) (I	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         Surface Water (A1)       Water-Stained Leaves (         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebrates (E         Water Marks (B1)       Hydrogen Sulfide Odor         Oxidized Rhizospheres       Roots (C3)         Drift Deposits (B2)       Presence of Reduced tr         Algal Mat or Crust (B4)       Soils (C6)         Iron Deposits (B5)       LLRR A)	9) (except       Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (         C1)       Saturation Visible on Aeria         long Living       Geomorphic Position (D2)         n (C4)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         ts (D1)       Raised Ant Mounds (D6) (I	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Water-Stained Leaves ( MLRA 1, 2, 4A, and 4B         High Water Table (A2)       Sait Crust (B11)         Saturation (A3)       Aquatic Invertebrates (B         Water Marks (B1)       Hydrogen Sulfide Odor Oxidized Rhizospheres         Sediment Deposits (B2)       Presence of Reduced In Recent Iron Reduction i Soils (C6)         Iron Deposits (B5)       Stunted or Stressed Pla (LRR A)         Surface Soil Cracks (B6)       Other (Explain in Remain Inundation Visible on Aerial Imagery (B7)	9) (except       Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (         C1)       Saturation Visible on Aeria         long Living       Geomorphic Position (D2)         n (C4)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         ts (D1)       Raised Ant Mounds (D6) (I	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Water-Stained Leaves ( MLRA 1, 2, 4A, and 4B         High Water Table (A2)       Sait Crust (B11)         Saturation (A3)       Aquatic Invertebrates (B         Water Marks (B1)       Hydrogen Sulfide Odor Oxidized Rhizospheres         Sediment Deposits (B2)       Presence of Reduced In Recent Iron Reduction in Solis (C6)         Iron Deposits (B5)       LRR A)         Surface Soli Cracks (B6)       Other (Explain in Remain Inundation Visible on Aerial Imagery (B7)         Field Observations:       (/)	9) (except       Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (         C1)       Saturation Visible on Aeria         long Living       Geomorphic Position (D2)         n (C4)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         ts (D1)       Raised Ant Mounds (D6) (I	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         MLRA 1, 2, 4A, and 4B         Saturation (A3)         Water Marks (B1)         Water Marks (B1)         Drift 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)         Field Observations:         Surface Water Present?         Yes       No         Depth (inches):	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (         (21)       Saturation Visible on Aeria         long Living       Geomorphic Position (D2)         n (C4)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         ts (D1)       Raised Ant Mounds (D6) (         s)       Frost-Heave Hummocks (I	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         MLRA 1, 2, 4A, and 4B         Saturation (A3)         Water Marks (B1)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Water Table Present?	9) (except       Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (         C1)       Saturation Visible on Aeria         long Living       Geomorphic Position (D2)         n (C4)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         ts (D1)       Raised Ant Mounds (D6) (I	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         MLRA 1, 2, 4A, and 4B         Saturation (A3)         Water Marks (B1)         Water Marks (B1)         Drift Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soli Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Depth (inches):	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (         (21)       Saturation Visible on Aeria         long Living       Geomorphic Position (D2)         n (C4)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         ts (D1)       Raised Ant Mounds (D6) (         s)       Frost-Heave Hummocks (I	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         MLRA 1, 2, 4A, and 4B         Saturation (A3)         Water Marks (B1)         Water Marks (B1)         Drift Deposits (B2)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soli Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Saturation Present?         Yes       No         Depth (inches):	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (C1)         3)       Geomorphic Position (D2)         5)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         5)       Raised Ant Mounds (D6) (IFrost-Heave Hummocks (IFro	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         MLRA 1, 2, 4A, and 4B         Saturation (A3)         Water Marks (B1)         Water Marks (B1)         Drift Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soli Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Depth (inches):	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (C1)         3)       Geomorphic Position (D2)         5)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         5)       Raised Ant Mounds (D6) (IFrost-Heave Hummocks (IFro	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         MLRA 1, 2, 4A, and 4B         Saturation (A3)         Water Marks (B1)         Water Marks (B1)         Drift Deposits (B2)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soli Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Saturation Present?         Yes       No         Depth (inches):	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (C1)         3)       Geomorphic Position (D2)         5)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         5)       Raised Ant Mounds (D6) (IFrost-Heave Hummocks (IFro	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water Stained Leaves (         MLRA 1, 2, 4A, and 4B         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebrates (E         Water Marks (B1)       Oxidized Rhizospheres         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Reduced tr         Algal Mat or Crust (B4)       Soils (C6)         Surface Soil Cracks (B6)       (LRR A)         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No         Surface Water Present?       Yes         No       Depth (inches):         Saturation Present?       Yes         No       Depth (inches):         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previou	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (C1)         3)       Geomorphic Position (D2)         5)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         5)       Raised Ant Mounds (D6) (IFrost-Heave Hummocks (IFro	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Leaves (         MLRA 1, 2, 4A, and 4B         Saturation (A3)         Water Marks (B1)         Water Marks (B1)         Drift Deposits (B2)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soli Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Saturation Present?         Yes       No         Depth (inches):	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (C1)         3)       Geomorphic Position (D2)         5)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         5)       Raised Ant Mounds (D6) (IFrost-Heave Hummocks (IFro	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Water-Stained Leaves (         Surface Water (A1)       Water-Stained Leaves (         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebrates (E         Water Marks (B1)       Oxidized Rhizospheres         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Reduced tr         Algal Mat or Crust (B4)       Soils (C6)         Surface Soil Cracks (B6)       (LRR A)         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No         Surface Water Present?       Yes         No       Depth (Inches):         Saturation Present?       Yes         No       Depth (inches):         Depth (inches):       Depth (inches):	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (C1)         3)       Geomorphic Position (D2)         5)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         5)       Raised Ant Mounds (D6) (IFrost-Heave Hummocks (IFro	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Water-Stained Leaves (         Surface Water (A1)       Water-Stained Leaves (         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebrates (E         Water Marks (B1)       Oxidized Rhizospheres         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Reduced tr         Algal Mat or Crust (B4)       Soils (C6)         Surface Soil Cracks (B6)       (LRR A)         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No         Surface Water Present?       Yes         No       Depth (Inches):         Saturation Present?       Yes         No       Depth (inches):         Depth (inches):       Depth (inches):	Secondary Indicators (2 or mo         9) (except       Water-Stained Leaves (B9         4A, and 4B)       Drainage Patterns (B10)         3)       Dry-Season Water Table (C1)         3)       Geomorphic Position (D2)         5)       Shallow Aquitard (D3)         Tilled       FAC-Neutral Test (D5)         5)       Raised Ant Mounds (D6) (IFrost-Heave Hummocks (IFro	) (MLRA 1, 2, C2) Il Imagery (C9) LRR A)

FIDIOO
WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site:       Hart Ranch       City/County:       Siski You Co       Sampling Date:       8/23/2010         Applicant/Owner:       Hart Ranch       Section, Township, Range:       Sampling Point:       38a         Investigator(s):       Marca Rabe       Section, Township, Range:       Image:       Section, Township, Range:       Section, Township, Ra
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Yes N

is the Sampled Area within a Wetland?

No X

Yes

Wetland H	lydrology	Present?
<b>Remarks:</b>		

Yes

No

Trop Stratum (Dist sime	Absolute Dominant Indica	tor Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover Species? State</u>	
3.		Total Number of Dominant Species Across All Strata: (B)
ł		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
apling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
		Total % Cover of: Multiply by:
		OBL species x1=
<u> </u>		FACW species x 2 =
		FAC species x3 =
		FACU species $40 \times 4 = 160$
erb Stratum (Plot size: m2)	= Total Cover	UPL species $40 \times 5 = 200$
Poa juncifolia	40 V ANPL	Column Totals: (A) 360 (B)
Elymus elymoides	40 Y FACH	Prevalence index = B/A = 4/5
		Hydrophytic Vegetation Indicators:
	- 41 C 1 4 C 24 M 1 4	1 - Rapid Test for Hydrophytic Vegetation
	in a world as i	2 · Dominance Test is >50%
		3 - Prevalence Index is <3.01
		4 - Morphological Adaptations ¹ (Provide support
		data in Remarks or on a separate sheet)
		5 - Wetland Non-Vascular Plants ¹
		Problematic Hydrophytic Vegetation ¹ (Explain)
dy Vine Stratum (Pidt size:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	a sector of the st	State - State
	A Add at a grant	Hydrophytic
are Ground in Herb Stratum	= Total Cover	Vegetation X Present? Yes No
arks:		

		Sumpling Solo
Profile Description: (Describe to the d	lepth needed to document the indicator or co	mum me appende of mulcators.)
Depth Matrix	Rebox realures	
(inches) Color (moist) %	Color (moist) % Type	Loc ² Texture Remarks
		CINIDAM
0-18 104R3/2 100		
		and Grains. ² Location: PL=Pore Lining, M=Matrix.
¹ Type: C=Concentration, D=Depletion, F	RM≍Reduced Matrix, CS=Covered or Coated Sa	
Hydric Soil Indicators: (Applicable to	all I RRs. unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Hydric Soli Indicators. (Applicable to		2 cm Muck (A10)
Histosol (A1)	Sandy Redox (S5)	Red Parent Material (TF2)
Histic Epipedon (A2)	Stripped Matrix (S6)	
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLI	RA 1) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)		
	Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Sandy Mucky Mineral (S1)		unless disturbed or problematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	
Restrictive Layer (if present):		bil Present? Yes No
-	Hvdric S	pil Present? Yes No
Туре:		
Depth (inches):		
	hoindic	<u>[]]]]]</u>
IYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:	red: check all that apply)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:	red; 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 requir Surface Water (A1)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1)	red; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil	red; check all that apply) Water-Stained Leaves (B9) (except MIRA 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) Drv-Season Water Table (C2)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil	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)	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)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil	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)	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)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required)         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) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living	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)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	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 Roots (C3)	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) Geomorphic Position (D2)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required)         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) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4)	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)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil         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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled	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) Geomorphic Position (D2) Shallow 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)	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil         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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1)	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)         Geomorphic Position (D2)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil         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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solis (C6) Stunted or Stressed Plants (D1) (LRR A)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil         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)	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solis (C6) Stunted or Stressed Plants (D1) (LRR A)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
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Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil)         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 Soli Cracks (B6)	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7)	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) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil         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:	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solis (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8)	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) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil         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:	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8)	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)         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 requil         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?	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solls (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) B7) (B8)	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) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one requil         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?	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8)	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)         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 requil)         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?	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solis (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) B7) (B8) No Depth (inches): M	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) 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 requited)         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 Soli Cracks (B6)         inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes         Water Table Present?         Yes	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8) No Depth (inches): Depth (inches): Depth (inches): Mo Depth (inches): Mo Mo Depth (inches): Mo Mo Mo Mo Mo Mo Mo Mo Mo Mo	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)         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 requit         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 Soli Cracks (B6)         Inundation Visible on Aerlal Imagery (Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes         Saturation Present?         Yes	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solis (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain In Remarks) B7) (B8) No Depth (inches): M	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)         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 requit         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 Soli Cracks (B6)         Inundation Visible on Aerlal Imagery (Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes         Saturation Present?         Yes	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8) No Depth (inches): Depth (inches): Depth (inches): Mo Depth (inches): Mo Mo Depth (inches): Mo Mo Mo Mo Mo Mo Mo Mo Mo Mo	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)         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 requited)         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 (Sparsety Vegetated Concave Surface)         Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes         Describe Recorded Data (stream gauge, monother stream gauge, monot	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 Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         (B8)         No         Depth (inches):         No         Depth (inches):         Inonitoring well, aerial photos, previous inspection	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)         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 requited)         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 Soli Cracks (B6)         inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes         Water Table Present?         Yes	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 Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         (B8)         No         Depth (inches):         No         Depth (inches):         Inonitoring well, aerial photos, previous inspection	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)         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 requit         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 Soli Cracks (B6)         inundation Visible on Aerial Imagery (Sparsety Vegetated Concave Surface)         Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes         Describe Recorded Data (stream gauge, mage)	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 Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         (B8)         No         Depth (inches):         No         Depth (inches):         Inonitoring well, aerial photos, previous inspection	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)         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 requit         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 Soli Cracks (B6)         inundation Visible on Aerial Imagery (Sparsety Vegetated Concave Surface)         Field Observations:         Surface Water Present?         Yes         Saturation Present?         Yes         Describe Recorded Data (stream gauge, mage)	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 Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         (B8)         No         Depth (inches):         No         Depth (inches):         Inonitoring well, aerial photos, previous inspection	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)         Geomorphic Position (D2)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)         Raised Ant Mounds (D6) (LRR A)         Frost-Heave Hummocks (D7)

ii.

				FIP 101
WETLAND DETERMINA		FORM - V	Vestern N	lountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Andrea Rabe Landform (hillslope, terrace, etc.): Ferro Subregion (LRR): MLRA 22B Soil Map Unit Name: 189 med Are climatic / hydrologic conditions on the site typi Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic SUMMARY OF FINDINGS – Attach site Hydrophytic Vegetation Present? Yes V	City/County: Section, T CCLo Lat: -/22 Dy CLo Cal for this tim y ND signifi y ND natur y ND natur	State: State: Township, Ran Docal relief (con- SEMIS Lon U (DAM) e of year? Ye licently disturb ally problemati wing sample	A Sampli ge: T cave, convex g: 44 CDO s X No ed? Are " ic? ling point	sampling Date: $8/23/2016$ ng Point: $350$ 45N, K5W Sect 1.2+3 c, none): $CONCAME$ Slope (%): 2 924/50 Datum: NAD 83 MMI classification: $860.40$
	C	titch		
VEGETATION - Use scientific names o	f plants.			
Indext length       Indext length         1.	Absolute <u>% Cover</u>	Dominant Species?	indicator <u>Status</u>	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:         Total Number of Dominant         Species Across All Strata:         Percent of Dominant Species         That Are OBL, FACW, or FAC:         (B)         Percent of Dominant Species         That Are OBL, FACW, or FAC:         (A/B)
Sapling/Shrub Strature         (Plot size:)           1.		= Total Cove		Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $$ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $

= Total Cover

a state as

Sec. 1

= Total Cover

= Total Cover

÷,

50

**FACU** species

Column Totals:

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

2 - Dominance Test is >50%

3 - Prevalence Index Is ≤3.01

5 - Wetland Non-Vascular Plants¹

be present, unless disturbed or problematic.

57

4 1 5 q**2** 

**UPL species** 

Hydrophytic

Vegetation

Present?

. . .

- -

x 4 =

x 5 =

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

(18)83945 17-24-5

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must

Yes ____ No ___

(B)

S ZA)

I - Rapid Test for Hydrophytic Vegetation

Remarks:

5.

2.

3. 4.

5.

6.

7.

8.

9. 10.

11.

1.

2.

Woody Vine Stratum

Herb Stratum (Plot size: m2) 1. Sphono plentus alettus 50

(Ploteize:

 $1 = \sigma$ 

. )

SO

% Bare Ground in Herb Stratum

Depth (inches)	Color (moist)	%	Color (moist)	Redox Fea	Type'	Loc ²	Texture	Rem	arks
(incries)							Sandy	TAAM	
0-18	104R312	40	SYRYIG	10	<del> </del>	<u></u>	Carl C. C. A.		
	-								
							<u> </u>		
				<u> </u>	<del></del>				
¹ Type: C=Ce	oncentration, D=De	epletion, RM=	Reduced Matrix, C	S=Covered	or Coated Sal	nd Grains.	² Location: PL	=Pore Lining, M=	Matrix.
Hydric Soil	Indicators: (App	licable to all	LRRs, unless othe	erwise note	ed.)	Inc	licators for Prob	lematic Hydric S	Soils ³ :
Histosol			Sandy Redox (				2 cm Muck (A10	)	
	pipedon (A2)		Stripped Matrix	(S6)			Red Parent Mat		
Black H	istic (A3)		Loamy Mucky N			A1)	Very Shallow Da Other (Explain it	ark Surface (TF12 Remarks)	-)
Hydroge	en Sulfide (A4) d Relew Dork Surfr		Loamy Gleyed Depleted Matrix					, nomenoj	
	d Below Dark Surfa ark Surface (A12)	ace (ATT)	Redox Dark Su				³ Indicators of hy	drophytic vegetat	tion and
	Mucky Mineral (S1)		Depleted Dark		")		wetland hydrolo	gy must be prese	nt,
	Gleyed Matrix (S4)		Redox Depress	ions (F8)			unless disturbed	or problematic	
				. —	1			5	
	iyer (if present):				Hydric So	ił Present'	Yes	No	
Type:	hes):				inganie ee				
marks:				<u> </u>					
			<u> </u>			· · · -			
YDROLOG									
Vetland Hvdr	ology Indicators:		check all that apply	·····			ondary Indicators	(2 or more requir	red)
Vetland Hvdr	ology Indicators:	ne required;		ied Leaves	(B9) (except		Water-Stained Le	(2 or more requir aves (B9) (MLRA	red) 1, 2,
Vetland Hydr Primary Indica	tors (minimum of o ater (A1)	ne required;	Water-Stair MLRA 1, 2,	ied Leaves , 4 <b>A, and 4</b> I			Water-Stained Le 4A, and 4B)	aves (B9) (MLRA	red) 1, 2,
Vetland Hydr Primary Indica Surface Wi High Water	tors (minimum of c ater (A1) Table (A2)	ne required;	Water-Stair <u>MLRA 1, 2,</u> Salt Crust (	1ed Leaves , <b>4A, and 4</b> 1 B11)	B)	-	Water-Stained Le 4A, and 4B) Drainage Patterns	aves (B9) (MLRA s (B10)	red) 1, 2,
Vetland Hydr Primary Indica Surface Wa High Water Saturation	rology Indicators: itors (minimum of c ater (A1) r Table (A2) (A3)	ne required;	Water-Stair MLRA 1, 2, Salt Crust ( Aquatic Inv	ied Leaves , <b>4A, and 4</b> B11) ertebrates (	B) (B13)		Water-Stained Le 4 <b>A, and 4B)</b> Drainage Pattern: Dry-Season Wate	aves (B9) (MLRA s (B10)	1, 2,
Vetland Hydr Primary Indica Surface Wi High Water	rology Indicators: itors (minimum of c ater (A1) r Table (A2) (A3)	ne required;	Water-Stair MLRA 1, 2, Salt Crust ( Aquatic Inv Hydrogen S	ted Leaves , <b>4A, and 4</b> B11) ertebrates ( Sulfide Odol	B) (B13)		Water-Stained Le 4 <b>A, and 4B)</b> Drainage Pattern: Dry-Season Wate Saturation Visible	aves (B9) (MLRA s (B10) er Table (C2) e on Aerial Imagei	1, 2,
Vetland Hydr Primary Indica Osurface Wa High Water Osaturation Water Mark Sediment f	ology Indicators: itors (minimum of c ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	ne required;	Water-Stair MLRA 1, 2, Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Roots (C3)	ned Leaves , <b>4A, and 4</b> B11) ertebrates ( Sulfide Odol hizospheres	B) (B13) r (C1) s along Living		Water-Stained Le 4 <b>A, and 4B)</b> Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posi	aves (B9) (MLRA s (B10) er Table (C2) e on Aerial Imager tion (D2)	1, 2,
Vetland Hydr Primary Indica Osurface Wa High Water Osaturation Water Mark	ology Indicators: itors (minimum of c ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	ne required;	Water-Stair MLRA 1, 2, Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Roots (C3) Presence o	ned Leaves , <b>4A, and 4</b> B11) ertebrates ( Sulfide Odoi hizospheres of Reduced	B) (B13) r (C1) s along Living Iron (C4)		Water-Stained Le 4 <b>A, and 4B)</b> Drainage Pattern: Dry-Season Wate Saturation Visible	aves (B9) (MLRA s (B10) er Table (C2) e on Aerial Imager tion (D2)	1, 2,
Vetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I Drift Depos	tology Indicators: tors (minimum of o ater (A1) Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)	ne required;	Water-Stair MLRA 1, 2, Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Roots (C3) Presence o Recent Iror	ned Leaves , <b>4A, and 4</b> B11) ertebrates ( Sulfide Odoi hizospheres of Reduced	B) (B13) r (C1) s along Living Iron (C4)		Water-Stained Le 4 <b>A, and 4B)</b> Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posi	aves (B9) (MLRA s (B10) er Table (C2) e on Aerial Imager tion (D2) (D3)	1, 2,
Vetland Hydr Primary Indica Surface Wa High Water Saturation Water Mark Sediment I Drift Depos	ology Indicators: itors (minimum of c ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	ne required;	Water-Stair MLRA 1, 2, Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Roots (C3) Presence o Recent Iror Soils (C6) Stunted or	and Leaves <b>4A, and 4</b> B11) ertebrates ( Sulfide Odor hizospheres of Reduced a Reduction	B) r (C1) s along Living Iron (C4) in Tilled		Water-Stained Le 4A, and 4B) Drainage Patterm Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Tes	aves (B9) (MLRA s (B10) r Table (C2) on Aerial Imager tion (D2) (D3) t (D5)	ny (C9)
Vetland Hydr Primary Indica Osurface Wi High Water Saturation Water Mari Sediment f Drift Depos Algal Mat o Iron Depos	rology Indicators: itors (minimum of c ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	ne required;	Water-Stair MLRA 1, 2, Salt Crust ( Aquatic Inv Hydrogen S Oxidized Ri Roots (C3) Presence of Recent Iron Soils (C6) Stunted or (LRR A)	ed Leaves <b>4A, and 4</b> B11) ertebrates ( Sulfide Odol hizospheres of Reduced h Reduction Stressed Pl	B) r (C1) s along Living lron (C4) i in Tilled lants (D1)		Water-Stained Le 4A, and 4B) Drainage Pattern: Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Tes Raised Ant Moun	aves (B9) (MLRA s (B10) r Table (C2) on Aerial Imager tion (D2) (D3) t (D5) ds (D6) (LRR A)	ny (C9)
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Vetland Hydr Primary Indica Surface Wa High Water Saturation Water Mari Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observ Surface Wate Water Table F Saturation Pro	ology Indicators: itors (minimum of c ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial In /egetated Concave ations: r Present? Ye esent? Ye	magery (B7) Surface (B8 s X No s No	Water-Stair MLRA 1, 2, Salt Crust ( Aquatic Inv Hydrogen S Oxidized RI Roots (C3) Presence o Recent Iror Soils (C6) Stunted or (LRR A) Other (Expl Depth (inchest	AA, and 4 B11) ertebrates ( Sulfide Odol hizospheres of Reduced on Reduction Stressed Pl lain in Rem	B) (B13) r (C1) s along Living lron (C4) in Tilled lants (D1) arks)		Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Tes Raised Ant Mourn Frost-Heave Hun	aves (B9) (MLRA s (B10) er Table (C2) on Aerial Imager tion (D2) (D3) t (D5) ds (D6) (LRR A) amocks (D7)	ny (C9)
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Vetland Hydr Primary Indica Surface Wi High Water Saturation Water Mark Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observ Surface Wate Water Table F Saturation Pro (includes cap)	ology Indicators: Itors (minimum of c ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial In /egetated Concave ations: r Present? Ye esent? Ilary fringe) Ye	magery (87) Surface (88 s No s No s No	Water-Stair MLRA 1, 2, Salt Crust ( Aquatic Invi Hydrogen S Oxidized RI Roots (C3) Presence o Recent Iror Soils (C6) Stunted or (LRR A) Other (Expl Depth (inchest Depth (inchest	A and 4 B11) ertebrates ( Sulfide Odol hizospheres of Reduced on Reduction Stressed Pl lain in Rem	B) (B13) r (C1) s along Living lron (C4) in Tilled lants (D1) arks)	etland Hyd	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Tes Raised Ant Moun Frost-Heave Hun	aves (B9) (MLRA s (B10) er Table (C2) on Aerial Imager tion (D2) (D3) t (D5) ds (D6) (LRR A) amocks (D7)	ny (C9)
Vetland Hydr Primary Indica Surface Wi High Water Saturation Water Mark Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V Field Observ Surface Wate Water Table F Saturation Pro (includes cap)	ology Indicators: Itors (minimum of c ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Visible on Aerial In /egetated Concave ations: r Present? Ye esent? Ilary fringe) Ye	magery (87) Surface (88 s No s No s No	Water-Stair MLRA 1, 2, Salt Crust ( Aquatic Invi Hydrogen S Oxidized RI Roots (C3) Presence o Recent Iror Soils (C6) Stunted or (LRR A) Other (Expl Depth (inchest Depth (inchest	A and 4 B11) ertebrates ( Sulfide Odol hizospheres of Reduced on Reduction Stressed Pl lain in Rem	B) (B13) r (C1) s along Living lron (C4) in Tilled lants (D1) arks)	etland Hyd	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posi Shallow Aquitard FAC-Neutral Tes Raised Ant Moun Frost-Heave Hun	aves (B9) (MLRA s (B10) er Table (C2) on Aerial Imager tion (D2) (D3) t (D5) ds (D6) (LRR A) amocks (D7)	ny (C9)

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# FID 102

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site: HARRARCA City/County: Siski You Co.: Sampling Date: 8/23/2010 Applicant/Owner: Hart Ranch State: CA Sampling Point: 38C Investigator(s): Andrea Rabe Section, Township, Range: 1.45N, R5W Sect 1, 2+3 andform (hillslope, terrace, etc.): Herra CC Local relief (concave, convex, none): Concave Slope (%): 2 Subregion (LRR): MLRA 22B Lat: 12, 38/9/ Long: 1.4692445 Datum: NAD 83 Soil Map Unit Name: 180 Medford Clay /Dam Cool NWI classification: PEMC we climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) re Vegetation , Soil , or Hydrology ND significantly disturbed? Are "Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.)
UMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.
vdric Soil Present? Yes No Xes
emarks:

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute Dominant Indicator	Dominance Test worksheet:
1)	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		That Are OBL, FACW, or FAC: (A)
3.		Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum Plot size:)		Prevalence Index worksheet:
1	·	_Total % Cover of: Multiply by:
3.		OBL species x 1 =
4		FACW species x 2 =
5		FAC species x 3 =
10	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: M		UPL species $(nD) \times 5 = 300$
1. Elymus elymoides	Leo V UPL	Column Totels: <u>60</u> (A) <u>320 (B)</u>
2. Poa so	70	Prevalence index = B/A =
3		
4 5.		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
	ha an appart is a	2 - Dominance Test is >50%
7.           8.	A Contraction of the second se	3 - Prevalence index is ≤3.0 ¹
9		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Υ	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	[	be present, unless disturbed or problematic,
1		AT . Shines
2	and the second second	Hydrophytic
% Bare Ground in Herb Stratum	= Total Cover	Vegetation Present? Yes No
Remarks:		

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OIL		રાગા હાલા હાલ છે.
Profile Description: (Describe to the d	lepth needed to document the indicator or co	nfirm the absence of indicators.)
Depth Matrix	Redox readures	Loc ² Texture Remarks
(inches) Color (moist) %	Color (moist) % Type	
0-18 104831-2 100	2	10020
Unis interioring		
·		
	and a little of Contract or Contract Sa	nd Grains, ² Location: PL=Pore Lining, M=Matrix.
¹ Type: C=Concentration, D=Depletion, F	RM=Reduced Matrix, CS=Covered or Coated Sa	
Hydric Soil Indicators: (Applicable to	all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
-	Sandy Redox (S5)	2 cm Muck (A10)
Histosol (A1)	Stripped Matrix (S6)	Red Parent Material (TF2)
Histic Epipedon (A2)	Loamy Mucky Mineral (F1) (except MLR	
Black Histic (A3)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Hydrogen Sulfide (A4)		
Depleted Below Dark Surface (A11)		³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6)	wetland hydrology must be present,
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	unless disturbed or problematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	
		,
estrictive Layer (if present):		bil Present? Yes No
Туре:	Hydric So	oil Present? Yes No
Depth (Inches):		
rdrology		
Vetland Hydrology Indicators:	to the state of the second of	Secondary Indicators (2 or more required)
rimary Indicators (minimum of one requi	Water-Stained Leaves (B9) (except	
	Water-Stained Leaves (Da) (except	4A, and 4B)
Surface Water (A1)	MLRA 1, 2, 4A, and 4B)	Drainage Patterns (B10)
High Water Table (A2)	Salt Crust (B11)	Dry-Season Water Table (C2)
Saturation (A3)	Aquatic Invertebrates (B13)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)
	Oxidized Rhizospheres along Living	
	OXIDIZED KITIZOSPITETES along civing	Description (DO)
Sediment Debosits (BZ)	Roots (C3)	Geomorphic Position (U2)
Sediment Deposits (B2) Drift Deposits (B3)		Geomorphic Position (D2) Shallow Aquitard (D3)
Sediment Deposits (B2) Drift Deposits (B3)	Roots (C3)	Shallow Aquitard (D3)
Drift Deposits (B3)	Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled	Geomorphic Position (U2)
	Ropts (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Drift Deposits (B3) Algal Mat or Crust (B4)	Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1)	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Ropts (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A)	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6)	Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery (	Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7)	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6)	Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7)	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface	Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7)	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface	Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8)	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface ield Observations: Surface Water Present? Yes	Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8)	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface ield Observations: Surface Water Present? Yes Vater Table Present? Yes	B7) (B8) Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7)	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present?	Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8) No Depth (inches): W	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Caturation P	Ropts (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Soils (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain in Remarks)         B7)         (B8)         No         Depth (inches):         Depth (inches):         W         No         Depth (inches):	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface ield Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes includes capillary fringe) Yes	Ropts (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Soils (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain in Remarks)         B7)         (B8)         No         Depth (inches):         Depth (inches):         W         No         Depth (inches):	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Vetland Hydrology Present? Yes No X
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface ield Observations: Surface Water Present? Yes Vater Table Present? Yes Saturation Present? Yes includes capillary fringe) Yes	Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8) No Depth (inches): W	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Vetland Hydrology Present? Yes No X
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 Vater Table Present? Yes Saturation Present? Yes	Ropts (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Soils (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain in Remarks)         B7)         (B8)         No         Depth (inches):         Depth (inches):         W         No         Depth (inches):	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7)
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes Saturation Present? Yes	Ropts (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Soils (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain in Remarks)         B7)         (B8)         No         Depth (inches):         Depth (inches):         W         No         Depth (inches):	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7)
Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soli Cracks (B6) inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface ield Observations: urface Water Present? Yes aturation Present? Yes aturation Present? Yes active Concent of the second seco	Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Soils (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain in Remarks)         B7)         (B8)         No         Depth (inches):         No         Depth (inches):	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) No X
Drift Deposits (B3) Algal Mat or Crust (B4) iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Imagery ( Sparsely Vegetated Concave Surface ield Observations: Surface Water Present? Yes Saturation Present?	Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Soils (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain in Remarks)         B7)         (B8)         No         Depth (inches):         No         Depth (inches):	Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Vetland Hydrology Present? Yes No

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	A TON DATA FORM - Westerr	Mountains, Valleys, and Coast Region
Investigator(s): KOOL Landform (hillslope, terrace, etc.): Subregion (LRR): M_LRA 22.8 Soil Map Unit Name: 53 COOL Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrol Are Vegetation, Soil, or Hydrol	City/County: State: CA Sar Section, Township, Range: CCC Local relief (concave, cor Lat: 7.2.2.3.99089 Long: 4/, Vpical for this time of year? Yes X logy ND significantly disturbed? A logy ND naturally problematic?	Sampling Date:       Stanpling Date:       Stanpling Date:         Toping Point:       Stanpling Date:       Stanpling Date:         Stanpling Point:       Stanpling Date:       Stanpling Date:         Stanpling Date:       Stanpling Date:       Stanpling Date:         Stanpling Date:       Stanpling Date:       Stanpling Date:         Stanpling Date:       NAD Stanpling Date:       Stanpling Date:         No        (If no, explain in Remarks.)       No         (If needed, explain any answers in Remarks.)       No          Int locations, transects, important features, etc.       A
	Past	ne
VEGETATION – Use scientific names	s of plants. Absolute Dominant Indica <u>% Cover Species? Statu</u>	
apling/Shrub Stratum (Plot size:)	= Total Cover	Prevalence Index worksheet:         Total % Cover of:       Multiply by:         OBL species       x 1 =         FACW species       x 2 =         FAC species       Y 0       x 3 =         FACU species       x 4 =
Pseudorane A Spicata <u>Pseudorane A Spicata</u> <u>Elytriane repens</u> <u>Fod pratesis</u>	40 Y NE	UPL species $20$ x 5 = $100$ Column Totals: $60$ (A) $220$ (B) Prevalence Index = B/A = $3,6$
		Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)         5 - Wetland Non-Vascular Plants ¹
ody Vine Stratum (Plot size: )	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	= Total Cover	Hydrophytic Vegetation
Bare Ground in Herb Stratum	-	Present? Yes No

SOIL	5-mail/08-041 39
Profile Description: (Describe to the depth needed to d	ocument the indicator or confirm the absence of indicators.)
Depth Matrix	Redox Features
(inches) Color (moist) % Color (moist)	
0-18 1048312 (00	[oam
· · · · ·	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matri	x, CS=Covered or Coated Sand 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 Red	
Histic Epipedon (A2) Stripped M Black Histic (A3) Loamy Mu	cky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)
	yed Matrix (F2) Other (Explain in Remarks)
Depleted Below Dark Surface (A11) Depleted M	
Thick Dark Surface (A12)	k Surface (F6) ³ Indicators of hydrophytic vegetation and
	ark Surface (F7) wetland hydrology must be present,
Sandy Gleyed Matrix (S4) Redox Dep	ressions (F8) unless disturbed or problematic
Restrictive Layer (if present):	in the second
	Hydric Soil Present? Yes No
Type: Depth (inches):	
Remarks:	
n no	Indicator
ND	indications
	Maicados
HYDROLOGY Wetland Hydrology Indicators:	
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that a	pply) Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that a Water-	pply) Secondary Indicators (2 or more required) Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2,
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that a Water- Surface Water (A1) MLRA	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that a Water-4 Surface Water (A1) High Water Table (A2) Salt Cm	Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that a Water-S Surface Water (A1) High Water Table (A2) Saturation (A3) Aquatic	Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Jst (B11)       Drainage Patterns (B10)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-         High Water Table (A2)       Salt Crain         Saturation (A3)       Aquation         Water Marks (B1)       Hydrog         Oxidize       Oxidize	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Jst (B11)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Water-G         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Oxidize         Sediment Deposits (B2)	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Jst (B11)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living C3)       Geomorphic Position (D2)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-G         High Water Table (A2)       Salt Cn         Saturation (A3)       Aquation         Water Marks (B1)       Hydrog         Oxidize       Sediment Deposits (B2)         Drift Deposits (B3)       Present	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Jst (B11)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living C3)       Geomorphic Position (D2)         ce of Reduced Iron (C4)       Shallow Aquitard (D3)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-G         High Water Table (A2)       Salt Cn         Saturation (A3)       Aquation         Water Marks (B1)       Hydrog         Oxidize       Sediment Deposits (B2)         Drift Deposits (B3)       Present	Secondary Indicators (2 or more required)         Stained Leaves (B9) (except         1, 2, 4A, and 4B)         Jst (B11)         Invertebrates (B13)         Invertebrates (B13) <td< td=""></td<>
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-G         High Water Table (A2)       Salt Cn         Saturation (A3)       Aquation         Water Marks (B1)       Hydrog         Oxidize       Sediment Deposits (B2)         Drift Deposits (B3)       Presen         Algal Mat or Crust (B4)       Soils (C	Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       AA, and 4B)         ust (B11)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Suffide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         cs of Reduced Iron (C4)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-         High Water Table (A2)       Salt Crit         Saturation (A3)       Aquation         Water Marks (B1)       Hydrog         Oxidize       Oxidize         Sediment Deposits (B2)       Roots (         Drift Deposits (B3)       Present         Algal Mat or Crust (B4)       Solis (C         Iron Deposits (B5)       (LRR A)	Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         1, 2, 4A, and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Just (B11)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         c3)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         io o Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water         High Water Table (A2)       Salt Crit         Saturation (A3)       Aquation         Water Marks (B1)       Hydrog         Oxidize       Oxidize         Sediment Deposits (B2)       Roots (         Drift Deposits (B3)       Present         Algal Mat or Crust (B4)       Solis (C         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (	Secondary Indicators (2 or more required)         Stained Leaves (B9) (except         1, 2, 4A, and 4B)         ust (B11)         Invertebrates (B13)         Invertebrates (B13) <td< td=""></td<>
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-         High Water Table (A2)       Salt Crit         Saturation (A3)       Aquation         Water Marks (B1)       Hydrog         Oxidize       Oxidize         Sediment Deposits (B2)       Roots (         Drift Deposits (B3)       Present         Algal Mat or Crust (B4)       Solis (C)         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (	Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         1, 2, 4A, and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Just (B11)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         c3)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         io o Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water         High Water Table (A2)       Salt Crit         Saturation (A3)       Aquation         Water Marks (B1)       Hydrog         Oxidize       Oxidize         Sediment Deposits (B2)       Roots (         Drift Deposits (B3)       Present         Algal Mat or Crust (B4)       Solis (C         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (	Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         1, 2, 4A, and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Just (B11)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         c3)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         io o Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-Gamma         High Water Table (A2)       Salt Cn         Saturation (A3)       Aquatic         Water Marks (B1)       Hydrog         Oxidize       Sediment Deposits (B2)       Roots (         Drift Deposits (B3)       Presen         Algal Mat or Crust (B4)       Soils (C         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)	Stained Leaves (B9) (except       Secondary Indicators (2 or more required)         1, 2, 4A, and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Just (B11)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         c3)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         io o Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-         High Water Table (A2)       Salt Crit         Saturation (A3)       Aquation         Water Marks (B1)       Hydrog         Oxidize       Oxidize         Sediment Deposits (B2)       Roots (         Drift Deposits (B3)       Present         Algal Mat or Crust (B4)       Solis (C)         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         C3)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         ior Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)         Frost-Heave Hummocks (D7)       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-         High Water Table (A2)       Salt Crite         Saturation (A3)       Aquation         Water Marks (B1)       Hydrog         Oxidize       Sediment Deposits (B2)         Drift Deposits (B3)       Present         Algal Mat or Crust (B4)       Solis (Crust (B4)         Surface Soli Cracks (B6)       Other (Crust (B7)         Sparsely Vegetated Concave Surface (B8)       Field Observations:	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         C3)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         ior Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)         Frost-Heave Hummocks (D7)       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         c3)       Geomorphic Position (D2)         c4)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         ior Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)         in Remarks)       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         C3)       Geomorphic Position (D2)         c of Reduced Iron (C4)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         is or Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)         is plain in Remarks)       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         C3)       Geomorphic Position (D2)         c of Reduced Iron (C4)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         is or Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)         is plain in Remarks)       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         C3)       Geomorphic Position (D2)         c of Reduced Iron (C4)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         is or Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)         is plain in Remarks)       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-Gamma         High Water Table (A2)       Sait Cm         Saturation (A3)       Aquatic         Water Marks (B1)       Hydrog         Oxidize       Sediment Deposits (B2)       Roots (         Drift Deposits (B3)       Present         Algal Mat or Crust (B4)       Soils (C         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (I)         Inundation Visible on Aerial Imagery (B7)       Depth (ind         Saturation Present?       Yes       No         Field Observations:       No       Depth (ind         Saturation Present?       Yes       No       Depth (ind         Saturation Present?       Yes       No       Depth (ind         Describe Recorded Data (stream gauge, monitoring well, aeria)       Depth (ind	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         C3)       Geomorphic Position (D2)         c of Reduced Iron (C4)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         is or Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)         is plain in Remarks)       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         C3)       Geomorphic Position (D2)         c of Reduced Iron (C4)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         is or Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)         is plain in Remarks)       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-         High Water Table (A2)       Salt Crite         Saturation (A3)       Aquatic         Water Marks (B1)       Hydrog         Oxidize       Sediment Deposits (B2)       Roots (         Drift Deposits (B3)       Present         Algal Mat or Crust (B4)       Solis (Cracks (B6)         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No       Depth (ind         Saturation Present?       Yes       No       Depth (ind         Saturation Present?       Yes       No       Depth (ind         Describe Recorded Data (stream gauge, monitoring well, aeria)       Remarks:       Remarks:	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Sinvertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Geomorphic Position (D2)         d Rhizospheres along Living       Shallow Aquitard (D3)         c3)       FAC-Neutral Test (D5)         ce of Reduced Iron (C4)       FAC-Neutral Test (D5)         iron Reduction in Tilled       Frost-Heave Hummocks (D7)         ches):       Wetland Hydrology Present?       Yes         ches):       Wetland Hydrology Present?       Yes         ip hotos, previous inspections), if available:       No
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that a         Surface Water (A1)       Water-         High Water Table (A2)       Salt Crite         Saturation (A3)       Aquatic         Water Marks (B1)       Hydrog         Oxidize       Sediment Deposits (B2)       Roots (         Drift Deposits (B3)       Present         Algal Mat or Crust (B4)       Solis (Cracks (B6)         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No       Depth (ind         Saturation Present?       Yes       No       Depth (ind         Saturation Present?       Yes       No       Depth (ind         Describe Recorded Data (stream gauge, monitoring well, aeria)       Remarks:       Remarks:	pply)       Secondary Indicators (2 or more required)         Stained Leaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         1, 2, 4A, and 4B)       Drainage Patterns (B10)         Invertebrates (B13)       Dry-Season Water Table (C2)         en Sulfide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         d Rhizospheres along Living       Geomorphic Position (D2)         C3)       Geomorphic Position (D2)         c of Reduced Iron (C4)       Shallow Aquitard (D3)         iron Reduction in Tilled       FAC-Neutral Test (D5)         is or Stressed Plants (D1)       Ralsed Ant Mounds (D6) (LRR A)         is plain in Remarks)       Frost-Heave Hummocks (D7)

WETLAND DETERMINATION DATA FORM – Western Mountains, V	Valleys, and	Coast Region
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Project/Site: Hart Ranch city/County: Siski Vou Co. sampling Date: 8/23/2016 Applicant/Owner: Hart Ranch State: CA sampling Point: 40
Landform (hillislope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 33 Subregion (LRR): MLRA 228 Lat: (22,389174 Long: 41 (93850 Datum: NAD 83
Som wap on it Name: 132 gottelle Silt LOam NWI classification: PEMC
Are curcatic / budrologic conditions on the start of the start of the
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) Are Vegetation, Soil, or Hydrology No aturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophydd Vegetauon Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No X Yes No X	is the Sampled Area within a Wetland?	Yes No _X
Remarks:			· · · · · · · · · · · · · · · · · · ·

## VEGETATION - Use scientific names of plants.

	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: )	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1	•	Total % Cover of: Multiply by:
2		OBL species x1 =
3		FACW species x 2 =
4		FAC species $\frac{70}{20} \times 3 = 60$
·		FACU species 8D x4= 320
Herb Stratum (Plot size: 1m ² )	= Total Cover	UPL species x 5 =
1. Elymus elymoides	80 Y FACU	Column Totals: 100 (A) 380 (B)
2. <u>Po'a pratensis</u>	TO Y FAC	Prevalence index = B/A = 3,8
3		
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
	Sale enders	2 - Dominance Test is >50%
7 8		$\frac{1}{100}$ 3 - Prevalence index is $\leq 3.0^{1}$
9		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plat size:)	80 = Total Cover	¹ Indicators of hydric soli and wetland hydrology must be present, unless disturbed or problematic,
1	· · · · · ·	
2	and the second sec	A A DEPARTURE AND A DEPARTURA A
	= Total Cover	Vegetation
% Bare Ground in Herb Stratum	-	Present? Yes No
Remarks:		
		1

1

OIL				statuginer?	
Profile Description: (Describe to the dept	h needed to document the I Redox Fo	ndicator or co	ontirm the a	psence of indicate	naij
Depth Matrix (inches) Color (moist) %	Color (moist) %		Loc ²	Texture	Remarks
				100 m	
D-18 10 Y23/2 100		·		<u>I U I PM</u>	
	<u> </u>			· · · · · · · · · · · · · · · · · · ·	
		<u> </u>	<u> </u>	· · · · · · · · · · · · · · · · · · ·	
				<u> </u>	
¹ Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, CS=Covere	d or Coated Sa	and Grains.	² Location: PL=P	ore Lining, M=Matrix.
				leaters for Problem	natic Hydric Soils ³ :
Hydric Soli Indicators: (Applicable to all Histosol (A1)	Sandy Redox (S5)	leu.)		2 cm Muck (A10)	
Histic Epipedon (A2)	Stripped Matrix (S6)			Red Parent Materia	81 (1172) Surfeen (11542)
Black Histic (A3)	Loamy Mucky Mineral (F1		RA 1)	Very Shallow Dark Other (Explain in R	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2 Depleted Matrix (F2)	)	<u> </u>		onanoy
Depleted Below Dark Surface (A11)	Depleted Matrix (F3) Redox Dark Surface (F6)			³ Indicators of hydro	phytic vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F	7)		wetland hydrology	must be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	.,		unless disturbed or	problematic
Restrictive Layer (if present):					
Туре:		Hydric Se	oil Present?	Yes	<u> </u>
Depth (Inches):					~
emarks:	······································		<u></u>		
Art 7 156 1 1 167 1					
	b	nind	: cal	and the part of the second	
		UINI	107	<u> 175</u>	

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

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
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Project/Site: Hart Ranch city/county: Siski you Co. sampling Date; 8/23/2016
Applicant/Owner: TAPT KANCH State: (A Sampling Point: 42
Investigator(s): Marca Kabe Section Township Banner Tarch Tarch
Landform (hillslope, terrace, etc.); TCMACE local relief (concerver analy lo and a
Subregion (LRR): MLRA 22B Lat /22.384.20 Long: 41.693987 Datum: NAD 63
Soil Map Unit Name: 153 GORUL SI H / OGAA NWI dessification: DEMA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No. (If no, explain in Remarks)
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No	is the Sampled Area within a Wetland?	Yes No	
Remarks:				

## VEGETATION - Use scientific names of plants.

Tree Stratum (Plat size: )	Absolute Dominant Indicator	Dominance Test worksheet:
1	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC:
2		Total Number of Dominant Species Across All Strata: 2 (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
3.	<u> </u>	OBL species x1 =
4.		FACW species x 2 =
5	<u> </u>	FAC species x 3 =
	= Total Cover	FACU species $30 \times 4 = 120$
Herb Stratum (Plot size: 102)		UPL species $40 \times 5 = 200$
1. Pseudoreaneria. Spicato	90 V UPL	Column Totals: 20 (A) 320 (B)
	30 Y FACU	Prevalence index = B/A = 3/1
4		Hydrophytic Vegetation Indicators:
5		1 - Rapid Test for Hydrophytic Vegetation
6	he is enote the	2 - Dominance Test is >50%
/		3 - Prevalence Index is <3 01
8		4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10.		5 - Wetland Non-Vascular Plants ¹
11.		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plat size:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.		al. 13-
	and a state of a state of a	Hydrophytic
% Bare Ground in Herb Stratum	≂ Total Cover	Vegetation Present? Yes No
Remarks:		
		ł
		}

SOIL							Sterring Main Port	
Profile Desc	ription: (Describ	e to the dept	th needed to docum	nent the inc	licator or co	onfirm the a	bsence of indicators	.)
Depth	Matrix			Redox Fea	tur <u>es</u>	Loc ²	Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type'			
0-18	10423/2	100					loam	
	•							
			<u> </u>			<u> </u>		
						<del></del>	<u> </u>	
·								2
			•••					
			<u> </u>				·	
¹ Type: C=Co	ncentration, D≂De	epietion, RM=	Reduced Matrix, CS	S=Covered o	or Coated Sa	ind Grains.	² Location: PL=Por	E Lining, M=Matrix.
Liudaia Bail	Indicators: (App	licable to all	LRRs, unless othe	owise note	d')	 Indi	icators for Problema	tic Hydric Soils ³ :
			Sandy Redox (S		,		2 cm Muck (A10)	-
Histosol	(A1) pipedon (A2)		Stripped Matrix (				Red Parent Material (	TF2)
	istic (A3)		Loamy Mucky M	lineral (F1)	(except MLF	RA 1)	Very Shallow Dark St	Inface (TF12)
	an Sulfide (A4)		Loamy Gleyed N				Other (Explain in Ren	narks)
Depleter	d Below Dark Surf	ace (A11) 📋	Depleted Matrix				3	d'a constation and
	ark Surface (A12)	_	Redox Dark Sur				³ Indicators of hydroph wetland hydrology mu	ivic vegetation and
	Aucky Mineral (S1)		Depleted Dark S Redox Depressi				unless disturbed or pl	roblematic
Sandy G	Bieyed Matrix (S4)		Redux Depress		<u> </u>			
Restrictive La	yer (if present):							N
Type:	-				Hydric So	il Present?	Yes	No <u>X</u>
Depth (inch								
Remarks:					· · · · · · · · · · · · · · · · · · ·		<u></u>	····
nomana.								
			nni	ndi	cato	<u> </u>		
	<u> </u>		101	DIAL (	Jun V			

### HYDROLOGY

Wetland Hydrology Indicators:		O
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; cl	heck 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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks)	A, and 4B)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Saturation Visible on Aerial Imagery (C9)
Field Observations:         Surface Water Present?       Yes       No         Water Table Present?       Yes       No         Saturation Present?       (includes capillary fringe)       Yes       No         Describe Recorded Data (stream gauge, monitor)	Depth (inches):	etiand Hydrology Present? Yes No X
Remarks:	Some in garant	

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch City/County: Siski Vou Co. sampling Date: 8/23/2016 Applicant/Owner: Hart Ranch State: CA Sampling Point: 43 Investigator(s): Andrea Rabe Section, Township, Range: 7.45N, R5W Sect 1, 2+3 Landform (hillslope, terrace, etc.): TECTORCE Local relief (concave and concerned
Investigator(s): <u>INORA KADE</u> Section, Township, Range: <u>I.45N, R5W Sect 1,2+3</u> Landform (hillslope, terrace, etc.): <u>ICT ACE</u> Local relief (concave, convex, none): <u>CONCAVE</u> Slope (%): <u>S</u> Subregion (LRR): <u>MLRA 22B</u> Lat: <u>122,371336</u> Long: <u>UI,6982996</u> Datum: <u>NAD 63</u>
Are climatic / hydrologic conditions on the site typical for this time of year? Yes V No. (Kan and the site typical for this time of year? Yes V No. (Kan and the site typical for this time of year? Yes V No. (Kan and the site typical for this time of year? Yes V No. (Kan and the site typical for this time of year? Yes V No. (Kan and the site typical for the site t
Are Vegetation, Soil, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No No Are Vegetation, Soil, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No No Yes No No Yes	Is the Sampled Area within a Wetland?	Yes	
Remarks:				

## VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: )	Absolute Dominant Indicator	Dominance Test worksheet;
1	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (OO) (A/B)
*112	= Total Cover	
Sapling/Shrub Stratben (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x 1 =
		FACW species x 2 =
		FAC species $40 \times 3 = 120$
5		FACU species x 4 =
Herb Stratum (Plot size: m ² )	= Total Cover	UPL species x 5 =
1. Poavoradensis	40 Y FAC	Column Totals: 40 (A) 20 (B)
2. Elyprigiarepuns	ROY NE	Prevalence index = B/A =
4		Hydrophytic Vegetation Indicators:
5	1 42.4 V 1 201 1 1	
6		<ul> <li>1 - Rapid Test for Hydrophytic Vegetation</li> <li>2 - Dominance Test is &gt;50%</li> </ul>
7		$3$ - Prevalence Index is $\leq 3.0^{1}$
8		4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10.		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
West-Mar Of the State	구국 = Total Cover	Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot Size:)		be present, unless disturbed or problematic.
2.		the transfer of the second sec
	a. Anto to som	Hydrophytic
% Bare Ground in Herb Stratum	= Total Cover	Vegetation Present? Yes No No
Remarks:		
		ł

OIL	the depth needed to document the i	indicator or conf	
	Redox Fe	estures	
Depth <u>Matrix</u>	% Color (moist) %	Type'	Loc ² Texture Remarks
(inches) Color (moist)			
0-6 104R412	100		10am
	100		Cemented Sand
5-18 IDYRTR	100		<u>Cententes</u>
		· ·	
			Grains. ² Location: PL=Pore Lining, M=Matrix.
	tion, RM=Reduced Matrix, CS=Covered		
Hydric Soil Indicators: (Applica	bie to all LRRs, unless otherwise no	ted.)	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)
	Loamy Mucky Mineral (F1	(except MLRA	
Black Histic (A3)	Loamy Gleyed Matrix (F2)	1 / And a he many	Other (Explain in Remarks)
Hydrogen Sulfide (A4)		7	
Depleted Below Dark Surface	(A11) Depleted Matrix (F3)		³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6)		wetland hydrology must be present,
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F	·/)	unless disturbed or problematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		
			6
estrictive Layer (if present):			
Type:		Hydric Soil	Present? Yes No
Depth (inches):			
marks:			
	10 indicators		
YDROLOGY Vetland Hydrology Indicators:			
second enderstand (minimum of one	required; check all that apply)		Secondary Indicators (2 or more required)
rimary Indicators (minimum of one	required; check all that apply)	s (B0) (except	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
rimary Indicators (minimum of one	Water-Stained Leaver		Water-Stained Leaves (B9) (MLRA 1, 2,
rimary Indicators (minimum of one Surface Water (A1)	Water-Stained Leaves MLRA 1, 2, 4A, and 4		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11)	4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates	<b>4B)</b> (B13)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
rimary Indicators (minimum of one Surface Water (A1) High Water Table (A2)	Water-Stained Leaves MLRA 1, 2, 4A, and 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Odd	4B) (B13) or (C1)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
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WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region
Project/Site: <u>Hart Ranch</u> City/County: <u>Siski You Co.</u> sampling Date: <u>8/23/2016</u> Applicant/Owner: <u>Hart Ranch</u> State: <u>CA</u> Sampling Point: <u>44</u> Investigator(s): <u>Andrea Rabe</u> Section, Township, Range: <u>1.45N</u> , <u>R5W</u> <u>Sect 1,2+3</u> Landform (hillislope, terrace, etc.): <u>1000 ACE</u> Local relief (conceive convex poor)
Investigator(s): Anarca Rabe Section, Township, Range: T.45N, R5W Sect 1, 2+3 Landform (hillislope, terrace, etc.): terrace Local relief (concave, convex, none): vore Slope (%):
Soil Map Unit Name: 153 00 2016 Solder Log Ma
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation , Soil , or Hydrology ND significantly disturbed? Are "blogged Circumstances" with the site of the si
Are Vegetation, Soil, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No Yes No Yes	Is the Sampled Area within a Wetland?	Yes No	
Remarks:			<u>.</u>	

## VEGETATION - Use scientific names of plants.

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Tree Stratum (Riot size:	Absolute Dominant Indicato	Dominance Test worksheet:
1	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across Ail Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x 1 =
		FACW species x 2 =
4		FAC species $\frac{1}{20}$ x 3 = $\frac{1}{20}$
		FACU species x 4 =
Herb Stratum (Plot size: ) m 7	= Total Cover	UPL species $30 \times 5 = 150$
1. Pseudoregneria spicata	20 1. 1101	Column Totals: 70 (A) 270(B)
2. <u>Poa pratensis</u>	40 Y FAC	Prevalence Index = B/A = 3.6
4.		Hydrophytic Vegetation Indicators:
5,	1. 2017 A. 20 M. 1	<b>*1</b> (K)
6		1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
7		$\frac{1}{2} = 2 - \text{Dominance rest is >50\%}$ $3 - \text{Prevalence index is \leq 3.0^{1}$
8		4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Woodv Vine Stratum (Plot size:)		be present, unless disturbed or problematic.
2		to the second second
	and the second sec	Hydrophytic August Constant
% Bare Ground in Herb Stratum 3b	= Total Cover	Vegetation Present? Yes No X
Remarks:		

		o the depth	n needed to docum	ent the inc	licator or co	ontirm the a	bsence of indicators	s.1
Depth	Matrix			Redox Feat	tures	Loc ²	/ Texture	Remarks
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Туре	LUC		
1-18	104R3/21	00					loam	
and the	the second secon	<u> </u>						
				<u>.                                    </u>				
-				_		· · · · · ·		
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					<u> </u>			
			<u> </u>					······································
	· ·							
						······		
							2.	
¹ Type: C=Cor	ncentration, D=Depl	etion, RM=F	Reduced Matrix, CS	=Covered o	or Coated Sa	and Grains.	Location: PL=Por	e Lining, M=Matrix.
							licators for Problema	tic Hydric Soils ³ :
Hydric Soil I	ndicators: (Applic	aple to all i	LRRs, unless othe			110		and the second of
Histosol (			Sandy Redox (S	5)			2 cm Muck (A10)	(750)
	ipedon (A2)	-	Stripped Matrix (	(S6)			Red Parent Material	(172)
Black His			Loarny Mucky M	ineral (F1)	(except MLI	RA 1) 📃	Very Shallow Dark S	urrace (TF12)
Hvdroner	n Sulfide (A4)		Loamy Gleyed N	latrix (F2)			Other (Explain in Rer	marks)
Depleted	Below Dark Surface	e (A11) 🗂	Depleted Matrix	(F3)			9.	
Thick Da	rk Surface (A12)	·	Redox Dark Surf	face (F6)			³ Indicators of hydropl	nytic vegetation and
	ucky Mineral (S1)		Depleted Dark S	urface (F7)	١		wetland hydrology m	ust be present,
	leyed Matrix (S4)		Redox Depressio				unless disturbed or p	ropiematic
	<u> </u>				T	·		-
<b>Restrictive Lay</b>	er (if present):				1			· /X
Type:					Hydric Se	oil Present?	Yes	No
Depth (Inche			······					
			<u> </u>			<u> </u>		
Remarks:								
				mat	ndia	atra		
					MALC	CALL IN	<u> </u>	
		_						
HYDROLOG	Υ			<u> </u>				
Wetland Hydro	ology Indicators:					-	malam Indiana /A	more required
Primary Indicate	ors (minimum of one	e required; o	check all that apply)				ondary Indicators (2 or	
			Water-Staine	ed Leaves (		r V	Water-Stained Leaves	(DO) (MLINA 1, 4,
Surface Wat			MLRA 1, 2, 4		"		IA, and 4B) Drainage Patterns (B1	0)
High Water			Salt Crust (B		1401	[	Drainage Patterns (B1 Dry-Season Water Tat	nie (C2)
Saturation (/	A3)		Aquatic Inve	rtebrates (E	513)	<u></u>	Dry-Season Water 1 at Saturation Visible on A	Verial Imagen/ (CO)
Water Marks			Hydrogen St				Saturation Visible on A	renar magery (Ca)
	• •		Oxidized Rh	izospheres	atong Living	9	Zoomombie Desifier /	เกรา
Sediment De	eposits (B2)		Roots (C3)	_			Geomorphic Position (	
Drift Deposi	ts (B3)		Presence of			-	Shallow Aquitard (D3)	
<u> </u>			Recent Iron	Reduction	in Tilled		TAC-Noutral Test (DE)	۱
Algal Mat or	· Crust (B4)		Soils (C6)				FAC-Neutral Test (D5)	1
			Stunted or S	stressed Pla	ants (D1)		Raised Ant Mounds (D	)6) (LRR A)
Iron Deposit			(LRR A)		und and a			
Surface Soi	I Cracks (B6)		Other (Expla	ain in Rema	irks)		Frost-Heave Hummoc	~~ (U)
Inundation \	Visible on Aerial Ima	igery (B7)						
Sparsely Ve	egetated Concave S	urface (B8)	1					
							·····	
Field Observa	tions:			_				
Surface Water		No	📉 Depth (inches)		1			Man Mr.
Water Table Pr		No 🔪	Depth (inches)		W	etland Hyd	rology Present?	Yes No
Saturation Pres		— · · · ·	R .		_			
(includes capil	ary fringe) Yes	No	Depth (inches)					
Describe Record			oring well, aerial pho		us inspectio	ns), if availa	ble:	. —
	ing have foregrin Ag	പുഴം സഗസ്പ	g trong worker prik					
Remarks:							£.	
						1 IA	L al	
					A NOU		AND STA	
				mAV	Igvi	A h	gated	
				- <b>VIIV</b> ~'	- E.I.	1 C 🗸 🗸	· · · · · · · · · · · · · · · · · · ·	
					<u> </u>			

SOIL

States and the Follo

	ATION DATA FORM – Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillislope, terrace, etc.): Subregion (LRR): MLRA 22B Soil Map Unit Name: Are climatic / hydrologic conditions on the site to Are Vegetation, Soil, or Hydrol	City/County: Siski You State: CA Sam Section, Township, Range: Careful Concave, conv Lat: -100, 374001 Long: 44 Va Chy I Oddar Cool ypical for this time of year? Yes X N logy ND significantly disturbed? And logy ND naturally problematic? Ite map showing sampling point No X Is the Sampled Area of No X Is the Sampled Area of	D     Sampling Pate:     8/23/2010       Image: Point:     44a       Image: Point:     12 + 3       Image: Point:     12 + 3
	pasture	· · · · · ·
VEGETATION - Use scientific names		
TEOLINATION - Ose scientific hames		
Tree Stratum         (Plot size:)           1            2	Absolute Dominant Indicato <u>% Cover Species? Status</u>	1
2		Total Number of Dominant
3		Species Across All Strata:(B)
	- <u> </u>	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x1 =
3		FACW species x2 =
ł	·	FAC species x3 =
)		FACU species $\textcircled{O}$ x4 = $320$
terb Stratum (Plot size: 102)	= Total Cover	UPL species x 5 =
Elymus elymoides	SD Y FACU	Column Totals: 80 (A) 320 (B)
·		Prevalence index = B/A =
·		Abertrombustic Managertium (
		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation     2 - Dominance Test is >50%
		3 - Prevalence index is ≤3.0 ¹
·		4 - Morphological Adaptations ¹ (Provide supporting
		data in Remarks or on a separate sheet)
)		5 - Wetland Non-Vascular Plants ¹
· · · · · · · · · · · · · · · · · · ·	8D = Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
/cody Vine Stratum (Plot size)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	Den Bar	ter state
Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
	,	
emarks:		

SOIL	HIGH HA
Profile Description: (Describe to the depth needed to docume	ant the indicator or confirm the absence of indicators.)
	Redox Features
Deptil	
(inches) Color (moist) % Color (moist)	76 Type 100 100 100 100 100 100 100 100 100 10
0-18 2.5484/2100	Claulaaro
$0-15 \alpha_{13} \gamma_{E11} \alpha_{100}$	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=	Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Type: C=Concentration, D=Depletion, Rivi=Reduced Matrix, CO-	
At the Arthurstein (Analischie és all I DDs. unless sébas	wise noted.) Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to all LRRs, unless other	····· •
Histosol (A1) Sandy Redox (S5	a) 2 cm Muck (A10)
Histic Epipedon (A2) Stripped Matrix (S	
Hydrogen Sulfide (A4) Loamy Gleyed Ma	atrix (F2) Other (Explain in Remarks)
Depleted Below Dark Surface (A11) Depleted Matrix (I	F3)
Sandy Mucky Mineral (S1) Depleted Dark Su	a set a set of the set
Sandy Gleyed Matrix (S4) Redox Depression	ns (F8) unless disturbed or problematic
- A total to an a difference of the	
Restrictive Layer (if present):	Hydric Soll Present? Yes No
Туре:	Hydric Soll Present? Yes NoV
Depth (inches):	
Remarks:	
	nut indicators
/	no indicators
HYDROLOGY	no indicators
HYDROLOGY Wetland Hydrology Indicators:	
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained	d Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2,
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Surface Water (A1) MLRA 1, 2, 4	d Leaves (B9) (except A, and 4B) A and 4B) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stainer         Surface Water (A1)         Hiph Water Table (A2)	Secondary Indicators (2 or more required)         d Leaves (B9) (except         A, and 4B)         11)             Drainage Patterns (B10)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2,         A, and 4B)         11)         Drainage Patterns (B10)         Itebrates (B13)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2,         A, and 4B)         11)         Drainage Patterns (B10)         Itebrates (B13)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         T1)       Drainage Patterns (B10)         Tebrates (B13)       Dry-Season Water Table (C2)         Saturation Visible on Aerial Imagery (C9)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Oxidized Rhiz	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)         Drainage Patterns (B10)         Itebrates (B13)         Iffide Odor (C1)         zospheres along Living
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stainer         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         Ifide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         geomorphic Position (D2)       Geomorphic Position (D2)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stainer         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         Saturation Visible on Aerial Imagery (C9)         Zospheres along Living         Reduced Iron (C4)
IYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stainer         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         1fide Odor (C1)       Saturation Visible on Aerial Imagery (C9)         2cospheres along Living       Geomorphic Position (D2)         Reduced Iron (C4)       Shallow Aquitard (D3)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Saturation Visible on Aerial Imagery (C9)         Reduced Iron (C4)         Reduction in Tilled
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algat Mat or Crust (B4)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         Itide Odor (C1)       Dry-Season Water Table (C2)         Zospheres along Living       Geomorphic Position (D2)         Reduced Iron (C4)       Shallow Aquitard (D3)         FAC-Neutral Test (D5)       FAC-Neutral Test (D5)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         16/10 Coor (C1)       Saturation Visible on Aerial Imagery (C9)         2000 Reduced Iron (C4)       Geomorphic Position (D2)         Reduction in Tilled       FAC-Neutral Test (D5)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         111       Saturation Visible on Aerial Imagery (C9)         111       Geomorphic Position (D2)         111       Shallow Aquitard (D3)         112       FAC-Neutral Test (D5)         113       Raised Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         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)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         Saturation Visible on Aerial Imagery (C9)         Reduced Iron (C4)       Geomorphic Position (D2)         Reduction in Tilled       FAC-Neutral Test (D5)         tressed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Presence of F         Recent Iron F         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         111       Saturation Visible on Aerial Imagery (C9)         111       Geomorphic Position (D2)         111       Shallow Aquitard (D3)         112       FAC-Neutral Test (D5)         113       Raised Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Solis (C6)         Sturface Soil Cracks (B6)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         Saturation Visible on Aerial Imagery (C9)         Reduced Iron (C4)       Geomorphic Position (D2)         Reduction in Tilled       FAC-Neutral Test (D5)         tressed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Drift Deposits (B2)         Drift Deposits (B3)         Presence of F         Recent Iron F         Algal Mat or Crust (B4)         Iron Deposits (B5)         Surface Soil Cracks (B6)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         Saturation Visible on Aerial Imagery (C9)         Reduced Iron (C4)       Geomorphic Position (D2)         Reduction in Tilled       FAC-Neutral Test (D5)         tressed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soil Cracks (B6)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         16 Odor (C1)       Saturation Visible on Aerial Imagery (C9)         Reduced Iron (C4)       Geomorphic Position (D2)         Reduction in Tilled       FAC-Neutral Test (D5)         Itressed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         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)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         16 Odor (C1)       Saturation Visible on Aerial Imagery (C9)         Reduced Iron (C4)       Geomorphic Position (D2)         Reduction in Tilled       FAC-Neutral Test (D5)         Itressed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         16/de Odor (C1)       Saturation Visible on Aerial Imagery (C9)         2000       Geomorphic Position (D2)         2001       Shallow Aquitard (D3)         Reduced Iron (C4)       FAC-Neutral Test (D5)         Ressed Plants (D1)       Raised Ant Mounds (D6) (LRR A)         in in Remarks)       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soil Cracks (B6)         Iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         110       Saturation Visible on Aerial Imagery (C9)         111       Geomorphic Position (D2)         111       Shallow Aquitard (D3)         111       FAC-Neutral Test (D5)         112       Raised Ant Mounds (D6) (LRR A)         113       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algai Mat or Crust (B4)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         16/14 Odor (C1)       Saturation Visible on Aerial Imagery (C9)         2000       Geomorphic Position (D2)         2011       Shallow Aquitard (D3)         2012       FAC-Neutral Test (D5)         2013       Raised Ant Mounds (D6) (LRR A)         2014       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)       MLRA 1, 2, 4         High Water Table (A2)       Salt Crust (B1         Saturation (A3)       Aquatic Invert         Water Marks (B1)       Hydrogen Sul         Oxidized Rhiz       Sediment Deposits (B2)         Drift Deposits (B3)       Presence of F         Algal Mat or Crust (B4)       Soils (C6)         Surface Soil Cracks (B6)       Other (Explai         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       Yes       No         Water Table Present?       Yes       No	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         16/14 Odor (C1)       Saturation Visible on Aerial Imagery (C9)         2000       Geomorphic Position (D2)         2011       Shallow Aquitard (D3)         2012       FAC-Neutral Test (D5)         2013       Raised Ant Mounds (D6) (LRR A)         2014       Frost-Heave Hummocks (D7)
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)       MLRA 1, 2, 4         High Water Table (A2)       Salt Crust (B1         Saturation (A3)       Aquatic Invert         Water Marks (B1)       Hydrogen Sul         Oxidized Rhiz       Sediment Deposits (B2)         Drift Deposits (B3)       Presence of F         Algal Mat or Crust (B4)       Soils (C6)         Surface Soil Cracks (B6)       Other (Explai         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       Yes       No         Water Table Present?       Yes       No         Saturation Present?       Yes       No	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         11       Geomorphic Position (D2)         11       Shallow Aquitard (D3)         11       FAC-Neutral Test (D5)         12       Resed Plants (D1)         13       Frost-Heave Hummocks (D7)         14       Wetland Hydrology Present?         Yes       No
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)       MLRA 1, 2, 4         High Water Table (A2)       Salt Crust (B1         Saturation (A3)       Aquatic Invert         Water Marks (B1)       Hydrogen Sul         Oxidized Rhiz       Sediment Deposits (B2)         Drift Deposits (B3)       Presence of F         Algal Mat or Crust (B4)       Soils (C6)         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (Explait         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No       Depth (inches):         Sutraton Present?       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         11       Geomorphic Position (D2)         11       Shallow Aquitard (D3)         11       FAC-Neutral Test (D5)         12       Research Ant Mounds (D6) (LRR A)         13       Frost-Heave Hummocks (D7)         14       Wetland Hydrology Present?       Yes
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)       MLRA 1, 2, 4         High Water Table (A2)       Salt Crust (B1         Saturation (A3)       Aquatic Invert         Water Marks (B1)       Hydrogen Sul         Oxidized Rhiz       Sediment Deposits (B2)         Drift Deposits (B3)       Presence of F         Algal Mat or Crust (B4)       Soils (C6)         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (Explait         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No       Depth (inches):         Sutraton Present?       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         11       Geomorphic Position (D2)         11       Shallow Aquitard (D3)         11       FAC-Neutral Test (D5)         12       Research Ant Mounds (D6) (LRR A)         13       Frost-Heave Hummocks (D7)         14       Wetland Hydrology Present?       Yes
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)       MLRA 1, 2, 4         High Water Table (A2)       Salt Crust (B1         Saturation (A3)       Aquatic Invert         Water Marks (B1)       Hydrogen Sul         Oxidized Rhiz       Sediment Deposits (B2)         Drift Deposits (B3)       Presence of F         Algal Mat or Crust (B4)       Soils (C6)         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (Explait         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No       Depth (inches):         Sutraton Present?       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         In the constraint of the constraint o
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Field Observations:         Surface Water Present?         Yes         No         Yater Table Present?         Yes         No         Water Table Present?         Yes         Yes         Yes         Yes         Yes         Yes         Yes         Yes         Yes	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         Induced Iron (C4)       Geomorphic Position (D2)         Reduced Iron (C4)       Shallow Aquitard (D3)         Research Plants (D1)       FAC-Neutral Test (D5)         In in Remarks)       Frost-Heave Hummocks (D7)         Wetland Hydrology Present?       Yes       No
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)       MLRA 1, 2, 4         High Water Table (A2)       Salt Crust (B1         Saturation (A3)       Aquatic Invert         Water Marks (B1)       Hydrogen Sul         Oxidized Rhiz       Sediment Deposits (B2)         Drift Deposits (B3)       Presence of F         Algal Mat or Crust (B4)       Soils (C6)         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (Explait         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No       Depth (inches):         Sutraton Present?       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         Induced Iron (C4)       Geomorphic Position (D2)         Reduced Iron (C4)       Shallow Aquitard (D3)         Research Plants (D1)       FAC-Neutral Test (D5)         In in Remarks)       Frost-Heave Hummocks (D7)         Wetland Hydrology Present?       Yes       No
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         MLRA 1, 2, 4         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)         Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Saturation Present?         Yes       No         Depth (inches):         Depeth (inches): <t< td=""><td>Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         Induced Iron (C4)       Geomorphic Position (D2)         Reduced Iron (C4)       Shallow Aquitard (D3)         Research Plants (D1)       FAC-Neutral Test (D5)         In in Remarks)       Frost-Heave Hummocks (D7)         Wetland Hydrology Present?       Yes       No</td></t<>	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         Induced Iron (C4)       Geomorphic Position (D2)         Reduced Iron (C4)       Shallow Aquitard (D3)         Research Plants (D1)       FAC-Neutral Test (D5)         In in Remarks)       Frost-Heave Hummocks (D7)         Wetland Hydrology Present?       Yes       No
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)             Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Saturation Present?         Yes       No         Depth (inches):         Depth (inches):         Depth (inches):         Depth (inches):	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         Induced Iron (C4)       Geomorphic Position (D2)         Reduced Iron (C4)       Shallow Aquitard (D3)         Research Plants (D1)       FAC-Neutral Test (D5)         In in Remarks)       Frost-Heave Hummocks (D7)         Wetland Hydrology Present?       Yes       No
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)             Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Saturation Present?         Yes       No         Depth (inches):         Depth (inches):         Depth (inches):         Depth (inches):	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         Induced Iron (C4)       Geomorphic Position (D2)         Reduced Iron (C4)       Shallow Aquitard (D3)         Research Plants (D1)       FAC-Neutral Test (D5)         In in Remarks)       Frost-Heave Hummocks (D7)         Wetland Hydrology Present?       Yes       No
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained         Surface Water (A1)       MLRA 1, 2, 4         High Water Table (A2)       Salt Crust (B1         Saturation (A3)       Aquatic Invert         Water Marks (B1)       Hydrogen Sul         Oxidized Rhiz       Sediment Deposits (B2)         Drift Deposits (B3)       Presence of F         Algal Mat or Crust (B4)       Soils (C6)         Iron Deposits (B5)       (LRR A)         Surface Soil Cracks (B6)       Other (Explait         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       No       Depth (inches):         Sutraton Present?       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):	Secondary Indicators (2 or more required)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         11)       Drainage Patterns (B10)         11)       Dry-Season Water Table (C2)         11       Saturation Visible on Aerial Imagery (C9)         Induced Iron (C4)       Geomorphic Position (D2)         Reduced Iron (C4)       Shallow Aquitard (D3)         Research Plants (D1)       FAC-Neutral Test (D5)         In in Remarks)       Frost-Heave Hummocks (D7)         Wetland Hydrology Present?       Yes       No

Investigator(s): Landform (hilislope, terrace, etc.):	Local relief (concave, conv	pling Point:
Soil Map Unit Name: 189 mc Cford Are climatic / hydrologic conditions on the site type Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog SUMMARY OF FINDINGS – Attach site	ical for this time of year? Yes X N by No significantly disturbed? And Y No riaturally problematic?	NWI classification: NU A. NWI classification: NU A. (If no, explain in Remarks.) "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.) nt locations, transects, important features, etc.
Hydric Soil Present? Yes	No Is the Sampled Area v	
VEGETATION – Use scientific names of Tree Stratum (Plot size: ) 1) 2 3	of plants. Absolute Dominant Indicato <u>% Cover Species? Status</u>	Number of Dominant Species         That Are OBL, FACW, or FAC:         Total Number of Dominant         Species Across All Strata:         (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum         (Plot size:)           1.	= Total Cover	Prevalence Index worksheet:         Total % Cover of:       Multiply by:         OBL species       x 1 =         FACW species       x 2 =
5	= Total Cover	FAC species       x 3 =         FACU species       x 4 =         UPL species       x 5 =         Column Totals:       (A)         Prevalence index = B/A =
4. 5. 6. 7. 8. 9.	n de la competa de	Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is ≤3.01         4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
10	50 d 5	5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size: )	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:	veg lopen water Problemetic Problemetic	-change abriedge sparseried in

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

Wastern Mountaine Valloum and Const. Montan an

					LH ÍI
201				Serving lines Politic	776
SOIL Profile Description: (Describe to the c	enth needed to docu	ment the indicator or	confirm the at	sence of indicators.)	
DepthMatrix	eptil needed to dood	Redox Features			
(inches) Color (moist) %	Color (moist)	% Type	Loc ²	Texture	Remarks
0-18 in 2.5 42.42.96	2 542416	<i>(</i> 0)	M	Sandy Dan	<u> </u>
			·	71	
				······	
	e:		·		<u> </u>
				<u> </u>	
			5		
¹ Type: C=Concentration, D=Depletion, F	RM=Reduced Matrix, C	S=Covered or Coated \$	Sand Grains.	² Location: PL=Pore	Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to				cators for Problemati	c Hydric Soils ^a :
	X Sandy Redox (			2 cm Muck (A10)	
Histosol (A1)     Histic Epipedon (A2)	Stripped Matrix			Red Parent Material (T	F2)
Black Histic (A3)	Loamy Mucky	Mineral (F1) (except M		Very Shallow Dark Sur	
Hydrogen Sulfide (A4)	Loamy Gleyed	Matrix (F2)		Other (Explain in Rema	arks)
Depleted Below Dark Surface (A11)	Depleted Matri	x (F3)	:	3Indicators of hydrophy	tic vegetation and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Redox Dark Su Depleted Dark			wetland hydrology mus	t be present,
Sandy Gleyed Matrix (S4)	Redox Depress			unless disturbed or pro	blematic
Restrictive Layer (if present):					N-
Туре:		Hydric :	Soil Present?	Yes	No
Depth (inches):					
Remarks:					
<u> </u>					
HYDROLOGY					
Wetland Hydrology Indicators:		····			
Primary Indicators (minimum of one require	ed; check all that apply	/)(DD) (2000)		ndary Indicators (2 or n /ater-Stained Leaves (1	39) (MLRA 1. 2.
		ned Leaves (B9) (exce , 4A, and 4B)	pt 4	A, and 4B)	, (iii <u>-</u> , i) ,
Surface Water (A1) High Water Table (A2)	Salt Crust		D	rainage Patterns (B10)	
Saturation (A3)	Aquatic Inv	vertebrates (B13)	D	ry-Season Water Table	e (C2)
Water Marks (B1)	Hydrogen	Sulfide Odor (C1)		aturation Visible on Ae	nai imagery (Ca)
		hizospheres along Livi	ıg G	eomorphic Position (D	2)
Sediment Deposits (B2) Drift Deposits (B3)	Roots (C3)	of Reduced Iron (C4)		hallow Aquitard (D3)	
	- Recent Iro	n Reduction in Tilled			
Algal Mat or Crust (B4)	Soils (C6)		F	AC-Neutral Test (D5)	
		Stressed Plants (D1)	R	aised Ant Mounds (D6	) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6)	(LRR A) Other (Exc	olain in Remarks)	0	rost-Heave Hummocks	(D7)
Inundation Visible on Aerial Imagery (i					
Sparsely Vegetated Concave Surface	(B8)				
Field Observations:	a nationale data de la				
	No Depth (inche No Depth (inche		Wetland Hvdr	ology Present? Ye	s 🔨 No
Water Table Present? Yes 🔀	No Depth (inche				

(includes capillary fringe)	Yes 📐 No 🔄	Depth (inches):		
Describe Recorded Data (stre	am gauge, monitoring	g well, aerial photos	, previous inspecti	ons), if available:

Remarks:

Water Table Present? Saturation Present?

	IATION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: HAARAACA Applicant/Owner: Hart Ranch Investigator(s): Hart Ranch Landform (hilislope, terrace, etc.): Correct Subregion (LRR): MLRA 22B Soil Map Unit Name: 189 Dry d-for Are climatic / hydrologic conditions on the site of Are Vegetation, Soil, or Hydro Are Vegetation, Soil, or Hydro	City/County: State: CA Sam Section, Township, Range: T Section, Township, Range: T Local relief (concave, conv Lat: -122, 376916Long: 41, 6 CCAULTOR COST typical for this time of year? Yes X No blogy NO significantly disturbed? Are blogy NO naturally problematic?	D.       Sampling Date:       Sampling Date:       Sampling Date:         Diling Point:       Sampling Date:       Sampling Date:       Sampling Date:         Start Association:       Stope (%):       Sampling Date:       Sampling Date:         Start Association:       NAD & Sampling Date:       NAD & Sampling Date:       Sampling Date:         MWI classification:       NAD & Sampling Date:       NAD & Sampling Date:       NAD & Sampling Date:         NWI classification:       NAD & Sampling Date:       NAD & Sampling Date:       NAD & Sampling Date:         NWI classification:       NAD & Sampling Date:       NAD & Sampling Date:       Nampling Date:         Sampling Date:       NAD & Sampling Date:       NAD & Sampling Date:       Nampling Date:         NWI classification:       NAD & Sampling Date:       Nampling Date:       Nampling Date:         Sampling Date:       NAD & Sampling Date:       Nampling Date:       Nampling Date:         Sampling Date:       NAD & Sampling Date:       Nampling Date:       Nampling Date:         Sampling Date:       Nampling Date:       Nampling Date:       Nampling Date:         Sampling Date:       Nampling Date:       Nampling Date:       Nampling Date:         Sampling Date:       Nampling Date:       Nampling Date:       Nampling Date:
	alfalfa-freld	
VEGETATION Use scientific name	s of plants.	
Tree Stratum         (Plot size:)           1            2            3	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:         O         (A)         Total Number of Dominant         Species Across All Strata:         Percent of Dominant Species         That Are OBL, FACW, or FAC:         (B)         Percent of Dominant Species         That Are OBL, FACW, or FAC:         (A/B)
Sapling/Shrub Stratum       (Plot size:)	= Total Cover = Total Cover <b>QDe Y UP</b>	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: $2D$ (A) $4CO(B)$ Prevalence Index = B/A =
		Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is ≤3.01         4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)         5 - Wetland Non-Vascular Plants1
20dy Vine Stratum (Plot size:)	ع المراجع على ا	Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic,
Bare Ground In Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No

			સ્ટાલાગ્રામિંગ રેગોઇ	44C
SOIL	the manufact the street manufather t	ndicator or conf	irm the absence of indicators.)	
Profile Description: (Describe to the dep Depth Matrix	th needed to document the i Redox Fe	nuicator or cont		
Depth <u>Matrix</u> (inches) Color (moist) <u>%</u>	Color (moist) %		Loc ² Texture	Remarks
			<u>Clayloam</u>	
0-18 2,5424/2-100	•••••••		<u>(18041100271)</u> _	
				<u></u>
	<u></u>			
				-
	····			
		· ·		
—				
¹ Type: C=Concentration, D=Depletion, RM	=Reduced Matrix, CS=Covered	d or Coated Sand	Grains. ² Location: PL=Pore Lin	ing, M=Matrix.
Hydric Soil Indicators: (Applicable to a			Indicators for Problematic H	lydric Soils ³ :
		,	2 cm Muck (A10)	
Histosol (A1)	Sandy Redox (S5) Stripped Matrix (S6)		Red Parent Material (TF2	)
Histic Epipedon (A2)	Loamy Mucky Mineral (F1	) (except MLRA		e (TF12)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2	)	Other (Explain in Remarks	6)
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 (F	7)	wetland hydrology must b	e present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		unless disturbed or proble	
Restrictive Layer (if present):				
Туре:	<u> </u>	Hydric Soil	Present? Yes N	
Depth (inches):				
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:	abook all that apply)		Secondary Indicators (2 or mor	e required)
Primary Indicators (minimum of one required	Water-Stained Leave	s (B9) (except	Water-Stained Leaves (B9)	(MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, and	4B)	4A, and 4B)	-
High Water Table (A2)	Salt Crust (B11)	,	Drainage Patterns (B10)	
Saturation (A3)	Aquatic Invertebrates	(B13)	Dry-Season Water Table (	
Water Marks (B1)	Hydrogen Sulfide Od	or (C1)	Saturation Visible on Aeria	Imagery (C9)
	Oxidized Rhizosphere			
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (D2)	
Drift Deposits (B3)	Presence of Reduced		Shallow Aquitard (D3)	
	Recent Iron Reductio	n in Tilled	EAC Neutral Test (D5)	
Algal Mat or Crust (B4)	Soils (C6)		FAC-Neutral Test (D5)	
	Stunted or Stressed I	Plants (D1)	Raised Ant Mounds (D6) (I	
Iron Deposits (B5)	(LRR A) Other (Explain in Rer	narke)	Frost-Heave Hummocks (I	
		naikaj		
Surface Soil Cracks (B6)				
Inundation Visible on Aerial Imagery (B7)	<u> </u>			
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B	B)			
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B	B)			
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (Bi Field Observations:	B)			
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B Field Observations: Surface Water Present? Yes No	B)	Weti	and Hydrology Present? Yes	No
Inundation Visible on Aerial Imagery (B7)     Sparsely Vegetated Concave Surface (Bi     Field Observations:     Surface Water Present? Yes No     Water Table Present? Yes No	B) <u> </u>	Wetl	and Hydrology Present? Yes	No
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (Bi Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No	B) Depth (inches): Depth (inches): Depth (inches):			No
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (Bi Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No	B) Depth (inches): Depth (inches): Depth (inches):			No
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (Bi Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present?	B) Depth (inches): Depth (inches): Depth (inches):			No
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (Bi Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No	B) Depth (inches): Depth (inches): Depth (inches):			No
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (Bi Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Occupies Concerned Data (stream gauge, mon	B) Depth (inches): Depth (inches): Depth (inches):			No
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (Bi Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No	B) Depth (inches): Depth (inches): Depth (inches):			No
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (Bi Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Oscillary fringe) Yes No	B) Depth (inches): Depth (inches): Depth (inches):			No
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (Bi Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No Saturation Present? Yes No Describe Recorded Data (stream gauge, mon	B) Depth (inches): Depth (inches): Depth (inches):			No

Project/Site:       Hart Ranch       City/County:       Site:       Ch.       Sampling Date:       S/23/2016         Applicant/Owner:       Hart Ranch       State:       Ch.       Sampling Point;       State:       Sampling Date:       State:       Sampling Point;       State:       Sampling Date:       State:       Sampling Point;       Samplint;       Sampling Point;       Sa	WETLAND DETERMINAT	TION DATA FORM - Western I	Mountains, Valleys, and Coast Region
VEGETATION – Use scientific names of plants.         Ites Stratum (Plotaze:)       Absolute Dominant Indicator         1.	Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Andrea Rabe Landform (hillslope, terrace, etc.): Herrace Subregion (LRR): MLRA 22B Soil Map Unit Name: 189 mr China Are climatic / hydrologic conditions on the site typi Are Vegetation , Soil , or Hydrologic Are Vegetation , Soil , or Hydrologic SUMMARY OF FINDINGS – Attach site Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	City/County: State: CA Same Section, Township, Range: Section, Townshi	9.       Sampling Date:       8/23/2016         9.       9.       850         9.       850       500         9.       850       500         9.       850       500         9.       850       500         9.       850       500         9.       850       500         9.       9.       2         9.       9.       12.         9.       9.       12.         9.       9.       12.         9.       9.       12.         9.       9.       12.         9.       9.       12.         9.       9.       12.         9.       9.       10.         0.       (If no, explain in Remarks.)       No         "Normal Circumstances" present? Yes       No         (If needed, explain any answers in Remarks.)       No         At locations, transects, important features, etc.       10.         within a Wetland?       Yes       No
Irea Stratum       (Plot Nze:)       Absolute       Dominant       Indicator         1		ununa nejo	/
Image: Stratum       (Plot Note:	VEGETATION - Use scientific names c	of plants.	
Saplino/Shrub Stratum       (Plot bize:)         1.	Tree Stratum (Plot size:)	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Number of Dominant Species         That Are OBL, FACW, or FAC:         Total Number of Dominant         Species Across All Strata:         Percent of Dominant Species
Hydrophytic Vegetation indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)         0.         1.         Moody Vine Stratum         (Plot size:)         = Total Cover         Hydrophytic Vegetation         Hydrophytic Vegetation         Hydrophytic Vegetation         Image: Additional Cover         Hydrophytic Vegetation	1 2 3 4 5 Herb Stratum (Plot size: $1m^2$ ) 1 1 0. cat a	= Total Cover	Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: $x 0$
Bare Ground in Hert Stratum 2-0 = Total Cover Vegetation X	0.		1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)         5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soit and wetland hydrobox must
	Bare Ground in Herb Stratum		Hydrophytic Vegetation
emarks:	aman(s:		

i.

SOIL			Sertiglingreding	420
Profile Description: (Describe to the c	lepth needed to document the ind	icator or confirm	the absence of indicators.)	* •
Depth Matrix, (inches) Color (moist) %	Color (moist)	Type' L	oc ² Texture	Remarks
		<u></u>	10am	
D-18 21542 - 100				
		<u> </u>	<u> </u>	
		(i =		
¹ Type: C=Concentration, D=Depletion, F	RM=Reduced Matrix, CS=Covered or	r Coated Sand Gr	ains. ² Location: PL=Pore Li	ning, M=Matrix.
Hydric Soll Indicators: (Applicable to			Indicators for Problematic	Hydric Soils ³ :
	Sandy Redox (S5)	•	2 cm Muck (A10)	
Histosol (A1)     Histic Epipedon (A2)	Stripped Matrix (S6)		Red Parent Material (TF:	2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (	except MLRA 1)	Very Shailow Dark Surfa	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)		Other (Explain in Remark	ks)
Depleted Below Dark Surface (A11)			³ Indicators of hydrophytic	overetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6)		wetland hydrology must	be present.
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Depleted Dark Surface (F7) Redox Depressions (F8)		unless disturbed or prob	
Sandy Gleyed Matrix (34)				
testrictive Layer (if present):				V
Туре:		Hydric Soil Pre	sent? Yes	No
Depth (inches):				
	<u> </u>		<u></u>	· · · · · · · · · · · · · · · · · · ·
YDROLOGY				
	·····		······	
Netland Hydrology Indicators:	ed; check all that apply)		Secondary Indicators (2 or mo	pre required)
Vetland Hydrology Indicators:	ed; check all that apply) Water-Stained Leaves (E	39) (except	Secondary Indicators (2 or mo Water-Stained Leaves (BS	ore required) (MLRA 1, 2,
Netland Hydrology Indicators: Primary Indicators (minimum of one requir	ed; check all that apply) Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B)		Water-Stained Leaves (BS 4A, and 4B)	ore required) )) (MLRA 1, 2,
Vetland Hydrology Indicators:	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	3	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10)	9) (MLRA 1, 2,
Vetland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B	13)	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (	(C2) (MLRA 1, 2,
Vetland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor (	13) C1)	Water-Stained Leaves (B9 4A, and 4B) Drainage Patterns (B10)	9) ( <b>MLRA 1, 2,</b> (C2)
Vetland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a	13) C1)	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (	9) ( <b>MLRA 1, 2,</b> (C2) al Imagery (C9)
Vetland Hydrology Indicators: Primary Indicators (minimum of one requir Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3)	13) C1) along Living	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria	9) ( <b>MLRA 1, 2,</b> (C2) al Imagery (C9)
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)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Into Recent Iron Reduction Into	13) C1) along Living on (C4)	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3)	9) ( <b>MLRA 1, 2,</b> (C2) al Imagery (C9)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one requir         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Iro Recent Iron Reduction in Soils (C6)	13) C1) along Living on (C4) n Tilled	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2)	9) ( <b>MLRA 1, 2,</b> (C2) al Imagery (C9)
Wetland 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)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Iro Recent Iron Reduction Ir Soils (C6) Stunted or Stressed Plan	13) C1) along Living on (C4) n Tilled	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	9) ( <b>MLRA 1, 2,</b> (C2) al Imagery (C9)
Wetland 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)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Ird Recent Iron Reduction Ir Solis (C6) Stunted or Stressed Plan (LRR A)	13) C1) along Living on (C4) n Tilled nts (D1)	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	9) (MLRA 1, 2, (C2) al Imagery (C9)
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)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Ird Recent Iron Reduction Ir Solis (C6) Stunted or Stressed Plan (LRR A) Other (Explain in Remar	13) C1) along Living on (C4) n Tilled nts (D1)	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	9) (MLRA 1, 2, (C2) al Imagery (C9)
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)	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Int Recent Iron Reduction In Solis (C6) Stunted or Stressed Plan (LRR A) Other (Explain in Remar 37)	13) C1) along Living on (C4) n Tilled nts (D1)	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	9) (MLRA 1, 2, (C2) al Imagery (C9)
Wetland 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 (B	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Int Recent Iron Reduction In Solis (C6) Stunted or Stressed Plan (LRR A) Other (Explain in Remar 37)	13) C1) along Living on (C4) n Tilled nts (D1)	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	9) (MLRA 1, 2, (C2) al Imagery (C9)
Wetland 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 (E         Sparsely Vegetated Concave Surface         Field Observations:	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Irc Recent Iron Reduction ir Solls (C6) Stunted or Stressed Plan (LRR A) Other (Explain in Remar 37) (B8)	13) C1) along Living on (C4) n Tilled nts (D1) ks)	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks (	e) (MLRA 1, 2, (C2) al Imagery (C9) (LRR A) (D7)
Wetland 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 (B         Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Int Recent Iron Reduction In Solis (C6) Stunted or Stressed Plan (LRR A) Other (Explain in Remar 37)	13) C1) along Living on (C4) n Tilled nts (D1) ks)	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6)	e) (MLRA 1, 2, (C2) al Imagery (C9) (LRR A) (D7)
Wetland 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 (E         Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes         Water Table Present?	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Irc Recent Iron Reduction ir Soils (C6) Stunted or Stressed Plan (LRR A) Other (Explain in Remar 37) (B8) Depth (inches): Depth (inches):	13) C1) along Living on (C4) n Tilled nts (D1) ks)	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks (	e) (MLRA 1, 2, (C2) al Imagery (C9) (LRR A) (D7)
Wetland 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 (E         Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?       Yes         Water Table Present?       Yes         Water Table Present?       Yes	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Irc Recent Iron Reduction ir Soils (C6) Stunted or Stressed Plan (LRR A) Other (Explain In Remar 37) (B8) Depth (inches): Depth (inches):	13) C1) along Living on (C4) n Tilled nts (D1) ks) Wetland	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks ( Hydrology Present? Yes	e) (MLRA 1, 2, (C2) al Imagery (C9) (LRR A) (D7)
Wetland 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 (E         Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes       1         Saturation Present?         Yes       1	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Irc Recent Iron Reduction ir Soils (C6) Stunted or Stressed Plan (LRR A) Other (Explain In Remar 37) (B8) Depth (inches): Depth (inches):	13) C1) along Living on (C4) n Tilled nts (D1) ks) Wetland	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks ( Hydrology Present? Yes	e) (MLRA 1, 2, (C2) al Imagery (C9) (LRR A) (D7)
Wetland 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 (E         Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes         Sturface Water Present?         Yes         Saturation Present?	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Irc Recent Iron Reduction ir Soils (C6) Stunted or Stressed Plan (LRR A) Other (Explain In Remar 37) (B8) Depth (inches): Depth (inches):	13) C1) along Living on (C4) n Tilled nts (D1) ks) Wetland	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks ( Hydrology Present? Yes	(C2) (C2) (Imagery (C9) (LRR A) (D7)
Wetland 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 (E         Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes       1         Saturation Present?         Yes       1         Surface Recorded Data (stream gauge, m	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Irc Recent Iron Reduction ir Soils (C6) Stunted or Stressed Plan (LRR A) Other (Explain In Remar 37) (B8) Depth (inches): Depth (inches):	13) C1) along Living on (C4) n Tilled nts (D1) ks) Wetland	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks ( Hydrology Present? Yes	(C2) (C2) (Imagery (C9) (LRR A) (D7)
Wetland 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 (E         Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes       1         Saturation Present?         Yes       1	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Irc Recent Iron Reduction ir Soils (C6) Stunted or Stressed Plan (LRR A) Other (Explain In Remar 37) (B8) Depth (inches): Depth (inches):	13) C1) along Living on (C4) n Tilled nts (D1) ks) Wetland	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks ( Hydrology Present? Yes	(C2) (C2) (Imagery (C9) (LRR A) (D7)
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 (E         Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes       1         Saturation Present?         Yes       1         Saturation Present?         Set (B2)         Surface Water Present?         Yes       1         Saturation Present?         Yes       1         Saturation Present?       Yes         Saturation Present?       Yes         Includes capillary fringe)       Yes         Escribe Recorded Data (stream gauge, m	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Irc Recent Iron Reduction ir Soils (C6) Stunted or Stressed Plan (LRR A) Other (Explain In Remar 37) (B8) Depth (inches): Depth (inches):	13) C1) along Living on (C4) n Tilled nts (D1) ks) Wetland	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks ( Hydrology Present? Yes	e) (MLRA 1, 2, (C2) al Imagery (C9) (LRR A) (D7)
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 (E         Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?         Yes       1         Saturation Present?         Yes       1         Saturation Present?         Set (B2)         Surface Water Present?         Yes       1         Saturation Present?         Yes       1         Saturation Present?       Yes         Saturation Present?       Yes         Includes capillary fringe)       Yes         Escribe Recorded Data (stream gauge, m	Water-Stained Leaves (E MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Roots (C3) Presence of Reduced Irc Recent Iron Reduction ir Soils (C6) Stunted or Stressed Plan (LRR A) Other (Explain In Remar 37) (B8) Depth (inches): Depth (inches):	13) C1) along Living on (C4) n Tilled nts (D1) ks) Wetland	Water-Stained Leaves (BS 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table ( Saturation Visible on Aeria Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) Frost-Heave Hummocks ( Hydrology Present? Yes	e) (MLRA 1, 2, (C2) al Imagery (C9) (LRR A) (D7)

WETLAND DETERMIN	ATION DATA FORM – Western I	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hillslope, terrace, etc.): <u>torra</u> Subregion (LRR): <u>MLRA 22B</u> Soil Map Unit Name: <u>189</u> Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic	City/County: Siski Vou County: State: CA Samp Section, Township, Range: Section, Township, Range: Ca Se	Sampling Date:       8/23/2016         Ing Point:       45b         45N       850         50pe (%):       2
Remarks:	N8	
ditch		
VEGETATION - Use scientific names	of plants.	
	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Rlot size:) 1.	% Cover Species? Status	Number of Dominant Species
2.		That Are OBL, FACW, or FAC: (A)
	· · · · · · · · · · · · · · · · · · ·	Total Number of Dominant Species Across All Strata: (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
·		Total % Cover of: Multiply by:
2		OBL species x 1 =
3		FACW species x 2 =
4		FAC species x 3 =
	= Total Cover	FACU species x 4 =
Herb Stratum (Plot size: M2)		UPL species x 5 =
1		Column Totals: (A) (B)
3.		Prevalence index = B/A =
4.		Hydrophytic Vegetation Indicators:
5.	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	
6	in the second state	<ul> <li>1 - Rapid Test for Hydrophytic Vegetation</li> <li>2 - Dominance Test is &gt;50%</li> </ul>
7		- 3 - Prevalence index is <3.0 ¹
8.		4 - Morphological Adaptations ¹ (Provide supporting
10.		data in Remarks or on a separate sheet)
11	· · · · · · · · · · · · · · · · · · ·	Problematic Hydrophytic Vegetation ¹ (Explain)
	= Total Cover	¹ indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:) 1		be present, unless disturbed or problematic.
2.	2 To	the second second
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation
······	, ntel	Present? Yes No
Remarks:	- ON W	All All
	no veg openwater no veg openwater	yes champingtedge seven an Ba Bsparseven an
	110 - 11 0	On you hou

Western Mountains Valleve and Coast - Version 3.0

2011		satisfing saint 456
SOIL	depth needed to document the indicator or co	
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (mojst) % Type1	Loc ² Texture Remarks
		M sandyloam
0-6 2.54p4/2 9	0 54R416 10	
6-18 2:54K4/2 102		Clavi Dam
- 19 Caradiates Da		
¹ Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, CS=Covered or Coated Sa	and Grains. ² Location: PL=Pore Lining, M=Matrix.
		Indicators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable t	o all LRRs, unless otherwise noted.)	
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 MLF	RA 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)	I distant of hudson hudis used
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, unless disturbed or problematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	
Restrictive Layer (if present):		
Type:	Hydric Sc	oil Present? Yes X No
Depth (inches):		
Remarks:		
	·····	
HYDROLOGY		
Wetland Hydrology Indicators:	red: check all that apply)	Secondary Indicators (2 or more required)
	red; 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 requi	Water-Stained Leaves (B9) (except	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
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) Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Drv-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one requi Surface Water (A1) High Water Table (A2) Saturation (A3)	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)	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-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) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
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) Oxidized Rhizospheres along Living Roots (C3) 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)
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) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (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 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) Oxidized Rhizospheres along Living Roots (C3) 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) Geomorphic Position (D2)
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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled	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)	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 Roots (C3) 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) 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)	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 Roots (C3) 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) 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)         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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7)	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)	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7)	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 (	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7)	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 (	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7)	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 (	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (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) 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:	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Solis (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) B (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 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?	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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8) No Depth (inches): W	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         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         Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         b (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)
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         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         Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         b (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)
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         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 Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Stunted or Stressed Plants (D1) (LRR A) Other (Explain in Remarks) B7) (B8) No Depth (inches): W	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)         Algal Mat or Crust (B4)         iron Deposits (B5)         Surface Soil Cracks (B6)         Inundation Visible on Aerial Imagery (Sparsely Vegetated Concave Surface)         Field Observations:         Surface Water Present?         Yes         Yes         Saturation Present?         Yes	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         Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         b (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)
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         Describe Recorded Data (stream gauge, mean gauge, me	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         Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         b (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)
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         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         Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         b (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)
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         Describe Recorded Data (stream gauge, marked 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         Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         b (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)
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         Describe Recorded Data (stream gauge, marked 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         Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled         Solis (C6)         Stunted or Stressed Plants (D1)         (LRR A)         Other (Explain In Remarks)         B7)         b (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)

	TION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Anarca Rabe Landform (hillslope, terrace, etc.): Produce Subregion (LRR): MLRA 228 Soil Map Unit Name: IS9 mc Chor Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic	City/County: State: CA Sam Section, Township, Range: Local relief (concave, conv Lat: Local relief (concave, conv Local relief (concave, c	Defining Point:       Sect 1, 2+3         Pring Point:       Pring Point:         Pring Point:       Pring Point: <tr< th=""></tr<>
Remarks:	/	· · · · ·
	Offalta +	Seph
VEGETATION - Use scientific names	of plants	
Tree Stratum (Plot size:)	Absolute Dominant Indicato <u>% Cover Species? Status</u>	That Are OBL, FACW, or FAC:
		Total Number of Dominant
		Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Capling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
		Total % Cover of: Multiply by:
	- <u> </u>	OBL species x 1 =
		FACW species x 2 =
		FAC species x 3 =
	= Total Cover	FACU species x4 =
arb Stratum (Plot size: 1m2)		UPL species $40 \times 5 = 450$
Malcago Sativa	90 YOPL	Column Totals: GO (A) (450B)
		Prevalence Index = B/A =
	· · · · · · · · · · · · · · · · · · ·	
	- 10 - 14 - 14 -	Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
	the second state of the second s	2 - Dominance Test Is >50%
		3 - Prevalence Index is ≤3.0 ¹
		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
		5 - Wetland Non-Vascular Plants ¹
		Problematic Hydrophytic Vegetation ¹ (Explain)
ody Vine Stratum (Plot size; )	90 = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic,
	14 (1996-1924)	(1) 「「「「「」」「「」」「「」」
	13 A.A. 18	Hydrophytic
	= Total Cover	Vegetation
lare Ground in Herb Stratum		Present? Yes No

			45
SOIL	1	hidlester er en f	Sanaping 20161 T2
Profile Description: (Describe to the	depth needed to document the Redox F	Indicator or conti Features	and the absence of mulcators.)
Depth Matrix	Color (moist) %		Loc ² , Texture Remarks
(inches) Color (moist) %			
0-15 a.5 yerrio	<u> </u>		<u> </u>
			<b>J</b>
	<u> </u>		
¹ Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, CS=Covere	ed or Coated Sand	Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to			Indicators for Problematic Hydric Soils ³ :
		,	2 cm Muck (A10)
Histosol (A1)	Sandy Redox (S5)		Red Parent Material (TF2)
Histic Epipedon (A2)	Stripped Matrix (S6)	(4) (avecant MLDA	
Black Histic (A3)	Loamy Mucky Mineral (F		Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2 Depleted Matrix (F3)	<b>-</b> )	Outor (Explain in Romanoy
Depleted Below Dark Surface (A11	Redox Dark Surface (F6)	1	^s Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	Depleted Dark Surface (I		wetland hydrology must be present,
Sandy Mucky Mineral (S1)	Redox Depressions (F8)		unless disturbed or problematic
Sandy Gleyed Matrix (S4)		/	
Protective Lower (if presently		1	M
Restrictive Layer (if present):		Hydric Soil I	Present? Yes No
Туре:	· · · · · · · · · · · · · · · · · · ·	nyaric soir i	
Depth (inches):			
Remarks:			
			1.1
		1 MIL	ndi Cotto 5
·····	·····		
HYDROLOGY		· · · · ·	
Wetland Hydrology Indicators: Primary Indicators (minimum of one require	rod: aback all that apply)		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one requi	Water-Stained Leave	es (89) (except	Water-Stained Leaves (B9) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, and	4B)	4A, and 4B)
High Water Table (A2)	Salt Crust (B11)		Drainage Patterns (B10)
Saturation (A3)	Aquatic Invertebrates	s (B13)	Dry-Season Water Table (C2)
	Hydrogen Sulfide Od	for (C1)	Saturation Visible on Aerial Imagery (C9)
Water Marks (B1)	- Oxidized Rhizospher		
Sediment Deposits (B2)	Roots (C3)	too along along	Geomorphic Position (D2)
Drift Deposits (B3)	Presence of Reduce	d Iron (C4)	Shallow Aquitard (D3)
	Recent Iron Reduction		
Alexal Mat an America /D.41			EAO Neutrol Test (DE)
AND STATE OF L'ENET LEAL	Soils (C6)		FAC-Neutral (est (D5)
Algal Mat or Crust (B4)	Soils (C6) Stunted or Stressed	Plants (D1)	FAC-Neutral Test (D5)
	Stunted or Stressed	Plants (D1)	Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5)	Stunted or Stressed (LRR A)		
Iron Deposits (B5) Surface Soil Cracks (B6)	Stunted or Stressed (LRR A) Other (Explain in Re		Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (1	Stunted or Stressed (LRR A) Other (Explain in Re		Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6)	Stunted or Stressed (LRR A) Other (Explain in Re		Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface	Stunted or Stressed (LRR A) Other (Explain in Re		Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface	B7) (B8) Stunted or Stressed (LRR A) Other (Explain in Res	marks)	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	B7) (B8) No Depth (inches):	marks)	Raised Ant Mounds (D6) (LRR A)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes	B7) (B8) Stunted or Stressed (LRR A) Other (Explain in Res	marks)	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present?	B7) (B8) No Depth (inches): No Depth (inches):	marks)	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Yes	Stunted or Stressed (LRR A) Other (Explain in Re (B8) No Depth (inches): No Depth (inches):	marks)	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Yes	Stunted or Stressed (LRR A) Other (Explain in Re (B8) No Depth (inches): No Depth (inches):	marks)	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Yes	Stunted or Stressed (LRR A) Other (Explain in Re (B8) No Depth (inches): No Depth (inches):	marks)	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
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?	Stunted or Stressed (LRR A) Other (Explain in Res B7) (B8) No Depth (inches): No Depth (inches): No Depth (inches): No Depth (inches): nonitoring well, aerial photos, pres	warks) Wetla	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Yes Describe Recorded Data (stream gauge, m	Stunted or Stressed (LRR A) Other (Explain in Res B7) (B8) No Depth (inches): No Depth (inches): No Depth (inches): No Depth (inches): nonitoring well, aerial photos, pres	warks) Wetla	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (I Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Yes Describe Recorded Data (stream gauge, m	Stunted or Stressed (LRR A) Other (Explain in Re (B8) No Depth (inches): No Depth (inches): No Depth (inches):	warks) Wetla	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

SUMMARY OF FINDINGS – Attach site map showing sampling point loc         Hydrophytic Vegetation Present?       Yes       No       No       Is the Sampled Area within         Hydric Soil Present?       Yes       No       No       Is the Sampled Area within         Wetland Hydrology Present?       Yes       No       Is the Sampled Area within         Remarks:       Olfo Ha field         VEGETATION – Use scientific names of plants.         Tree Stratum       (Plot size:	Sampling Date: 8/23/2016 Point: 46 SN, R5W Sect 1, 2+3 one): NAD R3 VI classification: PEMC (If no, explain in Remarks.) mal Circumstances' present? Yes X No needed, explain any answers in Remarks.) cations, transects, important features, etc. a Wetland? Yes No
VEGETATION - Use scientific names of plants.           Tree Stratum         (Plot size:	
Tree Stratum (Plot size: ) Absolute Dominant Indicator	
Tree Stratum (Plot size: ) Absolute Dominant Indicator	
1.	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:         Yercent of Dominant Species         Percent of Dominant Species         That Are OBL, FACW, or FAC:         (B)         Percent of Dominant Species         That Are OBL, FACW, or FAC:         (A/B)
Image:	Prevalence Index worksheet:Total $\%$ Cover of:Multiply by:DBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ IPL species $x 5 =$ Column Totals: $x 0$ (A) $y 00$
Pr	revalence index = $B/A = -\frac{1}{2}$
	ydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
Stop = Total Cover ¹ Inc	dicators of hydric soil and wetland hydrology must
	present, unless disturbed or problematic.
	drophytic
Bare Ground to Herb Stratum	getation esent? Yes No
marks;	

.

DIL			Sata line Relat	-16
Profile Description: (Describe to the Depth Matrix	Redox	- Features		
(inches) Color (moist) %		Туре	Loc ² Texture Rem	anks
0-18254R4/2 10	0		Clay I cam	
·				
·····	<u> </u>			
			· · · · ·	
Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, CS=Cove	ared or Coated Sand	Grains. ² Location: PL=Pore Lining, M=	Matrix.
Hydric Soil Indicators: (Applicable			Indicators for Problematic Hydric S	Soils ³ :
Histosol (A1)	Sandy Redox (S5)	·	2 cm Muck (A10)	
Histic Epipedon (A2)	Stripped Matrix (S6)	(PA) /	Red Parent Material (TF2)	21
Black Histic (A3)	Loamy Mucky Mineral ( Loamy Gleyed Matrix (	(►1) (except MLRA F2)	1) Very Shallow Dark Surface (TF12 Other (Explain in Remarks)	-)
Hydrogen Sulfide (A4) Depleted Below Dark Surface (A1		- 2)		
Thick Dark Surface (A12)	Redox Dark Surface (F		³ Indicators of hydrophytic vegetal wetland hydrology must be prese	tion and
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Depleted Dark Surface Redox Depressions (File		unless disturbed or problematic	
		- <u></u>		
strictive Layer (if present):		Hydric Soil	Present? Yes No	X
Type: Depth (inches):		Hydric Soli		<u></u>
narks:				
	M	o und	ination	
DROLOGY etiand Hydrology Indicators:				
imary Indicators (minimum of one requ	ired; check all that apply)		Secondary Indicators (2 or more require Water-Stained Leaves (B9) (MLR	red)
Surface Water (A1)	Water-Stained Lea MLRA 1, 2, 4A, an	ves (B9) (except d 4B)	4A, and 4B)	<b></b> ,,
Surface Water (A1) High Water Table (A2)	Salt Crust (B11)		Drainage Patterns (B10)	
Saturation (A3)	Aquatic Invertebrat	tes (B13)	Dry-Season Water Table (C2) Saturation Visible on Aerial Image	rv (C9)
Water Marks (B1)	Hydrogen Sulfide C Oxidized Rhizosph	eres along Living		, (,
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (D2)	
Drift Deposits (B3)	Presence of Reduce Recent Iron Reduce		Shallow Aquitard (D3)	
		mon in Lilled		
	Soils (C6)		FAC-Neutral Test (D5)	
Algal Mat or Crust (B4)	Soils (C6) Stunted or Stresse			
Algai Mat or Crust (B4) iron Deposits (B5)	Soils (C6) Stunted or Stresse (LRR A)	d Plants (D1)	<ul> <li>FAC-Neutral Test (D5)</li> <li>Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)</li> </ul>	
Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery	(B7)	d Plants (D1)	Raised Ant Mounds (D6) (LRR A)	
Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6)	(B7)	d Plants (D1)	Raised Ant Mounds (D6) (LRR A)	
Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery	(B7)	d Plants (D1)	Raised Ant Mounds (D6) (LRR A)	
Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surfac ield Observations: urface Water Present? Yes	B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7) (B7)	ed Plants (D1) Remarks)	Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)	NoVO
Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surfac ield Observations: urface Water Present? Yes /ater Table Present? Yes	B7) B7) B7) B7) B7) B7) B7) B7)	ed Plants (D1) Remarks)	Raised Ant Mounds (D6) (LRR A)	No X
Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surfac ield Observations: urface Water Present? Yes /ater Table Present? Yes aturation Present? Yes	Soils (C6) Stunted or Stresse (LRR A) Other (Explain in F (B7) e (B8)          No       Depth (inches):         No       Depth (inches):         No       Depth (inches):	ed Plants (D1) Remarks)	Raised Ant Mounds (D6) (LRR A) Rost-Heave Hummocks (D7)	No D
Algai Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surfac eld Observations: urface Water Present? Yes vater Table Present? Yes aturation Present? Yes ncludes capillary fringe) Yes	Soils (C6) Stunted or Stresse (LRR A) Other (Explain in F (B7) e (B8)          No       Depth (inches):         No       Depth (inches):         No       Depth (inches):	ed Plants (D1) Remarks)	Raised Ant Mounds (D6) (LRR A) Rost-Heave Hummocks (D7)	No D
Algai Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surfac ield Observations: urface Water Present? Yes /ater Table Present? Yes aturation Present? Yes ncludes capillary fringe) Yes	Soils (C6) Stunted or Stresse (LRR A) Other (Explain in F (B7) e (B8)          No       Depth (inches):         No       Depth (inches):         No       Depth (inches):	ed Plants (D1) Remarks)	Raised Ant Mounds (D6) (LRR A) Rost-Heave Hummocks (D7)	No <u>X</u>
Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surfac ield Observations: urface Water Present? Yes /ater Table Present? Yes	Soils (C6) Stunted or Stresse (LRR A) Other (Explain in F (B7) e (B8)          No       Depth (inches):         No       Depth (inches):         No       Depth (inches):	ed Plants (D1) Remarks)	Raised Ant Mounds (D6) (LRR A) Rost-Heave Hummocks (D7)	No 2
Algal Mat or Crust (B4) iron Deposits (B5) Surface Soil Cracks (B6) inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface etd Observations: urface Water Present? Yes dater Table Present? Yes aturation Present? Yes aturation Present? Yes scribe Recorded Data (stream gauge,	Soils (C6) Stunted or Stresse (LRR A) Other (Explain in F (B7) e (B8)           No         Depth (inches):           No         Depth (inches):           No         Depth (inches):           No         Depth (inches):	ed Plants (D1) Remarks) Wet revious inspections	Raised Ant Mounds (D6) (LRR A) Rost-Heave Hummocks (D7)	No <u>X</u>

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region         Project/Site:       Hart Ranch       City/County:       Siski You Co.       Sampling Date:       8/23/201         Applicant/Owner:       Hart Ranch       State:       CA       Sampling Point:       HTA         Investigator(s):       Marca Rabe       Section, Township, Range:       Image:       Image: <th>16</th>	16
Are Vegetation       , Soll       , or Hydrology       No       significantly disturbed?       Are "Normal Circumstances" present? Yes       Xes         Are Vegetation       , Soil       , or Hydrology       No       Are "Normal Circumstances" present? Yes       Xes         SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important fea         Hydrophytic Vegetation Present?       Yes       No       Is the Sampled Area within a Wetland?       Yes       No         Wetland Hydrology Present?       Yes       No       Is the Sampled Area within a Wetland?       Yes       No         Remarks:            No	No
VEGETATION – Use scientific names of plants.         Tree Stratum       (Plot size:)       Absolute % Cover       Dominant Species?       Indicator Status       Dominance Test worksheet:         1.	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	3)
4.       Hydrophytic Vegetation Indicators:         5.       1 - Rapid Test for Hydrophytic Vegetation         6.       2 - Dominance Test is >50%         7.       3 - Prevalence Index is <3.01	upporting plain)
1.	

DIL			Strongelling Pertail	<u>ч</u>
Profile Description: (Describe to the	depth needed to document the	indicator or conf	rm the absence of indicators.)	
Depth Matrix	Redox.t	-eatures		arks
(inches) Color (moist)		Type'		
1-18 2.54R4/2 100			<u>clauloam</u>	
			······································	
<u></u>				
				Lindaise
Type: C=Concentration, D=Depletion	, RM=Reduced Matrix, CS=Covered	ed or Coated Sand		
Hydric Soil Indicators: (Applicable	to all LRRs, unless otherwise n	oted.)	Indicators for Problematic Hydric S	ioils ³ :
Histosoi (A1)	Sandy Redox (S5)		2 cm Muck (A10)	
Histosof (A1) Histic Epipedon (A2)	Stripped Matrix (S6)		Red Parent Material (TF2)	
Black Histic (A3)	Loamy Mucky Mineral (F	1) (except MLRA	1) Very Shallow Dark Surface (TF12	)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2	2)	Other (Explain in Remarks)	
Depleted Below Dark Surface (A1	1) Depleted Matrix (F3)		a	د
Thick Dark Surface (A12)	Redox Dark Surface (F6		³ Indicators of hydrophytic vegetat	ion and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (		wetland hydrology must be preser unless disturbed or problematic	13L ₂
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	) 	unless disturbed of prosidinate	
strictive Layer (if present):		Hydric Soil	Present? Yes No	$\Diamond$
the second secon		riyano oon		•
Depth (Inches):				
narks:				
DROLOGY	noindicato			
etland Hydrology Indicators:			Secondary Indicators (2 or more requir	ed)
imary Indicators (minimum of one requ	uired; check all that apply) Water-Stained Leave	an (PO) (average	Water-Stained Leaves (B9) (MLRA	1.2.
	MLRA 1, 2, 4A, and		4A, and 4B)	
Surface Water (A1)	Sait Crust (B11)	40)	Drainage Patterns (B10)	
High Water Table (A2) Saturation (A3)	Aquatic Invertebrate	s (B13)	Dry-Season Water Table (C2)	
Water Marks (B1)	Hydrogen Sulfide Od	dor (C1)	Saturation Visible on Aerial Imager	y (C9)
	Oxidized Rhizosphe			
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (D2)	
Drift Deposits (B3)	Presence of Reduce		Shallow Aquitard (D3)	
	Recent Iron Reducti	on in Tilled	FAC-Neutral Test (D5)	
Algal Mat or Crust (B4)	Solls (C6)	Blante (D4)		
	Stunted or Stressed	Plants (D1)	Raised Ant Mounds (D6) (LRR A)	
	(LRR A)		Frost-Heave Hummocks (D7)	
tron Deposits (B5) Surface Sail Cracks (B6)	Other (Evaluin in Pe	marksi		
Surface Soil Cracks (B6)	(B7) Other (Explain in Re	emarks)	<u> </u>	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery	(87)	emarks)	_	
Surface Soil Cracks (B6)	(87)	emarks)		<u></u>
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery	(B7) 2e (B8)			
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surfac	(87)			X
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface ield Observations: urface Water Present? Yes	(B7) 2e (B8)		and Hydrology Present? Yes	NoX
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surfact ield Observations: urface Water Present? Yes /ater Table Present? Yes aturation Present?	(B7) pe (B8) No No Depth (inches):		and Hydrology Present? Yes	NoX
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface eld Observations: urface Water Present? Yes /ater Table Present? Yes aturation Present? Yes aturation Present? Yes	(B7) 2e (B8) No No No Depth (inches): No Depth (inches):	Wetl	-	NoX
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface eld Observations: urface Water Present? Yes Vater Table Present? Yes aturation Present?	(B7) 2e (B8) No No No Depth (inches): No Depth (inches):	Wetl	-	NoX
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface eld Observations: urface Water Present? Yes ater Table Present? Yes aturation Present? Yes ocludes capillary fringe) Yes	(B7) 2e (B8) No No No Depth (inches): No Depth (inches):	Wetl	-	NoX
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface eld Observations: urface Water Present? Yes atter Table Present? Yes aturation Present? Yes includes capillary fringe) Yes scribe Recorded Data (stream gauge,	(B7) 2e (B8) No No No Depth (inches): No Depth (inches):	Wetl	-	NoX
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface eld Observations: urface Water Present? Yes ater Table Present? Yes aturation Present? Yes coludes capillary fringe) Yes scribe Recorded Data (stream gauge,	(B7) 2e (B8) No No No Depth (inches): No Depth (inches):	Wetl	-	NoX
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surface eld Observations: Inface Water Present? Yes ater Table Present? Yes aturation Present? Includes capillary fringe) Yes	(B7) 2e (B8) No Depth (inches): No Depth (inches): No Depth (inches): monitoring well, aerial photos, pre	Wetl	if available:	NoX

WETLAND DETERMINA	TION DATA FORM - Western	Mountains, Valleys, and Coast Region		
Project/Site: HAVA-RAARA	Sicking	8/22/2		
Applicant/Owner: Hart Ranch Investigator(s): Applicant/Owner: Hart Ranch Investigator(s): State: CA Sampling Point: HTD Landform (hillslope, terrace, etc.): TTDCOCC Landform (hillslope, terrace, etc.): TTDCOCC				
Landform (hillslope, terrace, etc.): TCMQCE Local relief (concave, convex, none): COMCALM Slope (%): 2 Subregion (LRR): MLRA 22B Lat: -120,38665 Long: 41.692446 Datum: NAD 63				
Are climatic / hydrologic conditions on the site typ	pical for this time of year? Yes X N	0 (If po exploits in Demodul)		
	QV ININ Significantly disturbed? Are	* "Normal Circumstances" present? Yes X No		
Are Vegetation, Soil, or Hydrolog	gy NO naturally problematic?	(If needed, explain any answers in Remarks.)		
SUMMARY OF FINDINGS - Attach sit	a man showing compliance	at la sati		
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes		nt locations, transects, important features, etc.		
Remarks:				
Citch				
VEGETATION - Use scientific names	of plants.			
	Absolute Dominant Indicato	Dominance Test worksheet:		
Tree Stratum (Rlot size:)	% Cover Species? Status	Number of Dominant Species		
1		That Are OBL, FACW, or FAC: (A)		
3.		Total Number of Dominant Species Across All Strata: (B)		
4		Species Across All Strata:     (B)     Percent of Dominant Species		
		That Are OBL, FACW, or FAC: (A/B)		
	= Total Cover			
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:		
1		Total % Cover of: Multiply by:		
3.	·	OBL species x 1 =		
3 4 5		FACW species x 2 =		
5		FAC species x 3 =		
	= Total Cover	FACU species x 4 =		
Herb Stratum (Plot size: <u>m²</u> )		UPL species x5 =		
1		Column Totals; (A) (B)		
3.		Prevalence index = B/A =		
4.		Hydrophytic Vegetation Indicators;		
5	and the second sec			
6	in a second in a	1 - Rapid Test for Hydrophytic Vegetation     2 - Dominance Test is >50%		
7		$3 - \text{Prevalence index is } \le 3.0^1$		
8		4 - Morphological Adaptations ¹ (Provide supporting		
10.		data in Remarks or on a separate sheet)		
11.	1	5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)		
	= Total Cover			
Woody Vine Stratum (Plot size:)		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
2		1011 · · · · · · · · · · · · · · · · · ·		
	a star was	Hydrophytic		
% Bare Ground in Herb Stratum	= Total Cover	Vegetation		
	~ no			
Remarks:	en all all	when the sea when		
noveg or	Robonisa	Hydrophytic Vegetation Present? Yes No Chammer Lange Veg Wabring DSparse Veg Vipavit		

Western Mountains Valleye and Coast - Version 2.0

SOIL			Samaline Relat	476
Profile Description: (Describe to the	depth needed to document the in	dicator or confirm the	absence of indicators.)	
Depth Matrix	Redox Fea	atures		Remarks
(inches) Color (moist) %		Type ¹ Loc ²	Texture	
0-8 2.54R412 90	54R4/6 10	M	Sandy Dam	·
			clay loan	
8-18 2.54R412 (BD		······································		
			·	
· · · · · · · · ·				
				<u>_</u>
¹ Type: C=Concentration, D=Depletion,	RM=Reduced Matrix, CS=Covered	or Coated Sand Grains.	² Location: PL=Pore Li	ning, M=Matrix.
Hydric Soil Indicators: (Applicable 1			dicators for Problematic	Hydric Soils ³ :
		,	2 cm Muck (A10)	
Histosol (A1)	Sandy Redox (S5) Stripped Matrix (S6)		Red Parent Material (TF:	2)
Histic Epipedon (A2)	Loamy Mucky Mineral (F1)	(except MLRA 1)	Very Shallow Dark Surfa	ce (TF12)
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)		Other (Explain in Remark	(s)
Depleted Below Dark Surface (A11				
Thick Dark Surface (A12)	Redox Dark Surface (F6)		^a indicators of hydrophytic	vegetation and
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7	7)	wetland hydrology must unless disturbed or prob	be present,
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		Unless disturbed of prob	emanc
			10	
estrictive Layer (if present):		Hydric Soil Present		No
Туре:		Hyaric Soli Present	1 169 /	
Depth (inches):	······································			
marks:				
YDROLOGY		<u> </u>		
Netland Hydrology Indicators:				and the state of the set of the s
Primary Indicators (minimum of one requ	ired; check all that apply)		condary Indicators (2 or mo Water-Stained Leaves (89	
V	Water-Stained Leaves	(B9) (except	4A, and 4B)	) (million 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, and 4	8)	Drainage Patterns (B10)	
High Water Table (A2)	Salt Crust (B11)	(042)	Dry-Season Water Table	(C2)
Saturation (A3)	Aquatic Invertebrates ( Hydrogen Sulfide Odo	(D 13)	Saturation Visible on Aeria	al Imagery (C9)
Water Marks (B1)	Oxidized Rhizosphere			••••
Sediment Deposits (B2)	Roots (C3)	o along Erring	Geomorphic Position (D2)	F
Drift Deposits (B3)	Presence of Reduced	Iron (C4)	Shallow Aquitard (D3)	
	Recent Iron Reduction			
Algal Mat or Crust (B4)	Solls (C6)		FAC-Neutral Test (D5)	
	Stunted or Stressed P	lants (D1)	Raised Ant Mounds (D6)	
_ Iron Deposits (B5)	(LRR A)		Frost-Heave Hummocks	D7)
Surface Soil Cracks (B6)	Other (Explain in Rem	anks)	LIOSE-LIEBAGE LIOUUMOOKS	017
Inundation Visible on Aerial Imagery	(87)			
Sparsely Vegetated Concave Surface	3 (00)			
Field Observations:				
Field Observations:	No Depth (inches):	$\sim$	1	X7
Surface Water Present? Yes	No Depth (inches):	Wetland Hy	drology Present? Yes	X No
Saturation Present?				
(includes capillary fringe) Yes X	No Depth (inches):	[		
escribe Recorded Data (stream gauge, I	nonitoring well, aerial photos, previ	ous inspections), if avail	able:	
emarks:	<u></u>		<u> </u>	
G1101N3.				

WETLAND DETERMINATION DATA FORM – Western	ountains, Valleys, and Coast Region
Project/Site:       Hart Ranch       City/County:       Siski You Carlow         Applicant/Owner:       Hart Ranch       State:       CArlow       Carlow       Convert       State:       CArlow       State:       Carlow       Carlow       State:       Carlow       Carlow	Sampling Date: 8/23/2016 Sampling Date: 8/23/2016 Slope (%): 2 Slope (%): 2 Slope (%): 2 Slope (%): 2 Slope (%): 2 (%): 2 Slope (%): 2
Pasture	
VEGETATION – Use scientific names of plants.	
Indicator     Absolute     Dominant     Indicator       1.	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:         Total Number of Dominant
3	Species Across All Strata: (B) Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
<u>Sapling/Shrub Stratum</u> (Plot size:) 1 2 3 4 5 <u>Herb Stratum</u> (Plot size: <u>m²</u> ) 1. <u>[entaurea Sofstitialis</u> 20% y vor 2. <u>Diymeso elymoides</u> 20% y FACU	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $ZO$ $x 4 = 8D$ UPL species $ZO$ $x 5 = / OO$ Column Totals: $4O$ $4D$ Prevalence Index = B/A =
4.     5.       5.     6.       7.     6.       8.     343 and       9.     10.       11.     11.       Woody Vine Stratum     (Plot size: ))	Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index Is ≤3.01         4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)         5 - Wetland Non-Vascular Plants1         Problematic Hydrophytic Vegetation1 (Explain)         ¹Indicators of hydric soll and wetland hydrology must be present, unless disturbed or problematic.
1.	Hydrophytic Vegetation Present? Yes No

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SOIL				Reistalite	· 470
Profile Description: (Describe to the	depth needed to document the ir	dicator or co	nfirm the ab		
Depth Matrix	Redox Fe	atures			
	6 Color (moist) %	Туре	Loc ²	Texture	Remarks
<u>)-18 2.542412 100</u>	2	·	ao	y loam	
¹ Type: C=Concentration, D=Depletion		or Coated Sar	nd Grains.	² Location: PL=P	ore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable				ators for Brobles	natic Hydric Soils ³ :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Depleted Below Dark Surface (A1 Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)		A 1) F	cm Muck (A10) Red Parent Materia /ery Shallow Dark Other (Explain in R Indicators of hydro vetland hydrology unless disturbed or	Surface (TF12) temarks) ophytic vegetation and must be present,
lestrictive Layer (if present):				Maa	No X
Type: Depth (inches):		Hydric Soi	Il Present?	Yes	NO
emarks:					
	no Indi	catio	3		<u></u>
	· · · · · · · · · · · · · · · · · · ·				
YDROLOGY	·····	· · · · · · · · · · · · · · · · · · ·		··	
Vetland Hydrology Indicators: Primary Indicators (minimum of one requ	lired: check all that apply)		Secon	dary Indicators (2	or more required)
millary moleators (minimum or one rede	Water-Stained Leaves	(B9) (except	W	ater-Stained Leave	es (B9) (MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, and 4		4A	, and 4B)	
High Water Table (A2)	Sait Crust (B11)		Dr	ainage Patterns (E	310) Sabla (00)
Saturation (A3)	Aquatic Invertebrates (	(B13)	Dr	y-Season Water T	able (C2) Aerial Imagery (C9)
Water Marks (B1)	Hydrogen Sulfide Odo	r (C1)	Sa	ituration visible or	Aenal Imagery (Ca)

Oxidized Rhizospheres along Living

Presence of Reduced Iron (C4)

**Recent Iron Reduction in Tilled** 

Stunted or Stressed Plants (D1)

noindicators

Other (Explain in Remarks)

Roots (C3)

Soils (C6)

(LRR A)

 $\underline{\mathcal{N}}$  Depth (inches):

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

Depth (inches):

Depth (inches):

No

No

No

Sediment Deposits (B2)

Algal Mat or Crust (B4)

Surface Soil Cracks (B6)

Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)

Yes

Yes

Yes

**Drift Deposits (B3)** 

Iron Deposits (B5)

Field Observations:

Water Table Present?

Saturation Present?

Remarks:

Surface Water Present?

(includes capillary fringe)

Yes

No X

Geomorphic Position (D2)

Shallow Aquitard (D3)

FAC-Neutral Test (D5)

Wetland Hydrology Present?

Raised Ant Mounds (D6) (LRR A)

Frost-Heave Hummocks (D7)

WEILAND DETERMINATION DATA FORM – Western I	Mountains, Valleys, and Coast Region
Project/Site: HAARAAAA City/County: Siski Vou Carabonic State: A Samp Investigator(s): Andrea Rabe Section, Township, Range: Landform (hillslope, terrace, etc.): <u>Errace</u> Local relief (concave, converse Subregion (LRR): <u>MLRA 22B</u> Lat: <u>122.3966</u> /2Long: <u>41.6</u> Soil Map Unit Name: <u>167 prediford Clay (path 000)</u> Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>No</u> Are Vegetation <u>Soil</u> , or Hydrology <u>ND</u> significantly disturbed? Are Are Vegetation <u>Soil</u> , or Hydrology <u>ND</u> naturally problematic? SUMMARY OF FINDINGS – Attach site map showing sampling point Hydrophytic Vegetation Present? <u>Yes</u> <u>No</u> <u>Yes</u> <u>No</u> <u>Soil</u> is the Sampled Area w Wetland Hydrology Present? <u>Yes</u> <u>No</u> Remarks:	Sampling Date:       8/23/2016         Jing Point:       48         45N       85N         45N       85N         5N       85N         5N       85N         900       900         11355       Datum:         NVI classification:       9600         1000       1000         11355       Datum:         NVI classification:       9600         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         11100       1000         111
in Trad of Manha	
Inrigated pastrive	
VEGETATION – Use scientific names of plants.	
Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plet size:) <u>% Cover Species? Status</u>	Number of Dominant Species
1	That Are OBL, FACW, or FAC:
2	Total Number of Dominant
3	Species Across All Strata: (B)
4	Percent of Dominant Species
······	That Are OBL, FACW, or FAC: (A/B)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $20$ $x 2 = 40$ FAC species $20$ $x 3 = 30$ FACU species $x 3 = 30$ FACU species $x 5 =$ Column Totals: $80$ (A) $370$ (B)Prevalence Index = B/A =Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index Is $\leq 3.0^1$ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must
/cody Vine Stratum (Plot size:)	be present, unless disturbed or problematic.
	A TO A PARA
	The share is the second s
Bare Ground In Herb Stratum	Hydrophytic Vegetation Present? Yes <u>No</u>
emarks:	
Her Press Surge	

14/4

IL						SangherR	
Profile De			th needed to docume	ent the indicator or	confirm the a	psence of Indicator	15.)
Depth	Mati			Redox Features	Loc ²	Texture	Remarks
inches)	Color (moist)	*	Color (moist)	<u>%</u> Type ¹			
-18	a.syru	12 100			(	1 Jay loam	
	. •				-		
		-		<u> </u>			
	- · ···-		<u></u>		- · · ·		
							,
	· · · · · · · · · · · · · · · · · · ·	-					-
_	a <u> </u>					<u> </u>	
Duno: C-	Concentration D-I	Depletion RM	=Reduced Matrix, CS=	Covered or Coated	Sand Grains.	² Location: PL=Po	ore Lining, M=Matrix.
Hydric So	oil Indicators: (Ap	plicable to a	li LRRs, unless other	wise noted.)		icators for Problem	latic mydric Solis :
Histo	sol (A1)		Sandy Redox (S5	5)		2 cm Muck (A10)	
	Epipedon (A2)	-	Stripped Matrix (S	56)		Red Parent Material	l (TF2)
	Histic (A3)		Loamy Mucky Mir	neral (F1) (except M	LRA 1) 📃	Very Shallow Dark	Surface (TF12)
	ogen Sulfide (A4)		Loamy Gleyed Ma	atrix (F2)		Other (Explain in Re	emarks)
	ted Below Dark Su	rface (A11) Č	Depleted Matrix (	F3)		-	
	Dark Surface (A12		Redox Dark Surfa	ace (F6)			phytic vegetation and
Sand	y Mucky Mineral (S	1)	Depleted Dark St			wetland hydrology n	nust be present,
Sand	y Gleyed Matrix (S4	4)	Redox Depressio	ns (F8)		unless disturbed or	problematic
strictive	Layer (if present):	:					
Type:				Hydric	Soil Present?	Yes	No <u>X</u>
Depth (ii	nches):						
narks:						· · · · · · · · · · · · · · · · ·	
Idino.							
			in i k	1			
			no indu	catos		. <u> </u>	
			no indi	cators		<u> </u>	
DROLC	OGY		no indu	cators		. <u></u>	
etland Hy	drology Indicator	5:		cators		ndanu Indicators (2 c	
etland Hy	drology Indicator	s: f one required	; check all that apply)			ndary indicators (2 c	or more required)
etland Hy imary Indi	drology Indicator cators (minimum of	s: f one required	; check all that apply) Water-Stainer	d Leaves (B9) (exce	pt V	/ater-Stained Leave	or more required) s (B9) (MLRA 1, 2,
etland Hy imary Indi Surface	drology Indicator cators (minimum of Water (A1)	s: f one required	; check all that apply) Water-Staine MLRA 1, 2, 4	d Leaves (B9) (exce A, and 4B)	pt V 4	/ater-Stained Leave A, and 4B)	s (B9) (MLRA 1, 2,
etland Hy mary Indi Surface ¹ High Wa	drology Indicator cators (minimum of Water (A1) ter Table (A2)	s: f one required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1	d Leaves (B9) (exce A, and 4B) 11)	pt V 4	/ater-Stained Leave A, and 4B) rainage Patterns (B	s (B9) ( <b>MLRA 1, 2</b> , 10)
surface Surface High Wa Saturatio	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3)	s: f one required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inven	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13)	pt V 4 0	Vater-Stained Leave A, and 4B) rainage Patterns (B rv-Season Water Ta	s (B9) ( <b>MLRA 1, 2</b> , 10) able (C2)
etland Hy imary Indi Surface High Wa Saturatio	drology Indicator cators (minimum of Water (A1) ter Table (A2)	s: f one required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inven Hydrogen Sul	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1)	pt V 4 2 2 3 3	/ater-Stained Leave A, and 4B) rainage Patterns (B	s (B9) ( <b>MLRA 1, 2</b> , 10) able (C2)
Surface High Wa Saturatio Water M	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1)	s: fone required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inver Hydrogen Sul Oxidized Rhiz	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13)	pt V 4 5	Vater-Stained Leave A, and 4B) rainage Patterns (B ry-Season Water Ta aturation Visible on	s (B9) ( <b>MLRA 1, 2,</b> 10) able (C2) Aerial Imagery (C9)
etland Hy mary Indi Surface ' High Wa Saturatic Water M Sedimer	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)	s: fone required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inver Hydrogen Sul Oxidized Rhiz Roots (C3)	d Leaves (B9) ( <b>exce</b> <b>A, and 4B</b> ) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi	pt V 4 5 5	Vater-Stained Leave A, and 4B) rainage Patterns (B ny-Season Water Ta aturation Visible on Seomorphic Position	s (B9) ( <b>MLRA 1, 2,</b> 10) able (C2) Aerial Imagery (C9) (D2)
etland Hy mary Indi Surface High Wa Saturatic Water M Sedimer	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1)	s: fone required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Invert Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of f	d Leaves (B9) ( <b>exce</b> <b>A, and 4B</b> ) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4)	pt V 4 5 5	Vater-Stained Leave A, and 4B) rainage Patterns (B ry-Season Water Ta aturation Visible on	s (B9) ( <b>MLRA 1, 2,</b> 10) able (C2) Aerial Imagery (C9) (D2)
Surface Surface High Wa Saturatic Water M Sedimer Drift Dep	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) no beposits (B2) posits (B3)	s: fone required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Invert Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F	d Leaves (B9) ( <b>exce</b> <b>A, and 4B</b> ) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi	pt V 4 1 2 1 2 1 2 2 3 3 4 2 5 4 1 2 5 5 1 2 5 5 1 5 5 5 5 5 5 5 5 5 5 5	Vater-Stained Leave A, and 4B) rainage Patterns (B ny-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3	s (B9) ( <b>MLRA 1, 2,</b> 10) able (C2) Aerial Imagery (C9) (D2) )
Surface Surface High Wa Saturatic Water M Sedimer Drift Dep	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)	s: fone required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inver Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6)	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced fron (C4) Reduction in Tilled	pt V 4 1 2 1 2 1 2 2 3 3 4 2 5 4 1 2 5 5 1 2 5 5 1 5 5 5 5 5 5 5 5 5 5 5	Vater-Stained Leave A, and 4B) rainage Patterns (B ny-Season Water Ta aturation Visible on Seomorphic Position	s (B9) ( <b>MLRA 1, 2,</b> 10) able (C2) Aerial Imagery (C9) (D2) )
Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) to Deposits (B2) posits (B3) at or Crust (B4)	s: fone required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inver Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St	d Leaves (B9) ( <b>exce</b> <b>A, and 4B</b> ) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced Iron (C4)	pt4	Vater-Stained Leave A, and 4B) rainage Patterns (B ry-Season Water Ta aturation Visible on seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D5	s (B9) ( <b>MLRA 1, 2,</b> 10) able (C2) Aerial Imagery (C9) (D2) ) 5)
atland Hy imary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) t Deposits (B2) posits (B3) tt or Crust (B4) posits (B5)	s: fone required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Sait Crust (Br Aquatic inver Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A)	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced fron (C4) Reduction in Tilled tressed Plants (D1)	pt4	Vater-Stained Leave A, and 4B) rainage Patterns (B ny-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D taised Ant Mounds (	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A)
Surface Surface Hy High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) to Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	f <u>one required</u>	; check all that apply) Water-Stainer MLRA 1, 2, 4 Sait Crust (B1 Aquatic Inver Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced fron (C4) Reduction in Tilled	pt4	Vater-Stained Leave A, and 4B) rainage Patterns (B ry-Season Water Ta aturation Visible on seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D5	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A)
Surface ' High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) t Deposits (B2) posits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial	f one required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inver Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced fron (C4) Reduction in Tilled tressed Plants (D1)	pt4	Vater-Stained Leave A, and 4B) rainage Patterns (B ny-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D taised Ant Mounds (	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A)
Surface ' High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) to Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	f one required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inver Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced fron (C4) Reduction in Tilled tressed Plants (D1)	pt4	Vater-Stained Leave A, and 4B) rainage Patterns (B ny-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D taised Ant Mounds (	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A)
etland Hy imary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatin Sparsely	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aerial v Vegetated Concar	f one required	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inver Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced fron (C4) Reduction in Tilled tressed Plants (D1)	pt4	Vater-Stained Leave A, and 4B) rainage Patterns (B ny-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D taised Ant Mounds (	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A)
etland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatii Sparsely	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerial vegetated Concar	f <u>one required</u> I imagery (B7) ve Surface (Bł	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic invert Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livia Reduced fron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	pt4	Vater-Stained Leave <b>A, and 4B</b> ) rainage Patterns (B ry-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D2 taised Ant Mounds ( rost-Heave Hummo	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A) cks (D7)
atland Hy imary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatin Sparsely	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerial vegetated Concar rvations: ter Present?	f <u>one required</u> I Imagery (B7) ve Surface (B8  res No	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inver Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai B)	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livi Reduced fron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	pt4	Vater-Stained Leave <b>A, and 4B</b> ) rainage Patterns (B ry-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D2 taised Ant Mounds ( rost-Heave Hummo	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A)
etland Hy imary Indi Surface ' High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatii Sparsely eld Obse urface Wa ater Table	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) hosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerial Vegetated Concar rvations: ter Present? Y	f <u>one required</u> I imagery (B7) ve Surface (Bł	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic invert Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livia Reduced fron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	pt4	Vater-Stained Leave A, and 4B) rainage Patterns (B ny-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D taised Ant Mounds (	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A) cks (D7)
imary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatii Sparsely eld Obse urface Wa Vater Table	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) hosits (B3) at or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aerial Vegetated Concar rvations: ter Present? Y Present? Y	f <u>one required</u> I Imagery (B7) ve Surface (B8  res No	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic Inver Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai B)	d Leaves (B9) (exce <b>A, and 4B</b> ) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livia Reduced fron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	pt4	Vater-Stained Leave <b>A, and 4B</b> ) rainage Patterns (B ry-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D2 taised Ant Mounds ( rost-Heave Hummo	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A) cks (D7)
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stland Hy mary Indi Surface ' High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatii Sparsely ald Obse Inface Wa ater Table	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial vegetated Concav rvations: ter Present? Y a Present? Y Present?	I Imagery (B7) ve Surface (B8 ves No ves No ves No	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic invert Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai B)	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livia Reduced fron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	Pt 4 6 6 7 7 7 7 7 7 7	Vater-Stained Leave <b>A, and 4B</b> ) rainage Patterns (B ry-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D2 clased Ant Mounds ( rost-Heave Hummo ology Present?	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A) cks (D7)
etland Hy mary Indi Surface ' High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatii Sparsely eld Obse Inface Wa ater Table	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial vegetated Concav rvations: ter Present? Y a Present? Y Present?	I Imagery (B7) ve Surface (B8 ves No ves No ves No	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic invert Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai B)	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livia Reduced fron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	Pt 4 6 6 7 7 7 7 7 7 7	Vater-Stained Leave <b>A, and 4B</b> ) rainage Patterns (B ry-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D2 clased Ant Mounds ( rost-Heave Hummo ology Present?	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A) cks (D7)
atland Hy mary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely ald Obse Inface Wa ater Table ater Table ater Table ater Table	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial vegetated Concav rvations: ter Present? Y a Present? Y Present?	I Imagery (B7) ve Surface (B8 ves No ves No ves No	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic invert Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai B)	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livia Reduced fron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	Pt 4 6 6 7 7 7 7 7 7 7	Vater-Stained Leave <b>A, and 4B</b> ) rainage Patterns (B ry-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D2 clased Ant Mounds ( rost-Heave Hummo ology Present?	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A) cks (D7)
stland Hy mary Indi Surface ' High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatii Sparsely ald Obse Inface Wa ater Table	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial vegetated Concav rvations: ter Present? Y a Present? Y Present?	I Imagery (B7) ve Surface (B8 ves No ves No ves No	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic invert Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai B)	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livia Reduced fron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	Pt 4 6 6 7 7 7 7 7 7 7	Vater-Stained Leave <b>A, and 4B</b> ) rainage Patterns (B ry-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D2 clased Ant Mounds ( rost-Heave Hummo ology Present?	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A) cks (D7)
tland Hy mary Indi Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatii Sparsely Ald Obse rface Wa ater Table turation I cludes ca cribe Rec	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial vegetated Concav rvations: ter Present? Y a Present? Y Present?	I Imagery (B7) ve Surface (B8 ves No ves No ves No	; check all that apply) Water-Stainer MLRA 1, 2, 4 Salt Crust (B1 Aquatic invert Hydrogen Sul Oxidized Rhiz Roots (C3) Presence of F Recent Iron F Soils (C6) Stunted or St (LRR A) Other (Explai B)	d Leaves (B9) (exce A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Livia Reduced fron (C4) Reduction in Tilled tressed Plants (D1) in in Remarks)	Pt 4 6 6 7 7 7 7 7 7 7	Vater-Stained Leave <b>A, and 4B</b> ) rainage Patterns (B ry-Season Water Ta aturation Visible on Seomorphic Position hallow Aquitard (D3 AC-Neutral Test (D2 clased Ant Mounds ( rost-Heave Hummo ology Present?	s (B9) (MLRA 1, 2, 10) able (C2) Aerial Imagery (C9) (D2) ) 5) D6) (LRR A) cks (D7)

WETLAND DETERMIN	ATION DATA FORM - Western	Mountains, Valleys, and Coast Region
Project/Site: HAA Ranch Applicant/Owner: Hart Ranch Invest/gator(s): Mart Ranch Landform (hillslope, terrace, etc.): TC/Y Subregion (LRR): MLRA 22B Soil Map Unit Name: 153 Oct 74116 Are climatic / hydrologic conditions on the site to Are Vegetation, Soil, or Hydrol Are Vegetation, Soil, or Hydrol SUMMARY OF FINDINGS – Attach s Hydrophytic Vegetation Present? Yes	City/County: State: CA' Same Section, Township, Range: Care Local relief (concave, convo Lat: <u>172.373078</u> Long: <u>41.</u> Silt IOCLM Vpical for this time of year? Yes X No ogy ND significantly disturbed? Are ogy ND naturally problematic?	0.       Sampling Date:       Sampling Date:       Sampling Date:         Ving Point:       49
`\	rrigated me	ture
VEGETATION - Use scientific names	of plants.	
Tree Stratum         (Plot size:)           1.            2.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
		Total Number of Dominant
3. 4.		Species Across All Strata: (B) Percent of Dominant Species
		That Are OBL, FACW, or FAC; 100 (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Rot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x 1 =
4.		FACW species 20 x2=
5		FAC species x 3 =
line 2	= Total Cover	FACU species         x 4 =           UPL species         x 5 =
Herb Stratum (Plot size: M2) 1. Disticulis Spicata	TO A TACA	Column Totals: (A) (B)
2. <u>Elytrigia repens</u>	$\frac{30}{30}$ Y FACW	Prevalence Index = B/A =
4		Hydrophytic Vegetation Indicators:
5	A AN A A A A A A A A A A A A A A A A A	1 - Rapid Test for Hydrophytic Vegetation
6		2 - Dominance Test is >50%
7 8.		3 - Prevalence Index is ≤3.0 ¹
		4 - Morphological Adaptations ¹ (Provide supporting
9		data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	60 = Total Cover	¹ indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		5. S.
% Bare Ground in Herb Stratum 46	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		
vonanua.		

IL							Statulation Polla	
rofile Desc	ription: (Describe	to the depth	n needed to docum	ent the ind	icator or co	nfirm the	absence of indicators.	)
Depth	Matrix		Color (moist)	Redox Feat	ures Type'	Loc ²	Texture	Remarks
inches)	Color (moist)	%			<u>type</u>		100 M	
)-6	104R412	<u>[DD</u>						
13	1042012	100		<u> </u>			lam	<u> </u>
3-18	104281	100					<u>S: 1+ 10 cun</u>	<u> </u>
				<u> </u>			·	
			. <u> </u>					
					<u></u>			
						<del></del>	. <u></u>	
Type: C=C	oncentration, D≂De	pletion, RM=	Reduced Matrix, CS	=Covered o	r Coated Sa	nd Grains.	² Location: PL=Pore	Lining, M=Matrix.
			LRRs, unless othe				dicators for Problemat	tic Hydric Soils ³ :
			Sandy Redox (S		,		2 cm Muck (A10)	
Histosol Histic F	pipedon (A2)		Stripped Matrix (	S6)			Red Parent Material (	TF2)
	listic (A3)		Loamy Mucky M	ineral (F1) (	except MLR	(A1)	Very Shallow Dark Su	nface (TF12)
	en Sulfide (A4)		Loamy Gleyed M				Other (Explain in Rem	laiks)
	d Below Dark Surfa ark Surface (A12)	CE (A11)	Depleted Matrix Redox Dark Surf				³ Indicators of hydroph	ytic vegetation and
	Mucky Mineral (S1)		Depleted Dark S	urface (F7)			wetland hydrology mu	ist be present,
	Gleyed Matrix (S4)	-	Redox Depression	ons (F8)			unless disturbed or pr	
- ( - 1 - 17 ) - A								,
	ayer (if present):				Hydric So	l Present	? Yes	No X
Type: Depth (incl			<u> </u>					
harks:								<u></u>
nans.								
		n	sindica	itors				
DROLOG								<u></u>
etland Hydi imany lodics	rology Indicators:	ne required: (	check all that apply)			Sec	ondary Indicators (2 or	more required)
intery monoe			Water-Staine	ed Leaves (l	39) (except		Water-Stained Leaves	(B9) ( <b>MLRA 1, 2,</b>
Surface W			MLRA 1, 2, 4		)		4A, and 4B) Drainage Patterns (B10	1)
	r Table (A2)		Salt Crust (B Aquatic Inve	i11) Hobratos (B	43)		Dry-Season Water Tab	/) le (C2)
Saturation Water Mar	(A3) ks (B1)		Hydrogen Si				Saturation Visible on A	
VVG(Q) IVIGI	K3 (D1)		Oxidized Rhi	izospheres	along Living	_		
	Deposits (B2)		Roots (C3)		(04)	<u> </u>	Geomorphic Position (C	02)
Drift Depos	sits (B3)		Presence of Recent Iron				Shallow Aquitard (D3)	
Alcal Mate	or C <del>r</del> ust (B4)		Soils (C6)	Reduction i	1 HINEU		FAC-Neutral Test (D5)	
Algai mat (			Stunted or S	itressed Pla	nts (D1)			
Iron Depos			(LRR A)	te le Dono	4		Raised Ant Mounds (D) Frost-Heave Hummock	
	oil Cracks (B6)		Other (Expla	an in Remai	KS)		LIOSI-LIGANE LIGHTING	
Inundation Secretary	Visible on Aerial In /egetated Concave	1agery (67) Surface (88)						
oparaely v	CACIFICO COMORAE			<u> </u>				
eld Observ	ations:		NC.					
urface Wate		`No	Depth (inches)	):		. 41	srology Present? Y	'es 👗 No
/ater Table f		No	Depth (inches)	):	[ W	etiano nyt	arology Present i	ea <u>/ 10 _</u>
aturation Pro			Depth (inches)	ה איז	$n \mid$			
scribe Peco			pring well, aerial pho			ns), if avail	able:	
	idea Bere (enound							
marks:								
narks:								
narks:								

WETLAND DETERMIN	ATION DATA FORM Western M	lountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Mart Ranch Landform (hilislope, terrace, etc.): <u>Crr</u> Subregion (LRR): MLRA 22B Soil Map Unit Name: <u>153 Gaze</u> Are climatic / hydrologic conditions on the site to Are Vegetation, Soil, or Hydrologic Are Vegetation, Soil, or Hydrologic	City/County: SiSKiVou Co State: CA Sample Section, Township, Range: Section, Township, Range: CA Section, Township, Range: CA Sectio	Sampling Date: <u>8/23/2016</u> ing Point: <u>So</u> <u>45N</u> , <u>R5W</u> <u>sect 1,2+3</u> x, none): <u>CONVEX</u> Slope (%): <u>2</u> <u>68299</u> Datum: <u>NAD 83</u> NWI classification: <u>VIA</u> (If no, explain in Remarks.) Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) <b>Slocations, transects, important features, etc.</b>
	N. Y	
	Irrigated past	Une
VEGETATION – Use scientific names	s of plants.	
Tree Stratum (Plot size:) 1	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: 2 (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC:
Sapling/Shrub Stratum (Plot size:	= Total Cover	Prevalence index worksheet:
1/		
2.		Total % Cover of:     Multiply by:       OBL species     x 1 =
3		FACW species $20$ $x_2 = 40$
4		FAC species $SD \times 3 = 750$
·		FACU species x 4 =
Herb Stratum (Plot size: 1072)	= Total Cover	UPL species x 5 =
1. Juncus articus	20 Y FACW	Column Totals: 🔁 (A) 🥂 (B)
2. Proa pratenses	SO Y STAC	Prevalence Index = B/A = 278
4		Hydrophytic Vegetation Indicators:
5		1 - Rapid Test for Hydrophytic Vegetation
6		2 - Dominance Test is >50%
8	1. 计解外分钟	<ul> <li>3 - Prevalence index is ≤3.0¹</li> <li>4 - Morphological Adaptations¹ (Provide supporting</li> </ul>
9		data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11.		Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.	and the second	811/05
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		
		1

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SOIL			Samaling Rolat
Profile Description: (Describe to the depth nee	ded to document the indicator	or confirm the	absence of indicators.)
Depth <u>Matrix</u>	Redox Features		Texture Remarks
	olor (moist) % Typ		
0-10 104R412 100 _			loan
6-12 1042612 100			loam
			silt loan
12-18 104R-511 100			
	<u> </u>	<u> </u>	
		·····	
¹ Type: C=Concentration, D=Depletion, RM=Redu	ced Matrix, CS=Covered or Coat		
Hydric Soil Indicators: (Applicable to all LRRs	, unless otherwise noted.)	61	ndicators for Problematic Hydric Soils ³ :
	andy Redox (S5)		2 cm Muck (A10)
Histic Epinedon (A2) SI	ripped Matrix (S6)		Red Parent Material (TF2)
Black Histic (A3)	amy Mucky Mineral (F1) (excep	t MLRA 1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	amy Gleyed Matrix (F2)	-	Other (Explain in Remarks)
	epleted Matrix (F3) edox Dark Surface (F6)		³ indicators of hydrophytic vegetation and
	epleted Dark Surface (F7)		wetland hydrology must be present,
	edox Depressions (F8)		unless disturbed or problematic
Restrictive Layer (if present):			X
Туре:	Hyd	ric Soil Preser	nt? Yes No
Depth (inches):			
Remarks:	W_	<u></u>	
	no indicator	<b></b>	
	<u>nu marcha a</u>	<u> </u>	<u></u>
	<u>nu marchs of</u>	<u> </u>	<u></u>
HYDROLOGY		<u> </u>	······································
Wetland Hydrology Indicators:			acondary indicators (2 or more required)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check	all that apply)	Se	econdary 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) Water-Stained Leaves (B9) (e	Se	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check Surface Water (A1)	all that apply) Water-Stained Leaves (B9) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	Se	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) (e MLRA 1, 2, 4A, and 4B) Sait Crust (B11) Aquatic Invertebrates (B13)	Se	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) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	xcept	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) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along	xcept	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) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3)	xcept	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) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4	xcept	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) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Soils (C6)	xcept	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) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (D	xcept	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) Shatlow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check	all that apply) Water-Stained Leaves (B9) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (D (LRR A)	xcept	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) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (D	xcept	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) Shatlow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check	all that apply) Water-Stained Leaves (B9) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (D (LRR A)	xcept	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) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (D (LRR A)	xcept	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) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (D (LRR A)	xcept	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) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (D (LRR A)	Se           xcept	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) Shatlow 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         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)         Field Observations:         Surface Water Present?         Yes       No	all that apply) Water-Stained Leaves (B9) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (D (LRR A) Other (Explain in Remarks)	Se           xcept	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         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)         Field Observations:         Surface Water Present?         Yes       No         Saturation Present?	all that apply) Water-Stained Leaves (B9) (e MLRA 1, 2, 4A, and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Roots (C3) Presence of Reduced Iron (C4 Recent Iron Reduction in Tille Soils (C6) Stunted or Stressed Plants (D (LRR A) Other (Explain in Remarks) Depth (inches): Depth (inches):	Se           xcept	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) Shatlow 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) (e         MLRA 1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along         Roots (C3)         Presence of Reduced Iron (C4         Recent Iron Reduction in Tille         Soils (C6)         Stunted or Stressed Plants (D         (LRR A)         Other (Explain in Remarks)	Se           xcept	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) ydrology Present? Yes X No
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check         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)         Field Observations:         Surface Water Present?         Yes       No         Saturation Present?	all that apply)         Water-Stained Leaves (B9) (e         MLRA 1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along         Roots (C3)         Presence of Reduced Iron (C4         Recent Iron Reduction in Tille         Soils (C6)         Stunted or Stressed Plants (D         (LRR A)         Other (Explain in Remarks)	Se           xcept	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) ydrology Present? Yes X No
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check	all that apply)         Water-Stained Leaves (B9) (e         MLRA 1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along         Roots (C3)         Presence of Reduced Iron (C4         Recent Iron Reduction in Tille         Soils (C6)         Stunted or Stressed Plants (D         (LRR A)         Other (Explain in Remarks)	Se           xcept	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) ydrology Present? Yes X No
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check	all that apply)         Water-Stained Leaves (B9) (e         MLRA 1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along         Roots (C3)         Presence of Reduced Iron (C4         Recent Iron Reduction in Tille         Soils (C6)         Stunted or Stressed Plants (D         (LRR A)         Other (Explain in Remarks)	Se           xcept	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) ydrology Present? Yes X No
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check	all that apply)         Water-Stained Leaves (B9) (e         MLRA 1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along         Roots (C3)         Presence of Reduced Iron (C4         Recent Iron Reduction in Tille         Soils (C6)         Stunted or Stressed Plants (D         (LRR A)         Other (Explain in Remarks)	Se           xcept	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) (e         MLRA 1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along         Roots (C3)         Presence of Reduced Iron (C4         Recent Iron Reduction in Tille         Soils (C6)         Stunted or Stressed Plants (D         (LRR A)         Other (Explain in Remarks)	Se           xcept	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) (e         MLRA 1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along         Roots (C3)         Presence of Reduced Iron (C4         Recent Iron Reduction in Tille         Soils (C6)         Stunted or Stressed Plants (D         (LRR A)         Other (Explain in Remarks)	Se           xcept	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         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)         Field Observations:         Surface Water Present?         Yes       No         Saturation Present?       Yes         No	all that apply)         Water-Stained Leaves (B9) (e         MLRA 1, 2, 4A, and 4B)         Salt Crust (B11)         Aquatic Invertebrates (B13)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres along         Roots (C3)         Presence of Reduced Iron (C4         Recent Iron Reduction in Tille         Soils (C6)         Stunted or Stressed Plants (D         (LRR A)         Other (Explain in Remarks)	Se           xcept	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:       HARARAAA       City/County:       SisKiyou.Co.       Sampling Date:       8/23/2010         Applicant/Owner:       Hart Ranch       State:       CA       Sampling Point:       Sampling Date:       8/23/2010         Investigator(s):       Mart Ranch       Section, Township, Range:       1.45N, R5W       Sect 1, 2+3         Landform (hillislope, terrace, etc.):       CITFOCC       Local relief (concave, convex, none):       Condecx:       Slope (%):         Subregion (LRR):       MLRA 22B       Lat: 122.375M       Long:       H.695794       Datum:       NAD 63         Soil Map Unit Name:       153       Acc 2016       Mart 100cm       NWI classification:       N/A         Are Vegetation       , Soil       , or Hydrology       No significantly disturbed?       Are "Normal Circumstances" present?       Yes X       No         Are Vegetation       , Soil       , or Hydrology       No naturally problematic?       (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.
Hydric Soil Present?       Yes       No       Is the Sampled Area within a Wetland?       Yes       No         Wetland Hydrology Present?       Yes       No       Is the Sampled Area within a Wetland?       Yes       No
Remarks: ditch bank

# VEGETATION - Use scientific names of plants.

Tree Stratum (Riot size:	Absolute Dominant Indicator	Dominance Test worksheet:
1/	<u>% Cover Species? Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant Species Across All Strata: 3 (B)
4		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	= Total Cover	
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x1 =
3.		FACW species x2 =
4		FAC species x 3 =
5		FACU species 30 x4 = 120
Herb Stratum (Plot size: ) M2)	= Total Cover	UPL species $50 \times 5 = 750$
Herb Stratum (Plot size: 1m2) 1. Contaun la solstitiollo	30 11 1001	Column Totals: (A) 370 (B)
2. Frechille Kannensis	JUY UFG	
3. pppullarenneria spirata	ZD Y DAL	Prevalence index = B/A = 4.4
4.	_ port	Hudrophytic Vecetation Industry
5	i di cina navi an	Hydrophytic Vegetation Indicators:
6		1 - Rapid Test for Hydrophytic Vegetation
7		2 - Dominance Test is >50%
8	1984年11	3 - Prevalence Index is ≤3.0 ¹
9		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10		5 - Wetland Non-Vascular Plants ¹
11		Problematic Hydrophytic Vegetation ¹ (Explain)
	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)		be present, unless disturbed or problematic,
1		
2	and the state of the	Ebadromba dia
% Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:		

001						Second inter Poli	
SOIL Brofile Desr	rintion (Describe	to the depti	needed to docum	ent the indicator of	r confirm the	absence of indicators	
Depth	Matrix	i to the depti	Figure 10 docum	Redox Features			
(inches)	Color (moist)	%	Color (moist)	%Туре	Loc ²	Texture	Remarks
0-11	104R6/2	100				lam	
$\frac{1}{1} - 18$	10YR611	100				loam_	
11-10	107Ken	100	<u> </u>	···	-	<u></u>	
10 m m							
				<u> </u>			
<u> </u>	p						
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¹ Type: C=C	oncentration, D=De	pletion, RM=	Reduced Matrix, CS	Covered or Coate			
Hydric Soil	Indicators: (Appl	icable to all	LRRs, unless other	wise noted.)	In	dicators for Problema	tic Hydric Soils ³ :
Histoso			Sandy Redox (S5			2 cm Muck (A10)	
	pipedon (A2)		Stripped Matrix (	56)		Red Parent Material (	
Black H	listic (A3)	V-		neral (F1) (except	MLRA 1)	Very Shallow Dark Su Other (Explain in Ren	
Hydrog	en Sulfide (A4)		Loamy Gleyed M Depleted Matrix (				anoj
	ed Below Dark Surfa Dark Surface (A12)	ice (A11)	_ Redox Dark Surfa			³ Indicators of hydroph	ytic vegetation and
	Mucky Mineral (S1)		Depleted Dark St			wetland hydrology mu	ist be present,
	Gleyed Matrix (S4)	_	Redox Depressio			unless disturbed or pr	roblematic
Restrictive La	ayer (if present):			Lile collection	c Soil Present	? Yes	No X _
Туре:			······		c 304 Present	r ica	
Depth (Inc	hes):			<u> </u>			
Remarks:							
				011	Kaline		
			<u> </u>	<u> </u>	June	/	
HYDROLOG	SY .						
Wetland Hvd	rology Indicators:		·····				more required)
Primary Indica	ators (minimum of o	ne required: a			500	ondary Indicators (2 or	more required)
		ne required, t	check all that apply)	11. (19.0) (		Water Cinined Legvee	(BQ) /ML RA 1 2
<b>O 1</b>		ne required, t	Water-Staine	d Leaves (B9) (exc	ept		(B9) (MLRA 1, 2,
Surface W	/ater (A1)	ne required, t	Water-Staine MLRA 1, 2, 4	A, and 4B)	ept	4A, and 4B) Drainage Patterns (B10	(89) (Milra 1, 2, ))
High Wate	/ater (A1) er Table (A2)	ne requir <u>ed</u> , t	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aguatic Inver	<b>A, and 4B)</b> 11) tebrates (B13)	ept	<b>4A, and 4B)</b> Drainage Patterns (B10 Drv-Season Water Tab	(B9) ( <b>MILRA 1, 2,</b> )) le (C2)
	/ater (A1) er Table (A2) (A3)	ne required, t	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su	<b>A, and 4B</b> ) 11) tebrates (B13) Ifide Odor (C1)	ept	4A, and 4B) Drainage Patterns (B10	(B9) ( <b>MILRA 1, 2,</b> )) le (C2)
High Wate Saturation Water Mar	/ater (A1) er Table (A2) (A3) rks (B1)	ne required, s	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi	<b>A, and 4B)</b> 11) tebrates (B13)	ept	<b>4A, and 4B)</b> Drainage Patterns (B16 Dry-Season Water Tab Saturation Visible on A	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9)
High Wate Saturation Water Mar Sediment	/ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2)	<u>ne roquisa, t</u>	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Roots (C3)	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li	ept	4A, and 4B) Drainage Patterns (B16 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9)
High Wate Saturation Water Mar	/ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2)	ne roquisa, t	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi Roots (C3) Presence of	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4)	ept	<b>4A, and 4B)</b> Drainage Patterns (B16 Dry-Season Water Tab Saturation Visible on A	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9)
High Wate Saturation Water Mar Sediment Drift Depo	/ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3)	ne roquisa, i	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Roots (C3) Presence of Recent Iron f Solls (C6)	A, and 4B) 11) tebrates (B13) lfide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled	ving	4A, and 4B) Drainage Patterns (B16 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) ))
High Wate Saturation Water Mar Sediment Drift Depo	/ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	ne roquisa, i	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron F Soils (C6) Stunted or Si	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4)	ving	4A, and 4B) Drainage Patterns (B16 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shaliow Aquitard (D3) FAC-Neutral Test (D5)	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) D2)
High Wate Saturation Water Mar Sediment Drift Depo	/ater (A1) Pr Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	ne roquisa, i	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Roots (C3) Presence of Recent Iron f Solls (C6) Stunted or S' (LRR A)	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1)	ving	4A, and 4B) Drainage Patterns (B16 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shaliow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) C2) 6) ( <b>LRR A</b> )
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Surface Si	/ater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6)		Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Roots (C3) Presence of Recent Iron f Solls (C6) Stunted or S' (LRR A)	A, and 4B) 11) tebrates (B13) lfide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled	ving	4A, and 4B) Drainage Patterns (B16 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shaliow Aquitard (D3) FAC-Neutral Test (D5)	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) C2) 6) ( <b>LRR A</b> )
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo: Surface So Inundation	/ater (A1) Fr Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial In	nagery (B7)	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Costs (C3) Presence of Recent Iron f Solls (C6) Stunted or S (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1)	ving	4A, and 4B) Drainage Patterns (B16 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shaliow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) C2) 6) ( <b>LRR A</b> )
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo: Surface So Inundation	/ater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6)	nagery (B7)	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Costs (C3) Presence of Recent Iron f Solls (C6) Stunted or S (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1)	ving	4A, and 4B) Drainage Patterns (B16 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shaliow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) C2) 6) ( <b>LRR A</b> )
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo: Surface So Inundation	/ater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial In Vegetated Concave	nagery (B7) Surface (B8)	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Roots (C3) Presence of Recent Iron f Solls (C6) Stunted or S' (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) In In Remarks)	ving	4A, and 4B) Drainage Patterns (B16 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shaliow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) C2) 6) ( <b>LRR A</b> )
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat fron Depos Surface Se Inundation Sparsely V Field Observ Surface Wate	Vater (A1) er Table (A2) (A3) (A3) Tks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial In Vegetated Concave vations: er Present? Yes	nagery (B7) Surface (B8)	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron f Solls (C6) Stunted or S' (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) In In Remarks)	ving	4A, and 4B) Drainage Patterns (B1( Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummock	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) D2) 6) ( <b>LRR A</b> ) (s (D7)
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo: Surface Si Inundation Sparsely V Field Observ Surface Wate Water Table	Vater (A1) Fr Table (A2) (A3) (A3) Tks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial In Vegetated Concave Vations: Present? Yes	nagery (B7) Surface (B8)	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Roots (C3) Presence of Recent Iron f Solls (C6) Stunted or S' (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) In In Remarks)	ving	4A, and 4B) Drainage Patterns (B1( Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shaliow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummock	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) C2) 6) ( <b>LRR A</b> )
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat fron Depo Surface Se Inundation Sparsely V Field Observ Surface Wate Water Table I Saturation Pr	Vater (A1) Fr Table (A2) (A3) (A3) Tks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial In Vegetated Concave Vations: Present? Yes resent? Yes	nagery (B7) Surface (B8) s No s No	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Roots (C3) Presence of Recent Iron f Solls (C6) Stunted or S' (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) In In Remarks)	ving	4A, and 4B) Drainage Patterns (B1( Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummock	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) D2) 6) ( <b>LRR A</b> ) (S (D7)
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat fron Depos Surface Si Surface Si Surface Si Surface Water Saturation Pr (includes cap	Vater (A1) Fr Table (A2) (A3) (Ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) to Visible on Aerial In Vegetated Concave vations: or Present? Yes resent? Vestinge) Yes	nagery (B7) Surface (B8) s No s No s No	Vater-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron f Solls (C6) Stunted or St (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) In In Remarks)	ving	4A, and 4B) Drainage Patterns (B1( Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummock	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) D2) 6) ( <b>LRR A</b> ) (S (D7)
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat fron Depos Surface Si Surface Si Surface Si Surface Water Saturation Pr (includes cap	Vater (A1) Fr Table (A2) (A3) (Ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) to Visible on Aerial In Vegetated Concave vations: or Present? Yes resent? Vestinge) Yes	nagery (B7) Surface (B8) s No s No s No	Water-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhi: Roots (C3) Presence of Recent Iron f Solls (C6) Stunted or S' (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) In In Remarks)	ving	4A, and 4B) Drainage Patterns (B1( Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummock	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) D2) 6) ( <b>LRR A</b> ) (S (D7)
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depos Surface Si Inundation Sparsely V Field Observ Surface Wate Water Table I Saturation Pr (includes cap	Vater (A1) Fr Table (A2) (A3) (Ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) to Visible on Aerial In Vegetated Concave vations: or Present? Yes resent? Vestinge) Yes	nagery (B7) Surface (B8) s No s No s No	Vater-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron f Solls (C6) Stunted or St (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) In In Remarks)	ving	4A, and 4B) Drainage Patterns (B1( Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummock	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) D2) 6) ( <b>LRR A</b> ) (S (D7)
High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depos Surface Si Inundation Sparsely V Field Observ Surface Wate Water Table I Saturation Pr (includes cap	Vater (A1) Fr Table (A2) (A3) (Ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) to Visible on Aerial In Vegetated Concave vations: or Present? Yes resent? Vestinge) Yes	nagery (B7) Surface (B8) s No s No s No	Vater-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of Recent Iron f Solls (C6) Stunted or St (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) In In Remarks)	ving	4A, and 4B) Drainage Patterns (B1( Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummock	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) D2) 6) ( <b>LRR A</b> ) (S (D7)
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High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo: Surface Si Inundation Sparsely V Field Observ Surface Wate Water Table I Saturation Pr (includes cap Describe Reco	Vater (A1) Fr Table (A2) (A3) (Ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) to Visible on Aerial In Vegetated Concave vations: or Present? Yes resent? Vestinge) Yes	nagery (B7) Surface (B8) s No s No s No	Vater-Staine MLRA 1, 2, 4 Salt Crust (B Aquatic Inver Hydrogen Su Oxidized Rhit Roots (C3) Presence of I Recent Iron f Solls (C6) Stunted or St (LRR A) Other (Expla	A, and 4B) 11) tebrates (B13) Ifide Odor (C1) zospheres along Li Reduced Iron (C4) Reduction in Tilled tressed Plants (D1) In In Remarks)	Ving	4A, and 4B) Drainage Patterns (B1( Dry-Season Water Tab Saturation Visible on A Geomorphic Position (I Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D Frost-Heave Hummock	(B9) ( <b>MLRA 1, 2,</b> )) le (C2) erial Imagery (C9) D2) 6) ( <b>LRR A</b> ) (S (D7)

WETLAND DETERMINA	TION DATA FORM - Western M	Mountains, Valleys, and Coast Region	
Project/Site: HARARAACA Applicant/Owner: Hart Ranch Investigator(s): Marta Rabe Landform (hillslope, terrace, etc.): +CVrac Subregion (LRR): MLRA 22B Soil Map Unit Name: 153 gaz Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes	City/County: Siski Vou Ca State: CA Samp Section, Township, Range: Local relief (concave, conve Lat: 122.3 7505 Long: Section, Township, Range: Local relief (concave, conve Lat: 122.3 7505 Long: Section, Township, Range: Local relief (concave, conve Local relie	Sampling Date:       8/23/2016         Jing Point:       56         45N       850         500       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900         900       900	-
dital			
OITCA			
VEGETATION - Use scientific names of	of plants		
	Absoluto Deminent Indiante	Dominance Test worksheet:	-1
Tree Stratum (Plot size:)	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species	
1		That Are OBL, FACW, or FAC: (A)	
2 3 4		Total Number of Dominant Species Across All Strata: (B)	
4		Percent of Dominant Species	
1		That Are OBL, FACW, or FAC: (A/B)	
Sapling/Shrub Stratum (Plot size:)	= Total Cover	Prevalence Index worksheet:	1
1		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 = UPL species x 5 =	
Herb Stratum (Plot size: $1.$		Column Totals: (A) (B)	1
2.			1
3.		Prevalence index = B/A =	
4		Hydrophytic Vegetation Indicators:	
5	12019 (Bar)	1 - Rapid Test for Hydrophytic Vegetation	
7.	An an agentit and	2 - Dominance Test is >50%	
8		<ul> <li>3 - Prevalence Index is ≤3.0¹</li> <li>4 - Morphological Adaptations¹ (Provide supporting)</li> </ul>	2
9		data in Remarks or on a separate sheet)	
10		5 - Wetland Non-Vascular Plants ¹	
	= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)	
Woody Vine Stratum (Riot size:)	rotal Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2.	the second second		
/ Para Orange := 11 ( 6) (	= Total Cover	Hydrophytic Case Control Contr	
% Bare Ground in Herb Stratum	LAAS	Present? Yes No	
Remarks:		1 1/20°	
100 v	sen man.	- basic brill	2.4
pover	pen problematic	Da-channabruptcoup	porm
			,

							Sparinglingerstein	5lb
SOIL			معام مغ المارم مع ماغ	mont the led	licator or c	onfirm the	absence of indicators	
	ription: (Describ) Matrix		th needed to docu	Redox Feat	lures		ANADINA ALIMANATAR	·,
Depth (inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Remarks
$\overline{D} - 1D$		A.,	1044/1	7.			loam_	
	10426/2		10/4/1	<u>(0</u>			Ivan	
10-18	104R.6/1	60)		<u></u>			lown	
	· · · · ·			1	<u> </u>		-	
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		. <u></u>				. <u> </u>		
¹ Type: C=C	oncentration, D=D	epletion, RM	=Reduced Matrix, C	S=Covered o	or Coated S	Sand Grains.	² Location: PL=Por	e Lining, M=Matrix.
Hudele Soil	Indicators: (Apr	licable to al	I LRRs, unless oth	erwise note	d.)	In	dicators for Problema	tic Hydric Soils ³ :
			Sandy Redox (				2 cm Muck (A10)	
Histoso		-	Sandy Redux (				Red Parent Material (	TF2)
	pipedon (A2) listic (A3)	-	Loamy Mucky	Mineral (F1) (	except ML	.RA 1)	Very Shailow Dark Si	
	en Sulfide (A4)		Loamy Gleyed				Other (Explain in Ren	narks)
	d Below Dark Surl	ace (A11)	Depleted Matri					
	ark Surface (A12)		Redox Dark Su	urface (F6)			³ Indicators of hydroph	nytic vegetation and
Sandy I	Mucky Mineral (S1		Depleted Dark				wetland hydrology mi unless disturbed or p	ist be present,
Sandy	Gleyed Matrix (S4)		Redox Depres	sions (F8)	<del></del>		Unless disturbed or p	
							. /	
Restrictive La	ayer (if present):				Libertal a	Soll Present		No
Type:		<u> </u>			Hydric a	on riesen		
Depth (inc	hes):				<u> </u>		<u> </u>	<u></u>
Remarks:								
		<u></u>		· · · · · · · · · · · · · · · · · · ·	<u></u>			<u> </u>
			<u> </u>	. <u></u>				
HYDROLOG			 		<u></u>			
Wetland Hvd	rology Indicators	: one required	check all that apply	y)			condary Indicators (2 or	more required)
Wetland Hvd	rology Indicators	: one required;	check all that apply Water-Stai	ned Leaves (	B9) (excep	ot	Water-Stained Leaves	more required) (B9) (MLRA 1, 2,
Wetland Hyd Primary Indica	rology Indicators ators (minimum of d ater (A1)	: one required	Water-Stai	ned Leaves ( 2, 4A, and 4B	B9) ( <b>exce</b> p )	ot	Water-Stained Leaves 4A, and 4B)	(B9) ( <b>MLRA 1, 2,</b>
Wetland Hyd Primary Indica Surface W	rology Indicators ators (minimum of later (A1) r Table (A2)	one required	Water-Stai <u>MLRA 1, 2</u> Salt Crust	ned Leaves ( 2, <b>4A, and 4B</b> (B11)	)	ot	Water-Stained Leaves 4A, and 4B) Drainage Patterns (B1)	(B9) (MLRA 1, 2, D)
Wetland Hyd Primary Indica Surface W High Wate Saturation	rology Indicators ators (minimum of ater (A1) r Table (A2) (A3)	one required;	Water-Stai MLRA 1, 2 Salt Crust Aquatic Inv	ned Leaves ( 2, <b>4A, and 4B</b> (B11) /ertebrates (E	) 313)	ot	Water-Stained Leaves 4A, and 4B) Drainage Patterns (B1) Dry-Season Water Tab	(B9) ( <b>MLRA 1, 2,</b> D) ble (C2)
Wetland Hyd Primary Indica Surface W	rology Indicators ators (minimum of ater (A1) r Table (A2) (A3)	one required	Water-Stai MLRA 1, 2 Salt Crust Aquatic Inv Hydrogen	ned Leaves ( 2, <b>4A, and 4B</b> (B11) vertebrates (B Sulfide Odor	) 813) (C1)	ət	Water-Stained Leaves 4A, and 4B) Drainage Patterns (B1)	(B9) ( <b>MLRA 1, 2,</b> D) ble (C2)
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WETLAND DETERMINA	TION DATA FORM - Western I	Mountains, Valleys, and Coast Region
Project/Site: HAARAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	City/County: SisKi Vou Car State: CA Samp Section, Township, Range: Local relief (concave, conver Lat: 622.335027Long: 11.6 Selle Site Dome Dical for this time of year? Yes X No gy No significantly disturbed? Are gy No naturally problematic? e map showing sampling point No No No No No	Sampling Date: 8/23/2010     Sing Point: Sic     Sic
	ditchbank	
VEGETATION - Use scientific names	of plants.	
Tree Stratum         (Rlot size:)           1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:         Total Number of Dominant         Species Across All Strata:         B         Percent of Dominant Species         That Are OBL, FACW, or FAC:         3324(A/B)
Sapling/Shrub Stratum       (Plot size:)         1.	= Total Cover 40 V FAC	Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 = 1/20$ FACU species $x 4 =$ UPL species $4 =$ UPL species $4 =$ Column Totals: $80$ A) $320$ Prevalence index = B/A = $4.0$
4	E Total Cover	Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)         5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6 Bare Ground in Herb Stratum 20	= Total Cover	Hydrophytic Vegetation Present? Yes No

SOIL					Senardling: Palat	510
		4 - AL		at the indicator or acad		
		to the depth	needed to docume	edox Features	firm the absence of indicators.)	
Depth (inches)	Color (moist)	%	Color (moist)	% Type'	Loc ² Texture	Remarks
		-			1 rain	
0-10	104R612	100		·		
10-18	104Rbij	100			100m	
		<u> </u>	<u> </u>	<u> </u>		
			%			
		-				
			· · · · · · · · · · · · · · · · · · ·			
					······	<u> </u>
¹ Type: C=C	oncentration, D=De	pletion, RM=F	Reduced Matrix, CS=0	Covered or Coated Sand	Grains. ² Location: PL=Pore Lini	ng, M=Matrix.
			LRRs, unless otherw		Indicators for Problematic H	ydric Solls ³ :
-		icable to all i			2 cm Muck (A10)	•
Histoso			Sandy Redox (S5)		Red Parent Material (TF2)	
	pipedon (A2)	1	Stripped Matrix (S	eral (F1) (except MLRA		e (TF12)
	listic (A3) en Sulfide (A4)		Loamy Gleyed Ma		Other (Explain in Remarks	)
Deplete	en Solide (A4) ed Below Dark Surfa	ice (A11)	Depleted Matrix (F	3)		
	ark Surface (A12)		Redox Dark Surfac	ce (F6)	³ Indicators of hydrophytic v	regetation and
Sandy I	Mucky Mineral (S1)		Depleted Dark Sur		wetland hydrology must be	e present,
Sandy	Gleyed Matrix (S4)		Redox Depression	is (F8)	unless disturbed or problem	nauc
Restrictive La	ayer (if present):			Hydric Soil	Present? Yes No	
Type:					FIESBIRT 100	
Depth (inc	hes):				······································	·
Remarks:						
					• • •	
					indications	
HYDROLOG	v					
	rology Indicators:					
Primary Indica						
	ators (minimum of o	ne required: c	check all that apply)		Secondary Indicators (2 or more	required)
	ators (minimum of o	ne required; c	Water-Stained	Leaves (B9) (except	Water-Stained Leaves (B9)	(MLRA 1, 2,
Surface W	ators (minimum of o	ne required; c	Water-Stained MLRA 1, 2, 44	<b>A, and 48</b> )	Water-Stained Leaves (B9) 4A, and 4B)	mequired) (MLRA 1, 2,
Surface W	ators (minimum of o /ater (A1) rr Table (A2)	ne required; c	Water-Stained MLRA 1, 2, 44 Salt Crust (B1	<b>1, and 48</b> ) 1)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10)	(MLRA 1, 2,
Surface W High Wate Saturation	ators (minimum of o /ater (A1) r Table (A2) (A3)	ne required; c	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverte	<b>A, and 4B)</b> 1) ebrates (B13)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C	( <b>MLRA 1, 2,</b> 2)
Surface W	ators (minimum of o /ater (A1) r Table (A2) (A3)	ne required; c	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf	<b>A, and 4B)</b> 1) ebrates (B13) ide Odor (C1)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10)	( <b>MLRA 1, 2,</b> 2)
Surface W High Wate Saturation Water Mar	ators (minimum of o /ater (A1) r Table (A2) (A3) /ks (B1)	ne required; c	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Oxidized Rhize	<b>A, and 4B)</b> 1) ebrates (B13)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C	( <b>MLRA 1, 2,</b> 2)
Surface W High Wate Saturation Water Mar Sediment	ators (minimum of o /ater (A1) ir Table (A2) (A3) iks (B1) Deposits (B2)	ne required; c	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverte Hydrogen Sulf OxidIzed Rhize Roots (C3)	A, and 4B) 1) ebrates (B13) ide Odor (C1) ospheres along Living	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial	( <b>MLRA 1, 2,</b> 2)
Surface W High Wate Saturation Water Mar	ators (minimum of o /ater (A1) ir Table (A2) (A3) iks (B1) Deposits (B2)	ne required; c	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverte Hydrogen Sulf OxidIzed Rhize Roots (C3) Presence of R	A, and 4B) 1) ebrates (B13) ide Odor (C1) ospheres along Living reduced Iron (C4)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3)	( <b>MLRA 1, 2,</b> 2)
Surface W High Wate Saturation Water Mar Sediment Drift Depor	ators (minimum of o /ater (A1) ir Table (A2) (A3) (A3) iks (B1) Deposits (B2) sits (B3)	ne required; c	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverte Hydrogen Sulf OxidIzed Rhize Roots (C3) Presence of R Recent Iron Re Soils (C6)	A, and 4B) 1) ebrates (B13) ide Odor (C1) ospheres along Living reduced Iron (C4) eduction in Tilled	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2)	( <b>MLRA 1, 2,</b> 2)
Surface W High Wate Saturation Water Mar Sediment Drift Depor	ators (minimum of o /ater (A1) ir Table (A2) (A3) iks (B1) Deposits (B2)	ne required; c	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf OxidIzed Rhize Roots (C3) Presence of R Recent Iron Re Soils (C6) Stunted or Stm	A, and 4B) 1) ebrates (B13) ide Odor (C1) ospheres along Living reduced Iron (C4)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	(MLRA 1, 2, 2) Imagery (C9)
Surface W High Wate Saturation Water Mar Sediment I Sediment I Algal Mate Iron Depos	ators (minimum of o l'ater (A1) r Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	ne required; c	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf OxidIzed Rhize Roots (C3) Presence of R Recent Iron Re Soils (C6) Stunted or Stru (LRR A)	A, and 4B) 1) ebrates (B13) ide Odor (C1) ospheres along Living reduced Iron (C4) eduction in Tilled essed Plants (D1)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L	(MLRA 1, 2, 2) Imagery (C9) RR A)
Surface W High Wate Saturation Water Mar Sediment I Grift Depor Aigal Mat Iron Depor Surface Se	ators (minimum of or later (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) pil Cracks (B6)		Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf OxidIzed Rhize Roots (C3) Presence of R Recent Iron Re Soils (C6) Stunted or Stm	A, and 4B) 1) ebrates (B13) ide Odor (C1) ospheres along Living reduced Iron (C4) eduction in Tilled essed Plants (D1)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)	(MLRA 1, 2, 2) Imagery (C9) RR A)
Surface W High Wate Saturation Water Mar Sediment I Drift Depor Algal Mat Iron Depor Surface Se Inundation	ators (minimum of or /ater (A1) r Table (A2) (A3) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial In	nagery (67)	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf OxidIzed Rhize Roots (C3) Presence of R Recent Iron Re Soils (C6) Stunted or Stro (LRR A) Other (Explain	A, and 4B) 1) ebrates (B13) ide Odor (C1) ospheres along Living reduced Iron (C4) eduction in Tilled essed Plants (D1)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L	(MLRA 1, 2, 2) Imagery (C9) RR A)
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Surface W High Wate Saturation Water Mar Sediment I Drift Depor Aigal Mate Iron Depor Surface Se Inundation Sparsely V Field Observ Surface Wate Water Table I Saturation Pr (includes cap Describe Reco	ators (minimum of or ators (Minimum of or ators (A1) r Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial In /egetated Concave rations: or Present? Yes esent? Hary fringe) Yes	No No No	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf OxidIzed Rhize Roots (C3) Presence of R Recent Iron Re Soils (C6) Stunted or Stru- (LRR A) Other (Explain Depth (inches): Depth (inches): Depth (inches):	A, and 4B) 1) ebrates (B13) ide Odor (C1) ospheres along Living educed iron (C4) eduction in Tilled essed Plants (D1) in In Remarks)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L Frost-Heave Hummocks (D and Hydrology Present? Yes ), if available:	(MLRA 1, 2, 2) Imagery (C9) RR A) 7)
Surface W High Wate Saturation Water Mar Sediment I Drift Depor Aigal Mate Iron Depor Surface Se Inundation Sparsely V Field Observ Surface Wate Water Table I Saturation Pr (includes cap Describe Reco	ators (minimum of or ators (Minimum of or ators (A1) r Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) n Visible on Aerial In /egetated Concave rations: or Present? Yes esent? Hary fringe) Yes	No No No	Water-Stained MLRA 1, 2, 44 Salt Crust (B1 Aquatic Inverter Hydrogen Sulf OxidIzed Rhize Roots (C3) Presence of R Recent Iron Re Soils (C6) Stunted or Stru- (LRR A) Other (Explain Depth (inches): Depth (inches): Depth (inches):	A, and 4B) 1) ebrates (B13) ide Odor (C1) ospheres along Living educed Iron (C4) eduction in Tilled essed Plants (D1) in Remarks)	Water-Stained Leaves (B9) 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C Saturation Visible on Aerial Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (L Frost-Heave Hummocks (D and Hydrology Present? Yes ), if available:	(MLRA 1, 2, 2) Imagery (C9) RR A) 7)

WETLAND DETERMINA	TION DATA FORM - Western M	Iountains, Valleys, and Coast Region
Project/Site: HAARAACA Applicant/Owner: HAARAACA Investigator(s): HAARAACA Landform (hillslope, terrace, etc.): +cnro Subregion (LRR): MLRA 22.8 Soil Map Unit Name:	City/County: Siski You Ca State: CA Samp Section, Township, Range: Local relief (concave, conve Lat: 100, 379945 Long: 41, 64 Concerned to this time of year? Yes X No significantly disturbed? Are by No significantly problematic?	Sampling Date:       Sizzizioito         Ing Point:       None):         Ing Point:       None:         Ing Point:       NAD §3         NWI classification:       N/A         Ing (If no, explain in Remarks.)       No         "Normal Circumstances" present?       Yes X         If needed, explain any answers in Remarks.)       No         t locations, transects, important features, etc.       No
	dat metrin.	
		· · · · · · · · · · · · · · · · · · ·
VEGETATION - Use scientific names of	of plants.	
7	Absolute Dominant Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:) 1	<u>% Cover Species? Status</u>	Number of Dominant Species
2.		That Are OBL, FACW, or FAC: 2 (A)
3.		Species Across All Strata: 2 (B)
4		Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum       (Plot size:)         1.		Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $D \times 5 =$ Column Totals: $D \times 5 =$ Column Totals: $D \times 5 =$ Mydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations ¹ (Provide supporting data In Remarks or on a separate sheet)5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
	60 ·= Total Cover	¹ Indicators of hydric soil and wetland hydrology must
Voodv Vine Stratum (Plot Size:)		be present, unless disturbed or problematic.
		Sector States
6 Bare Ground in Herb Stratum 40	= Total Cover	Hydrophytic Vegetation Present? Yes No X
lemarks:		

SOIL	. <u></u>		ইইটানুগিলে ইতানি	029
Profile Description: (Describe to the depth need	ed to document the indi	cator or confirm th	te absence of indicators.)	
Depth <u>Matrix</u> (inches) Color (moist) % Color	Redox Featu or (moist) %_	Type ¹ Loc	Texture	Remarks
		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	loam	
	}			
<u>11-18 104261 100</u>		1		
125				
¹ Type: C=Concentration, D=Depletion, RM=Reduce	ed Matrix, CS=Covered or	Coated Sand Grain	ns. ² Location: PL=Pore Lin	ing, M=Matrix.
Hydric Soll Indicators: (Applicable to all LRRs,	unless otherwise noted	.)	Indicators for Problematic H	lydric Soils ³ :
	ndy Redox (S5)		2 cm Muck (A10)	
Histic Enjoedon (A2) Stri	pped Matrix (S6)	_	Red Parent Material (TF2)	
Black Histic (A3)	my Mucky Mineral (F1) (e	except MLRA 1)	Very Shallow Dark Surfac	
	my Gleyed Matrix (F2)	-	Other (Explain in Remarks	5)
	bleted Matrix (F3) lox Dark Surface (F6)		³ Indicators of hydrophytic	vegetation and
	pleted Dark Surface (F7)		wetland hydrology must b	e present,
	lox Depressions (F8)		unless disturbed or proble	matic
Restrictive Layer (if present):		thuise Call Dance	ent? Yes N	10 K
Туре:		Hydric Soll Prese	entr tes (	
Depth (Inches):	······			
Remarks:				
		1: coto a	er	
	V )U I Y	dicator		
HYDROLOGY				
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check a	all that apply)	s	econdary Indicators (2 or mor	e required)
Primary indicators (minimum of one required, check e	Water-Stained Leaves (B		Water-Stained Leaves (B9)	(MLRA 1, 2,
Surface Water (A1)	MLRA 1, 2, 4A, and 4B)		_ 4A, and 4B)	
High Water Table (A2)	Salt Crust (B11)		Drainage Patterns (B10) Dry-Season Water Table (C	22)
Saturation (A3)	Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (		Saturation Visible on Aerial	Imagery (C9)
Water Marks (B1)	Oxidized Rhizospheres a		-	
Sediment Deposits (B2)	Roots (C3)		Geomorphic Position (D2)	
Drift Deposits (B3)	Presence of Reduced Iro		Shallow Aquitard (D3)	
Alcol Mot or Crust (B4)	Recent Iron Reduction in Soils (C6)	Tilleo	FAC-Neutral Test (D5)	
Algal Mat or Crust (B4)				
	Stunted or Stressed Plan	its (D1)		
Iron Deposits (B5)	(LRR A)		_ Raised Ant Mounds (D6) (I	
Surface Soil Cracks (B6)			Raised Ant Mounds (D6) (I Frost-Heave Hummocks (D	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7)	(LRR A)			
Surface Soil Cracks (B6)	(LRR A)			
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	(LRR A) Other (Explain in Remark			
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No D	(LRR A) Other (Explain in Remark	(S)	Frost-Heave Hummocks (C	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No D Water Table Present? Yes No D	(LRR A) Other (Explain in Remark	(S)	Frost-Heave Hummocks (C	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No D Water Table Present? Yes No D Saturation Present?	(LRR A) Other (Explain in Remark epth (inches): epth (inches):	(S)	Frost-Heave Hummocks (C	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No D Water Table Present? Yes No D Saturation Present? (includes capillary fringe) Yes No D	(LRR A) Other (Explain in Remark epth (inches): epth (inches):	(S)	Frost-Heave Hummocks (C	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No D Water Table Present? Yes No D Saturation Present?	(LRR A) Other (Explain in Remark epth (inches): epth (inches):	(S)	Frost-Heave Hummocks (C	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No D Water Table Present? Yes No D Saturation Present? (includes capillary fringe) Yes No D	(LRR A) Other (Explain in Remark epth (inches): epth (inches):	(S)	Frost-Heave Hummocks (C	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No D Water Table Present? Yes No D Saturation Present? (includes capillary fringe) Yes No D	(LRR A) Other (Explain in Remark epth (inches): epth (inches):	(S)	Frost-Heave Hummocks (C	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No D Water Table Present? Yes No D Saturation Present? Yes No D Saturation Present? Yes No D Describe Recorded Data (stream gauge, monitoring w	(LRR A) Other (Explain in Remark epth (inches): epth (inches):	(S)	Frost-Heave Hummocks (C	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No D Water Table Present? Yes No D Saturation Present? Yes No D Saturation Present? Yes No D Describe Recorded Data (stream gauge, monitoring w	(LRR A) Other (Explain in Remark epth (Inches): epth (Inches): eli, aerial photos, previous	(S) Wetland H s inspections), if av	Frost-Heave Hummocks (C lydrology Present? Yes ailable:	
Surface Soil Cracks (B6)     Inundation Visible on Aerial Imagery (B7)     Sparsely Vegetated Concave Surface (B8)      Field Observations:     Surface Water Present? Yes No D     Water Table Present? Yes No D     Saturation Present? Yes No D     Describe Recorded Data (stream gauge, monitoring w	(LRR A) Other (Explain in Remark epth (Inches): epth (Inches): eli, aerial photos, previous	(S)	Frost-Heave Hummocks (C lydrology Present? Yes ailable:	

52a

States interview

WETLAND DETERMINA	TION DATA FORM - Western N	ountains, Valleys, and Coast Region
Project/Site: Hart Ranch Applicant/Owner: Hart Ranch Investigator(s): Hart Ranch Landform (hillslope, terrace, etc.): Horoco Subregion (LRR): MLRA 22B Soil Map Unit Name: 153 Are climatic / hydrologic conditions on the site typ Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog SUMMARY OF FINDINGS - Attach site Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	City/County: Siski Voll Co State: CA Sampl Section, Township, Range: Local relief (concave, conver Lat: 122, 37594/1 Long: 41, 69 Me St form bical for this time of year? Yes X No By No significantly disturbed? Are By No naturally problematic?	Sampling Date: <u>8/23/2016</u> Ing Point: <u>826</u> K, none): <u>Sect 1, 2 + 3</u> K, none): <u>Siope (%): 3</u> NWI classification: <u>N/A</u> (If no, explain in Remarks.) Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) <b>Iocations, transects, important features, etc.</b>
ortcu		
VEGETATION - Use scientific names	of plants	
Tree Stratum         (Plot size:)           1.	Absolute Dominant Indicator <u>% Cover Species? Status</u>	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:       (A)         Total Number of Dominant         Species Across All Strata:       (B)         Percent of Dominant Species         That Are OBL, FACW, or FAC:       (A/B)
		(A/B)
Sapling/Shrub Stratum       (Plot size:)         1.	= Total Cover	Prevalence Index worksheet:         Total % Cover of:       Multiply by:         OBL species       x 1 =         FACW species       x 2 =         FAC species       x 3 =         FACU species       x 4 =         UPL species       x 5 =         Column Totals:       (A)         Prevalence Index = B/A =
4		Hydrophytic Vegetation Indicators:
5		<ul> <li>1 - Rapid Test for Hydrophytic Vegetation</li> <li>2 - Dominance Test is &gt;50%</li> <li>3 - Prevalence Index is ≤3.0¹</li> <li>4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</li> </ul>
10 11	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2  % Bare Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
Remarks:	Proble Dyes	@ a chan stabrupt 32
US Army Corps of Engineers		

CT (C) (1)								52b
SOIL		to the de-	oth needed to door	ment the ind	licator or cor	nfirm the a	bsence of indicators	
Depth	Matrix	s to the de	An incener to doce	Redox Feal	lures			
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Remarks
	IDYNC 4/2		1041241	745			laam	
<u>v-10</u>	IUYCTIC	<u>[00</u> ]	WTIGHT! [	- CP	·			<u> </u>
10-18	DYREL			-			10am	
-				· ·		<u> </u>		
								<u> </u>
	······							
		-						
								· · · · · · · · · · · · · · · · · · ·
¹ Type: C=Cor	ncentration, D=De	pletion, RM	I=Reduced Matrix, C	S=Covered o	or Coated San	nd Grains.	² Location: PL=Pore	e Lining, M=Matrix.
							licators for Problema	rtic Hydric Soils ³ :
Hydric Soil I	ndicators: (Appl	licable to a	ll LRRs, unless oth		u.)			
Histosol	(A1)		Sandy Redox (	(S5)			2 cm Muck (A10)	TT0)
Histic Epi	ipedon (A2)		K Stripped Matrix	c (S6)		· · · ·	Red Parent Material ( Very Shallow Dark St	(TE49)
Black His			Loamy Mucky	Mineral (F1)	except MLR/	A 1)		
	n Sulfide (A4)		Loamy Gleyed				Other (Explain in Ren	narvaj
	Below Dark Surfa	ace (A11)	Depleted Matri				³ Indicators of hydroph	has voltation and
	rk Surface (A12)		Redox Dark Su				wetland hydrology mi	ist he present
	ucky Mineral (S1)		Depleted Dark				unless disturbed or pr	roblematic
Sandy G	leyed Matrix (S4)		Redox Depres	sions (F8)			unicas distanced of p	
Restrictive Lay	er (it present):				Hydric Soi	Droconf	Yes X	No
Туре:					Mydric Sol	resent		
Depth (Inch	es):				1			
Remarks:								
<u></u>	<u></u>							
HYDROLOG	Y							
	•							
Wetland Hydro	logy indicators:	···						more required)
Wetland Hydro Primary Indicate	logy indicators:	ne required	l; check all that apply	y)		Seco	ondary Indicators (2 or	more required)
Primary Indicate	blogy Indicators: ors (minimum of o	ne required	Water-Stai	ned Leaves (			<b>Water-Stained Leaves</b>	more required) (B9) (MLRA 1, 2,
Primary Indicate	ology Indicators: ors (minimum of o ter (A1)	ne required	Water-Stai	ned Leaves ( 2, 4A, and 4B			Water-Stained Leaves IA, and 4B)	(B9) (MLRA 1, 2,
Primary Indicate	blogy Indicators: ors (minimum of o ter (A1) Table (A2)	ne requirec	Water-Stai MLRA 1, 2 Salt Crust	ned Leaves ( !, <b>4A, and 4B</b> (B11)	)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10	( <b>B9) (MLRA 1, 2,</b> 0)
Primary Indicate Surface Water High Water Saturation (A	ology Indicators: ors (minimum of o ter (A1) Table (A2) A3)	ne required	Water-Stai MLRA 1, 2 Salt Crust Aquatic Inv	ned Leaves ( 2, <b>4A, and 4B</b> (B11) vertebrates (E	) 813)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tab	(B9) (MLRA 1, 2, 0) ble (C2)
Primary Indicate	ology Indicators: ors (minimum of o ter (A1) Table (A2) A3)	ne required	Water-Stai MLRA 1, 2 Salt Crust Aquatic Inv Hydrogen	ned Leaves ( 2, <b>4A, and 4B</b> (B11) vertebrates (E Sutfide Odor	) 313) (C1)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10	(B9) (MLRA 1, 2, 0) ble (C2)
Primary Indicate	ology Indicators: ors (minimum of o ter (A1) Table (A2) A3) s (B1)	ne requirec	Water-Stai MLRA 1, 2 Salt Crust Aquatic Inv Hydrogen Oxidized F	ned Leaves ( 2, <b>4A, and 4B</b> (B11) vertebrates (E Sulfide Odor Rhizospheres	) 313) (C1)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A	(B9) (MLRA 1, 2, 0) ole (C2) verial Imagery (C9)
Primary Indicate Surface Wat High Water Saturation ( Water Market Sediment D	ology Indicators: ors (minimum of o ter (A1) Table (A2) A3) s (B1) eposits (B2)	ne requirec	Water-Stai MLRA 1, 2 Salt Crust Aquatic Inv Hydrogen Oxidized R Roots (C3)	ned Leaves ( 2, <b>4A, and 4B</b> (B11) vertebrates (E Sulfide Odor Rhizospheres )	) 313) (C1) along Living		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tab	(B9) (MLRA 1, 2, 0) ole (C2) verial Imagery (C9)
Primary Indicate	ology Indicators: ors (minimum of o ter (A1) Table (A2) A3) s (B1) eposits (B2)	ne requirec	Water-Stai MLRA 1, 2 Salt Crust Aquatic Inv Hydrogen Oxidized R Coxidized R Presence	ned Leaves ( 2, <b>4A, and 4B</b> (B11) vertebrates (E Sutfide Odor Rhizospheres ) of Reduced Ir	) 313) (C1) along Living ron (C4)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (	(B9) (MLRA 1, 2, 0) ole (C2) verial Imagery (C9)
Primary Indicate Surface Wat High Water Saturation (A Water Marks Sediment Do Drift Deposit	logy Indicators: ors (minimum of o ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3)	ne requirec	Water-Stai MLRA 1, 2 Salt Crust Aquatic Inv Hydrogen Oxidized R Coxidized R Presence Recent Iro	ned Leaves ( 2, <b>4A, and 4B</b> (B11) vertebrates (E Sulfide Odor Rhizospheres )	) 313) (C1) along Living ron (C4)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position (	(B9) (MLRA 1, 2, 0) ole (C2) verial Imagery (C9) D2)
Primary Indicate Surface Wat High Water Saturation ( Water Marks Sediment D	logy Indicators: ors (minimum of o ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3)	ne requirec	Water-Stai MLRA 1, 2 Salt Crust Aquatic Imv Hydrogen Oxidized R Roots (C3) Presence (C4) Recent Iro Soils (C6)	ned Leaves ( , <b>4A, and 4B</b> (B11) vertebrates (E Sutfide Odor Rhizospheres ) of Reduced Ir n Reduction I	) (C1) along Living ron (C4) in Tilled		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position ( Shallow Aquitard (D3)	(B9) (MLRA 1, 2, 0) ole (C2) verial Imagery (C9) D2)
Primary Indicate	logy Indicators: ors (minimum of o ter (A1) Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4)	ne requirec	Water-Stai MLRA 1, 2 Salt Crust Aquatic Inv Hydrogen Oxidized R Roots (C3) Presence (C4) Recent Iro Soils (C6) Stunted or	ned Leaves ( 2, <b>4A, and 4B</b> (B11) vertebrates (E Sutfide Odor Rhizospheres ) of Reduced Ir	) (C1) along Living ron (C4) in Tilled		Water-Stained Leaves IA, and 4B) Drainage Patterns (B1) Dry-Season Water Tak Saturation Visible on A Geomorphic Position ( Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D	(B9) (MLRA 1, 2, 0) le (C2) kerial Imagery (C9) D2) 6) (LRR A)
Primary Indicate Surface Wat High Water Saturation ( Water Market Drift Deposit Algal Mat or Iron Deposit	ology Indicators: ors (minimum of o Table (A2) A3) s (B1) eposits (B2) ts (B3) Crust (B4) ts (B5)	ne requirec	Water-Stai MLRA 1, 2 Salt Crust Aquatic Im Hydrogen Oxidized R Roots (C3) Presence 4 Recent Iro Soils (C6) Stunted or (LRR A)	ned Leaves ( 2, <b>4A, and 4B</b> (B11) vertebrates (E Suffide Odor Rhizospheres ) of Reduced Ir n Reduction I • Stressed Pla	) (C1) along Living ron (C4) in Tilled ants (D1)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B10 Dry-Season Water Tab Saturation Visible on A Geomorphic Position ( Shallow Aquitard (D3) FAC-Neutral Test (D5)	(B9) (MLRA 1, 2, 0) le (C2) kerial Imagery (C9) D2) 6) (LRR A)
Primary Indicate Surface Wat High Water Saturation (A Water Marks Sediment D Drift Deposit Algal Mat or Iron Deposit Surface Soit	elogy Indicators: ors (minimum of o Table (A2) A3) s (B1) eposits (B2) ts (B3) • Crust (B4) ts (B5) I Cracks (B6)	ne requirec	Water-Stai MLRA 1, 2 Salt Crust Aquatic Inv Hydrogen Oxidized R Roots (C3) Presence (C6) Solis (C6) Stunted or (LRR A) Other (Exp	ned Leaves ( , <b>4A, and 4B</b> (B11) vertebrates (E Sutfide Odor Rhizospheres ) of Reduced Ir n Reduction I	) (C1) along Living ron (C4) in Tilled ants (D1)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B1) Dry-Season Water Tak Saturation Visible on A Geomorphic Position ( Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D	(B9) (MLRA 1, 2, 0) le (C2) kerial Imagery (C9) D2) 6) (LRR A)
Primary Indicate Surface Wat High Water Saturation (A Water Marks Sediment De Drift Deposit Algal Mat or Iron Deposit Surface Soit Inundation N	elogy Indicators: ors (minimum of o Table (A2) A3) s (B1) eposits (B2) ts (B3) • Crust (B4) ts (B5) I Cracks (B6) visible on Aerial Ir	ne requirec nagery (B7	Water-Stai MLRA 1, 2 Salt Crust Aquatic Im Hydrogen Oxidized R Roots (C3) Presence (C3) Presence (C3) Soils (C6) Soils (C6) Stunted or (LRR A) Other (Exp	ned Leaves ( 2, <b>4A, and 4B</b> (B11) vertebrates (E Suffide Odor Rhizospheres ) of Reduced Ir n Reduction I • Stressed Pla	) (C1) along Living ron (C4) in Tilled ants (D1)		Water-Stained Leaves IA, and 4B) Drainage Patterns (B1) Dry-Season Water Tak Saturation Visible on A Geomorphic Position ( Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D	(B9) (MLRA 1, 2, 0) le (C2) kerial Imagery (C9) D2) 6) (LRR A)
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Project/Site:       HARRAN       State:       City/County:       Site:       Site:       Site:       Site:       City/County:       Site:       Sit	WETLAND DETERMINATION DATA FORM – Western	Mountains, Valleys, and Coast Region
Util chip panile di di construinte di	Project/Site:       Hart Ranch       City/County:       SisKi You O         Applicant/Owner:       Hart Ranch       State:       Call         Investigator(s):       Mart Ranch       State:       Call         Investigator(s):       Mart Ranch       Section, Township, Range:       Image:         Landform (hillslope, terrace, etc.):       To mark Ranch       Local relief (concave, conversion concave, conversion (LRR):         Soil Map Unit Name:       153       Correct Site typical for this time of year?       Yes         Are Vegetation       , Soil       , or Hydrology ND significantly disturbed?       Are         Are Vegetation       , Soil       , or Hydrology ND naturally problematic?         SUMMARY OF FINDINGS – Attach site map showing sampling point       Hydrophytic Vegetation Present?       Yes       No         Hydrology Present?       Yes       No       Is the Sampled Area w	Sampling Date:       8/23/2016         Jing Point:       SZC         JSN       K5W       Sect 1, 2+3         ex, none):       CONVEX       Slope (%):         SNUT classification:       NAD 63         NVI classification:       NAD 63        (If no, explain in Remarks.)       No         "Normal Circumstances" present?       Yes X         (If needed, explain any answers in Remarks.)         t locations, transects, important features, etc
VEGETATION – Use scientific names of plants.         The Stratum       (Ploteize:)       Absolute % Cover       Dominant Species       Dominant Species That Are OBL, FACW, or FAC:(A)         2.		
Tree Stratum       (Plohsize:)       Absolute       Dominant       Indicator         1.	UTTCh panic / du	Dastin
Tree Stratum       (Plobsize:)       Absolute       Dominant       Indicator       Dominance Test worksheet:         1.       2.       3.	VEGETATION - Use scientific names of plants	
Image: Stratum       (Plotsize:)       % Cover       Status       Number of Dominant Species That Are OBL, FACW, or FAC:(A)         1.		Dominance Test workshowt
2.       That Are OBL, FACW, or FAC:       (A)         3.       Total Number of Dominant Species Across All Stratus:       (B)         4.       Percent of Dominant Species       (A)         5.       That Are OBL, FACW, or FAC:       (A)         1.       Percent of Dominant Species       (A)         2.       That Are OBL, FACW, or FAC:       (A)         3.       Percent of Dominant Species       (A)         1.       Total Are OBL, FACW, or FAC:       (A)         2.       OBL species       X1 =         3.       FACW species       X2 =         4.       FACW species       X2 =         5.       FAC Species       X3 =         6.       FACU species       X3 =         7.       FACU species       X3 =         4.       FACU species       X3 =         7.       FACU species       X3 =         8.       FACU species       X3 =         9.       Fact Matter Stratum       (B)         1.       Fact Matter Stratum       (B)         2.       Prevalence Index is 3.0 ¹ (B)         3.       Fact Matter Stratum       (P)         4.       Fact Matter Stratum       (P)	Tree Stratum (Plot size:) <u>% Cover</u> Species? Status	
3.		That Are OBL, FACW, or FAC:
4.		
Sepling/Shub Stratum       (Plot size:)         1.	4.	
Septimo/Shrub Stratum       (Plot size:)         1.		That Are OBL, FACW, or FAC: (A/B)
11.	1.	Total % Cover of:Multiply by:OBL species $x 1 =$ FACW species $x 2 =$ FAC species $x 3 =$ FACU species $x 4 =$ UPL species $x 5 =$ Column Totals: $aa$ (A)UPL species $a =$ Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
Moody Vine Stratum       (Plot size:)		
Bare Ground in Herb Stratum (Plot size:) = Total Cover Hydrophytic Vegetation Present? Yes No		
Bare Ground in Herb Stratum 40 = Total Cover 40 Vegetation Present? Yes No	/cody Vine Stratum (Plot size: )	be present, unless disturbed or problematic.
Bare Ground in Herb Stratum		and the second sec
	= Total Cover	Vegetation
emarks:	emarks:	

SOIL	the indicator or confirm the absence of Indicators.)
Profile Description: (Describe to the depth needed to document Depth Matrix Redu	ox Features
	% Type' Loc ² Texture Remarks
0-4 104R612 100	Dam
	10cum
11-18 107R61, 100	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Co	vered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwis	e 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 Minera	al (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix	
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface	
Sandy Mucky Mineral (S1) Cedex Dark Surface	ce (F7) wetland hydrology must be present,
Sandy Gleyed Matrix (S4) Redox Depressions (	
Restrictive Layer (if present):	Hydric Soil Present? Yes No
Type:	
Depth (inches):	
Remarks:	
	ho indicators
	110 1101100.043
HYDROLOGY	
Wetland Hydrology Indicators: Brimary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Water-Stained Le	eaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators:           Primary Indicators (minimum of one required; check all that apply)           Water-Stained Le           Surface Water (A1)	eaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) 4A, and 4B)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Le         Surface Water (A1)         High Water Table (A2)	and 4B) 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 Letter         Surface Water (A1)         High Water Table (A2)         Saturation (A3)	eaves (B9) (except and 4B) Trates (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; check all that apply)         Water-Stained Log         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)	eaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         and 4B)       Drainage Patterns (B10)         rates (B13)       Dry-Season Water Table (C2)         a Odor (C1)       Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Le         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prainage Patterns (B10)       Drainage Patterns (B10)         prates (B13)       Dry-Season Water Table (C2)         a Odor (C1)       Saturation Visible on Aerial Imagery (C9)         pheres along Living       Geomorphic Position (D2)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Le         Surface Water (A1)       MLRA 1, 2, 4A, a         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebr         Water Marks (B1)       Hydrogen Sulfide         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Red	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prainage Patterns (B10)       Drainage Patterns (B10)         prates (B13)       Dry-Season Water Table (C2)         a Odor (C1)       Saturation Visible on Aerial Imagery (C9)         pheres along Living       Geomorphic Position (D2)         uced Iron (C4)       Shallow Aquitard (D3)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Le         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	eaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         and 4B)       Drainage Patterns (B10)         rates (B13)       Dry-Season Water Table (C2)         a Odor (C1)       Saturation Visible on Aerial Imagery (C9)         pheres along Living       Geomorphic Position (D2)         uced Iron (C4)       Shallow Aquitard (D3)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Le         Surface Water (A1)       MLRA 1, 2, 4A, a         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebr         Water Marks (B1)       Hydrogen Sulfide         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Red	Baves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Bard 4B)       Drainage Patterns (B10)         Bardes (B13)       Dry-Season Water Table (C2)         Bardor (C1)       Saturation Visible on Aerial Imagery (C9)         Barder Iron (C4)       Shallow Aquitard (D3)         Barder Iron (C1)       FAC-Neutral Test (D5)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Letter         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Item Deposits (B5)	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prates (B13)       Drainage Patterns (B10)         a Odor (C1)       Dry-Season Water Table (C2)         be odor (C1)       Saturation Visible on Aerial Imagery (C9)         g Geomorphic Position (D2)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Letter         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soli Cracks (B6)	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prates (B13)       Drainage Patterns (B10)         a Odor (C1)       Dry-Season Water Table (C2)         be odor (C1)       Saturation Visible on Aerial Imagery (C9)         g Geomorphic Position (D2)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Water-Stained Le         Surface Water (A1)       MLRA 1, 2, 4A, a         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebr         Water Marks (B1)       Hydrogen Sulfide         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Red         Algal Mat or Crust (B4)       Solis (C6)         Sturface Soil Cracks (B6)       Other (Explain in Inundation Visible on Aerial Imagery (B7)	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prates (B13)       Drainage Patterns (B10)         a Odor (C1)       Dry-Season Water Table (C2)         be odor (C1)       Saturation Visible on Aerial Imagery (C9)         g Geomorphic Position (D2)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Letter         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soli Cracks (B6)	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prates (B13)       Drainage Patterns (B10)         a Odor (C1)       Dry-Season Water Table (C2)         be odor (C1)       Saturation Visible on Aerial Imagery (C9)         g Geomorphic Position (D2)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Le         Surface Water (A1)       MLRA 1, 2, 4A, a         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebr         Water Marks (B1)       Hydrogen Sulfide         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Red         Algal Mat or Crust (B4)       Solis (C6)         Sturface Soil Cracks (B6)       Other (Explain in Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)       Field Observations:	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prates (B13)       Drainage Patterns (B10)         a Odor (C1)       Dry-Season Water Table (C2)         be odor (C1)       Saturation Visible on Aerial Imagery (C9)         g Geomorphic Position (D2)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Water-Stained Le         Surface Water (A1)       MLRA 1, 2, 4A, a         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebr         Water Marks (B1)       Hydrogen Sulfide         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Red         Algal Mat or Crust (B4)       Solis (C6)         Surface Soil Cracks (B6)       Other (Explain in Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prates (B13)       Drainage Patterns (B10)         protes along Living       Dry-Season Water Table (C2)         poheres along Living       Geomorphic Position (D2)         puced Iron (C4)       Shallow Aquitard (D3)         patterns (D1)       FAC-Neutral Test (D5)         remarks)       Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Letter         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soli Cracks (B6)         Innundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prates (B13)       Drainage Patterns (B10)         a Odor (C1)       Dry-Season Water Table (C2)         be odor (C1)       Saturation Visible on Aerial Imagery (C9)         g Geomorphic Position (D2)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Water-Stained Letter         Surface Water (A1)       MLRA 1, 2, 4A, a         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebr         Water Marks (B1)       Hydrogen Sulfide         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Red         Algal Mat or Crust (B4)       Solis (C6)         Sturface Soli Cracks (B6)       Other (Explain in Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):         Field Observations:       Yes       No       Depth (inches):         Water Table Present?       Yes       No       Depth (inches):	eaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         rates (B13)       Drainage Patterns (B10)         rates (B13)       Dry-Season Water Table (C2)         a Odor (C1)       Saturation Visible on Aerial Imagery (C9)         before along Living       Geomorphic Position (D2)         uced Iron (C4)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)         remarks)       Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Water-Stained Le         Surface Water (A1)       MLRA 1, 2, 4A, a         High Water Table (A2)       Salt Crust (B1)         Saturation (A3)       Aquatic Invertebr         Water Marks (B1)       Hydrogen Sulfide         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Red         Algal Mat or Crust (B4)       Soils (C6)         Sturface Soil Cracks (B6)       Other (Explain in Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):         Field Observations:       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):	eaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         rates (B13)       Drainage Patterns (B10)         rates (B13)       Dry-Season Water Table (C2)         a Odor (C1)       Saturation Visible on Aerial Imagery (C9)         before along Living       Geomorphic Position (D2)         buced Iron (C4)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)         remarks)       Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Water-Stained Letter         Surface Water (A1)       MLRA 1, 2, 4A, a         High Water Table (A2)       Salt Crust (B11)         Saturation (A3)       Aquatic Invertebr         Water Marks (B1)       Hydrogen Sulfide         Oxidized Rhizosp       Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Red         Algal Mat or Crust (B4)       Solis (C6)         Surface Soli Cracks (B6)       Other (Explain in         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       Yes       No       Depth (inches):         Water Table Present?       Yes       No       Depth (inches):	Baves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Prates (B13)       Drainage Patterns (B10)         Provide Patterns (B10)       Dry-Season Water Table (C2)         Saturation Visible on Aerial Imagery (C9)         Provide Position (D2)         Provide Plants (D1)         Remarks)         Wetland Hydrology Present?         Yes         No
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Water-Stained Le         Surface Water (A1)       MLRA 1, 2, 4A, a         High Water Table (A2)       Salt Crust (B1)         Saturation (A3)       Aquatic Invertebr         Water Marks (B1)       Hydrogen Sulfide         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Red         Algal Mat or Crust (B4)       Soils (C6)         Sturface Soil Cracks (B6)       Other (Explain in Inundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)       Depth (inches):         Field Observations:       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):	Baves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         Prates (B13)       Drainage Patterns (B10)         Provide Patterns (B10)       Dry-Season Water Table (C2)         Saturation Visible on Aerial Imagery (C9)         Provide Position (D2)         Provide Plants (D1)         Remarks)         Wetland Hydrology Present?         Yes         No
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Water-Stained Le         Surface Water (A1)       MLRA 1, 2, 4A, a         High Water Table (A2)       Salt Crust (B1)         Saturation (A3)       Aquatic Invertebr         Water Marks (B1)       Hydrogen Sulfide         Sediment Deposits (B2)       Roots (C3)         Drift Deposits (B3)       Presence of Red         Algal Mat or Crust (B4)       Soils (C6)         Sturface Soil Cracks (B6)       Other (Explain in         Inundation Visible on Aerial Imagery (B7)       Sparsely Vegetated Concave Surface (B8)         Field Observations:       Yes       No         Sutration Present?       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):	eaves (B9) (except       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         rates (B13)       Drainage Patterns (B10)         rates (B13)       Dry-Season Water Table (C2)         a Odor (C1)       Saturation Visible on Aerial Imagery (C9)         before along Living       Geomorphic Position (D2)         buced Iron (C4)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)         remarks)       Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Letter         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soil Cracks (B6)         Innundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)             Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Saturation Present?         Yes       No         Depth (inches):         Depth (inches):         Saturation Present?         Yes       No         Depth (inches):         Describe Recorded Data (stream gauge, monitoring well, aerial photos,         Remarks:	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prates (B13)       Drainage Patterns (B10)         protes along Living       Dry-Season Water Table (C2)         pheres along Living       Geomorphic Position (D2)         puced Iron (C4)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)         remarks)       Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Water-Stained Letter         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Surface Soil Cracks (B6)         Innundation Visible on Aerial Imagery (B7)         Sparsely Vegetated Concave Surface (B8)             Field Observations:         Surface Water Present?         Yes       No         Depth (inches):         Saturation Present?         Yes       No         Depth (inches):         Describe Recorded Data (stream gauge, monitoring well, aerial photos,	eaves (B9) (except and 4B)       Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)         prates (B13)       Drainage Patterns (B10)         protes along Living       Dry-Season Water Table (C2)         pheres along Living       Geomorphic Position (D2)         puced Iron (C4)       Shallow Aquitard (D3)         uction in Tilled       FAC-Neutral Test (D5)         sed Plants (D1)       Raised Ant Mounds (D6) (LRR A)         remarks)       Frost-Heave Hummocks (D7)

WETLAND DETERMIN	ATION DATA FORM – Western	Mountains, Valleys, and Coast Region
Project/Site: HAAR RAACA: Applicant/Owner: Hart Ranch Investigator(s): Marta Rabe Landform (hillslope, terrace, etc.): hills Subregion (LRR): MLRA 22B Soil Map Unit Name: 153 Oct Are climatic / hydrologic conditions on the site Are Vegetation, Soil, or Hydro Are Vegetation, Soil, or Hydro SUMMARY OF FINDINGS – Attach s Hydrophytic Vegetation Present? Yes Yes	City/County: Siski You C State: CA Same Section, Township, Range: Section, Township, Range: Section, Township, Range: Local relief (concave, convolution) Local relief (concave, convolutio	0       Sampling Date:       8/23/1016         Ning Point:       Sage         45N       K5W       Sect 1,2+3         ex, none):       CONVEX       Slope (%):       ID         Datum:       NAD & 3       NUI classification:       PSSC         0       (If no, explain in Remarks.)       No       No         "Normal Circumstances" present?       Yes       No       No         (If needed, explain any answers in Remarks.)       No       No
	1 inton	
	Vivver	
EGETATION - Use scientific name	s of plants	
	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover Species? Status</u>	Number of Dominant Species
		That Are OBL, FACW, or FAC: (A)
· · · · · · · · · · · · · · · · · · ·		Total Number of Dominant
		Species Across All Strata:     (B)       Percent of Dominant Species     (a)
······		That Are OBL, FACW, or FAC: 100 (A/B)
	= Total Cover	
apling/Shrub Stratum (Plot size: DM2)		Prevalence Index worksheet:
Salix Genericana	80 Y FACW	Total % Cover of: Multiply by:
		OBL species x 1 =
		FACW species 82 x2= 160
		FAC species x 3 =
		FACU species x 4 =
rb Stratum (Plot size:)	SD = Total Cover	UPL species x 5 =
(Flot size;		Column Totais: 80 (A) 1000 (B)
		Prevalence Index = B/A =
		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
	he is received as	$\times$ 2 - Dominance Test is >50%
		3 - Prevalence index is ≤3.0 ¹
		4 - Morphological Adaptations ¹ (Provide supporting
		data in Remarks or on a separate sheet)
		5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
	= Total Cover	
dv Vine Stratum (Plot size:)		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		to a state of
	and the second sec	the second se
are Ground in Herb Stratum	= Total Cover	Hydrophytic Vegetation Present? Yes No
	1	1

IL	ription: (Describe	An Alan de-	th peopled to deau	mont the Indice	for or conf	firm the at	sence of indica	tors.)	
		to the dep	νια πέξαξα το αόζη	Redox Feature					
Depth	Matrix	0/	Color (moist)		s Type ¹	Loc ²	Texture :	Remark	s
(inches)	Color (moist)	<u>%</u>			iype .			4 .	
<u>}_</u> ]]	1042/02	90	1014R 4/1	E D			Sandyl	Dam	
101		100							
-18	1042011	100						`	
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				000000000000000000000000000000000000000					
		nlation RM	I≖Reduced Matrix, C	S=Covered or C	oated Sanc	Grains.	² Location: PL=	Pore Lining, M=Ma	itrix.
Type: C-C	Dicentration, D-Dep								
Hydric Soil	Indicators: (Appli	icable to a	ll LRRs, unless oth	erwise noted.)		Indi	cators for Proble	ematic Hydric Soi	is":
							2 cm Muck (A10)		
Histoso		-	Sandy Redox (				Red Parent Mate		
	pipedon (A2)	-	5 Stripped Matrix	(30) Minorel (54) (	ant 147 13 4	the second se		k Surface (TF12)	
	istic (A3)	2	Loamy Mucky	Mineral (F1) (exc	ept MLKA	'' '	Other (Explain in	Remarks)	
Hydroge	en Sulfide (A4)		Loamy Gleyed			(		i vernei ney	
	d Below Dark Surfa	ce (A11)	Depleted Matrix			3	- diaman - at he	enstudio venetation	
	ark Surface (A12)		Redox Dark Su				indicators of hyd	rophytic vegetation	ı dil
	Aucky Mineral (S1)		Depleted Dark			1	vetland hydrolog; unless disturbed	y must be present,	
_ Sandy (	Gleyed Matrix (S4)		Redox Depress	sions (F8)			JINESS DISLUIDED		
strictive La	iyer (if present):			ł				n	
Type:					ydric Soil	Present?	Yes <u> </u>	/No	
	nes):				•				
Debruitikio	ical.								
arks:									
narks:					<u> </u>				
			······································						
DROLOG	Y								
	Y ology Indicators:	ne required	; check all that apply	/)		Secor	ndary Indicators (	2 or more required	)
	Y ology Indicators:	ne required	; check all that apply Water-Stair	/) ned Leaves (B9)	(except	w	ater-Stained Lea	2 or more required ves (B9) (MLRA 1	) , <b>2</b> ,
DROLOG atland Hydr mary Indica	Y ology Indicators: tors (minimum of or	ne required	Water-Stain	ned Leaves (B9)	(except	W 4/	ater-Stained Lea	ves (B9) (MLRA 1	) , <b>2</b> ,
DROLOG atland Hyde mary Indica	Y ology Indicators: tors (minimum of or ater (A1)	ne required	Water-Stain MLRA 1, 2	ned Leaves (B9) <b>, 4A, and 4B</b> )	(except		ater-Stained Lea A, and 4B) rainage Patterns	ves (B9) (MLRA 1 (B10)	) 2,
DROLOG atland Hydi mary Indica Surface Wi High Wate	Y ology Indicators: tors (minimum of or ater (A1) Table (A2)	ne required	Water-Stain MLRA 1, 2 Salt Crust (	ned Leaves (B9) <b>, 4A, and 4B</b> ) (B11)			ater-Stained Lea <b>A, and 4B</b> ) rainage Patterns ry-Season Water	ves (B9) ( <b>MLRA 1</b> (B10) Table (C2)	2,
DROLOG atland Hydi mary Indica Surface Wi High Wate Saturation	Y ology Indicators: tors (minimum of or ater (A1) Table (A2) (A3)	ne required	Water-Stain MLRA 1, 2 Salt Crust ( Aquatic Inv	ned Leaves (B9) <b>, 4A, and 4B)</b> (B11) vertebrates (B13)	)		ater-Stained Lea <b>A, and 4B</b> ) rainage Patterns ry-Season Water	ves (B9) ( <b>MLRA 1</b> (B10) Table (C2)	2,
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	tern Mountains, Valleys, and Coast Pegion
Project/Site: HAARAACA City/County: SisKi VC Applicant/Owner: Hart Ranch State: CA Investigator(s): Mart Ranch Section, Township, Range: Landform (hillslope, terrace, etc.): hill SIOPE Local relief (concave Subregion (LRR): MLRA 22.8 Lat: 122.36906 Long: 4 Soil Map Unit Name: 153 Are climatic / hydrologic conditions on the site typical for this time of year? Yes Are Vegetation, Soil, or Hydrology ND significantly disturbed? Are Vegetation, Soil, or Hydrology ND naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling Hydrophytic Vegetation Present? Yes No	Null       Sampling Date:       Sampling Point:         Sampling Point:       Sampling Point:         T. HSN       KSW         Sect 1, 2 + 3         convex, none):       Slope (%):         I.722/443       Datum:         NWI classification:       N/A         No       (If no, explain in Remarks.)         Are "Normal Circumstances" present?       Yes         (If needed, explain any answers in Remarks.)
Remarks:	
Upsidde of Viver, I VEGETATION - Use scientific names of plants.	abrapt slope no wetland
	- two white
	dicator       Dominance Test worksheet;         Number of Dominant Species         That Are OBL, FACW, or FAC:         Total Number of Dominant         Species Across All Strata:         Percent of Dominant Species
	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: $M^2$ ) = Total Cover 1. <u>Charsotinamana naugusus</u> 20 Y OF 2	Prevalence Index worksheet:         Total % Cover of:       Multiply by:         OBL species       x1 =         FACW species       x2 =         FAC species       x3 =         FACU species       x4 =         UPL species       3D
1. Bremus tectorim 10 4 UPL	Column Totals: 30 (A) /50 (B)
2	Prevalence Index = B/A = 5,0
4	Hydrophytic Vegetation Indicators:
<b>5.</b> • <b>3</b> . • <b>1</b> .	1 - Rapid Test for Hydrophytic Vegetation
6	2 - Dominance Test is >50%
	3 - Prevalence Index is ≤3,0 ¹
9.	4 - Morphological Adaptations ¹ (Provide supporting
10	data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants ¹
11.	Problematic Hydrophytic Vegetation ¹ (Explain)
Moody Vine Stratum (Plot size:)	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	E TO REAL
6 Bare Ground in Herb Stratum	Hydrophytic Vegetation Present? Yes No X
Remarks:	

							হর নিতাদিক হিত	SYL
SOIL				المتلغ فسره	instant and a	onfirm the of	parapilicator	8.)
	ription: (Describe)	to the depth	needed to docum	ent the ind Redox Feat	ICALOT OF C			
Depth	Matrix	·	Color (moist)	Kedox Feat	ures Type'	Loc ²	Texture	Remarks
(inches)	Color (moist)	_%		70				
D - 11	104RUZ	100 .		2002		<u> </u>	_ laam_	
11-18	DYRUM	100				N	Inam	
11-10	This			<u> </u>				
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						<del></del>		
<u></u>	<u> </u>					,		
		-		-Covered -	r Coated S	and Grains	² Location: PL=Po	re Lining, M=Matrix.
	oncentration, D=Dep							
Hydric Soil	Indicators: (Applie	able to all L	RRs, unless othe	rwise note	s.)		cators for Problem	auc riyoric Solls ;
Histoso			Sandy Redox (S	5)			2 cm Muck (A10)	(777)
	pipedon (A2)		Stripped Matrix (	S6)			Red Parent Material	
	listic (A3)	1	Loamy Mucky M	ineral (F1) (	except ML	.RA 1)	Very Shallow Dark S	urrace (IF12) modes)
Hydrog	en Sulfide (A4)		Loamy Gleyed N				Other (Explain in Re	manksj
Deplete	d Below Dark Surfac	æ (A11)	Depleted Matrix			a series and	Junitanian of hudoo	hytic vegetation and
	ark Surface (A12)		Redox Dark Sur	ace (F6)			rindicators of hydrop wetland hydrology m	invacivegetation and
	Mucky Mineral (S1)		Depleted Dark S				unless disturbed or p	problematic
Sandy	Gleyed Matrix (S4)		Redox Depressi					
Restrictive La	ayer (if present):				{			
•	aler fu hiesende		a ·		Hydric S	ioil Present?	Yes	NoX
Type:	haalu							
Depth (inc	nes):				<u> </u>		·····	
Remarks:								
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	Deposits (B2)		Roots (C3) Presence of	Reduced In	on (C4)		hallow Aquitard (D3)	
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# Appendix C Ground-Level Color Photographs



### Photo 1 Plot 22 facing east



Photo 2 Plot 26 facing north



Photo 3 Plot 21a facing north



Photo 4 Plot 21c



### Photo 5 Plot 32 facing north



Photo 6 Plot 29c



Photo 7 Plot 28b



Photo 8 Plot 21c facing south



#### Photo 9 Plot 47a



Photo 10 Plot 47b in October 2016



Photo 11 Plot 1a



Photo 12 west of Plot 21a, facing north



### Photo 13 Plot 8a



Photo 14 Plot 6a



### Photo 15 Plot 21b



Photo 16 Plot 38b



Photo 17 Plot 47c

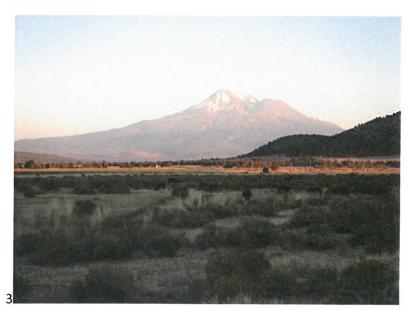


Photo 18 Plot 47c facing southeast



Photo 19 Plot 25 facing north



Photo 20 Plot 41



#### Photo 21 Plot 2c



Photo 22 Plot 2a



Photo 23 West of Plot 28b



Photo 24 Plot 53b



Photo 25 Plot 53b upslope of Shasta River



Photo 26 Plot 53a Shasta River



Photo 27 Plot 53a, upstream Shasta River



Photo 28 Plot 53a, downstream Shasta River



Photo 29 Plot 42



Photo 30 Plot 22 facing west/ northwest



Photo 31 Plot 51b facing plot 51a



Photo 32 From plot 51c, facing southwest



Photo 33 Plot 40

Photo 34 Intentionally left blank

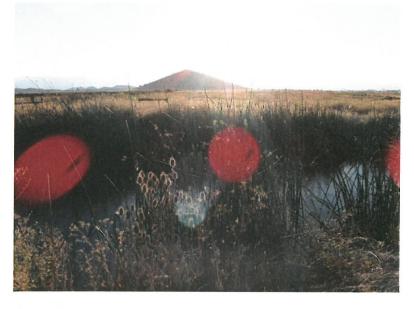


Photo 35 Plot 15b facing east



Photo 36 Plot 15a



Photo 37 Plot 15a facing north



Photo 38 Plot 17b, facing west



Photo 39 Plot 52a facing west



## Photo 40 Plot 52a



Photo 41 Plot 5c facing northeast



Photo 42 Plot 9c facing northeast



Photo 43 Plot 1a facing northwest



Photo 44 Eastern ditch bank at south end of MWCD Wetland 2



Photo 45 Facing north from south end of MWCD Wetland 2



Photo 46 Facing south from north end of Evans wetland 4



Photo 47 Plot 12b



Photo 48 Facing north from south end of Evans wetland 3



Photo 49 Plot 49

## Appendix D References

- Environmental Laboratory. (1987). *Technical report Y-87-1* (Corps of Engineers Wetland Delineation Manual). Vicksburg, Mississippi: U.S. Army Corps of Engineers Waterways Experiment Station.
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- U.S. Army Corps of Engineers. (2008). Regional Supplemental to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Costal Region (Version 2.0.) Technical Report ERDC/EL TR-10-3. Vicksburg, Mississippi: U.S. Army Corps of Engineers Research and Development Center.

## APPENDIX G

Cultural Resources Survey for the Hart Ranch. 2016 Native-X, Inc. November, 2016

# **Cultural Resource Survey for the Hart Ranch, 2016**

Siskiyou County, California

2016



Prepared by:

John W. Jones (M.A., R.P.A.) Native-X, Inc. Archaeological Services Reno, Nevada

Prepared for:

Rabe Consulting Klamath Falls, Oregon

November 22, 2016



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Cultural Setting	3
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Findings	5
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## **LIST OF FIGURES**

Figure 1.	Project Vicinity Map att	tached
Figure 2.	Project Location Map with New Survey Coverage and Newly Recorded Sites att	tached

## **INTRODUCTION**

A cultural resource survey was conducted in Siskiyou County, California by Native-X, Inc. Archaeological Services in September, 2016. A linear survey of approximately 9.65 miles was conducted on private property (Hart Ranch) located near the Little Shasta River, in Little Shasta Valley (Figure 1 attached). The linear survey was completed in relation to the Hart Ranch Flow Enhancement Project. The overall project objectives are to (1) enhance flow in the Little Shasta River during critical coho salmon migration periods; (2) ensure long-term operation and maintenance of irrigation infrastructure for the Hart Ranch and the Montague Water Conservation District (MWCD); and (3) improve fish passage in the Little Shasta River. By improving agricultural water infrastructure, water management opportunities, and fish passage in the Little Shasta River with a resultant permanent instream dedication of up to 1.5 cfs and permissive dedication of their remaining 22.7 cfs water right by the Hart Ranch while maintaining viable agricultural lands.

More specifically, the Hart Ranch Flow Enhancement Project consists of the following elements, the locations of which are identified in Figure 2 (attached).

- Stockwater Improvement: This project component is located on the Hart Ranch along Harry Cash Road south of the Little Shasta River. This component of the project consists of (1) retrofitting of an existing groundwater well a new pump and motor; (2) installation of two new water storage tanks approximately 10,000 gallons in size; (3) installation of approximately 22,556 linear feet of underground PVC pipe connection to 20 stockwater troughs; (4) installation of approximately 7,500 linear feet of riparian grazing management fencing; and (5) riparian planting along the Little Shasta River for a distance of approximately 14,500 linear feet; and (6) approximately 14,850 linear feet of cross fencing in existing pastures.
- 2) Hart Ranch Main Pipeline Replacement: This component of the project includes replacement of the existing main canal earthen ditch and failing pipeline with approximately 7,280 linear feet of underground PVC pipe with risers, valves, flow meter, and connection to existing groundwater wells, for improved water management opportunities and flood irrigation of the eastern portion of the Ranch.
- 3) Montague Water Conservation District Canal Improvements: This component of the project is located along the Montague Water Conservation District (MWCD) main canal which bisects the Hart Ranch. The project's southern terminus is at Hart Road and is along the canal north.
- 4) Fish Passage Improvements: This component of the project includes (1) removal of the existing concrete dam, fish screen and old fish ladder walls along the Little Shasta River; (2) construction of approximately 105 linear feet of roughened channel with large boulder clusters and buttresses at a 2.5 3 percent grade, that provides fish passage opportunities; (3) modification of the agricultural diversion for the Hart Ranch; (4) construction of a new cast-in-place concrete diversion structure with fish screen and fish return bypass that meets current NOAA and CDFW fish protection criteria; and (5) revegetation of the site.

Native-X surveyed approximately 9.65 miles of proposed linear enhancements (pipeline routes) trough locations, stockwater feature locations, and the diversion structure for a total of about 77 acres. Survey and site recording was completed by John W. Jones (M.A., R.P.A.) who was assisted by Kyle Crebbin (B.A.). A segment of rock wall fence and a water diversion structure were recorded (HR01 and HR02 respectively). No isolated finds were recorded. Survey was conducted within Township 44N., Range 5W., Sections 1-3 and 11-14, as well as within Township 45N., Range 5W., Sections 25 and 34-

36. The project area is located on the USGS 7.5' Little Shasta (1984) and Solomons Butte (1983) quadrangles (see Figure 2 attached).

## **ENVIRONMENTAL SETTING**

The project area is located in Little Shasta Valley, Sparse riparian vegetation is present along the irrigation ditches and canals within the proposed project area. The riparian vegetation along the irrigation canals consists of bulrush and cattails along with other sedges and rushes in a narrow band a few inches (1-8 inches) wide along the high water line of the canals. The canal banks are steep and do not allow for a riparian bench. The smaller irrigation ditches exhibit mostly grasses with few sedges and rushes (1-3 inches in width) at their ordinary water line. The Little Shasta River exhibits dense shrub and tree growth in the riparian area, with little to no understory. The shrubs include multiple species of willows.

The upland area around Dorris Hill and upslope toward the summit exhibit sparse sagebrush scrub with limited bunch grass cover (less than 25%). The area is rocky and exhibits areas of bare soil. The lower elevation areas below the slopes of Dorris Hill are fields are primarily permit pasture exhibiting pasture grasses or alfalfa fields used for hay production. Ground visibility in the lower areas was very poor to nonexistent. Elevation of the project area generally ranges from 2650 to 2800 feet above mean sea level.



Dense vegetation within the pastureland.



View from the saddle on Dorris Hill. Looking southeast.



Fenced pasture with vegetation and poor ground visibility.

## CULTURAL SETTING

The project area lies within Shasta ethnographic territory. The ethnography of the Shasta has been summarized in many archaeological reports for the area including in Dixon 1907, Holt 1946, Kroeber 1976, and Silver 1978. Historically, the Shasta occupied areas in what is now California and Oregon. This includes present-day Siskiyou County in California and in Jackson and Klamath Counties in Oregon. The Shasta were divided primarily into four divisions that basically corresponded to topographic features: Klamath River Basin, Rogue River Valley, Scott Valley, and Shasta Valley close to where the current project is located (Vaughan 2014).

Employees of the Hudson Bay Company passed through the Shasta Valley beginning in the late 1820s. Siskiyou County was formed in 1852, having been originally part of Shasta and Klamath Counties. By the 1850s and 1860s several wagon roads ran through the area with the primary travel route being the Yreka Trail. The Yreka trail passes within a half-mile of the southern end of the project area. Yreka (the town) is the county seat and is approximately 12 air-miles west-northwest of the current project area. Closer is the small town of Montague at 6.8 air-miles west-northwest and the small community of Little Shasta is within a mile to the north. Little Shasta was settled in 1853, likely due to the good soils that occur in the valley. By the 1880s there existed a post office, flour mill, two school houses, two stores, and a church. The church, built in 1878, still stands tall and can be seen in the distance from many parts of the project area.

## EXISTING DATA REVIEW AND RESEARCH DESIGN

#### Existing Data Review

A prefield records search was completed by the Northeast Center of the California Historical Resources Information System in Chico, California on September 12, 2016. Results of the records search indicate that no previous cultural resource surveys have occurred within the current project area. Additionally, it was discovered that no sites have been recorded within the project area. However, three previous surveys have and one geoarchaeological overview have been completed within a mile and three sites have been recorded also within a mile. Previous surveys and previously recorded sites within a mile are listed below.

Previously archaeological investigations include:

Jensen, Peter (Jensen & Associates)

1997 Archaeological Inventory Survey: Proposed Butler Subdivision and Development Project Area, 4208 Harry Cash Road, Little Shasta Valley, Siskiyou County, California. NEIC Report 001587

Meyer, Jack (Far Western Anthropological Research Group)

2013 A Geoarchaeological Overview and Assessment of Northeast California; Cultural Resources Inventory of Caltrans District 2 Rural Conventional Highways: Lassen, Modoc, Plumas, Shasta, Siskiyou, Tehama, and Trinity Counties. NEIC Report 012349

Whiteman, Erik and Melinda Salisbury (Humboldt State University Foundation...)

2008 A Cultural Resources Investigation of the Little Shasta Fish Passage and Screening Project located in Siskiyou County, California. NEIC Report 010199

Wood, Heather (Natural Resources Conservation Service)

2012 Field Office Report of Cultural Resources Ground Survey Findings: Project #12FY47-0011. NEIC Report 012906

## Table 1. Previously Recorded Sites within a Mile

Site/Resource Number	Site/Resource Description
CA-SIS-2253	Lithic Scatter
CA-SIS-2254	Historic Rock Wall
Unknown	Yreka Trail

## Research Design

The research design for this project was simple and straight forward. Survey a 20-meter wide corridor along the total length of the proposed linear project area (9.65 miles) and survey a small water diversion structure for a total of approximately 77 acres.

## FIELD INVENTORY

The project area was given complete survey coverage on September 30, 2016. Pedestrian transects, oriented by GPS and compass, as well as canal feature, were walked 20 meters or less apart until the entire project length, 20 meters wide, was covered (9.65 miles, 77 acres total). A small area less than ¹/₄ acre was also viewed while recording a water diversion structure on the Little Shasta River. Survey areas are shown on Figure 2 (attached).

Overall, ground visibility ranged from good to totally nonexistent. Grass cover in some areas was too dense to view mineral soil. When located, areas exhibiting mineral soil like rodent backdirt mounds, ground disturbances due to ranching, and roadbeds were surveyed more intensely. Much of the linear survey area was along an existing canal and thus heavily disturbed. Other disturbances include fencing, flood irrigation, cultivation, vehicle use, and extensive use as pasture.

## FINDINGS

Two sites were located and recorded during the course of the survey. Site HR01 is a segment of historic rock wall fence and site HR02 is a water diversion structure located on the Little Shasta River, at the origin of the Montague Water Conservation District "Main Ditch" (MWCD). The rock wall fence (HR01) remains unevaluated to the National Register of Historic Places (NRHP) because it continues for an unknown distance beyond the project area and is thus not fully recorded. The water diversion structure (HR02) is recommended not eligible for the NRHP. Sites are shown on Figure 2 (attached). Site records are included as Appendix A.

## Site HR01 (Historic Rock Wall Fence)

The site consists of an extensive rock wall fence that is still used to define the edges of pastures located just north of Dorris Hill. No major breaches except for the gate was observed. Another segment of the wall continues outside of the current project area to the northwest. This wall, unlike many others in

the region, is not mentioned on the USGS topographic map. Constructed of large bounders/stones (three to eight courses), it currently ranges from about two to five feet in height and is one and one-half to two feet wide. No posts or wire were noted except at the gate. The wall is likely historic but has continued to be used and maintained through the modern era. Other rock walls with post and wire fencing on top were observed on the ranch, also still in use.



View of rock wall fence delineating a pasture.

## National Register of Historic Places Evaluation Recommendation

This site has not been fully recorded. It continues for unknown distances outside of the current project area and thus remains unevaluated to the NRHP.

## Site HR02 (Historic Water Diversion Structure)

The site consists of a mostly concrete diversion structure located on the Little Shasta River about 1.3 air-miles northeast of the small community of Little Shasta, in Siskiyou County. The structure diverts water into a ditch (the Montague Water Company Ditch aka the Haight/Hart Ditch) which flows southeast past the Little Shasta Cemetery and south into Little Shasta Valley. The structure appears to be mostly historic in nature but has been maintained and modified in the modern era. The only historic documentation found relating to the structure and ditch is a letter dated October 5, 1938 from the State of California Department of Natural Resources, Division of Fish and Game to Mr. George M. Haight and Ray Hart. The letter states that a survey had been completed and a fish screen located on the ditch was found to be nonfunctional and needed to be replaced. The description of a proposed replacement matches that which currently exists at the site. The ditch, diversion, and fish screen were obviously all present prior to the 1938 letter. Exactly when the current configuration was constructed is unknown. Concrete construction methods suggest the use of both plank forms (older) and plywood forms (newer). Circular and square rebar and hexagonal nuts versus square nuts also suggest different time periods. There is also a modern solar panel, junction box, and flow meter (gauging station). The feature appears to have been in relatively continuous use with maintenance and modifications occurring as needed since its original construction. Site integrity has been seriously compromised.



View of headgate, retaining wall, and plastic-covered plank check dam.

Current description also includes: There is a plank check dam with slots in concrete retaining walls on either side of the small river channel is present and allows for the raising and lowering of the water level and to divert it through a metal headgate, through the fish screen, and into the ditch. The concrete feature and retaining walls are substantial. The older concrete work utilized milled lumber forms and can be seen most easily in the concrete holding the headgate and its adjacent retaining walls. Two smaller wall segments have shifted either due to water flow or when the feature was being modified. The newer concrete work utilized plywood forms. This is especially evident along the curved concrete wall used to help divert the water into the overflow/fish return pipe. A curved segment of circular rebar set vertically in the wall may be an anchor point and/or may indicate that the particular segment was actually pre-cast in a different location and mechanically lowered into its current position. Also present is a parallel steel bar fish screen, an undershot water wheel used to mechanically clean the fish screen and allow the flow of water through the system into the ditch, and additional concrete to anchor them and to direct water flow. No historic artifacts were found in conjunction with the diversion feature.



View of undershot water wheel with attached fish screen cleaning mechanism, overflow area leading to fish return pipe, and the modern gauging station.

## National Register of Historic Places Evaluation Recommendation

The site is recommended as not eligible to the NRHP due to poor integrity. While the structure fulfills a historic function and has historic concrete elements, it has been heavily modified in the modern era with both modern concrete and modern mechanical components. The modern gauging station is also an intrusive element; even though it is an equivalent of a historic function. Too much of the structure has changed (with modern equivalents, but has changed none-the-less). As such, the structure has greatly diminished values of workmanship, design, feeling, and materials. Additionally, the structure would be a non-contributing component of any larger, associated irrigation system that may be eligible.

## SUMMARY AND RECOMMENDATIONS

The Hart Ranch project area was given complete survey coverage on September 30, 2016 by Native-X, Inc. Archaeological Services. Pedestrian transects, oriented by GPS and compass, as well as canal feature, were walked 20 meters or less apart until the entire project length, 20 meters wide, was covered (approximately 9.65 miles, 77 acres total). A small area less than ¹/₄ acre was also viewed while recording a water diversion structure on the Little Shasta River.

Two sites were located and recorded during the course of the survey. Site HR01 is a segment of historic rock wall fence and site HR02 is a water diversion structure located on the Little Shasta River, at the origin of the Montague Water Conservation District "Main Ditch" (MWCD). The rock wall fence (HR01) remains unevaluated to the National Register of Historic Places (NRHP) because it continues for an unknown distance beyond the project area and is thus not fully recorded. The water diversion structure (HR02) is recommended not eligible for the NRHP.

## Recommendation Summary

Site HR01: The project calls for the installation of a pipe through this rock wall fence. Since the proposed route is through the existing wire gate and will not disturb the linear rock feature, there will be no affect to the site. This practice is recommended.

Site HR02: The project proposal includes the removal of this historic water diversion structure and to create a new one a short distance upstream that will fulfill the same function. This will allow for better fish passage along the Little Shasta River. The site is recommended as not eligible to the NRHP due to poor integrity. While the structure fulfills a historic function and has historic concrete elements, it has been heavily modified in the modern era with both modern concrete and modern mechanical components. The modern gauging station is also an intrusive element; even though it is an equivalent of a historic function. Too much of the structure has changed (with modern equivalents, but has changed none-the-less). As such, the structure has greatly diminished values of workmanship, design, feeling, and materials. Additionally, the structure would be a non-contributing component of any larger, associated irrigation system that may be eligible.

It is recommended that the proposed work as defined will not affect any significant historic properties pursuant to 36 CFR Part 800.4 (d)(1). This report satisfies the cultural resource requirements for this project under CEQA. If during project implementation unrecorded cultural material is observed, it is recommended that project activities cease in the area of the find and that a qualified archaeologist be contacted to assess its significance.

## **REFERENCES CITED**

#### Dixon, Roland B.

1907 The Shasta. Bulletin of the American Museum of Natural History 17(5):381-489, New York.

#### Holt, C.

1946 Shasta Ethnography. University of California Anthropological Records 3(4):299-349, Berkeley.

#### Kroeber, A. L.

1976 *Handbook of the Indians of California*. Dover Publications, Inc., New York. (Reprint from original 1925 publication.)

#### Silver, Shirley

1978 Shastan Peoples. In *California*, edited by R. F. Heizer, pp 180-189. Handbook of North American Indians, Volume 8, W. C. Sturtevant, general editor. Smithsonian Institution, Washington D.C.

#### Vaughan, Trudy

2014 Archaeological Reconnaissance for the Shasta River Riparian Protection and Enhancement Project by the Shasta Valley Resource Conservation District at Hidden Valley Ranch, Siskiyou County, California. Report on file with the Northeast Information Center, Chico. NEIC Report Number 012342. Cultural Resource Survey for the Hart Ranch, 2016 Siskiyou County, California

## **ATTACHED FIGURES**

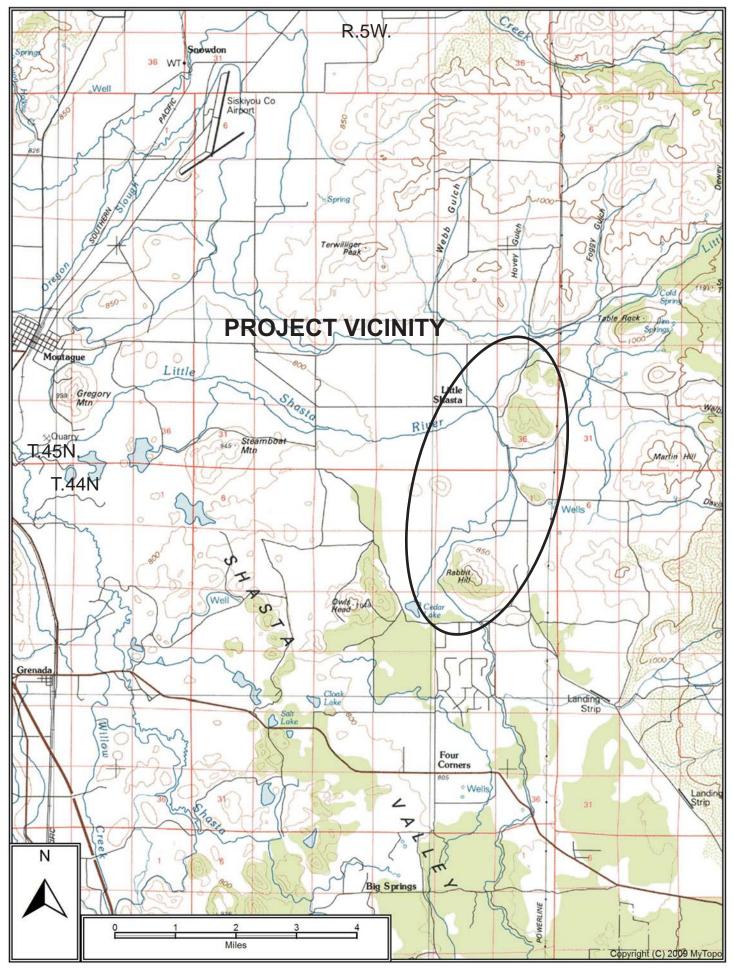
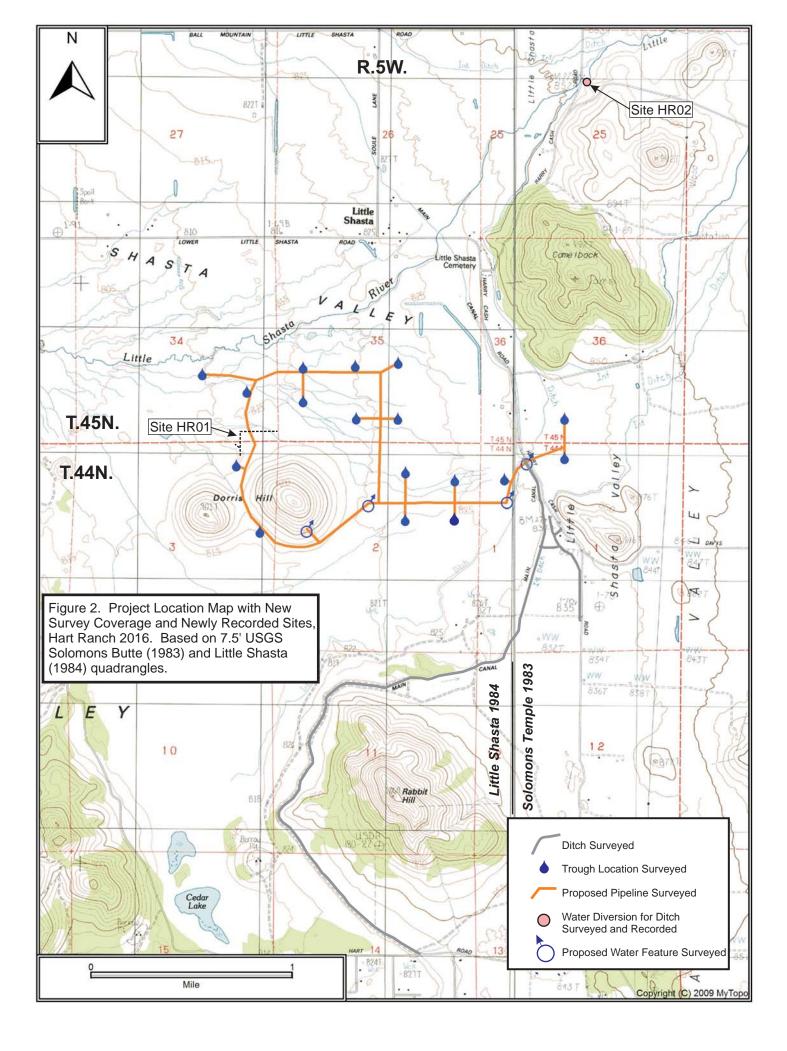


Figure 1. Project Vicinity Map, Hart Ranch 2016. Based on USGS 1:100,000 Yreka 1979 quadrangle.



Cultural Resource Survey for the Hart Ranch, 2016 Siskiyou County, California



Site Records for Newly Recorded Sites

#### State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **PRIMARY RECORD**

Primary # HRI # Trinomial

NRHP Status Code

Other Listings Review Code

Page 1 of 1

Reviewer

Date

*Resource Name or #: HR01

P1. Other Identifier: None

*P2. Location: 🗵 Not for Publication 🛛 Unrestricted

*b. USGS 7.5' Quad: Little Shasta, CA Date: 1984

SE 1/4 of SE 1/4 of SE 1/4 of Section 34, T.45N., R.5W. M.D. **BM.** SW 1/4 of SE 1/4 of SE 1/4 of Section 34, T.45N., R.5W NW 1/4 of NE 1/4 of NE 1/4 of Section 3, T.44N., R.5W

*a. County: Siskiyou

c. Address: NA

d. UTM: Zone: 10; 549789 mE x 4616375 mN (NAD83) (GPS) (At Gate)

e. Other Locational Data: Elevation: 2675 feet
 From the intersection of Soule Lane and Lower Little Shasta Road in the community of Little Shasta, travel east then south on Lower Little Shasta Road. In 0.6 miles, the road turns into Harry Cash Road (near Little Shasta Cemetery). Continue south on Harry Cash Road for approximately 0.85 miles. Turn right and go west on the Hart Ranch access road for 0.5 miles to the ranch buildings. From here, travel northwest across the ranch pastures for just over 1.5 miles (skirting Dorris Hill on its eastern flank). Roads in this area are subject to change. The segment of wall recorded herein is located north of the Dorris Hill saddle about 0.35 miles.

***P3a. Description:** The site consists of an extensive rock wall fence that is still used to define the edges of pastures located just north of Dorris Hill. No major breaches except for the gate was observed. Another segment of the wall continues outside of the current project area to the northwest. This wall, unlike many others in the region, is not mentioned on the USGS topographic map. Constructed of large bounders/stones (three to eight courses), it currently ranges from about two to five feet in height and is one and one-half to two feet wide. No posts or wire were noted except at the gate. The wall is likely historic but has continued to be used and maintained through the modern era. Other rock walls with post and wire fencing on top were observed on the ranch, also still in use.

The site has not been fully recorded (it continues for unknown distances outside of the current project area) and thus remains unevaluated to the NRHP.

*P3b. Resource Attributes: AH11 (rock wall fence)

***P4. Resources Present:** □Building □Structure □Object ⊠Site □District □Element of District □Other

- P5a. Photo or Drawing: See attached photos
- P5b. Description of Photo: See attached
- *P6. Date Constructed/Age and Sources: I Historic Derehistoric Both
- *P7. Owner and Address: Hart Ranch
- *P8. Recorded by: John W. Jones (M.A., R.P.A.), Native-X, Inc.
- *P9. Date Recorded: September 30, 2016
- *P10. Survey Type: Reconnaissance
- *P11. Report Citation: Cultural Resource Survey for the Hart Ranch, 2016, Siskiyou County, California

*Attachments: DNONE ILocation Map ISketch Map IContinuation Sheet IBuilding, Structure, and Object Record Art Record IArchaeological Record IDistrict Record ILinear Feature Record IMilling Station Record IRock Art Record Art Record IArtifact Record IPhotograph Record I Other (List):

Primary # HRI No# Trinomial:

#### *Resource No.: HR01



Site HR01. Roll Hart-01, Frame 01. View of post and wire gate in the rock wall fence. View is to the north. 549792 mE x 4616364. 9/30/2016



Site HR01. Roll Hart-01, Frame 02. Rock wall in distance west of gate after it turns south. View is at 256 degrees. 549792 mE x 4616364 mN. 9/30/2016

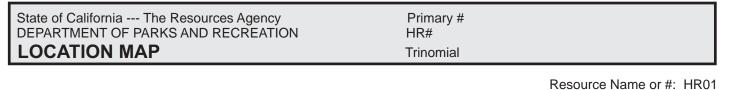
## *Resource No.: HR01

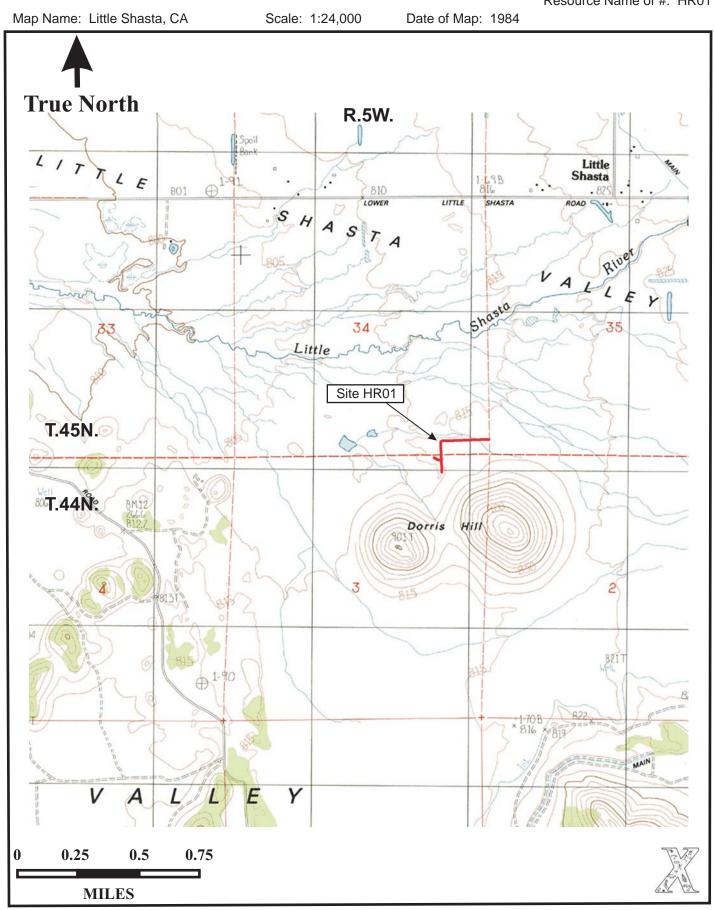


Site HR01. Roll Hart-01, Frame 03. Rock wall as it goes east from the gate. Note how has it has deteriorated (fallen rocks) and the cows in the pasture beyond. View is at 98 degrees. 549792 mE x 4616364 mN. 9/30/2016



Site HR01. Roll Hart-01, Frame 04. Closeup of rock wall. Shows construction. View 350 degrees. 549818 mE x 4616377 mN. 9/30/2016





DPR 523J (1/95)

#### State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION PRIMARY RECORD

Other Listings **Review Code** 

HRI # Trinomial **NRHP Status Code** 

Reviewer

Primary #

Date

*Resource Name or #: HR02

Page 1 of 1

P1. Other Identifier: None

#### *P2. Location: IN Not for Publication I Unrestricted

*a. County: Siskiyou

*b. USGS 7.5' Quad: Solomons Temple, CA Date: 1983 SW 1/4 of NW 1/4 of NE 1/4 of Section 25, T.45N., R.5W. M.D. BM.

c. Address: NA

d. UTM: Zone: 10; 552448 mE x 4619169 mN (NAD83) (GPS) (At Solar Panel).

e. Other Locational Data:

Elevation: 2815 feet From the intersection of Soule Lane and Lower Little Shasta Road in the community of Little Shasta, travel east then south on Lower Little Shasta Road. In 0.6 miles, the road turns into Harry Cash Road (near Little Shasta Cemetery). Turn left at the cemetery and follow Harry Cash Road northeast for approximately 1.1 miles to where it crosses Little Shasta River. The site is visible to the right (east) of the road just prior to reaching the river. The site is about 40 meters east of the road.

*P3a. Description: The site consists of a mostly concrete diversion structure located on the Little Shasta River about 1.3 air-miles northeast of the small community of Little Shasta, in Siskiyou County. The structure diverts water into a ditch (the Montague Water Company Ditch aka the Haight/Hart Ditch) which flows southeast past the Little Shasta Cemetery and south into Little Shasta Valley. The structure appears to be mostly historic in nature but has been maintained and modified in the modern era. The only historic documentation found relating to the structure and ditch is a letter dated October 5, 1938 from the State of California Department of Natural Resources, Division of Fish and Game to Mr. George M. Haight and Ray Hart. The letter states that a survey had been completed and a fish screen located on the ditch was found to be nonfunctional and needed to be replaced. The description of a proposed replacement matches that which currently exists at the site. The ditch, diversion, and fish screen were obviously all present prior to the 1938 letter. Exactly when the current configuration was constructed is unknown. Concrete construction methods suggest the use of both plank forms (older) and plywood forms (newer). Circular and square rebar and hexagonal nuts versus square nuts also suggest different time periods. There is also a modern solar panel, junction box, and flow meter (gauging station). The feature appears to have been in relatively continuous use with maintenance and modifications occurring as needed since its original construction. Site integrity has been seriously compromised.

Current description also includes: There is a plank check dam with slots in concrete retaining walls on either side of the small river channel is present and allows for the raising and lowering of the water level and to divert it through a metal headgate, through the fish screen, and into the ditch. The concrete feature and retaining walls are substantial. The older concrete work utilized milled lumber forms and can be seen most easily in the concrete holding the headgate and its adjacent retaining walls. Two smaller wall segments have shifted either due to water flow or when the feature was being modified. The newer concrete work utilized plywood forms. This is especially evident along the curved concrete wall used to help divert the water into the overflow/fish return pipe. A curved segment of circular rebar set vertically in the wall may be an anchor point and/or may indicate that the particular segment was actually pre-cast in a different location and mechanically lowered into its current position. Also present is a parallel steel bar fish screen, an undershot water wheel used to mechanically clean the fish screen and allow the flow of water through the system into the ditch, and additional concrete to anchor them and to direct water flow. No historic artifacts were found in conjunction with the diversion feature.

The site is recommended as not eligible to the NRHP due to poor integrity. While the structure fulfills a historic function and has historic concrete elements, it has been heavily modified in the modern era with both modern concrete and modern mechanical components. The modern gauging station is also an intrusive element; even though it is an equivalent of a historic function. Too much of the structure has changed (with modern equivalents, but has changed none-the-less). As such, the structure has greatly diminished values of workmanship, design, feeling, and materials. Additionally, the structure would be a non-contributing component of any larger, associated irrigation system that may be eligible.

*P3b. Resource Attributes: AH6 (water diversion), AH8 (water conveyance)

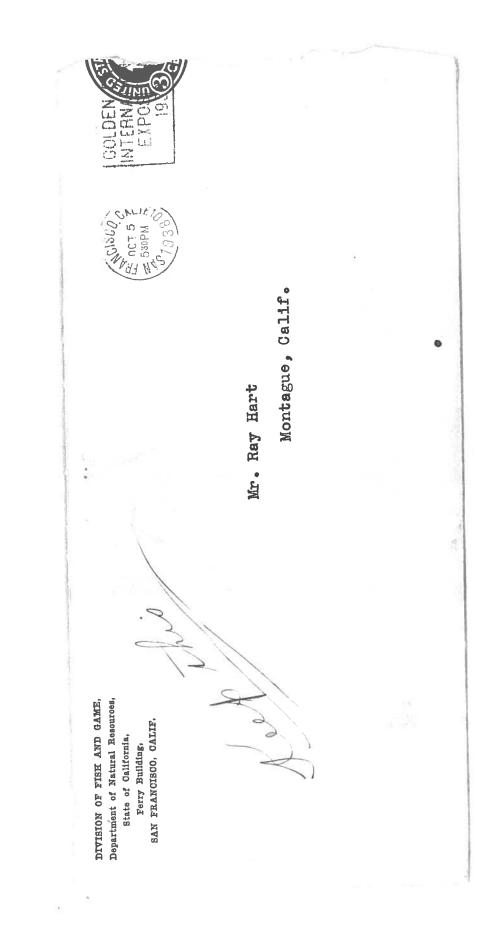
*P4. Resources Present: Building Structure Object Site District Element of District Other

- P5a. Photo or Drawing: See attached photos
- P5b. Description of Photo: See attached
- □ Prehistoric □ Both

- *P8. Recorded by: John W. Jones (M.A., R.P.A.), Native-X, Inc.
- *P9. Date Recorded: September 30, 2016
- *P10. Survey Type: Reconnaissance
- *P11. Report Citation: Cultural Resource Survey for the Hart Ranch, 2016, Siskiyou County, California

*Attachments: DNONE Incention Map Instruction Map Continuation Sheet Duilding, Structure, and Object Record □Archaeological Record □District Record □Linear Feature Record □Milling Station Record □Rock Art Record DPR 523A (1/95) *Required information

^{*}P7. Owner and Address: Private



FISH AND GAME COMMISSION

DR. E. C. MOORE, PRESIDENT LOS ANGELES

NEWTON G. BOOTH

RAYMOND GREY

EARL MCKENZIE RED BLUFF

I. ZELLERBACH SAN FRANCISCO Frank F. Alerriam Cohernor



GEORGE D. NORDENHOLT DIRECTOR OF NATURAL RESOURCES

HERBERT C. DAVIS EXECUTIVE OFFICER DIVISION OF FISH AND GAME

STATE OF CALIFORNIA DEPARTMENT OF NATURAL RESOURCES

Division of Hish and Game

FERRY BUILDING

October 5th, 1938

Mr. George M. Haight Mr. Ray Hart Montague, Calif.

S-1247

Gentlemen -

Recently a survey was made of a ditch taking water from Little Shasta River, and jointly owned or used by yourselves. This survey was for the purpose of replacing a fish screen which had heretofore been installed in this ditch and now not functioning. The work contemplated would be at Commission expense.

It is proposed to install a parallel steel bar screen, with the spacing 1/4" apart, said bars to be cleaned by a device operated by a power wheel set below the bars, and all set within a concrete box which would be about 30' from the head of the ditch. As the construction will be of a very substantial nature it is believed that operation and maintenance expense will be at a minimum and may logically be considered in the future should the necessity arise.

Before we can proceed with this work it will be necessary for you to give your consent by dating and signing one of these copies and returning to this office. We will appreciate your prompt attention to this as it will materially assist us in planning our work.

Should there be other owners or leasers in this ditch, we would like their names and addresses; or, they may also sign one of the copies and return to us.

very trul

J. Spencer, Chief Bureau of Hydraulics

Dated: 193. Signed: 11



Site HR02. Roll Hart-01, Frame 06. Overview. Shows diversion structure with concrete retaining walls, undershot water wheel (allows for mechanical cleaning of fish screen), fish screen, and headgate. View 64 degrees. 552448 mE x 4619169 mN. 9/30/2016



Site HR02. Roll Hart-01, Frame 07. Overview of south end of diversion structure. Diversion ditch is to right of water wheel. Flow meter and solar panel is at far right. View 160 degrees. 552448 mE x 4619175 mN. 9/30/2016

#### *Resource No.: HR02



Site HR02. Roll Hart-01, Frame 08. View of diversion structure with fish screen on right and headgate in background, middle. View 170 degrees. 9/30/2016.



Site HR02. Roll Hart-01, Frame 09. North end of diversion structure showing concrete work, headgate, and wheel. Milled lumber forms were used when this part of the structure was built. View 164 degrees. 9/30/2016.



Site HR02. Roll Hart-01, Frame 13. Closeup showing concrete work and where the fish screen is anchored to it. View 104 degrees. 9/30/2016.



Site HR02. Roll Hart-01, Frame 14. Water wheel mechanism where it connects to fish screen. View 80 degrees. 9/30/2016.



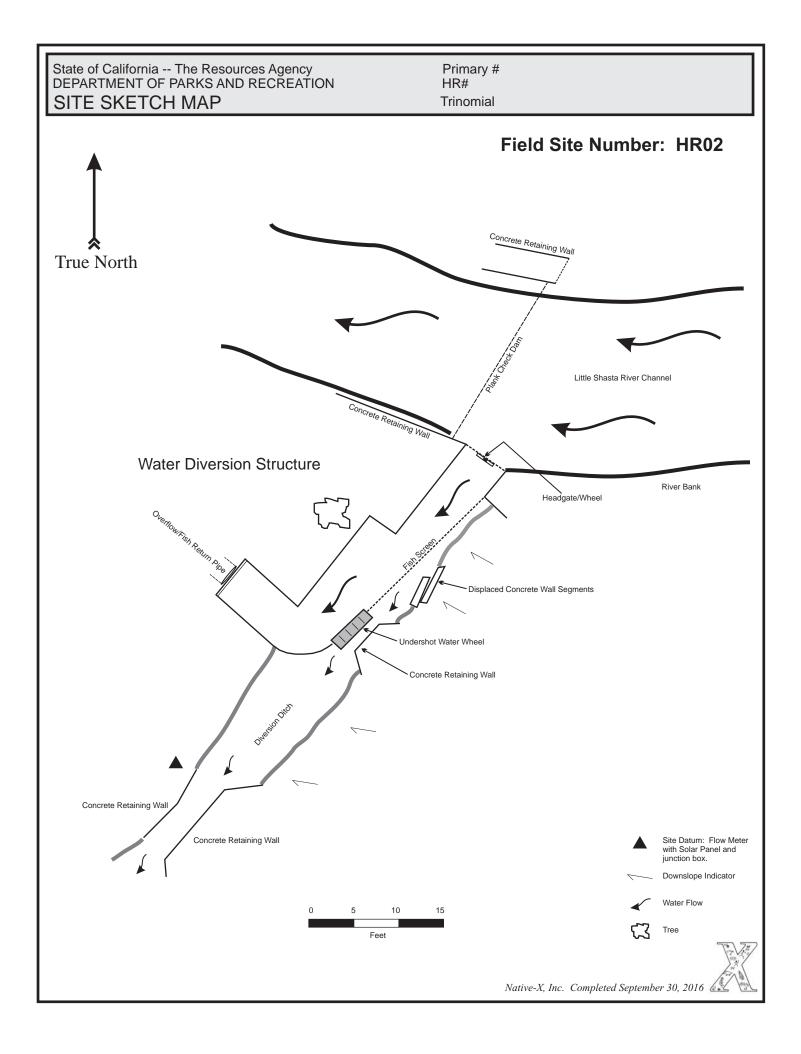
Site HR02. Roll Hart-01, Frame 15. View of overflow channel. Flows into a pipe just below the water surface. This pipe was likely the fish return pipe. View 318 degrees. 9/30/2016.

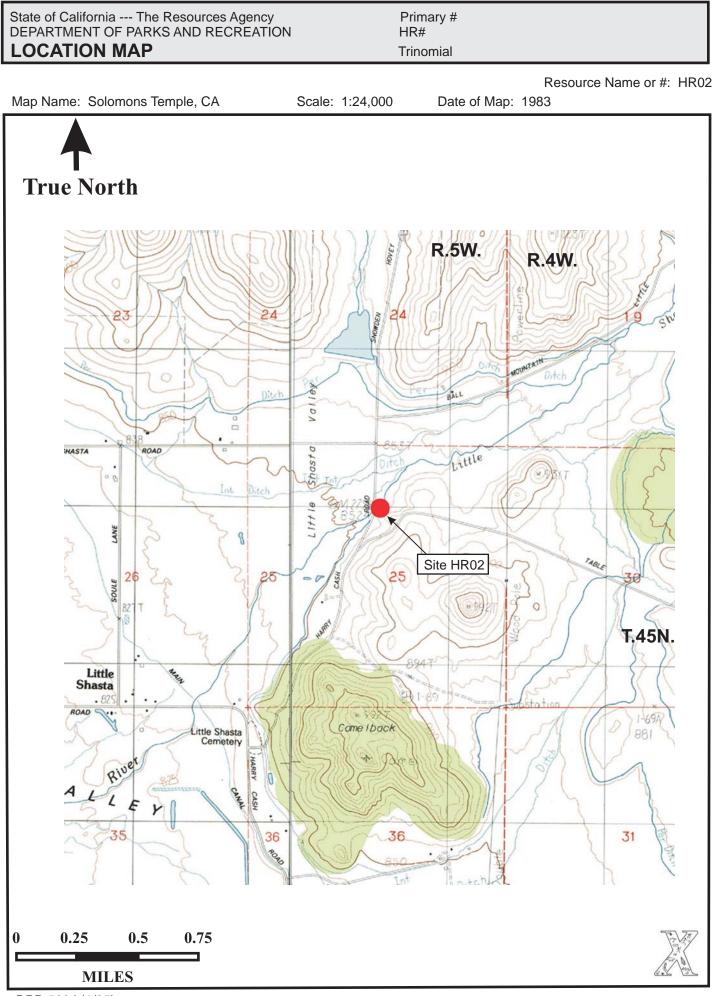


Site HR02. Roll Hart-01, Frame 16. Overview. 9/30/2016.



Site HR02. Roll Hart-01, Frame 17. View of flow solar panel with junction box. Connects to flow meter at surface on right. Site datum. 9/30/2016





DPR 523J (1/95)

## **APPENDIX H**

Little Shasta River Fish Passage Project: Bridge Impact Hydraulic Assessment. Cascade Stream Solutions October, 2016

# Little Shasta River Fish Passage Project: Bridge Impact Hydraulic Assessment

October, 2016



Prepared by: Joey Howard, PE Cascade Stream Solutions, LLC 295 East Main St, Ashland, Oregon 97520





## 1.0 Introduction

Trout Unlimited is proposing to improve fish passage and screening at the Hart water diversion on the Little Shasta River. The existing dam is located about 120 feet upstream of the Harry Cash Bridge crossing the Little Shasta River. The project extends along the creek and floodplain beginning about 20 feet upstream and ending about 200 feet upstream of the bridge. The work includes removing the existing flashboard dam and fish screen, constructing a roughened channel and new fish screen that meets current California Department of Fish and Wildlife and National Marine Fisheries Services standards. Joey Howard, while working at Northwest Hydraulic Consultants, was principal in charge of the design. As principal of Cascade Stream Solutions, he is providing engineering and inspection services implementation.

This document briefly summarizes hydraulic analyses conducted to assess potential projects on the bridge and water surface elevations.

## 2.0 Topographic Data and Datums

The survey of the existing structures and the local topography is based on surveys completed by North State Land Surveying in association with NHC in April and May of 2009. The surveys are based on the NAVD 1988 vertical datum and NAD 1983 horizontal datum. Elevations referenced in this report are in the NAVD 1988 datum, unless otherwise specified.

## 3.0 Project Site Watershed Characteristics

The project site watershed is 68 square miles in size and includes the northerly portion of Goosenest Mountain, southerly portion of Willow Creek Mountain, and westerly portion of Ball Mountain. The watershed's elevation ranges from high of 8280 feet at the Peak of Goosenest Mountain to a low of 2810 feet at the Hart diversion.

Mean annual precipitation ranges from 18 inches near the western portion of the watershed to 35 inches at foothill in the middle of the watershed (Siskiyou County, 1974). The spatially averaged mean annual precipitation for the watershed is 29.8 inches.

Flow to the project site is mainly influenced by the porous volcanic soils, and irrigation diversion structures. Significant tributaries to the Little Shasta River upstream of the Hart Diversion include Foggy Gulch, Dewey Gulch, and Dry Creek.

The Little Shasta River generally flows from east to west in the vicinity of the Hart and Musgrave diversions. The main channel is about 30 feet wide and ranges in depth from 2 to 5 feet as it flows through the valley. The valley bottom is about 1000 feet wide and is dissected by multiple flood channels. The valley slopes at about 1.3 percent.

The Little Shasta River has experienced several large flood events since the area was settled in the 1840's. Large floods since 1950 occurred in 1955, 1964, 1981, 1997, and 2005. These flows inundated most of the valley bottom and overtopped Harry Cash Road. During large flood events, the extent of



flooding across Harry Cash Road can extend from just south of the mail boxes near Ball Mountain Road to several hundred feet south of the Little Shasta Bridge at Harry Cash Road.

Large floods are generally produced by rain on snow events and have frequently occurred in late December and early January. The largest floods since 1950 have occurred in 1955 and on December 22, 1964. The main channel moved laterally during both these events. The US Army Corps of Engineers assisted local landowners following the 1955 flood event in relocating the main channel to its pre-flood alignment. In 1964, the United States Geologic Survey recorded a peak discharge of 5910 cfs at the Little Shasta River near Montague stream flow gauge. This gauge is located about 4 miles upstream of the Musgrave Diversion. The main channel was returned to its pre-flood location by local landowners and the contractor responsible for the construction of I-5.

The December 2005 flood, although not as large as the 1955 and 1964 floods, overtopped Harry Cash Road and scoured around the Musgrave Ditch culvert crossing at Harry Cash Road. Photograph 1 shows the culvert crossing as viewed from the south. Photograph 2 shows Harry Cash Road from a vantage point about 700 north of the bridge. Photograph 3 shows debris and sediment deposited along Harry Cash Road. This photograph was taken about 200 feet south of the bridge and was taken looking north. County Public Works Department provided these photographs for inclusion in this report.

The influence of high flow events is readily apparent in the terrain. Numerous scour holes and channels are visible near the diversions. Holes within these channels contain cobble. The invert elevations of some of these channels are often within 1 foot of the adjacent river bed. A prominent overflow channel exists about 200 feet north of Hart Diversion (see Figure 2). This channel flows from a gap in the berm along the right bank. The overflow channel has a top width of about 20 feet and depths of 2 to 3 feet.



Photograph 1. 2005 Post Flood Photograph Harry Cash Road (700 ft North of Bridge)





Photograph 2. 2005 Post Flood Harry Cash Road (700 ft North of Bridge)



Photograph 3. Post Flood 2005 Flood Harry Cash Road (200 feet south of the Bridge)

Photographs provided by Siskiyou County Public Works.



## 4.0 Hydraulic Analysis

NHC and Cascade conducted hydraulic analyses to assess potential impacts at the bridge. As discussed above, flood flows exceed the conveyance capacity of the primary channel and are conveyed across the floodplain as shallow overland flow. To simplify the analysis, we focused on comparing existing and project conditions at the bridge for a range of flows that are near the conveyance capacity of the bridge. This approach allowed us to address the issue with HEC-RAS, a one-dimensional hydraulic model.

Model geometry was developed for existing and project conditions. Existing conditions geometry is based on NHC and North State Land Surveys. Project conditions model geometry is based on the design surface created in Civil 3D and existing conditions survey data.

Manning's n values are estimated to be 0.05 for the channel and 0.065 in the floodplain.

Model runs were conducted using mixed flow, which allow for both subcritical and supercritical flow conditions. The starting water surface elevation were computed using normal depth with an energy slope of 0.005 ft/ft at the downstream end and 0.008 at the upstream end. These slopes were estimated from the longitudinal slope of the primary channel near the downstream and upstream ends.

Hydraulic characteristics were computed for steady state flows of 750, 1000, 1500, and 1700 cfs.

Workmaps for the existing and project conditions are provided in Appendix B.

Existing and project conditions model results are provided in Appendix B. Computed water surface profiles shown in Figure 1. Review of the profiles shows the project conditions channel about 35 feet shorter than the existing conditions. This reduction in channel length is due to the channel realignment. The model results show that there is no change in hydraulic conditions at the bridge. Flow conditions at the bridge are subcritical and are therefore controlled by downstream conditions. The model results show the bridge exerts a strong hydraulic control.

Deposition and scour near the bridge are not anticipated to change significantly due to the project because the project is of limited size, will be constructed to remain stable during extreme flows, and will not change sediment transport potential upstream or downstream of the project area. Sediment that reaches the project reach will be conveyed through the reach.



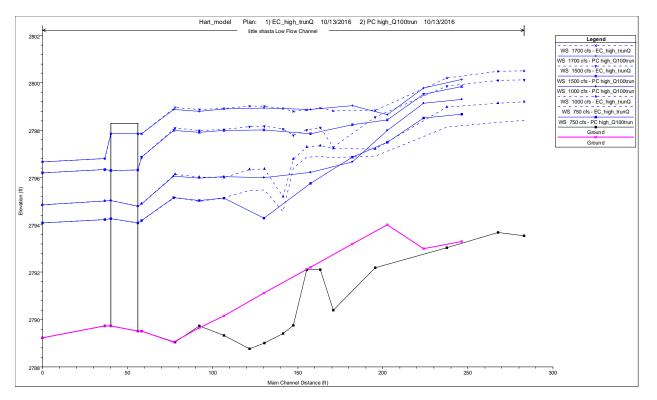


Figure 1. Computed Water Surface Profiles



## Appendix A - Hydrology

### 3.2 Stream Gauge

The USGS operated a stream gauge on the Little Shasta River, Little Shasta River near Montague (No.11516900), from Water Year 1957 to 1978. Table 1 provides the information on the stream gauge.

#### Table 1. USGS gauge summary

	Little Shasta River near Montague No.11516900
Drainage area	46 mi ²
Gauge Elevation	3280 feet
Period of record	October 1957 to September 1978
Peak Flow	5910 cfs
Date of Peak Flow	12/22/1964

### 3.3 Flood Flow Estimate

NHC estimated flow at the project site to design stream stabilization features and intake facilities for fish passage. Flood flow estimates are computed for 100-year, 50-year, 10-year and 2-year events using flood flow frequency analysis. Flow frequency analysis conducted with USGS gauge data is transposed to the downstream project site by scaling the Bulletin 17B quantiles by the ratio of the project site and gauge drainage areas as shown in Equation 1. Table 2 shows the flow quantiles at the Little Shasta Gauge near Montague. Table 3 shows the transposed peak flow quantiles at the project site. Table 3 shows the flow frequency curves transposed to project site.

#### Equation 1. $Q_{site} = Q_{gauge}^* (A_{site}/A_{gauge})^b$

Where:

 $Q_{\text{site}}$  is the peak flow at the site,

 $Q_{gauge}$  is the peak flow calculated from the gauge record,

Agauge is the area tributary to the gauge,

A_{site} is the area tributary to the site,

b is the area exponent in the Northeast USGS regression equation for the return period of interest.



Table 2. Peak Flow Quantiles at Little Shasta River Stream Gauge near Montague

	Bulletin 17B Estimate
Return Period, yr	Flow (cfs)
100-year peak flow	4037
50-year peak flow	2656
25-year peak flow	1701
10-year peak flow	889
5-year peak flow	506
2-year peak flow	193

Table 3. Transposed Peak Flows at Project Site

	Northeast	Bulletin 17B Estimate		
Return Period, yr	Area Exp	Flow (cfs)		
100-year peak flow	0.59	5084		
50-year peak flow	0.57	3319		
25-year peak flow	0.54	2101		
10-year peak flow	0.49	1077		
5-year peak flow	0.45	603		
2-year peak flow	0.4	226		

NHC also estimated the peak flow at the project site with the Siskiyou County Drainage Manual (Siskiyou County 1974). The Siskiyou County Drainage Manual uses precipitation and ratio of peak flow to annual mean flow to estimate peak flows. These relationships were developed specifically for the region to estimate peak flows. The County also used this method to estimate flows at this location. NHC's estimates, as well as the County's estimates of peak flow are listed in Table 4. The small disparity between estimates is likely due to interpretational differences of the graphs listed in the County Hydrology Manual.

The USGS developed regional regression equations to estimate peak flows throughout California (USGS 1977). In this area, the USGS regional regression equations were developed for basins with drainage areas less than 25 square miles and are therefore not likely to produce reliable estimates for basins significantly larger. For comparison purposes, NHC estimated flows using the USGS regional regression equations. These estimates are listed in Table 4.



	Regional	Siskiyou	Transposed	Values provided
	Regression	Drainage	Bulletin 17B	by Siskiyou
	Equation	Manual		County
Return Period, yr	Flow (cfs)	Flow (cfs)	Estimate Flow (cfs)	Estimate Flow (cfs)
100-year peak flow	1507	4900	5084	5400
50-year peak flow	1141	3500	3319	3950
25-year peak flow	820	2600	2101	3000
10-year peak flow	482	1500	1077	1800
5-year peak flow	307	900	603	
2-year peak flow	119		226	

**Table 4. Comparison of Flood Flow Estimation Results** 

The Siskiyou Drainage Manual and transposed flow frequency estimates produced similar values for the less frequent flows. Discrepancies between the two estimates increased as the return period decreased. NHC recommends using the higher peak flows estimated by the County for use as design flows.

It is interesting to note that the 100-year peak flow estimate of 5400 cfs was exceeded on December 22, 1964. The peak flow measured at the gauge on this day was 5910 cfs. Figure 5 plots the annual peak flows measured by the USGS at the Little Shasta stream gauge near Montague. It is also interesting to note that the anecdotal record suggests that significant peak flows occur more frequently than the gauge records indicate. Since 1950, significant floods occurred each decade with the exception of 1970. The USGS stream gauge on the Little Shasta River was installed after the 1955 flood and decommissioned prior to the 1981 flood. However, it did record the 1964 flood.



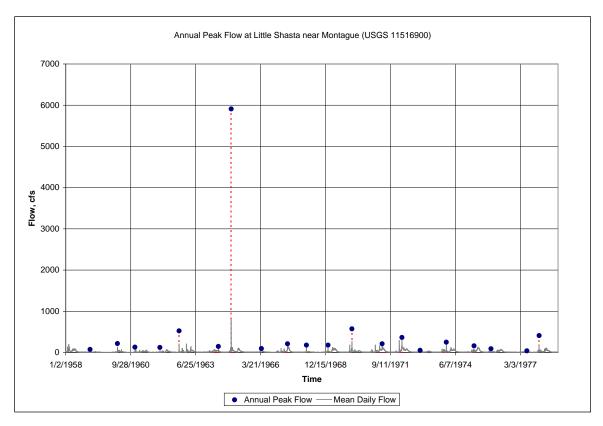
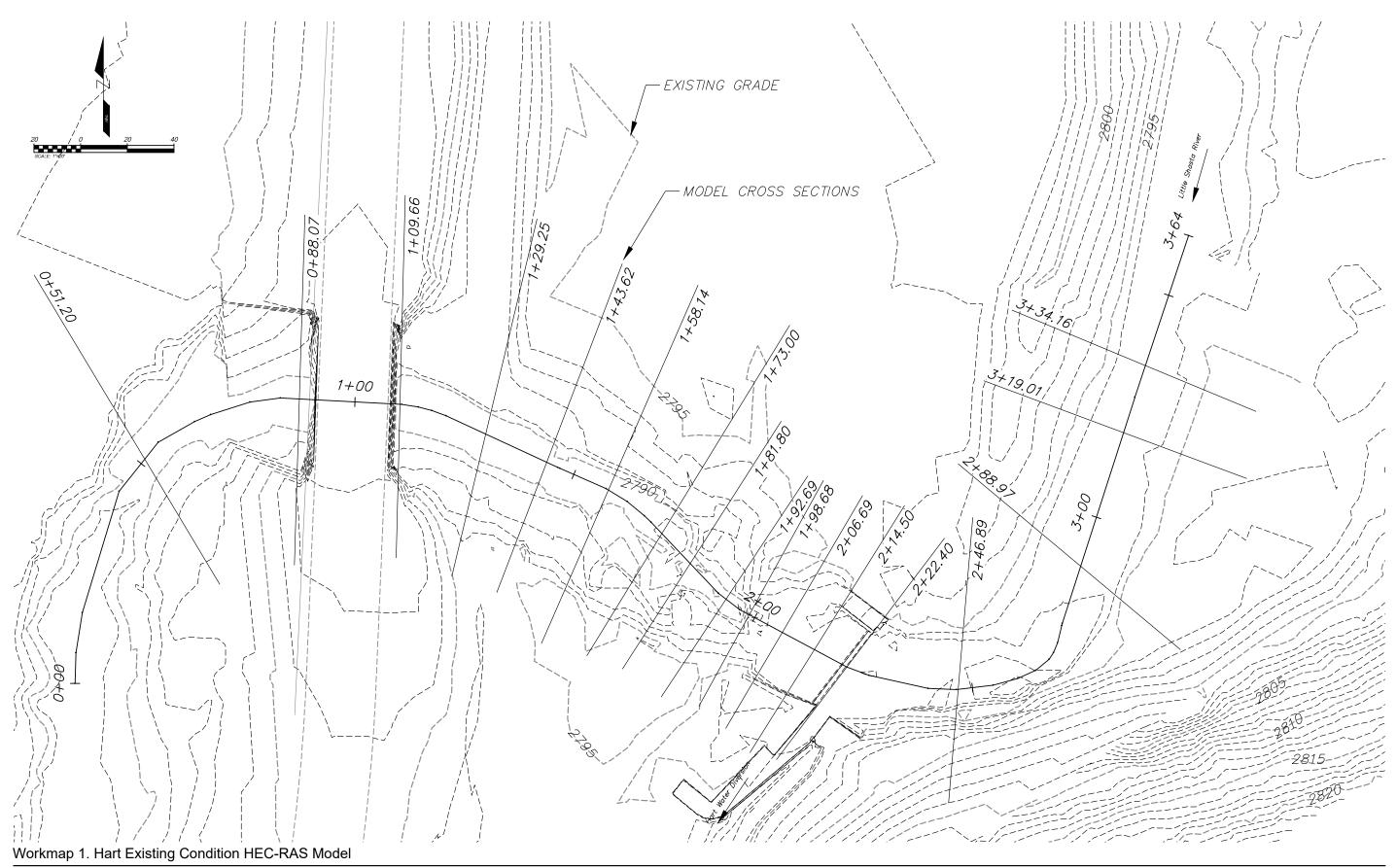


Figure 2. Little Shasta near Montague Gauge Annual Peak Flow

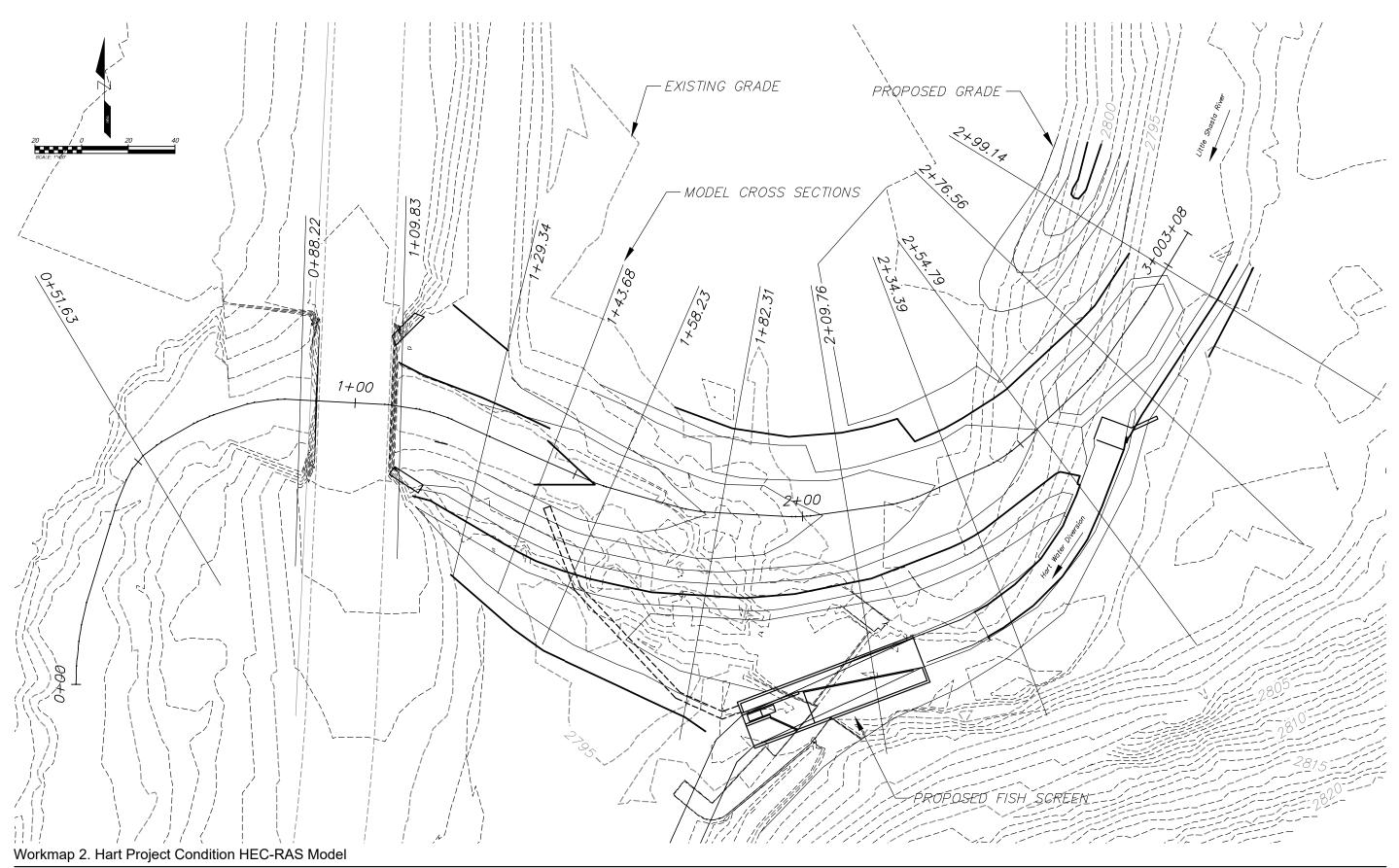


Appendix B – Hydraulic Analysis





Little Shasta RIver Fish Passage Improvement Project Hart Water Diversion Cascade Stream Solutions October 2016



Little Shasta RIver Fish Passage Improvement Project Hart Water Diversion

Cascade Stream Solutions October 2016

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)
Low Flow Channel	334.74	750 cfs	EC_high_trunQ	750.00	2793.54	2798.41	2797.00	2798.84	0.005569	6.19	165.65	47.80	0.50	1.62
Low Flow Channel	334.74	1000 cfs	EC_high_trunQ	1000.00	2793.54	2799.21	2797.54	2799.70	0.005403	6.75	205.16	51.57	0.50	1.83
Low Flow Channel	334.74	1500 cfs	EC_high_trunQ	1500.00	2793.54	2800.14	2798.41	2800.88	0.006836	8.42	256.86	56.57	0.58	2.71
Low Flow Channel	319.58	750 cfs	EC high trunQ	750.00	2793.68	2798.33		2798.75	0.005747	6.02	167.56	55.61	0.50	1.57
Low Flow Channel	319.58	1000 cfs	EC_high_trunQ	1000.00	2793.68	2798.33		2798.75	0.005275	6.44	215.54	60.03	0.30	1.57
Low Flow Channel	319.58	1500 cfs	EC high trunQ	1500.00	2793.68	2799.14		2800.75	0.005275	7.65	273.89	60.03	0.49	2.26
	319.00	1500 CIS		1500.00	2793.00	2000.11		2000.75	0.003942	7.05	213.09	00.03	0.54	2.20
Low Flow Channel	299	750 cfs	PC high_Q100trun	750.00	2793.30	2798.67	2796.99	2798.86	0.002561	4.03	243.15	74.67	0.33	0.70
Low Flow Channel	299	1000 cfs	PC high_Q100trun	1000.00	2793.30	2799.31	2797.37	2799.55	0.002664	4.49	291.65	76.13	0.35	0.83
Low Flow Channel	299	1500 cfs	PC high_Q100trun	1500.00	2793.30	2799.84	2797.98	2800.23	0.004022	5.89	344.94	86.97	0.43	1.39
Low Flow Channel	289.55	750 cfs	EC high trunQ	750.00	2793.03	2798.13	2796.85	2798.58	0.005229	6.02	167.53	55.25	0.49	1.53
Low Flow Channel	289.55	1000 cfs	EC high trunQ	1000.00	2793.03	2798.98	2797.39	2799.46	0.004688	6.36	214.31	55.25	0.47	1.62
Low Flow Channel	289.55	1500 cfs	EC high trunQ	1500.00	2793.03	2799.86	2798.35	2800.57	0.005839	7.83	263.17	55.25	0.54	2.33
	200.00				2.00.00	2100.00	2.00.00	2000.01	0.000000		200.11	00.20	0.01	2.00
Low Flow Channel	276	750 cfs	PC high_Q100trun	750.00	2793.00	2798.52	2796.89	2798.78	0.003332	4.56	211.23	72.08	0.38	0.90
Low Flow Channel	276	1000 cfs	PC high_Q100trun	1000.00	2793.00	2799.15	2797.35	2799.47	0.003448	5.06	256.71	72.08	0.39	1.06
Low Flow Channel	276	1500 cfs	PC high_Q100trun	1500.00	2793.00	2799.52	2798.23	2800.10	0.005845	6.90	283.44	72.08	0.52	1.93
Low Flow Channel	255	750 cfs	PC high Q100trun	750.00	2794.00	2797.49	2797.49	2798.56	0.019975	8.60	99.85	48.85	0.88	3.65
Low Flow Channel	255	1000 cfs	PC high Q100trun	1000.00	2794.00	2797.98	2797.98	2799.23	0.019973	9.41	124.11	48.86	0.89	4.15
Low Flow Channel	255	1500 cfs	PC high Q100trun	1500.00	2794.00	2798.43	2798.43	2799.81	0.020951	10.58	192.81	77.48	0.03	5.04
Low How Chamler	200	1500 013	renign_erooran	1300.00	2794.00	2730.43	27 90.43	2133.01	0.020351	10.50	192.01	11.40	0.34	5.04
Low Flow Channel	247.39	750 cfs	EC_high_trunQ	750.00	2792.18	2796.91	2796.91	2798.16	0.015097	9.77	102.51	43.17	0.82	4.12
Low Flow Channel	247.39	1000 cfs	EC_high_trunQ	1000.00	2792.18	2797.21	2797.21	2798.99	0.020057	11.77	116.10	45.69	0.96	5.86
Low Flow Channel	247.39	1500 cfs	EC_high_trunQ	1500.00	2792.18	2798.55	2798.55	2800.14	0.014480	11.81	188.02	56.59	0.85	5.43
Low Flow Channel	234	750 cfs	PC high Q100trun	750.00	2793.19	2796.87	2796.87	2797.73	0.017419	8.07	120.10	68.82	0.82	3.21
Low Flow Channel	234	1000 cfs	PC high Q100trun	1000.00	2793.19	2796.67	2790.87	2798.62	0.041891	11.95	120.10	68.24	1.25	7.20
Low Flow Channel	234	1500 cfs	PC high_Q100trun	1500.00	2793.19	2798.24	2797.93	2798.02	0.041891	8.64	251.14	100.36	0.73	3.25
Low Flow Channel	222.85	750 cfs	EC_high_trunQ	750.00	2790.40	2796.85	2795.78	2797.65	0.011768	7.30	117.39	59.57	0.63	2.50
Low Flow Channel	222.85	1000 cfs	EC_high_trunQ	1000.00	2790.40	2797.23	2796.93	2798.30	0.014552	8.59	140.13	59.57	0.71	3.37
Low Flow Channel	222.85	1500 cfs	EC_high_trunQ	1500.00	2790.40	2797.29	2797.86	2799.60	0.031104	12.67	143.45	59.57	1.03	7.30
Low Flow Channel	214.96	750 cfs	EC high trunQ	750.00	2792.11	2796.89		2797.51	0.009275	6.62	140.15	62.42	0.58	2.04
Low Flow Channel	214.96	1000 cfs	EC high trunQ	1000.00	2792.11	2797.34		2798.11	0.010508	7.56	167.97	62.42	0.63	2.56
Low Flow Channel	214.96	1500 cfs	EC_high_trunQ	1500.00	2792.11	2798.12	2797.60	2799.16	0.011925	8.97	216.95	62.42	0.69	3.42
Low Flow Channel	209	750 cfs	PC high_Q100trun	750.00	2792.22	2795.76	2796.12	2797.16	0.027624	10.02	94.11	60.96	1.02	4.98
Low Flow Channel	209	1000 cfs	PC high_Q100trun	1000.00	2792.22	2796.22	2796.55	2797.71	0.025729	10.65	122.66	62.15	1.01	5.36
Low Flow Channel	209	1500 cfs	PC high_Q100trun	1500.00	2792.22	2797.86	2797.26	2798.79	0.010766	8.93	230.36	73.74	0.70	3.31
Low Flow Channel	207.15	750 cfs	EC_high_trunQ	750.00	2792.11	2796.86		2797.43	0.007182	6.65	150.29	57.85	0.56	1.92
Low Flow Channel	207.15	1000 cfs	EC high trunQ	1000.00	2792.11	2797.29		2798.03	0.008496	7.69	174.99	57.85	0.62	2.50

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)
Low Flow Channel	207.15	1500 cfs	EC_high_trunQ	1500.00	2792.11	2798.02		2799.07	0.010507	9.40	216.86	57.85	0.71	3.5
Low Flow Channel	199.13	750 cfs	EC high trunQ	750.00	2789.75	2796.40	2796.40	2797.31	0.017096	10.03	126.22	55.25	0.76	4.43
Low Flow Channel	199.13	1000 cfs	EC high trunQ	1000.00	2789.75	2796.79	2796.79	2797.89	0.019543	11.24	148.01	55.25	0.82	5.4
Low Flow Channel	199.13	1500 cfs	EC high trunQ	1500.00	2789.75	2797.78		2798.95	0.017717	11.89	202.69	55.25	0.81	5.7
Low Flow Channel	193.14	750 cfs	EC_high_trunQ	750.00	2789.41	2794.56	2795.31	2797.01	0.040362	17.54	82.99	38.82	1.37	12.6
Low Flow Channel	193.14	1000 cfs	EC_high_trunQ	1000.00	2789.41	2795.20	2796.15	2797.60	0.036858	18.14	109.23	44.71	1.34	13.0
Low Flow Channel	193.14	1500 cfs	EC_high_trunQ	1500.00	2789.41	2798.05		2798.74	0.007575	10.78	267.29	56.72	0.65	4.02
Low Flow Channel	182.23	750 cfs	EC high trunQ	750.00	2789.01	2795.47	2794.30	2795.97	0.006549	7.02	165.20	62.00	0.52	2.04
Low Flow Channel	182.23	1000 cfs	EC high trunQ	1000.00	2789.01	2795.47	2794.81	2796.86	0.005682	7.02	221.39	63.00	0.52	2.0
Low Flow Channel	182.23	1500 cfs	EC high trunQ	1500.00	2789.01	2790.30	2794.01	2790.00	0.003857	7.01	335.01	63.00	0.30	1.78
	102.23	1500 CIS		1500.00	2769.01	2190.11	2795.92	2790.01	0.003657	7.01	335.01	63.00	0.43	1.70
Low Flow Channel	182	750 cfs	PC high_Q100trun	750.00	2791.12	2794.29	2794.29	2796.50	0.050784	12.19	66.76	33.06	1.35	7.7
Low Flow Channel	182	1000 cfs	PC high_Q100trun	1000.00	2791.12	2795.99	2795.63	2796.79	0.010892	7.95	166.36	64.39	0.68	2.7
Low Flow Channel	182	1500 cfs	PC high_Q100trun	1500.00	2791.12	2798.01	2796.34	2798.49	0.004387	6.54	329.36	90.62	0.46	1.6
Low Flow Channel	173.43	750 cfs	EC_high_trunQ	750.00	2788.77	2795.45		2795.91	0.004189	6.03	175.49	63.72	0.44	1.4
Low Flow Channel	173.43	1000 cfs	EC_high_trunQ	1000.00	2788.77	2796.34		2796.82	0.003831	6.34	236.25	70.16	0.43	1.5
Low Flow Channel	173.43	1500 cfs	EC_high_trunQ	1500.00	2788.77	2798.16		2798.57	0.002733	6.28	363.47	70.16	0.38	1.3
Low Flow Channel	158.55	750 cfs	EC high trunQ	750.00	2789.33	2795.16		2795.81	0.007324	7.69	145.17	51.37	0.59	2.4
Low Flow Channel	158.55	1000 cfs	EC_high_trunQ	1000.00	2789.33	2796.01		2796.71	0.007052	8.32	197.85	66.10	0.59	2.6
Low Flow Channel	158.55	1500 cfs	EC_high_trunQ	1500.00	2789.33	2798.03		2798.52	0.003764	7.34	331.47	66.10	0.45	1.9
	450	750 (		750.00	0700.10	0705.40		0705.00	0.000007	0.54	151.50		0.55	
Low Flow Channel	158	750 cfs	PC high_Q100trun	750.00	2790.16	2795.12	2794.20	2795.66	0.006887	6.51	154.59	60.73	0.55	1.8
Low Flow Channel	158	1000 cfs	PC high_Q100trun	1000.00	2790.16	2796.03	2794.89	2796.53	0.005324	6.49	211.27	63.41	0.49	1.7
Low Flow Channel	158	1500 cfs	PC high_Q100trun	1500.00	2790.16	2797.99	2795.67	2798.39	0.003097	6.09	354.70	76.89	0.40	1.3
Low Flow Channel	144.03	750 cfs	EC high trunQ	750.00	2789.74	2794.98		2795.69	0.009003	8.31	147.82	59.89	0.65	2.84
Low Flow Channel	144.03	1000 cfs	EC high trunQ	1000.00	2789.74	2796.02		2796.57	0.006097	7.74	209.67	59.89	0.55	2.3
Low Flow Channel	144.03	1500 cfs	EC_high_trunQ	1500.00	2789.74	2797.99		2798.45	0.003723	7.29	327.93	59.89	0.45	1.8
Low Flow Channel	143	750 cfs	PC high_Q100trun	750.00	2789.65	2795.04		2795.56	0.006315	6.20	154.13	62.68	0.52	1.6
Low Flow Channel	143	1000 cfs	PC high_Q100trun	1000.00	2789.65	2795.97		2796.45	0.004881	6.19	212.62	62.68	0.47	1.5
Low Flow Channel	143	1500 cfs	PC high_Q100trun	1500.00	2789.65	2797.91		2798.34	0.003047	6.01	334.43	62.68	0.39	1.3
Low Flow Channel	129.66	750 cfs	EC high trunQ	750.00	2789.04	2795.17		2795.48	0.003903	6.02	215.20	71.64	0.44	1.43
Low Flow Channel	129.66	1000 cfs	EC high trunQ	1000.00	2789.04	2796.14		2796.43	0.003076	5.92	284.83	71.64	0.40	1.3
Low Flow Channel	129.66	1500 cfs	EC_high_trunQ	1500.00	2789.04	2798.09		2798.35	0.002106	5.78	424.15	71.64	0.34	1.1
Low Flow Channel	129	750 cfs	PC high_Q100trun	750.00	2789.04	2795.14		2795.41	0.003582	4.64	208.76	67.97	0.39	0.9
Low Flow Channel	129	1000 cfs	PC high_Q100trun	1000.00	2789.04	2796.06		2796.33	0.002940	4.76	271.87	69.24	0.36	0.9
Low Flow Channel	129	1500 cfs	PC high_Q100trun	1500.00	2789.04	2797.99		2798.25	0.001986	4.79	405.14	69.24	0.31	0.8

HEC-RAS River: little shasta Reach: Low Flow Channel (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)
Low Flow Channel	110.06	750 cfs	EC_high_trunQ	750.00	2789.51	2794.18	2793.65	2795.20	0.013769	9.39	106.34	31.95	0.79	3.80
Low Flow Channel	110.06	750 cfs	PC high_Q100trun	750.00	2789.51	2794.18	2793.65	2795.20	0.013769	9.39	106.34	31.95	0.79	3.80
Low Flow Channel	110.06	1000 cfs	EC_high_trunQ	1000.00	2789.51	2794.89	2794.29	2796.12	0.013828	10.39	129.52	32.97	0.81	4.43
Low Flow Channel	110.06	1000 cfs	PC high_Q100trun	1000.00	2789.51	2794.89	2794.29	2796.12	0.013823	10.39	129.53	32.97	0.81	4.43
Low Flow Channel	110.06	1500 cfs	EC_high_trunQ	1500.00	2789.51	2796.86	2795.35	2798.08	0.009293	10.57	197.10	35.89	0.70	4.11
Low Flow Channel	110.06	1500 cfs	PC high_Q100trun	1500.00	2789.51	2796.86	2795.35	2798.08	0.009295	10.57	197.09	35.89	0.70	4.11
Low Flow Channel	108			Bridge										
Low Flow Channel	88.47	750 cfs	EC_high_trunQ	750.00	2789.73	2794.23		2794.76	0.006682	5.85	130.47	35.61	0.53	1.56
Low Flow Channel	88.47	750 cfs	PC high_Q100trun	750.00	2789.73	2794.23		2794.76	0.006682	5.85	130.47	35.61	0.53	1.56
Low Flow Channel	88.47	1000 cfs	EC_high_trunQ	1000.00	2789.73	2795.01		2795.65	0.006412	6.48	158.23	36.33	0.53	1.80
Low Flow Channel	88.47	1000 cfs	PC high_Q100trun	1000.00	2789.73	2795.01		2795.65	0.006411	6.48	158.24	36.33	0.53	1.80
Low Flow Channel	88.47	1500 cfs	EC_high_trunQ	1500.00	2789.73	2796.34		2797.20	0.006123	7.50	207.50	38.28	0.54	2.21
Low Flow Channel	88.47	1500 cfs	PC high_Q100trun	1500.00	2789.73	2796.34		2797.20	0.006123	7.50	207.49	38.27	0.54	2.22
Low Flow Channel	51.82	750 cfs	EC_high_trunQ	750.00	2789.22	2794.07	2792.41	2794.52	0.005000	5.36	142.84	35.93	0.46	1.27
Low Flow Channel	51.82	750 cfs	PC high_Q100trun	750.00	2789.22	2794.07	2792.41	2794.52	0.005000	5.36	142.84	35.93	0.46	1.27
Low Flow Channel	51.82	1000 cfs	EC_high_trunQ	1000.00	2789.22	2794.85	2792.94	2795.41	0.005000	6.01	171.13	36.65	0.48	1.51
Low Flow Channel	51.82	1000 cfs	PC high_Q100trun	1000.00	2789.22	2794.85	2792.94	2795.41	0.005000	6.01	171.13	36.65	0.48	1.51
Low Flow Channel	51.82	1500 cfs	EC_high_trunQ	1500.00	2789.22	2796.20	2793.87	2796.96	0.005008	7.06	222.21	46.64	0.50	1.92
Low Flow Channel	51.82	1500 cfs	PC high_Q100trun	1500.00	2789.22	2796.20	2793.87	2796.96	0.005008	7.06	222.21	46.64	0.50	1.92

HEC-RAS River: little shasta Reach: Low Flow Channel (Continued)



PO Box 676 Mt. Shasta, CA 96067

March 2, 2017

Curt Babcock, Habitat Restoration California department of Fish and Wildlife 215 Executive Court, Suite A Yreka, CA 96097

#### RE: HART RANCH FLOW ENHANCMENT PROJECT [SCH NO. 2017012061], RESPONSE TO COMMENTS ON DRAFT IS/MND – MEMO TO FILE

Dear Mr. Babcock,

The comment period for review of the Draft Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Hart Ranch Flow Enhancement Project closed on March 1, 2017. No public comments were received by the California Department of Fish and Wildlife (CDFW) or the California State Clearing House (SCH).

One change to mitigation timing was noted by Alpineworks Consulting in the Draft IS/MND. Where changes to the Draft IS/MND text result, those changes are demarcated with revision marks (<u>underline</u> for new text, strike-out for deleted text).

**MM 4.2**, included on page 4-12 and 4-13 of the Draft IS/MND, has been modified as follows:

**MM 4.2:** Prior to instream work at Hart Ranch, a snorkel survey shall be completed by a qualified biologist, to confirm the presence of special status species. If special status fish are identified within the Project Area, and prior to instream work at Hart Ranch fish shall be removed from the work area by a qualified biologist permitted with authorization to capture and relocate fish, including coho if present, and block nets consisting of fine-meshed net or screen, shall be installed in-channel above and below the work area. Mesh will be no greater than 1/8-inch diameter. The bottom of a seine must be completely secured to the channel bed. Screens must be checked twice daily and cleaned of debris to permit free flow of water. Block nets shall be placed and maintained throughout the dewatering period and/or instream channel work at the upper and lower extent of the areas where fish will be removed. Block net mesh shall be sized to ensure salmonids upstream or downstream do not enter the areas proposed for dewatering and construction between passes with the seine.

*Timing/Implementation: Enforcement /Monitoring:*  <u>Prior to and during Following</u> construction activities. CDFW, NOAA Fisheries.

Modifications have been made to the Mitigation Monitoring and Reporting Program (MMRP) to reflect the changes made herein.

This memorandum in addition to the Draft IS/MND comprise the Final IS/MND. Any changes represented herein shall represent changes to the Draft IS/MND, and result in the Final IS/MND. No re-production of the bound Draft IS/MND document will occur. Upon approval of these changes, approval of the IS/MND, adoption of the MMRP,

approval of the Project, and filing of the Notice of Determination (NOD), we will incorporate these changes into the electronic copy of the Draft IS/MND to create an electronic copy Final IS/MND.

Sincerely,

Tuliyani Potts

Attachments: (1) Mitigation Monitoring and Reporting Program (MMRP), March 2017

## HART RANCH FLOW ENHANCEMENT PROJECT

SCH No. 2017012061

**MARCH 2017** 

Submitted to:

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE 601 Locust Street Redding, CA 96001

Prepared by:





#### MITIGATION MONITORING REPORTING PROGRAM CONTENTS

This document is the Mitigation Monitoring Reporting Program (MMRP) for the Hart Ranch Flow Enhancement Project. The MMRP includes a brief discussion of the legal basis for and the purpose of the program, discussion and direction regarding complaints about noncompliance, a key to understanding the monitoring matrix, and the monitoring matrix itself.

#### LEGAL BASIS OF AND PURPOSE FOR THE MITIGATION MONITORING PROGRAM

California Public Resources Code Section 21081.6 requires public agencies to adopt mitigation monitoring or reporting programs whenever certifying an environmental impact report (EIR) or a mitigated negative declaration (MND). This requirement facilitates implementation of all mitigation measures adopted through the California Environmental Quality Act (CEQA) process.

The MMRP contains all the mitigation measures for the Hart Ranch Flow Enhancement Project. It is to be used by the California Department of Fish and Wildlife (CDFW) staff, participating agencies, project contractors and mitigation monitoring personnel during implementation of the project.

The Initial Study/Mitigated Negative Declaration for the Hart Ranch Flow Enhancement Project presents a detailed set of mitigation measures that will be implemented throughout the lifetime of the project. Mitigation measures, as defined by CEQA Guidelines Section 15370, are measures that do any of the following:

- Avoid impacts altogether by not taking a certain action or parts of an action.
- Minimize impacts by limiting the degree or magnitude of the action and its implementation.
- Rectify impacts by repairing, rehabilitating or restoring the impacted environment.
- Reduce or eliminate impacts over time by preservation and maintenance operations during the life of the project.
- Compensate for impacts by replacing or providing substitute resources or environments.

The intent of the MMRP is to ensure the effective implementation and enforcement of adopted mitigation measures and permit conditions. The MMRP will provide for monitoring of construction activities as necessary, on-site identification and resolution of environmental problems, and proper reporting to Agency staff.

The timing elements of mitigation measures and definition of the development process have been provided in detail throughout this MMRP to assist existing and future CDFW staff, by providing the most usable monitoring document possible.

#### **RESPONSIBILITIES AND AUTHORITY**

The CDFW will have primary responsibility for the operation and implementation of the MMRP. The CDFW will be responsible for the following activities:

- Coordination of monitoring activities.
- Direction of the preparation and filing of compliance reports.
- Maintenance of records concerning the status of all mitigation measures.

The CDFW will also have the responsibility of implementing the mitigation measures for which it has been identified as the primary enforcement and monitoring agent. Other agencies or persons which have been identified as enforcement and monitoring agents for specific mitigation measures will be responsible for implementing these measures.

#### MONITORING PERSONNEL

The CDFW bears responsibility for ensuring that the mitigation measures in this document are implemented. The CDFW reserves the right to hire technical experts and professionals to help in evaluating compliance. These may include but are not limited to biologists, archaeologists and planning professionals. Some of the measures will be assigned to the contractor as part of the scope of work.

#### MONITORING MATRIX

**Table 1-1**, Monitoring Matrix Reporting Program for the Hart Ranch Flow Enhancement Project lists mitigation measures. These mitigation measures are reproduced from Initial Study/Mitigated Negative Declaration (IS/MND) for the project. The tables have the following columns:

- **Mitigation Measure:** Lists the mitigation measures identified within the Hart Ranch Flow Enhancement Project Initial Study for a specific impact, along with the number for each measure as enumerated in the IS/MND.
- **Timing:** Identifies at what point in time, review process or phase the mitigation measure will be completed.
- Agency/Department Consultation: References the person or agency with which coordination is required to satisfy the identified mitigation measure.
- Verification: Spaces to be initialed and dated by the individual designated to verify adherence to a specific mitigation measure.

#### NONCOMPLIANCE COMPLAINTS

Any person or agency may file a complaint asserting noncompliance with the mitigation measures associated with the project. The complaint shall be directed to the CDFW in written form, providing specific information on the asserted violation. The CDFW shall conduct an investigation and determine the validity of the complaint. If noncompliance with a mitigation measure has occurred, the CDFW shall take appropriate action to remedy any violation. The complainant shall receive a written response indicating the results of the investigation or the final action corresponding to the particular noncompliance issue.

 TABLE 1-1

 MONITORING MATRIX REPORTING PROGRAM FOR THE

 HART RANCH FLOW ENHANCEMENT PROJECT (MMRP)

HART KANCH FLOW ENHANCEMENT PROJECT (MMRP)									
Mitigation Measure	Timing	Agency/Department Consultation	Verification (Date and Initials)						
AIR QUALITY									
<ul> <li>MM 3.1: Depending on weather conditions, the following dust control measures shall be incorporated into the project. Measures include, but are not limited to, the following:</li> <li>The Contractor shall reestablish ground cover on disturbed areas of construction site through seeding, revegetating, and watering or mulching.</li> <li>The Contractor shall suspend all grading and earth moving operations of a Project when winds (as instantaneous gusts) exceed 20 miles per hour or when winds create construction induced visible dust plumes moving beyond the Project site, in spite of dust control measures.</li> <li>The Contractor shall water active construction sites at least twice daily as necessary to reduce dust.</li> <li>The Contractor shall cover the beds of all trucks hauling dirt, sand, soil, or other loose materials on public rights-of-ways or shall maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the side of the trailer).</li> </ul>	Prior to and during construction.	Siskiyou County Air Pollution Control District.							
BIOLOGICAL RESOURCES									
<b>MM 4.1:</b> The Contractor shall implement all protection measures identified in the 2012 Biological Opinion issued by the NOAA Fisheries pertaining to future US Army Corps of Engineers Permits within Siskiyou and other northern California counties, and specifically identified in the Biological Resources Report for this Project ( <b>Appendix D</b> ) to minimize impacts to listed fish species and their habitat.	Prior to and during construction activities.	CDFW, NOAA Fisheries.							

Mitigation Measure	Timing	Agency/Department Consultation	Verification (Date and Initials)
<b>MM 4.2:</b> Prior to instream work at Hart Ranch, a snorkel survey shall be completed by a qualified biologist, to confirm the presence of special status species. If special status fish are identified within the Project Area, and prior to instream work at Hart Ranch fish shall be removed from the work area by a qualified biologist permitted with authorization to capture and relocate fish, including coho if present, and block nets consisting of fine-meshed net or screen, shall be installed in-channel above and below the work area. Mesh will be no greater than 1/8-inch diameter. The bottom of a seine must be completely secured to the channel bed. Screens must be checked twice daily and cleaned of debris to permit free flow of water. Block nets shall be placed and maintained throughout the dewatering period and/or instream channel work at the upper and lower extent of the areas where fish will be removed. Block net mesh shall be sized to ensure salmonids upstream or downstream do not enter the areas proposed for dewatering and construction between passes with the seine.	Prior to and during construction activities.	CDFW, NOAA Fisheries.	
<b>MM 4.3:</b> If possible, conduct all vegetation removal (including trees for large wood structures) outside of the migratory nesting season (February 1 to August 31). However, if clearing of any vegetation and/or construction activities occur during the avian breeding window, preconstruction surveys for nesting migratory birds shall be conducted no earlier than 7 days prior to removal by a qualified wildlife biologist. Surveys shall be conducted in accordance with CDFW or USFWS survey protocol for each species. Survey area shall include the construction zone, including all vegetation removal and transport areas, staging areas, and a 300-foot radius surrounding the construction zone to determine whether the activities taking place have the potential to disturb or otherwise harm any nesting migratory birds. If active nests are found, the Contractor shall not conduct work within 300 feet of the active nest (or smaller buffer as approved by CDFW) until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the Project.	Prior to construction activities within the migratory bird nesting season (February 1 to August 31).	CDFW, USFWS.	
<b>MM 4.4:</b> Prior to grading activities associated with the fish passage improvements, the contractor shall salvage and store existing vegetation cuttings and willow transplants to be replanted following the Project completion.	Prior to grading activities associated with the fish passage improvements	CDFW.	

Mitigation Measure	Timing	Agency/Department Consultation	Verification (Date and Initials)
<b>MM 4.5:</b> Migratory bird nesting surveys conducted in accordance MM 4.3 conducted prior to vegetation removal or construction activities shall be used to determine whether sandhill crane is nesting in the vicinity of Project activities. If CDFW determines that potential sandhill crane nesting habitat occurs within 500 feet of Project activities, any potential nesting habitat within the 500-foot radius shall also be surveyed for the presence of active sandhill crane nests. No construction activities shall occur during sandhill crane nesting season (March 1 to June 30) within 500 feet of the known sandhill crane nesting habitat identified on the eastern toe of Dorris Hill and identified in <b>Figure 5</b> or any other active sandhill crane nesting location identified during nesting bird surveys. If construction of the stockwater system occurs during this time period, temporary fencing shall be installed and regularly maintained to mark the 500-foot buffer and ensure construction exclusion from the known nesting area at Dorris Hill.	During construction activities during the sandhill crane nesting season (March 1 to June 30).	CDFW	
<b>MM 4.6:</b> Should construction occur during the nesting season for sandhill cranes (March 1 to June 30) a biological monitor shall be on site during all hours of construction to ensure cranes are not disturbed. If disturbance to sandhill cranes is observed, all construction shall cease and the CDFW shall be immediately notified.	During construction activities during the sandhill crane nesting season (March 1 to June 30).	CDFW	
<b>MM 4.7:</b> The wetland habitat at the toe of Dorris Hill shall be maintained by continuous flow, not less than 10 gpm, for the duration of the growing season, approximately from March through September, to mimic subsurface flow previously from the ditch. Wetland habitat shall be monitored by visual inspection two times per month during the growing season and shall consist of visual check for presence of soil saturation at the surface and presence and condition of bulrush plants. Soil shall be saturated to the surface during 4 out of 6 months of the growing season. Bulrush shall be present and covering at least 75% of the area. The plants shall be in healthy condition during the growing season. If plants are in poor condition or soil is not saturated, additional water shall be added to the wetland.	During the growing season (March through September).	CDFW	
<b>MM 4.8:</b> Prior to removal of juniper trees, the area of disturbance, including route of transport from trees to the construction site at the Little Shasta River, shall be surveyed for special status plant species and shall occur prior to any vegetation	Prior to any vegetation removal.	CDFW	

Mitigation Measure	Timing	Agency/Department Consultation	Verification (Date and Initials)
removal. Surveys shall be conducted by a qualified biologist according to the CDFW 2009 Protocols for <i>Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities</i> . Results of these surveys shall be sent to the following address: California Department of Fish and Wildlife, Attn: CEQA, 601, Locust Street, Redding, CA 96001.			
<b>MM 5.1:</b> If, during the course of project implementation, cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features) are discovered work shall be halted immediately within 50 feet of the discovery, the SVRCD shall be immediately notified, and a professional archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to determine the significance of the discovery. The SVRCD shall consider mitigation recommendations presented by the professional archaeologist and implement a measure or measures that the SVRCD deems feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.	During construction activities.	CDFW	
<b>MM 5.2:</b> Prior to the commencement of project ground disturbing activities, all construction personnel shall be informed of the type(s) of cultural resources that might be inadvertently uncovered in the area and protocols to be implemented to protect Native American human remains and any subsurface cultural resources.	Prior to construction activities.	CDFW	
<b>MM 5.3:</b> If, during the course of project implementation, human remains are discovered all work shall be halted immediately within 50 feet of the discovery, the SVRCD shall be immediately notified, and the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in the CCR §15064.5(d) and (e) shall be followed.	During project construction activities.	CDFW	