Aquatic Resources Delineation Report
PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Prepared for

CUI Family Trust ETAL
Contact: Yan Cui
PO Box 7273
Rancho Santa Fe, CA 92067
Email: yancuiw@gmail.com

Prepared by

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS
1101 5th St., Suite 205
San Rafael, California 94901
Contact: Robert Perrera
Telephone: 415.385.4106
Email: rperrera@h-bgroup.com

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EXECUTIVE SUMMARY

At the request of Yan Cui (Applicant), Huffman-Broadway Group, Inc. (HBG (Agent)) conducted an Aquatic Resources Delineation (ARD) within the "PRS Vacant Lots Subdivision by Cui" project (Project) property boundary referred herein as the Review Area. The Review Area is an approximately 82-acre area comprised of four parcels[1] in Point Reyes Station, Marin County, California. The purpose of this ARD is to provide technical information for the US Army Corps of Engineers to determine the extent and location of aquatic resources delineated within the Review Area and issue a Preliminary Jurisdictional Determination.

Data collection, analysis, identification, and delineation of aquatic resources potentially subject to Clean Water Act (CWA) was conducted consistent with the August 29, 2023 Waters of the US (WOTUS) Rule and supporting US Army Corps of Engineers and US Environmental Protection Agency (USEPA) guidance document including the *Corps' 1987 Wetlands Delineation Manual* (Corps Delineation Manual), the *Corps' 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (Regional Supplement), and the *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Interim Version* (Gabrielle, et al., 2022).

Aquatic resources in the form of wetlands and tributaries (streams with an OHWM) were found within the Review Area. In summary, approximately 1.57 acres of wetland and approximately 5,758 linear feet of intermittent streams were delineated within the Review Area. Appendix A, Figure 6 shows the extent and location of aquatic resources identified and delineated.

[1] APN#: 119-050-04, 119-050-09, 119-140-03, 119-140-09.

1.0 INTRODUCTION

1.1 Background

The purpose of this ARD is to provide technical information for the US Army Corps of Engineers to determine the extent and location of aquatic resources delineated within the Review Area and issue a Preliminary Jurisdictional Determination (PJD). Once the US Army Corps of Engineers (USACE (Corps)) issues the PJD, the Applicant will design the project to avoid and minimize impacts all aquatic resources.

1.2 Review Area Location

The Review Area is bound by State Route 1 to the southwest and Point Reyes/Petaluma Road to the southeast. The Review Area is accessible by entering a gate at the end of Water Tank Road off of State Route 1 and from the *Point Reyes Arabian Adventures* company parking lot at 11925 State Route 1. The approximate center point of the Review Area is Latitude 38.0781400° N and Longitude -122.799437° W.

1.3 Directions to the Review Area

Prior to conducting the site visit, the Agent will email a map PIN to the USACE Project Manager for the meeting location.

1.4 Contact Information

Applicant/Property Owner	Agent/Environmental Consultant
Yan Cui CUI Family Trust ETAL PO Box 7273 Rancho Santa Fe, CA 92067 Telephone: 858.245.0605 Email: yancuiw@gmail.com	**Robert Perrera, Wetland Regulatory Scientist** Huffman-Broadway Group, Inc. 1101 5th Avenue, Suite 205 San Rafael, California 94901 Telephone: 415.385.4106 Email: rperrera@h-bgroup.com

1.5 Environmental Setting

This section presents background environmental information on the Review Area from published sources, and observations made during the initial site reconnaissance.

1.5.1 Land Use

The *Point Reyes Arabian Adventures* company has a long-term lease with the Applicant to house several horses on the property and provide riding tours from the Review Area to adjacent lands such as the Black Mountain Ranch which abuts the Review Area along the northeastern boundary. The Review Area has been used in the recent past for livestock grazing.

1.5.2 Topography

The topographic relief on the majority of the Review Area is very steep with slopes ranging from 15-40

percent.

1.5.3 Geology

The Review Area lies just to the east of the San Andreas Fault and is comprised of Franciscan Complex which is composed of very deformed and highly metamorphosed graywacke, mudstone, volcanic materials, chert, and limestone.

1.5.4 Vegetation

Refer to Appendix B for a list of all plant species observed during various site visits.

Annual Grassland

The annual grassland habitat is dominated by introduced annual grasses and forbs. Dominant non-native annual grass species on the project site include Italian ryegrass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), and soft chess (*Bromus hordeaceus*). Common non-native forbs found on the project site include bird's foot trefoil (*Lotus corniculatus*), subterranean clover (*Trifolium subterranean*), broadleaf filaree (*Erodium botrys*), English plantain (*Plantago lanceolata*), spring vetch (*Vicia sativa*), and bristly ox-tongue (*Helminthotheca echioides*). One native grass, purple needle grass (*Stipa pulchra*), was observed within the annual grassland habitat.

Riparian Coastal Oak Woodland

A riparian coastal oak woodland is a community of coast live oak trees that is associated with a lake or stream. The areas abutting Intermittent Creeks R1-R8 and R14-R18 support Riparian Coastal Oak Woodland habitat. Tree canopy composition of Coastal Oak Woodlands on the Review Area is dominated by coast live oak (*Quercus agrifolia*), bay laurel trees (*Laurus nobilis*), and California buckeye (*Aesculus californica*). Typical understory plants include Himalayan blackberry (*Rubus armeniacus*), poison oak (*Toxicodendron diversiloba*), and coyote brush (*Baccharis pilularis*).

Willow Riparian Zone

The willow riparian zone is a stream or lake associated community dominated by willows, often in dense, pure stands. The areas abutting Intermittent Creeks R9-R13 support Willow Riparian Zone habitat. Tree canopy composition is dominated by willows with a few scattered coast live oaks. The understory is sparse due to the shading, but does support Himalayan blackberry (*Rubus armeniacus*), and poison oak (*Toxicodendron diversiloba*).

Palustrine Aquatic Bed Wetlands

Aquatic resources W6 and W9 are deeper, perennial, wetlands with root vegetation and classified as palustrine aquatic bed habitat. The aquatic resource on the Review Area is perennial in nature and dominated around the edges by bulrush (*Schoenoplectus americanus*), Harding grass (*Phalaris aquatica*) and spreading rush (*Juncus patens*), and within the majority of the pond by duckweed and pondweed species and various plants found in pond habitat such as water plantains (*Alisma* spp.), and sedges.

Palustrine Emergent, Persistent, Wetlands

Aquatic resources W1-W5, W7, W8, and W10-13 are classified as palustrine emergent, persistent, wetland habitat. The aquatic resource on the Review Area is dominated by a mix of native and non-native species such as Italian ryegrass (*Lolium perenne*), toad rush (*Juncus bufonius*), little quaking grass (*Briza minor*), curly dock (*Rumex crispus*), spreading rush (*Juncus patens*), pennyroyal (*Mentha pulegium),* and meadow barley *(Hordeum brachyantherum).*

Intermittent Stream
All intermittent streams mapped originate from the Review Area and support intermittent water flows. All stream segments or portion of each stream segment do support flows during and for several weeks after major rain events[2]. The bed and bank of the streams are typically void of vegetation and consist of assorted sizes of rock (clays, sands, pebbles, boulders, etc.) and in several areas the bed is comprised entirely of bedrock with no soil substrate.

1.5.5 Soils

Soil survey information for the Review Area was obtained from the National Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2024). Seven (7) different soil types are mapped by NRCS within the Review Area. Refer to Appendix C for a copy of the soils report.

1.5.6 Climate.

The weather stations in Marin County near the Review Area do not have sufficient data to run a WETS analysis to calculate the average annual temperature, precipitation averages, and growing season.

1.5.7 Hydrology

Watersheds. A review of the US Geological Survey (USGS) National Hydrography Dataset (NHD) Hydrologic Unit Code (HUC) data shows that the Review Area lies within the Tomales-Drake Bays - HUC 18050005 subbasin.

Direction of Surface Water Flow. All intermittent streams originate in the Review Area and surface water that flows within the Review Area is the direct result of precipitation, and overland sheet flow. Intermittent streams R1-R8 flow across Point Reyes/Petaluma Road through three culverts and discharge into Lagunitas Creek. Lagunitas Creek is an a(3) Water of the US and flows into Tomales Bay. Tomales Bay is a traditional navigable water, or an a(1) Water of the US. Intermittent streams R9-R18 all flow across State Route 1 through one large box culvert and discharge into a stream which discharges into Tomales Bay. Refer to Appendix D for a map illustrating the surface directions and connections to a(1) and a(3) Waters of the US.

1.5.8 FEMA Flood Zone

FEMA Flood Insurance Rate Map for “Marin County” indicates the Review Area is not within a FEMA flood zone. The FEMA flood zone map can be found in Appendix A, Figure 4.

1.5.9 National Wetlands Inventory

The National Wetland Inventory map indicates the Review Area supports two *Freshwater Pond*

[2] Personal observation by HBG biologist Robert Perrera during site visit in 2023.

(PUBHx) and two *Freshwater Forested/Shrub Wetland* (PSS1B) habitats. The National Wetlands Inventory map is provided in Appendix A, Figure 5.

1.6 Disclaimer

Huffman-Broadway Group, Inc., on behalf of the Applicant, has made a good-faith effort herein to thoroughly describe and document the presence of potential factors that the USACE may consider in asserting jurisdiction pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Nevertheless, the Applicant reserves the right to challenge or seek revision to any areas over which the USACE may assert such jurisdiction, should such jurisdiction be further clarified or altered through formal guidance, assertions, or disclaimers of jurisdiction over other properties, court decisions, or other relevant actions.

2.0 DELINEATION METHODS

2.1 Overview

HBG's investigation focused on the identification and delineation of aquatic resource areas that potentially meet:

1. the definition of Waters of the US (33 CFR 328.3 (a)(1)-(5)) as wetlands, or in the absence of wetlands have an Ordinary High Water Mark (OHWM).

2. the definition of Navigable Waters (33 CFR 329.4) by having an OHWM or High Tide Line.

2.2 Preparation

In preparation for detailed field investigations, HBG identified existing landforms within the Review Area that would likely contain aquatic resources that may potentially meet the definition of WOTUS (wetlands and non-wetlands) and/or Navigable Waters by reviewing available online information sources to include: Google Earth Pro and ESRI most current and historical aerial photography and imagery; USGS National Hydrography Dataset watershed mapping; FEMA mapping; National Wetlands Inventory mapping; a NRCS Custom Soil Resources Report; and most current and historical USGS topographic mapping. Review Area-specific LIDAR topographic mapping was also reviewed.

2.3 Field Investigations

HBG conducted field investigations on April 27, 2023, and May 21, 2024, to:

1. Determine the presence or absence of hydrophytic vegetation, hydric soil, and wetland hydrology indicators and document the indicators observed and their location.

2. Determine if the wetland field indicators observed may be "significantly disturbed" or "naturally problematic."

3. Determine within any drainage and depressional area found if an ordinary high water mark is present.

2.3.1 CWA Wetlands Definition and Delineation Methodology

Wetlands are defined at 33 CFR § 328.3 (c)(1) as:

The term W*etlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas*.

The methodology described in the Corps' Delineation Manual, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (Regional Supplement), was followed to determine the presence or absence of vegetation, soil, and hydrology indicators. If there was uncertainty regarding application of the delineation methodology or

interpretation of field data, the Corps' 1987 Delineation Manual was referred to.

Vegetation, soil, and hydrology observations were made at sampling locations determined to be representative of landform areas where the soils may potentially flood, pond, and/or saturate. Vegetation was sampled first. Soil, vegetation, and hydrology observations were recorded on USACE data forms. Sample point locations were documented as polygonal and point features, respectfully using ESRI Apps (Field Maps) in conjunction with a Trimble DA2 Global Positioning System (GPS) receiver with sub-meter accuracy after geo-processing. The data collected was incorporated into the Project database using GIS software. USACE data forms can be found in Appendix E.

2.3.2 CWA OTHER WATERS DEFINITION AND DELINEATION METHODOLOGY

Other types of CWA WOTUS aquatic resources that are not wetlands as defined at 33 CFR § 328.3 (a) have the following limits of jurisdiction as:

(a) Territorial Seas. The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR § 329.12)
(b) Tidal waters of the United States. The landward limits of jurisdiction in tidal waters:
  (1) Extends to the high tide line, or
  (2) When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.
(c) Non-tidal waters of the United States. The limits of jurisdiction in non-tidal waters:
  (1) In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or
  (2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
  (3) When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

The meaning of adjacent, high tide line, ordinary high water mark, and tidal waters as described above are defined by 33 CFR § 328.3 (c) follows:

> *Adjacent* means having a continuous surface connection. 33 CFR § 328.3 (c)(2)
>
> *High tide line* means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm. 33 CFR§ 328.3 (c)(3)
>
> *Ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of

> litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. 33 CFR§ 328.3 (c)(4)
>
> *Tidal waters* means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects. 33 CFR§ 328.3 (c)(5)

The methodology used to identify and define an OHWM, if present, was based on the *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Interim Version* (Gabrielle, et al., 2022). Given the Review Area is inland, no observations were made to determine the presence/absence of indicators of an HTL.

2.3.3 RHA NAVIGABLE WATERS DEFINITION AND DELINEATION METHODOLOGY

The Review Area does not support navigable waters.

2.4 Rainfall Analysis

The USACE's Antecedent Precipitation Tool (APT) was used to assess precipitation conditions within the Review Area 90 days prior to field investigation. The rainfall analysis followed the latest USACE guidance. The purpose of the antecedent precipitation analysis was to aid in: (1) determining if the climatic/hydrologic conditions observed on the site are typical for the time of year in which field investigations were conducted (e.g., rainy season versus dry season); and (2) establishing whether observations made of surface and near-surface hydrology indicators or the lack thereof are the result of naturally problematic hydrology conditions (e.g., drought year, extreme precipitation/stormwater runoff event) preceding the field investigations. The APT assesses the presence of drought conditions and facilitates the comparison of recent rainfall conditions for a given location to the range of normal rainfall conditions that occurred during the preceding 30 years.

2.5 Mapping

2.5.1 CWA Wetland and Other Waters Observations

The GPS data collected during field sampling were incorporated into an HBG Project database using Geographic Information System (GIS) software and were geo-referenced in overlay fashion onto a digital topographic base map (LIDAR) and an orthorectified digital aerial photograph following national mapping standards. Data overlays of indicator observations were mapped to assist in the analysis to determine if areas meet the USACE's WOTUS definition. The geographic extent of areas identified as being potential wetlands or other waters were mapped and classified to the class level using the US Fish and Wildlife Service's Classification System for Wetland and Deepwater Habitats (Cowardin et al. 1979).

2.5.2 RHA Navigable Waters Observations

The Review Area does not support navigable waters.

3.0 TECHNICAL FINDINGS

Section 3.1 provides the technical findings regarding an analysis of whether climatic/hydrologic conditions within the Review Area are typical for the time of year in which field studies were conducted. Section 3.2 provides the results of an analysis to determine if normal circumstances occur in the Review Area. Section 3.3 provides technical findings regarding the presence or absence of wetland hydrophytic, hydric soil, and wetland hydrology indicators observed in aquatic resource areas within the Review Area. Section 3.4 describes technical findings regarding the presence of an Ordinary High Water Mark (OHWM) observed in aquatic resources within the Review Area.

3.1. Precipitation Analysis

According to APT analysis results, the April 27, 2023, field survey for wetland vegetation, hydric soils, and hydrology field indicators and OHWM indicators was conducted during the wet season with a normal drought index within the watershed following a 90-day period of normal precipitation conditions. The APT analysis results are included in Appendix F.

3.2 Normal Circumstances Analysis

An analysis was conducted to determine if “Normal Circumstances” are present in the Review Area. The following information was considered during the analysis:

The Corps’ Delineation Manual interprets "normal circumstances" as:

> …. the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed [7 CFR 12.31(b)(2)(i)] [Manual page 71].

The expired USACE Regulatory Guidance Letter (RGL 90-07) states:

> …. 4. The primary consideration in determining whether a disturbed area qualifies as a Section 404 wetland under "normal circumstances" involves an evaluation of the extent and relative permanence of the physical alteration of wetlands hydrology and hydro-phytic vegetation. In addition, consideration is given to the purpose and cause of the physical alterations to hydrology and vegetation. For example, we have always maintained that areas where individuals have destroyed hydrophytic vegetation in an attempt to eliminate the regulatory requirements of Section 404 remain part of the overall aquatic system and are subject to regulation under Section 404. In such a case, where the Corps can determine or reasonably infer that the purpose of the physical disturbance to hydrophytic vegetation was to avoid regulation, the Corps will continue to assert Section 404 jurisdictions. …..

Detailed review of Google Earth Pro aerial photography and imagery from December 1985 to April 2023 shows that land use in the Review Area consists of undeveloped lands. Based on consideration of the above, normal circumstances are determined to be present given the long-standing nature of land use.

3.3 Wetland Aquatic Resources

3.3.1 Field Indicators of Wetland Vegetation

Significantly or Naturally Problematic Determination: Detailed review of Google Earth Pro aerial imagery of the Review Area and direct observations during each field survey indicated vegetation

conditions are not significantly disturbed[3] and was determined not to be naturally problematic.[4]

Presence of Hydrophytic Vegetation Indicators. The aquatic resources mapped were dominated by dominated by a mix of native and non-native species such as Italian ryegrass (*Lolium perenne*), toad rush (*Juncus bufonius*), little quaking grass (*Briza minor*), curly dock (*Rumex crispus*), spreading rush (*Juncus patens*), and pennyroyal (*Mentha pulegium)*.

3.3.2 Field Indicators of Hydric Soils

Significantly or Naturally Problematic Determination. A detailed review of Google Earth Pro aerial photography and imagery of the Review Area and direct observations during each field survey indicated soil conditions are not significantly disturbed. The NRCS Custom Soil Resources Report in Appendix C provides detailed soil mapping and descriptions for the Review Area. Onsite examination of soils found that the NRCS soil mapping provided in the report is relatively accurate and the soils examined were determined not naturally problematic.

Presence of Hydric Soil Indicators. Hydric soil indicator F3 -Depleted Matrix and F6-Redox Dark Surfaces were observed during the field survey.

3.3.3 Field Indicators of Wetland Hydrology

Significantly or Naturally Problematic Determination. A detailed review of Google Earth Pro aerial photography and imagery of the Review Area and observations during each field survey indicated that hydrology conditions are not significantly disturbed. Based on a review of February 2021 aerial imagery (Appendix A, Figure 3), APT analysis data (Appendix F), and observations during each field survey field, indicators of wetland hydrology conditions were determined not be naturally problematic. Based on the APT analysis, normal precipitation conditions occurred within the Review Area before site investigations.

Presence of Wetland Hydrology Indicators. Wetland primary hydrology indicators A3–Soil Saturation and B2-Sediment Deposits and secondary hydrology indicators D2-Geomorphic Position and D5-Fac-Neutral Test were recorded within the wetland aquatic resources.

3.4 Aquatic Resources with an Ordinary High Water Mark

3.4.1 Field Indicators of Ordinary High Water Mark

The following describes indicators of an OHWM in stream channels within the Review Area.

Observable Physical Features. The ordinary high water mark for each intermittent stream was an average width determined by direct observation of at least two or more of the following: cut banks; headcuts; scour; water level marks; and wrack line. Areas that were inaccessible due to the steep slopes were observed using binoculars and OHWM widths were estimated based on comparing other characteristics of accessible intermittent streams in similar situated landscape positions.

Formation. A detailed review of Google Earth Pro historical aerial imagery from December 1985 to

[3] Disturbed areas consist of sites where vegetation, soil, or hydrology indicators may be impacted (obscured or absent) due to recent human activities or natural events.
[4] Naturally problematic refers to problem areas that are naturally occurring wetland types that lack indicators of hydrophytic vegetation, hydric soil, or wetland hydrology periodically due to normal seasonal or annual variability, or permanently due to the nature of the soils or plant species on the site.

April 2023 and onsite inspection indicates the stream channels within the Review Area are naturally formed with three exception. The lower segment of R2 appears to have been mechanically channelized and directed toward a culvert, R4 was constructed as an overflow channel from W3 and R12 was constructed as an overflow channel from W9. It is unclear when R2, R4 and R12 where modified but it was likely done sometime before 1972[5].

Flow Characteristics. All intermittent streams originate in the Review Area and all discharge off the Review Area. Surface water that flows within the Review Area is the direct result of precipitation and associated overland runoff. Intermittent streams R1-R8 flow under Point Reyes/Petaluma Road through culverts and discharge into Lagunitas Creek, an a(3) Water of the US. Lagunitas Creek flows into Tomales Bay which is a traditional navigable water, or an a(1) Water of the US. Intermittent streams R9-R18 all flow under State Route 1 and discharge into a stream which discharges into Tomales Bay. Refer to Appendix D for a map illustrating the surface directions and connections to a(1) and a(3) Waters of the US.

[5] USGS quad from published in 1972 shows the two ponds.

4.0 POTENTIAL WATERS OF THE US (WOTUS)

This section identifies and delineates the geographic extent of aquatic resources found which meet the Clean Water Act (CWA) Section 404 definition of Waters of the US (WOTUS) (33 CFR 328.3 (a)(1)-(5)) based on the technical findings provided in Sections 3.3 and 3.4.

4.1 Definition of WOTUS

33 CFR 328.3 (a)(1)-(5) defines WOTUS as:

(1) Waters which are:

(i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (ii) The territorial seas; or (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1) of this section; or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds, streams, or wetlands not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

4.2 Geographical Limits of WOTUS

The geographical limit of federal jurisdiction as applies to WOTUS under Section 404 of the CWA are defined at 33 CFR Part 328.4 in the following manner:

(a) *Territorial Seas.* The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles. (See 33 CFR 329.12)

(b) *Tidal waters of the United States.* The landward limits of jurisdiction in tidal waters: (1) Extends to the high tide line, or (2) When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.

(c) *Non-tidal waters of the United States.* The limits of jurisdiction in non-tidal waters: (1) In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or (2) When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands, or (3) When the water of the United States consists only of wetlands jurisdiction extends to the limit of the wetlands.

33 CFR 328.3(c) provides the following relevant definitions regarding the above-defined geographical limits of federal jurisdiction:

(1) *Wetlands* means those areas that are inundated or saturated by surface or ground water at a frequency

and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(2) *Adjacent* means having a continuous surface connection.

(3) *High tide line* means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

(4) *Ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(5) *Tidal waters* means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

4.3 Aquatic Resources within the Review Area

4.3.1 Wetlands

Based on analysis of the technical findings in Section 3.3.3, approximately 1.57 acres of aquatic resource areas were identified and delineated within the Review Area that meet the above CWA Section 404 definition of wetlands. This analysis consisted of determining whether at a given location there was a collective presence of hydric soil, wetland hydrology, and hydrophytic vegetation field indicators as required by the 1987 Corps Delineation Manual criteria.

4.3.2 Aquatic Resources with An Ordinary High Water Mark

Based on analysis of the technical findings in Section 3.4.4, approximately 5,758 linear feet of intermittent streams having an OHWM were identified and delineated within the Review Area (Section 3.4.4). The intermittent stream channels within the Review Area direct surface water flows to Lagunitas Creek and Tomales Bay.

4.4 Conclusions

Aquatic resources are present which consist of wetlands as defined by 33 CFR 328.3 (a)(4) and tributaries as defined by 33 CFR 328.3 (a)(3). Appendix A, Figure 6 shows the aquatic resources identified and delineated which are potentially subject to USACE and USEPA Section 404 CWA jurisdiction and Appendix G provides representative photographs.

5.0 POTENTIAL NAVIGABLE WATERS

The Review Area does not support navigable waters.

6.0 REFERENCES

33 U.S.C. 403. Rivers and Harbors Appropriation Act of 1899.

33 U.S.C. 1344. Permits for Dredged or Fill Material.

Code of Federal Regulations (CFR), Title 33, Part 328. Definition of Waters of the United States. https://www.ecfr.gov/cgi-bin/text-idx?node=pt33.3.328&rgn=div5

33 CFR Part 329. Definition of Navigable Waters of the United States. http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title33/33cfr329_main_02.tpl

40 CFR Part 230. Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material. http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr230_main_02.tpl

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. Publication No. FWS/OBS-79/31. US Fish and Wildlife Service, Office of Biological Services. Washington, DC.

Department of Defense. 1986. 33 CFR Parts 320 through 330, Regulatory Programs of the Corps of Engineers: Final Rule. Federal Register. November 13.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X. https://cwbi-app.sec.usace.army.mil/nwpl_static/v34/home/home.html

Munsell Soil Color Charts. 2000 (Revised Edition). Washable Edition.

US Army Corps of Engineers Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. US Army Engineer Waterways Experiment Station, Vicksburg, MS.

US Army Corps of Engineers. 1992a. Regional Interpretation of the 1987 Manual. Memorandum. February 20.

US Army Corps of Engineers. 1992b. Clarification and Interpretation of the 1987 Manual. Memorandum. March 8.

US Army Corps of Engineers. 2005. Technical Standard for Water-Table Monitoring of Potential Wetland Sites. WRAP Technical Notes Collection (ERDC-TN-WRAP-05-2), US Army Engineer Research and Development Center, Vicksburg, MS.

US Army Corps of Engineers. 2007. Jurisdictional Determination Form Instructional Guidebook. May 30. https://www.nap.usace.army.mil/Portals/39/docs/regulatory/jd/jd_guidebook_051207final.pdf

U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

US Environmental Protection Agency and US Army Corps of Engineers. 2008. Clean Water Act Jurisdiction Following the US Supreme Court's Decision in Rapanos v. United States & Carabell v. United States (Revised memorandum). December 2.

US Department of Agriculture, Natural Resources Conservation Service. 2010. Field Indicators of Hydric Soils in the United States, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA NRCS in cooperation with the National Technical Committee for Hydric Soils.

US Department of Agriculture, Natural Resources Conservation Service. 2022. Custom Soil Resource Report. Web Soil Survey Staff, Natural Resources Conservation Service, http://websoilsurvey.nrcs.usda.gov. Accessed 2024.

US Geological Survey. National Map, National Hydrography Dataset/Watershed Boundary Dataset (http://nhd.usgs.gov). Watershed data order received May 2024.

Appendix A

Figures

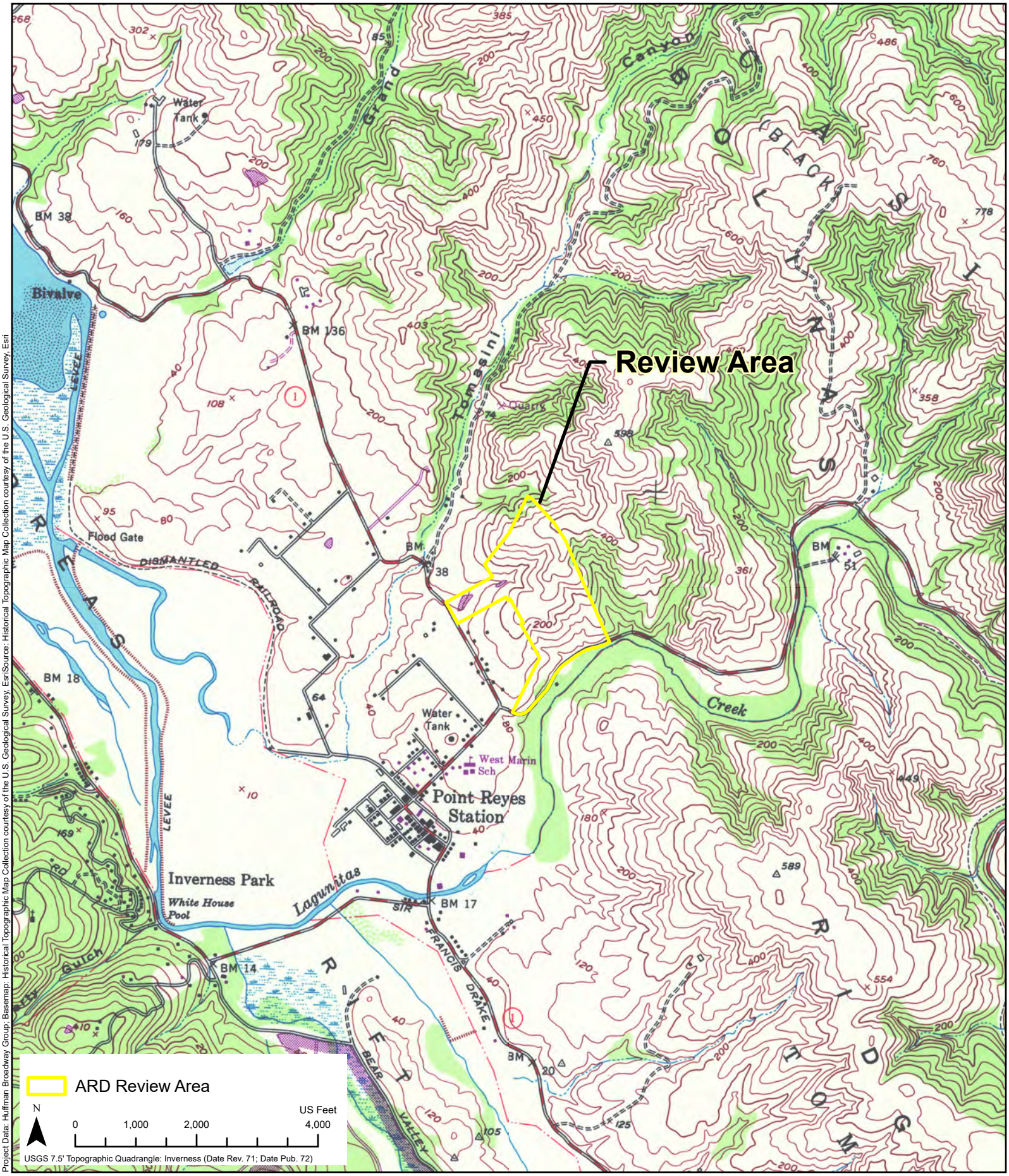
Project Data: Huffman Broadway Group, Basemap:County of Marin, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, County of Sacramento, California State Parks, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS

Figure 1. Review Area Location

PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:100,000
Date Map Created: 5/23/2024
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera



Project Data: Huffman Broadway Group; Basemap: Historical Topographic Map Collection courtesy of the U.S. Geological Survey, EsriSource: Historical Topographic Map Collection courtesy of the U.S. Geological Survey, Esri

Figure 2. USGS Topographic Map of the Review Area

PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:24,000
Date Map Created: 5/23/2024
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

Figure 3. Aerial Image of the Review Area

PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:5,418
Date Map Created: 5/23/2024
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

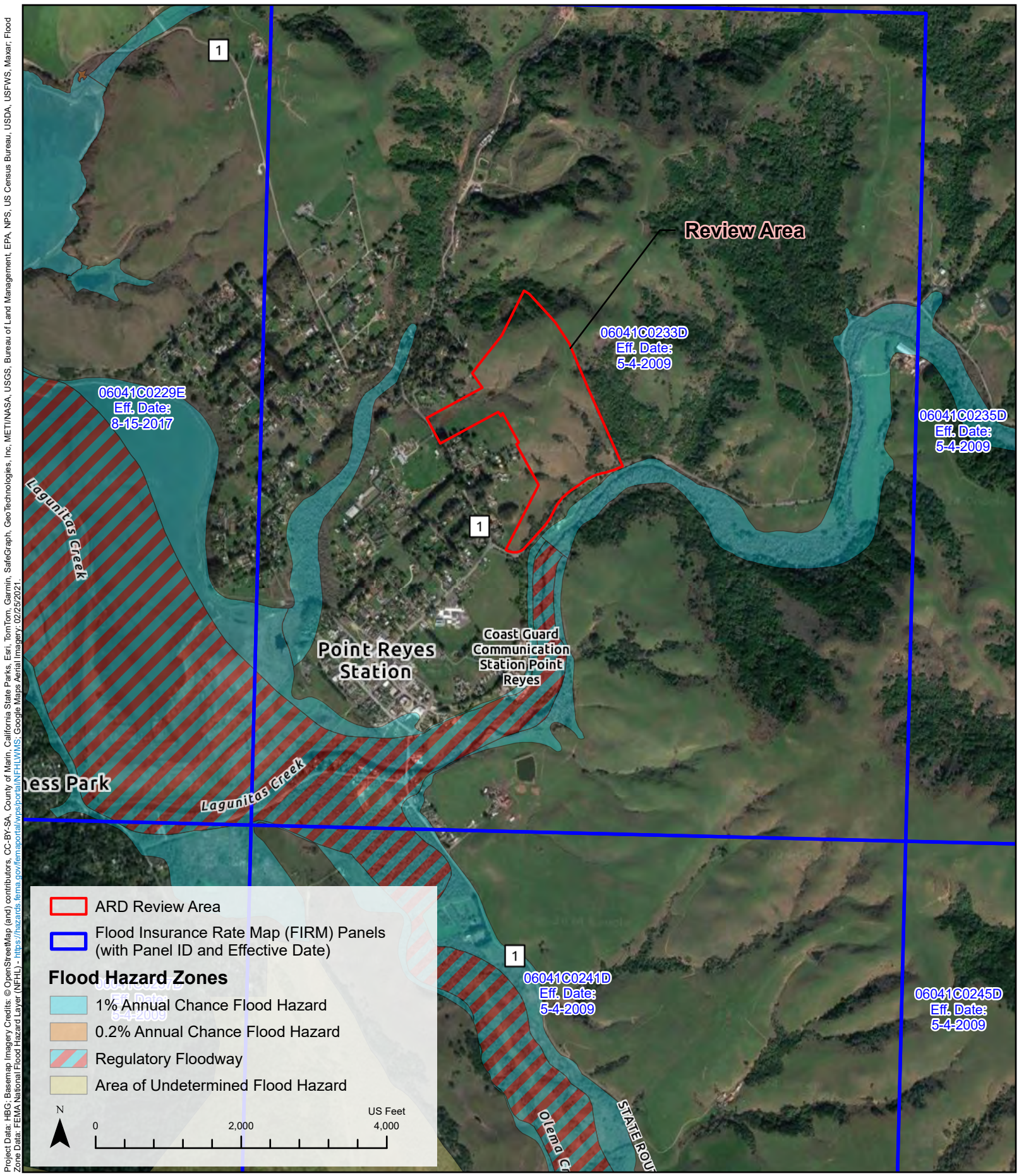
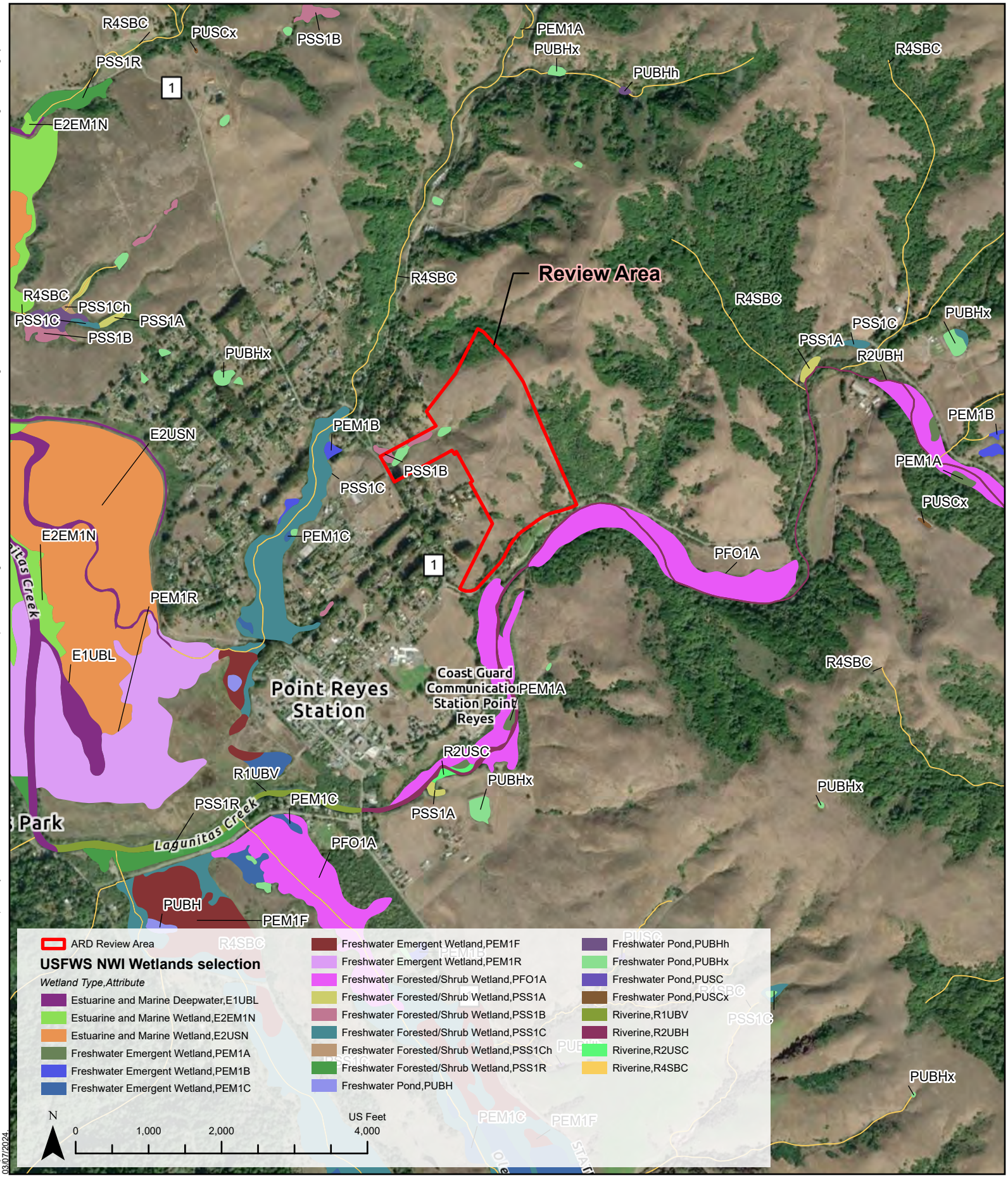


Figure 4. FEMA Flood Zone Mapping

PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:20,000
Date Map Created: 5/23/2024
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera



Project Data: HBG; Wetlands: U.S. Fish and Wildlife Service; Basemap: County of Marin, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Maxar; Google Earth Imagery Date: 03/07/2024

Figure 5. USFWS National Wetlands Inventory Mapping

PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:20,000
Date Map Created: 5/23/2024
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Terry Huffman, PhD; Greg Huffman

Stream #	OHWM	Length (ft)	Wetland #	Acreage
R1	6	1332	W1	0.05
R2	4	767	W2	0.01
R3	2	185	W3	0.05
R4	2	109	W4	0.01
R5	2	186	W5	0.01
R6	2	160	W6	0.82
R7	2	274	W7	0.04
R8	2	144	W8	0.04
R9	4	171	W9	0.44
R10	2	121	W10	0.1
R11	4	306	W11	0
R12	2	213		
R13	4	92		
R14	4	894		
R15	2	333		
R16	2	184		
R17	3	233		
R18	2	54		

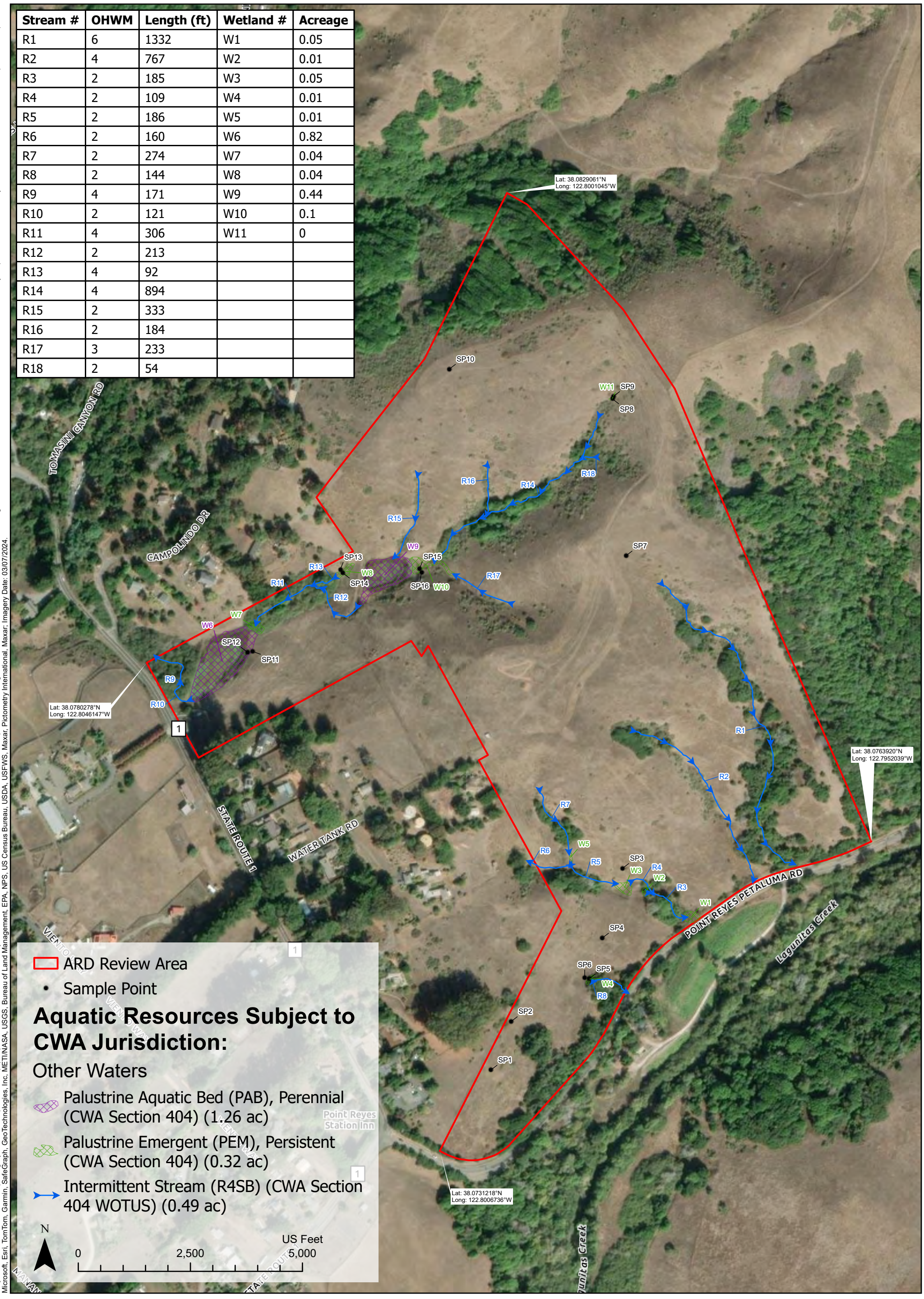


Figure 6. Aquatic Resource Delineation

PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:23,182
Date Map Created: 6/13/2024
HBG GIS Analyst: Agie Gilmore & Deland Wing
HBG PM: Robert Perrera

Appendix B

Plant Species Observed

Table 1. Plant Species Observed on the Project Site in 2023		Wetland Indicator Status
Scientific Name	**Common Name**	
Trees		
Aesculus californica	Buckeye	NL
Hesperocyparis macrocarpa	Monterey cypress	NL
Laurus nobilis	California bay laurel	NL
Pinus radiata	Monterey pine	NL
Prunus spp.	Non-native plum	FACU
Quercus agrifolia	Coast live oak	NL
Salix sp.	Willow	FAC
Shrubs		
Baccharis pilularis	Coyote brush	NL
Cotoneaster franchetii	Cotoneaster	NL
Frangula californica ssp. californica	California coffeeberry	NL
Heteromeles arbutifolia	Toyon	NL
Vines		
*Rubus armeniacus**	Himalayan blackberry	FAC
Toxicodendron diversilobum	Pacific Poison-Oak	FACU
Grasses		
*Avena fatua**	Wild oat	NL
*Briza maxima**	Greater quaking grass	NL
*Briza minor**	Little quaking grass	FAC
Bromus stichensis var carinatus+	California brome	NL
*Bromus diandrus**	ripgut brome	NL
*Bromus hordeaceus**	Soft brome	FACU
*Cynosurus echinatus**	Hedgehog dogtail	NL
*Festuca bromoides**	Brome fescue	FACU
Festuca perennis+*	Italian rye grass	FAC
*Holcus lanatus**	Common Velvet Grass	FAC
Hordeum brachyantherum	Meadow barley	FACW
Hordeum marinum ssp. *gussoneanum**	Mediterranean barley	FAC
*Hordeum murinum**	Wall barely	FACU
*Phalaris aquatica**	Harding grass	FACU
*Poa annua**	Annual blue grass	FAC
Stipa pulchra	Purple needle grass	NL
*Vulpia bromoides**	Brome Six-Weeks Grass	FACU
Rushes and Sedges		
Cyperus eragrostis	Tall flatsedge	FACW
Eleocharis macrostachya	Common spikerush	OBL
Juncus bufonius	Toad rush	FACW
Juncus effusus ssp. *pacificus*	Pacific rush	FACW
Juncus patens	Spreading rush	FACW
Juncus xiphioides	Iris-leaf Juncus	OBL

Table 1. Plant Species Observed on the Project Site in 2023		Wetland Indicator Status
Scientific Name	**Common Name**	
Schoenoplectus acutus	Hardstem bullrush	OBL
Herbs		
*Bellardia viscosa**	Yellow glandweed	NL
*Carduus pycnocephalus**	Italian thistle	NL
Acmispon wrangelianus	Chilean trefoil	NL
Clinopodium douglasili	Yerba buena	NL
*Conium maculatum**	Poison hemlock	FACW
Convolvulus arvensis+*	Field bindweed	NL
*Erodium botrys**	Broad leaf filaree	FACU
*Erodium cicutarium**	Red stemmed filaree	NL
*Erodium moschatum**	Musky stork's bill	NL
Eschschoilzia californica	California poppy	NL
Geranium dissectum	Cut leaved geranium	NL
*Helminthotheca echioides**	Bristly ox-tongue	FAC
*Hypochaeris radicata**	Rough Cat's-ear	FACU
*Lactuca serriola**	Prickly wild lettuce	FACU
Lemna spp.	Duckweed	OBL
*Lotus corniculatus**	Bird's foot trefoil	FAC
Lupinus albifrons	Silver bush lupine	NL
Lysimachia arvensis	Scarlet pimpernel	NL
*Medicago polymorpha**	Bur clover	FACU
Mimulus aurantiacus	Bush monkeyflower	NL
*Oxalis pes-caprae**	bermuday buttercup	NL
*Plantago lanceolata**	English plantain	FAC
Ranunculus californicus	California buttercup	FACU
*Raphanus raphanistrum**	Wild radish	NL
*Romulea rosea austrailis**	Rosy sandcrocus	NL
*Rumex crispus**	Curly dock	FAC
*Rumex acetosa**	Common Sheep Sorrel	FACU
Sanicula arctopoides	Footsteps of spring	NL
Sanicula bipinnatifida	Purple sanicle	NL
Sidalcea malviflora ssp malviflora	Checkerbloom	FACW
Sisyrinchium bellum	California Blue-Eyed-Grass	FACW
*Silybum marianum**	Milk thistle	NL
*Taraxacum officinale**	Common Dandelion	FACU
Taraxia ovata	Sun cup	NL
Trifolium dubium	Shamrock	UPL
*Trifolium hirtum**	Rose clover	NL
Typha latifolia	Broadleaf cattail	OBL
*Vicia sativa**	Spring vetch	FACU
Wyethia angustifolia	Narow-leaved mule-ears	FACU

* non-native

Appendix C

NRCS Custom Soil Resource Report

United States Department of Agriculture

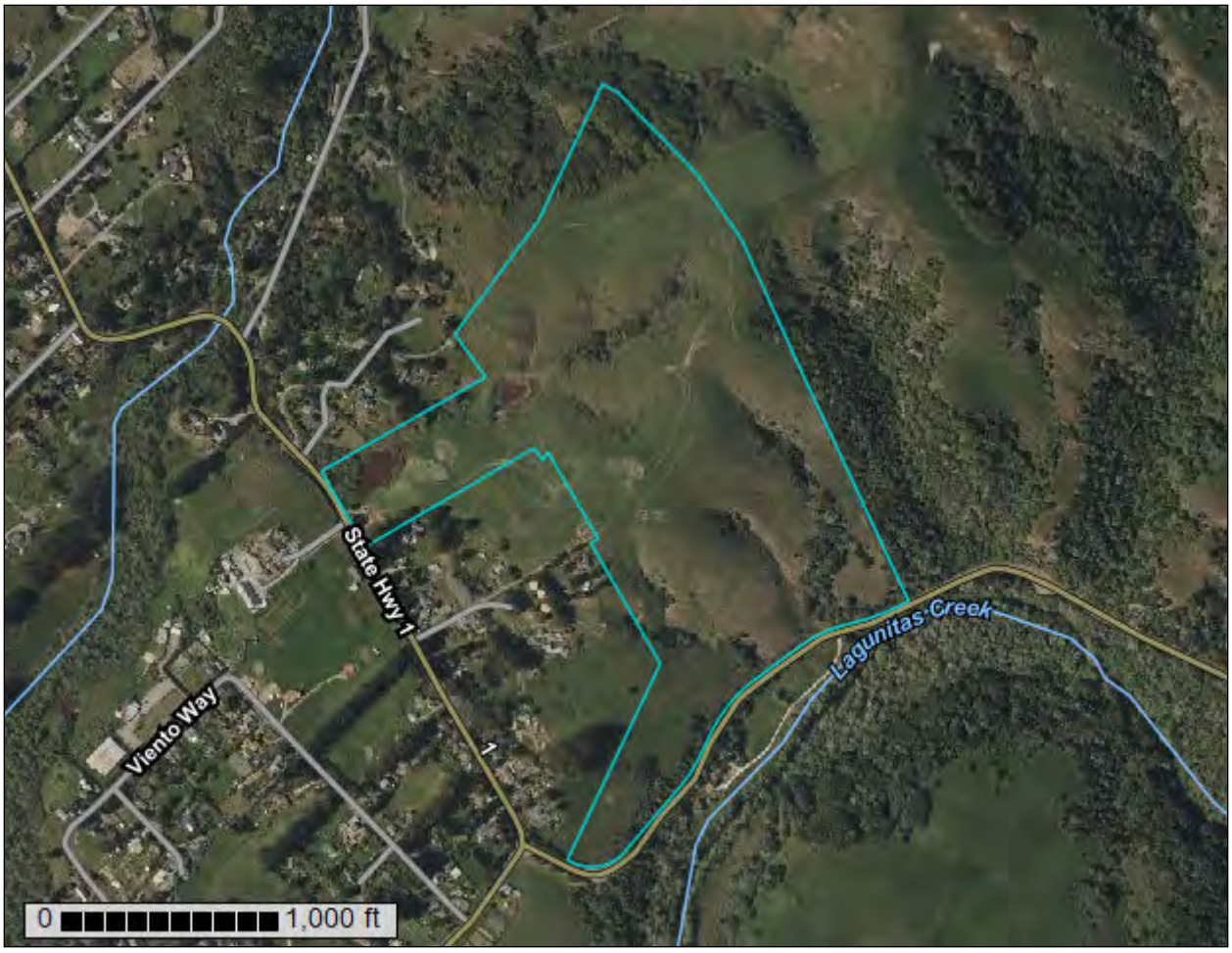
NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Marin County, California

Yan Cui Project



May 14, 2024

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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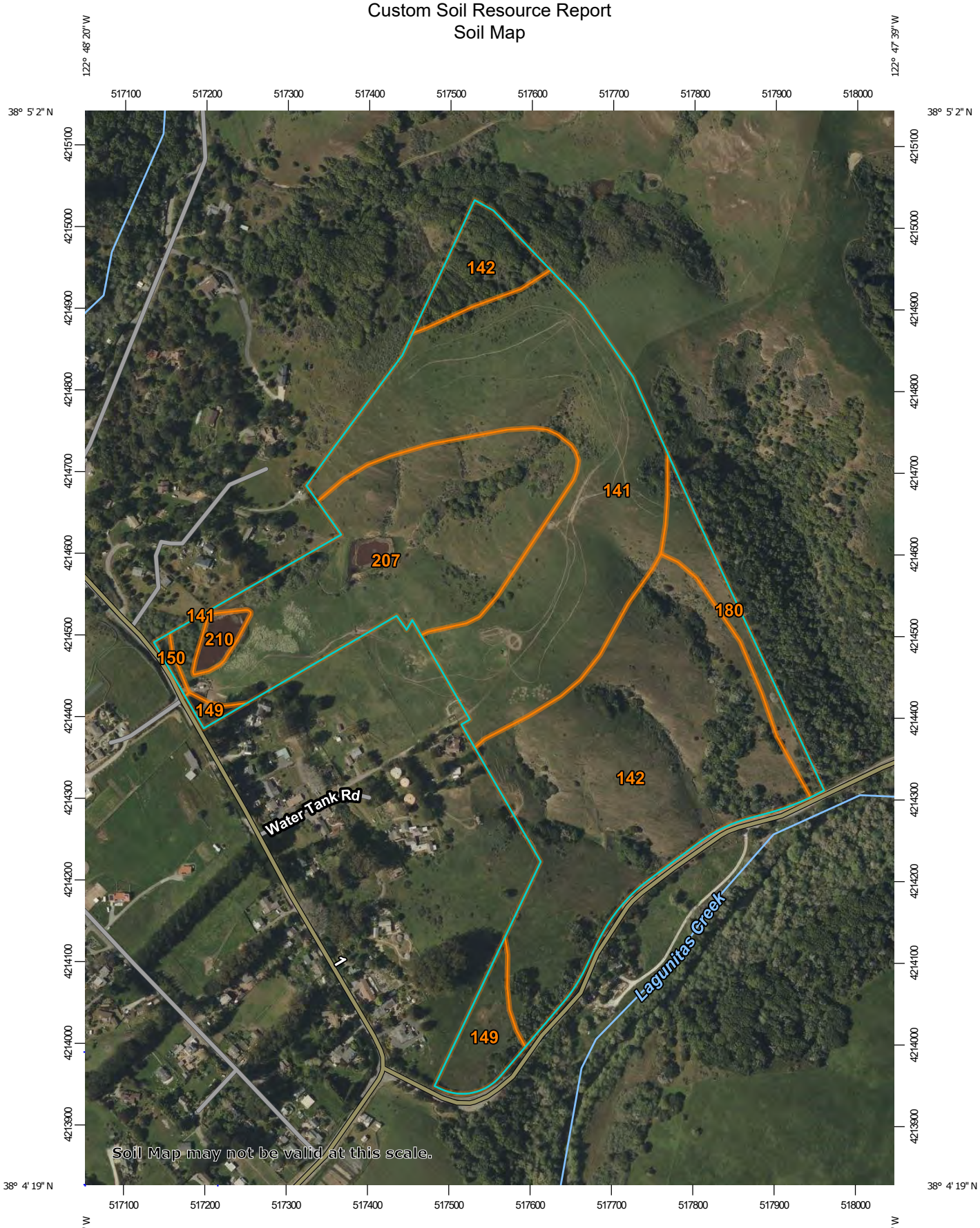
Contents

Soil Map

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

Custom Soil Resource Report
Soil Map



Map Scale: 1:6,410 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Marin County, California
Survey Area Data: Version 17, Sep 11, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 26, 2022—Apr 25, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
141	Los Osos-Bonnydoon complex, 15 to 30 percent slopes	26.5	32.4%
142	Los Osos-Bonnydoon complex, 30 to 50 percent slopes	29.7	36.3%
149	Olompali loam, 9 to 15 percent slopes	2.6	3.2%
150	Olompali loam, 15 to 30 percent slopes	0.2	0.3%
180	Tocaloma-McMullin complex, 50 to 75 slopes	2.8	3.4%
207	Yorkville clay loam, 30 to 50 percent slopes	19.2	23.4%
210	Water	0.8	0.9%
Totals for Area of Interest		**81.9**	**100.0%**

Map Unit Descriptions

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

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

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

components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Marin County, California

141—Los Osos-Bonnydoon complex, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hf2f
Elevation: 50 to 1,500 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 270 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Los osos and similar soils: 60 percent
Bonnydoon and similar soils: 20 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Los Osos

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 18 inches: loam
H2 - 18 to 38 inches: clay
H3 - 38 to 42 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R015XC032CA - FINE LOAMY CLAYPAN
Hydric soil rating: No

Description of Bonnydoon

Setting

Landform: Hills

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from shale, or sandstone

Typical profile

H1 - 0 to 15 inches: gravelly loam
H2 - 15 to 19 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XC037CA - SHALLOW GRAVELLY LOAM
Hydric soil rating: No

Minor Components

Yorkville

Percent of map unit: 2 percent
Hydric soil rating: No

Slopes less than 15 percent

Percent of map unit: 2 percent
Hydric soil rating: No

Slumps

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, deep

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, shallow

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, gravelly

Percent of map unit: 2 percent
Hydric soil rating: No

Tocaloma

Percent of map unit: 2 percent
Hydric soil rating: No

Saurin

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

142—Los Osos-Bonnydoon complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hf2g
Elevation: 200 to 1,200 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 59 to 63 degrees F
Frost-free period: 270 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Los osos and similar soils: 60 percent
Bonnydoon and similar soils: 20 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Los Osos

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 15 inches: loam
H2 - 15 to 30 inches: clay
H3 - 30 to 34 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XC032CA - FINE LOAMY CLAYPAN
Hydric soil rating: No

Description of Bonnydoon

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from shale, or sandstone

Typical profile

H1 - 0 to 11 inches: gravelly loam
H2 - 11 to 15 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XC037CA - SHALLOW GRAVELLY LOAM
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Slumps

Percent of map unit: 3 percent
Hydric soil rating: No

Yorkville

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed, deep

Percent of map unit: 3 percent

Hydric soil rating: No

Slopes more than 50 percent
Percent of map unit: 3 percent
Hydric soil rating: No

Tocaloma
Percent of map unit: 3 percent
Hydric soil rating: No

149—Olompali loam, 9 to 15 percent slopes

Map Unit Setting
National map unit symbol: hf2p
Elevation: 50 to 800 feet
Mean annual precipitation: 35 to 45 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition
Olompali and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Olompali

Setting
Landform: Marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile
H1 - 0 to 13 inches: loam
H2 - 13 to 28 inches: clay
H3 - 28 to 42 inches: gravelly clay
H4 - 42 to 60 inches: clay
H5 - 60 to 64 inches: bedrock

Properties and qualities
Slope: 9 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: R015XC028CA - COASTAL LOAMY CLAYPAN
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent
Landform: Basin floors
Landform position (two-dimensional): Backslope
Hydric soil rating: Yes

Felton variant

Percent of map unit: 2 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, shallower

Percent of map unit: 2 percent
Hydric soil rating: No

Slopes less than 9 percent

Percent of map unit: 2 percent
Hydric soil rating: No

Soulajule

Percent of map unit: 2 percent
Hydric soil rating: No

150—Olompali loam, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hf2q
Elevation: 50 to 800 feet
Mean annual precipitation: 35 to 45 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Olompali and similar soils: 85 percent

Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Olompali

Setting

Landform: Marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical profile

H1 - 0 to 13 inches: loam
H2 - 13 to 28 inches: clay
H3 - 28 to 42 inches: gravelly clay
H4 - 42 to 60 inches: clay
H5 - 60 to 64 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R015XC028CA - COASTAL LOAMY CLAYPAN
Hydric soil rating: No

Minor Components

Tocaloma

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, shallower

Percent of map unit: 2 percent
Hydric soil rating: No

Slopes more than 50 percent

Percent of map unit: 2 percent
Hydric soil rating: No

Yorkville

Percent of map unit: 2 percent
Hydric soil rating: No

Felton variant
Percent of map unit: 2 percent
Hydric soil rating: No

Soulajule
Percent of map unit: 2 percent
Hydric soil rating: No

Rock outcrop
Percent of map unit: 2 percent
Hydric soil rating: No

180—Tocaloma-McMullin complex, 50 to 75 slopes

Map Unit Setting

National map unit symbol: hf3p
Elevation: 50 to 1,500 feet
Mean annual precipitation: 30 to 40 inches
Mean annual air temperature: 55 to 61 degrees F
Frost-free period: 290 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Tocaloma and similar soils: 40 percent
Mcmullin and similar soils: 35 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tocaloma

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from sandstone and shale

Typical profile

H1 - 0 to 19 inches: loam
H2 - 19 to 39 inches: very gravelly loam
H3 - 39 to 43 inches: bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R015XY009CA - Hills 20-40"ppt
Hydric soil rating: No

Description of Mcmullin

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from conglomerate

Typical profile

H1 - 0 to 4 inches: gravelly loam
H2 - 4 to 18 inches: gravelly loam
H3 - 18 to 22 inches: bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 12 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R015XY009CA - Hills 20-40"ppt
Hydric soil rating: No

Minor Components

Saurin

Percent of map unit: 5 percent
Hydric soil rating: No

Bonnydoon

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed, deep

Percent of map unit: 2 percent
Hydric soil rating: No

Rock outcrop
Percent of map unit: 2 percent
Hydric soil rating: No

Maymen
Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, shallow
Percent of map unit: 2 percent
Hydric soil rating: No

207—Yorkville clay loam, 30 to 50 percent slopes

Map Unit Setting
National map unit symbol: hf4k
Elevation: 50 to 1,500 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 55 to 59 degrees F
Frost-free period: 240 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition
Yorkville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yorkville

Setting
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from shale

Typical profile
H1 - 0 to 10 inches: clay loam
H2 - 10 to 45 inches: clay
H3 - 45 to 49 inches: bedrock

Properties and qualities
Slope: 30 to 50 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R015XC032CA - FINE LOAMY CLAYPAN
Hydric soil rating: No

Minor Components

Unnamed, shallow

Percent of map unit: 2 percent
Hydric soil rating: No

Saurin

Percent of map unit: 2 percent
Hydric soil rating: No

Slumps

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, shallower

Percent of map unit: 2 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent
Hydric soil rating: No

Slopes more than 50 percent

Percent of map unit: 2 percent
Hydric soil rating: No

Bonnydoon

Percent of map unit: 2 percent
Hydric soil rating: No

Los osos

Percent of map unit: 1 percent
Hydric soil rating: No

210—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

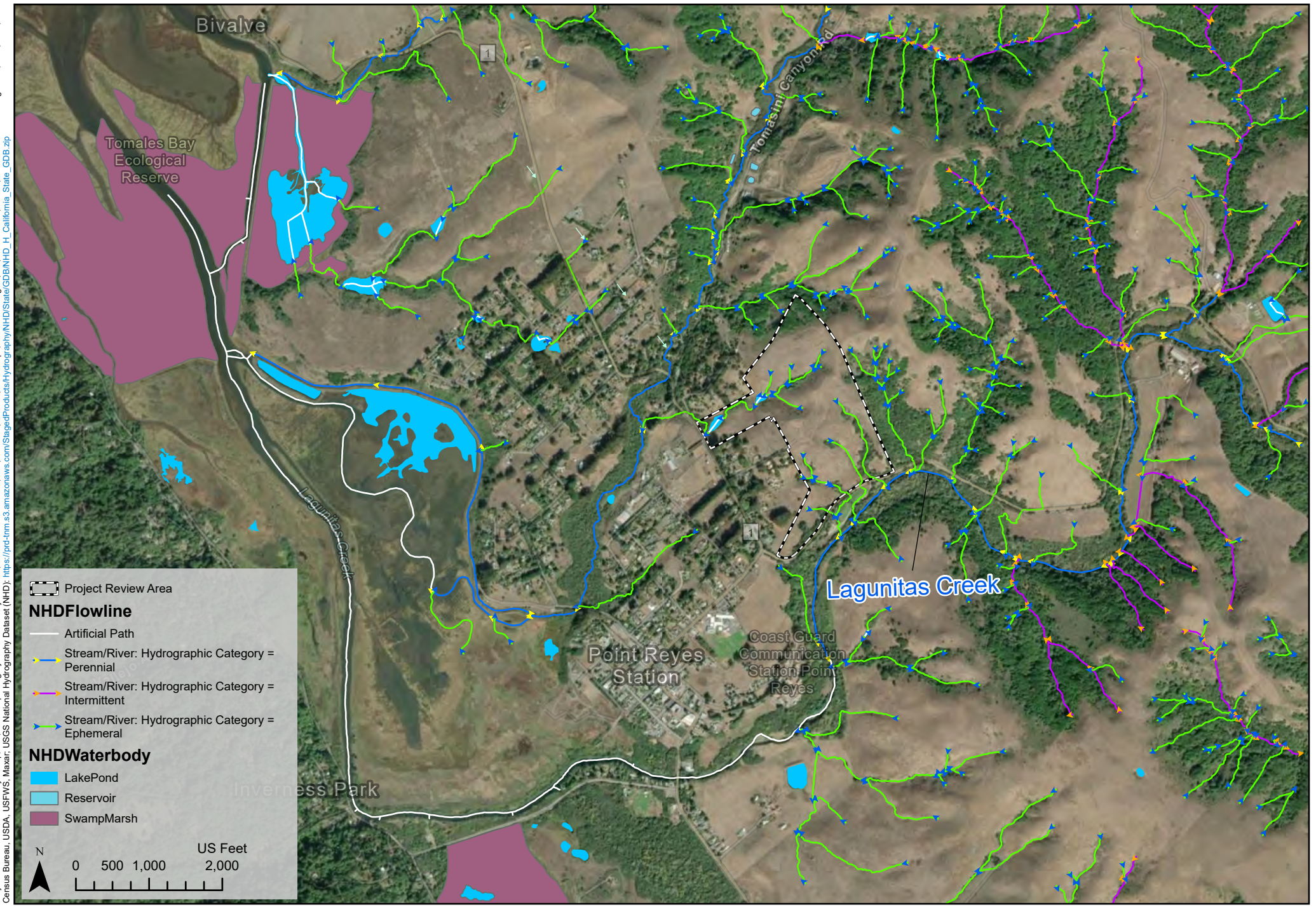
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Appendix D

Surface Flow Mapping Connection to a(1) & a(3) Waters



Project Data: Huffman-Broadway Group, Inc.; Basemap Imagery Credits: County of Marin, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Maxar; USGS National Hydrography Dataset (NHD): https://prd-tnm.s3.amazonaws.com/StagedProducts/Hydrography/NHD/State/GDB/NHD_H_California_State_GDB.zip

Appendix E. Surface Flow Mapping Connection to (a)(1), and (a)(3) Waters

PRS Vacant Lots Subdivision by Cui
Point Reyes Station, Marin County, California

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Spatial Reference:
Name: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US
Scale: 1:20,000
Date Exported: 6/3/2024
GIS Specialists: Agie Gilmore & Deland Wing
HBG Project Manager: Robert Perrera

Appendix E

Aquatic Resource Field Data Forms

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S01

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Marine Terrace Local relief (concave, convex, none): Linear Slope (%): 10

Subregion (LRR): C 15 Lat: 38.073961 Long: -122.800045 Datum: NAD83_2011

Soil Map Unit Name: 149 - Olompali loam, 9 to 15 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Stipa pulchra	20	✔	UPL
2. Plantago lanceolata	10	✔	FACU
3. Vulpia myuros	10	✔	FACU
4. Lolium perenne	10	✔	FAC
5. Ranunculus californicus	5		FAC
6. Sisyrinchium bellum	5		FACW
7. Carex spp	1		FAC
8.			
9.			
10.			
11.			
	61 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	16	x 3 =	48
FACU species	20	x 4 =	80
UPL species	20	x 5 =	100
Column Totals:	61 (A)		238 (B)

Prevalence Index = B/A = 3.90

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.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: S01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 9	10YR 3/3	98	10YR 3/6	2	C	M	Sandy Clay Loam	
-								
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S02

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Marine Terrace Local relief (concave, convex, none): Linear Slope (%): 10

Subregion (LRR): C 15 Lat: 38.074461 Long: -122.799798 Datum: NAD83_2011

Soil Map Unit Name: Olompali loam, 9 to 15 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Lolium perenne	30	✔	FAC
2. Vulpia bromoides	20	✔	FAC
3. avena fatua	20	✔	UPL
4. Nassella pulchra	20	✔	UPL
5. Cynosurus echinatus	10		UPL
6. Silybum marianum	5		UPL
7. Plantago lanceolata	5		FACU
8.			
9.			
10.			
11.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: 3 ft)			
1. Rubus armeniacus	100	✔	FAC
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	150	x 3 =	450
FACU species	5	x 4 =	20
UPL species	55	x 5 =	275
Column Totals:	210 (A)		745 (B)

Prevalence Index = B/A = 3.54

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.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: S02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 3/2	99	10YR 3/6	1	C	M	Sandy Clay Loam	
3 - 14	10YR 3/3	99	10YR 3/6	1	C	M		
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

No hydrology observed on March 8, 2023 or April 27, 2023

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S03

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Linear Slope (%): 40

Subregion (LRR): C 15 Lat: 38.076052 Long: -122.798408 Datum: NAD83_2011

Soil Map Unit Name: Los Osos-Bonnydoon complex, 30 to 50 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Carex spp	40	✔	FAC
2. avena fatua	20	✔	UPL
3. Bromus hordeaceus	20	✔	FACU
4. Nassella pulchra	10		UPL
5. geranium dissectum	3		UPL
6. Vicia sativa	2		UPL
7. Sisyrinchium bellum	1		FACW
8.			
9.			
10.			
11.			
	96 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	40	x 3 =	120
FACU species	20	x 4 =	80
UPL species	35	x 5 =	175
Column Totals:	96 (A)		377 (B)

Prevalence Index = B/A = 3.92

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.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: S03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 3/4	100					Sandy Clay Loam	
3 - 9	10YR 3/4	99	10YR 3/6	1	C	M	Sandy Clay Loam	
9 - 13	10YR 4/4	97	7.5YR 4/6	3	C	M	Sandy Clay Loam	
13 - 16	10YR 4/4	95	7.5YR 4/6	5	C	M		
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

SP taken in a small landslide area. Mammal burrow, likely a mole, was found at 13-16 inches.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S04

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR): C 15 Lat: 38.075336 Long: -122.798646 Datum: NAD83_2011

Soil Map Unit Name: Los Osos-Bonnydoon complex, 30 to 50 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Avena fatua	40	✔	UPL
2. Bromus hordeaceus	30	✔	FACU
3. Erodium botrys	10		FACU
4. Sisyrinchium bellum	5		FACW
5. Lolium perenne	5		FAC
6. Nassella pulchra	5		UPL
7. Medicago polymorpha	5		FACU
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		
% Bare Ground in Herb Stratum _____			

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	45	x 4 =	180
UPL species	45	x 5 =	225
Column Totals:	100 (A)		430 (B)

Prevalence Index = B/A = 4.30

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.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: S04

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 3/3	100					Sandy Clay Loam	with gravel
8 - 12	10YR 3/3	99	10YR 3/6	1	C	M	Sandy Clay Loam	with gravel
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S05

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR): C 15 Lat: 38.074917 Long: -122.798805 Datum: NAD83_2011

Soil Map Unit Name: Los Osos-Bonnydoon complex, 30 to 50 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Lolium perenne	30	✔	FAC
2. carex spp	20	✔	FAC
3. Avena fatua	20	✔	UPL
4. Plantago lanceolata	5		FACU
5. Cynosurus echinatus	5		UPL
6. geranium dissectum	2		UPL
7. Vicia sativa	1		UPL
8.			
9.			
10.			
11.			
	83 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	5	x 4 =	20
UPL species	28	x 5 =	140
Column Totals:	83 (A)		310 (B)

Prevalence Index = B/A = 3.73

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.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

There was a grass that had not flowered yet and I assumed based on the location and moisture in the soil it was likely Lolium perenne or another FAC grass.

SOIL

Sampling Point: S05

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 3/2	95	10YR 3/6	5	C	M	Sandy Clay Loam	
-								
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

Saturation Present? (includes capillary fringe) Yes ✔ No _____ Depth (inches): 5

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

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

Remarks:

Saturation

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S06

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR): C 15 Lat: 38.074924 Long: -122.79886 Datum: NAD83_2011

Soil Map Unit Name: Los Osos-Bonnydoon complex, 30 to 50 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Avena fatua	50	✔	UPL
2. Bromus hordeaceus	20	✔	FACU
3. Erodium botrys	5		FACU
4. Vicia sativa	5		UPL
5. Medicago polymorpha	5		FACU
6. Cirsium vulgare	5		FACU
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	55	x 5 =	275
Column Totals:	90 (A)		415 (B)

Prevalence Index = B/A = 4.61

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.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: S06

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 3/3	100					Sandy Clay Loam	
6 - 12	10YR 3/3	99	10YR 3/6	1	C	M		
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S07

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR): C 15 Lat: 38.079239 Long: -122.798464 Datum: NAD83_2011

Soil Map Unit Name: Los Osos-Bonnydoon complex, 15 to 30 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Avena fatua	30	✔	
2. Erodium botrys	20	✔	FACU
3. Plantago lanceolata	20	✔	FACU
4. Cirsium vulgare	10		FACU
5. bromus diandrous	10		UPL
6. calendula arvensis	10		
7. Eschscholzia californica	5		UPL
8. Lupin spp	1		UPL
9.			
10.			
11.			
	106 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	16	x 5 =	80
Column Totals:	66 (A)		280 (B)

Prevalence Index = B/A = 4.24

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.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: S07

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 3/3	100					Sandy Clay Loam	
6 - 12	10YR 3/3	99	10YR 3/6	1		M	Silty Clay Loam	
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S08

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Convex Slope (%): 20

Subregion (LRR): C 15 Lat: 38.080839 Long: -122.798687 Datum: NAD83_2011

Soil Map Unit Name: Los Osos-Bonnydoon complex, 15 to 30 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Avena fatua	30	✔	UPL
2. Juncus bufonius	20	✔	FACW
3. Briza minor	20	✔	FAC
4. Plantago lanceolata	10		FACU
5. Erodium botrys	10		FACU
6. Anagallis arvensis	10		UPL
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species	40	x 5 =	200
Column Totals:	100 (A)		380 (B)

Prevalence Index = B/A = 3.80

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.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: S08

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 3/2	95	10YR 3/6	5	C	M	Sandy Clay Loam	
-								
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

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

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

Remarks:

Soils were moist. Although no primary indicators were observable at the time of the site visit, based on its position just above the head cutting of the downslope creek its likely to be saturated for long durations.

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S09

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Convex Slope (%): 20

Subregion (LRR): C 15 Lat: 38.080862 Long: -122.798677 Datum: NAD83_2011

Soil Map Unit Name: Los Osos-Bonnydoon complex, 15 to 30 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Avena fatua	30	✔	UPL
2. Lolium perenne	30	✔	FAC
3. Plantago lanceolata	10		FACU
4. Anagallis arvensis	5		UPL
5. Nassella pulchra	5		UPL
6. Juncus bufonius	5		FACW
7. Juncus patens	5		FACW
8. Medicago polymorpha	2		FACU
9. Geranium dissectum	2		UPL
10.			
11.			
	94 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	30	x 3 =	90
FACU species	12	x 4 =	48
UPL species	42	x 5 =	210
Column Totals:	94 (A)		368 (B)

Prevalence Index = B/A = 3.91

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.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: S09

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 3/2	97	10YR 3/6	3	C	M	Sandy Clay Loam	
4 - 9	10YR 3/2	99	10YR 3/6	1	C	M	Sandy Clay Loam	
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S10

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): C 15 Lat: 38.081099 Long: -122.800804 Datum: NAD83_2011

Soil Map Unit Name: Los Osos-Bonnydoon complex, 15 to 30 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Avena fatua	20	✔	UPL
2. Lolium perenne	20	✔	FAC
3. Plantago lanceolata	10	✔	FACU
4. Medicago polymorpha	10	✔	FACU
5. Juncus bufonius	10	✔	FACW
6. Sisyrinchium bellum	5		FACW
7. Juncus patens	5		FACW
8. Hypochaeris radicata	5		FACU
9. Wyethia angustifolia	1		FACU
10.			
11.			
	86 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	20	x 3 =	60
FACU species	26	x 4 =	104
UPL species	20	x 5 =	100
Column Totals:	86 (A)		304 (B)

Prevalence Index = B/A = 3.53

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.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: S10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 12	10YR 3/3	99	10YR 3/6	1	C	M	Sandy Clay Loam	
-								
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S11

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Convex Slope (%): 10

Subregion (LRR): C 15 Lat: 38.078172 Long: -122.803252 Datum: NAD83_2011

Soil Map Unit Name: Yorkville clay loam, 30 to 50 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Avena fatua	40	✔	UPL
2. Hordeum murinum	20	✔	FAC
3. Lolium perenne	10		FAC
4. Bromus diadrous	10		UPL
5. geranium dissectum	5		UPL
6. crisium vulgare	5		
7. Plantago lanceolata	5		FACU
8. Raphanus raphanistrum	5		UPL
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus armeniacus	100	✔	FAC
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	130	x 3 =	390
FACU species	5	x 4 =	20
UPL species	60	x 5 =	300
Column Totals:	195 (A)		710 (B)

Prevalence Index = B/A = 3.64

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.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: S11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 12	10YR 3/2	100					Sandy Clay Loam	
-								
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S12

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): C 15 Lat: 38.078162 Long: -122.803314 Datum: NAD83_2011

Soil Map Unit Name: Yorkville clay loam, 30 to 50 percent slopes NWI classification: Fresh Water Pond, PUBHx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Schoenoplectus americanus	90	✔	OBL
2. Juncus patens	5		FACW
3. Phalaris aquatica	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 3 ft)			
1. Rubus armeniacus	100	✔	FAC
2.			
	100 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	5	x 2 =	10
FAC species	100	x 3 =	300
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	200 (A)		420 (B)

Prevalence Index = B/A = 2.10

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.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: S12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 3/1	98	7.5YR 4/6	2	C	M	Sandy Clay Loam	
-								
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ✔ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

Water Table Present? Yes ✔ No ___ Depth (inches): 5

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 5

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S13

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Linear Slope (%): 10

Subregion (LRR): C 15 Lat: 38.079028 Long: -122.802145 Datum: NAD83_2011

Soil Map Unit Name: Yorkville clay loam, 30 to 50 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Pocket gopher mounds observed within and adjacent to SP13.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Avena fatua	60	✔	UPL
2. Bromus hordeaceus	20	✔	FACU
3. nassella pulchra	5		UPL
4. Erodium botrys	5		FACU
5. Eschscholzia californica	1		UPL
6. Lupin spp	1		UPL
7.			
8.			
9.			
10.			
11.			
	92 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	25	x 4 =	100
UPL species	67	x 5 =	335
Column Totals:	92 (A)		435 (B)

Prevalence Index = B/A = 4.72

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.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: S13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 10	10YR 3/3	100					Sandy Clay Loam	
-								
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Marin County Sampling Date: 2023-04-27

Applicant/Owner: Yan Cui State: California Sampling Point: S14

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Linear Slope (%): 10

Subregion (LRR): C 15 Lat: 38.078995 Long: -122.802108 Datum: NAD83_2011

Soil Map Unit Name: 207 NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3 ft)			
1. Cyperus eragrostis	40	✔	FACW
2. Juncus patens	20	✔	FACW
3. Holcus lanatus	20	✔	FAC
4. Mentha pulegium	10		OBL
5. Carex spp	5		FAC
6. Rumex crispus	5		FAC
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	60	x 2 =	120
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		220 (B)

Prevalence Index = B/A = 2.20

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.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: S14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 4/2	98	10YR 3/6	2	C	M	Sandy Clay Loam	
-								
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ___ Depth (inches): 0.5

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

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

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

Water source is likely saturation seeping through levee from upstream pond.

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Point Reyes Station/Marin County Sampling Date: 2024-05-21

Applicant/Owner: Yan Cui State: California Sampling Point: S15

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): C 15 Lat: 38.079075 Long: -122.80118333 Datum: NAD83_2011

Soil Map Unit Name: Yorkville clay loam, 30 to 50 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Juncus xiphioides	70	✔	OBL
2. Mentha pulegium	20	✔	OBL
3. Deschampsia caespitosa	10		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		110 (B)

Prevalence Index = B/A = 1.10

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.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: S15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 4/2	98	7.5YR 4/6	2	C	M	Sandy Clay Loam	with pebbles
-								
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ✔ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

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

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

Remarks:

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

Project/Site: PRS Vacant Lots Subdivision by Cui City/County: Point Reyes Station/Marin County Sampling Date: 2024-05-21

Applicant/Owner: Yan Cui State: California Sampling Point: S16

Investigator(s): Robert Perrera, Huffman-Broadway Group, Inc. Section, Township, Range: 24 and 25, T03N, R09W

Landform (hillslope, terrace, etc.): Hill Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR): C 15 Lat: 38.07901944 Long: -122.80117222 Datum: NAD83_2011

Soil Map Unit Name: Yorkville clay loam, 30 to 50 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Cynosurus echinatus	20	✔	UPL
2. Lolium perenne	15	✔	FAC
3. Avena fatua	15	✔	UPL
4. Bromus diandrous	15	✔	UPL
5. Bromus hordeaceus	15	✔	FACU
6. Carduus pycnocephalus	10		UPL
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	15	x 4 =	60
UPL species	60	x 5 =	300
Column Totals:	90 (A)		405 (B)

Prevalence Index = B/A = 4.50

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.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: S16

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 9	10YR 3/2	100					Sandy Clay Loam	
-								
-								
-								
-								
-								
-								
-								

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble 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 Soils (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 ✔ Depth (inches): _____

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

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

Wetland Hydrology Present? Yes _____ No ✔

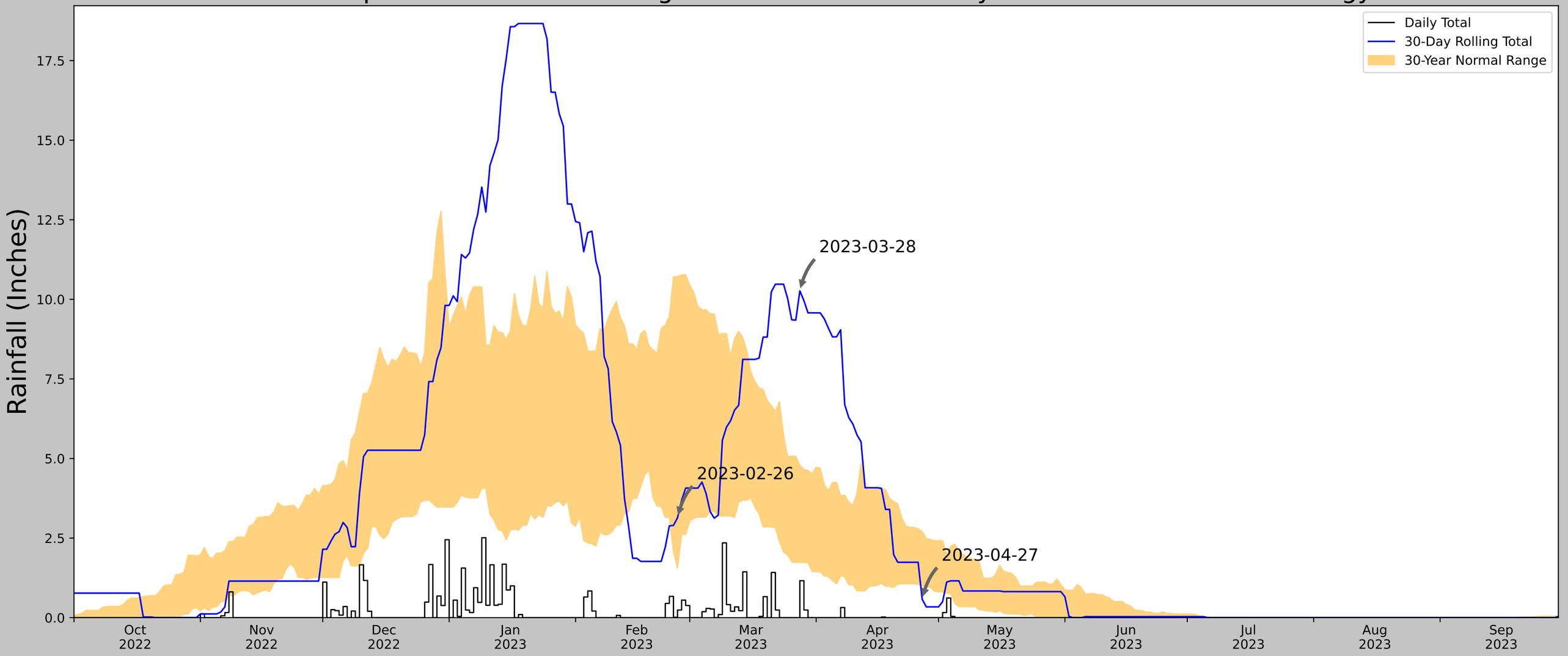
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix F

Antecedent Precipitation Tool Analysis

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	38.078687, -122.815041
Observation Date	2023-04-27
Elevation (ft)	81.675
Drought Index (PDSI)	Normal
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-04-27	0.99252	2.700787	0.57874	Dry	1	3	3
2023-03-28	1.735433	4.786614	10.267717	Wet	3	2	6
2023-02-26	1.562598	10.714961	3.137795	Normal	2	1	2
Result							Normal Conditions - 11

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SAN RAFAEL-CIVIC CTR	37.9983, -122.5372	120.079	16.107	38.404	7.867	9811	90
SAN RAFAEL 1.9 NNW	38.0047, -122.524	15.092	0.844	104.987	0.468	600	0
SAN RAFAEL 2.5 W	37.985, -122.551	125.984	1.187	5.905	0.541	4	0
SAN RAFAEL 3.7 WNW	38.0109, -122.5634	111.877	1.671	8.202	0.766	51	0
SAN ANSELMO 0.4 NE	37.9872, -122.5643	106.955	1.663	13.124	0.77	217	0
SAN RAFAEL 3.9 NW	38.0268, -122.5473	71.85	2.044	48.229	1.018	40	0
SAN RAFAEL 4.6 NW	38.0199, -122.5742	166.011	2.507	45.932	1.243	74	0
SAN ANSELMO 2.0 NNW	38.0096, -122.5801	204.068	2.463	83.989	1.315	28	0
KENTFIELD	37.9567, -122.5447	145.013	2.903	24.934	1.379	527	0
MUIR WOODS	37.8978, -122.5689	220.144	7.155	100.065	3.936	1	0

Appendix G

Representative Review Area Photographs

Huffman-Broadway Group, Inc.
ENVIRONMENTAL REGULATORY CONSULTANTS

Date: 5/31/2024

Appendix F. Representative Photos

(PRS Vacant Lots Subdivision by Cui)
(Point Reyes Station, Marin County, California)

Photo ID: 1

Photo Description: W6

Photo ID: 2

Photo Description: W7

Photo ID: 3

Photo Description: W8

Photo ID: 4

Photo Description: R15

Photo ID: 5

Photo Description: W9

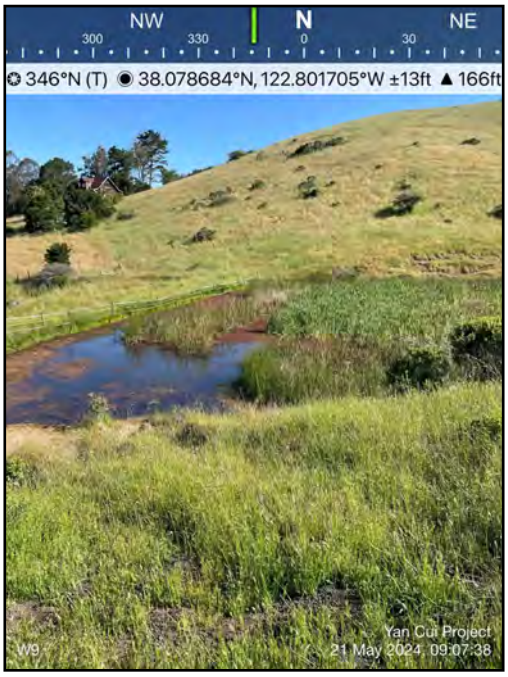


Photo ID: 6

Photo Description: W10

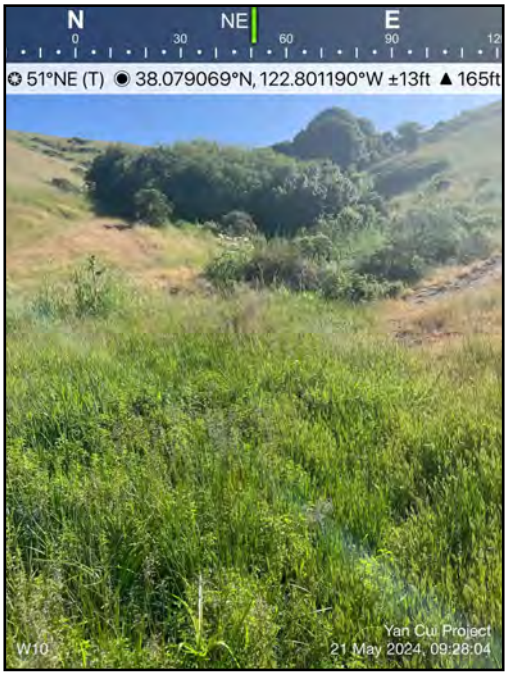


Photo ID: 7

Photo Description: Water tank

Photo ID: 8

Photo Description: W3