

Centennial Industrial Site

Aquatic Resources Delineation of Waters of the United States and State of California

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INFORMATION SUMMARY

Report Date: October 2019

Report Preparer: Mr. Greg Matuzak
Greg Matuzak Environmental Consulting LLC

Project Site: Centennial Industrial Site

Project Site Location: SECTION 26, T.16N, R.8E

CENTENNIAL INDUSTRIAL SITE		
Assessor Parcel Number	Site Address	Lot Size (Acres)
009-550-032	N/A	20,908 SF (0.48 AC)
009-550-037	10344 Centennial Drive	4.47 AC
009-550-038	10350 Centennial Drive	40.1 AC
009-550-039	10344 Centennial Drive	42,668 SF (0.98 AC)
009-550-040	N/A	5,662 SF (0.13 AC)
009-560-036	10350 Centennial Drive	10.25 AC
Centennial Industrial Site - Land Total:		56.41 AC

Property Owner /
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Project Summary

This Aquatic Resources Delineation Report for the Centennial Industrial Site includes the results of delineation methods accepted by the Corps as detailed in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and more recently in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Regions* (Corps, 2010).

A total of 4.97 acres of “waters of the U.S.,” including wetlands, and “waters of the State of California” was identified and mapped within the Centennial Industrial Site. The 4.97 acres of wetland-waters includes 4.37 acres of mapped wetlands and 0.60 acres of mapped “other waters of the U.S.,” including the main stem of Wolf Creek, as well as several intermittent and ephemeral streams. The table below summarizes the wetlands and streams identified within the Centennial Industrial Site.

Table. Summary of Aquatic Resources Delineation Results

Wetland/Stream Type	No. of Features	Size (Acres)	Length (Linear Feet)
Wetlands			
Meadow Wetland	14	2.88	
Freshwater Emergent Marsh Wetland	2	0.31	
Riparian Wetland	1	1.18	
“Other Waters of the U.S.”			
Perennial Stream	1	0.38	1,262
Intermittent Stream	2	0.17	1,616
Ephemeral Stream	5	0.05	1,090
Total	25	4.97	3,968

1.0 INTRODUCTION AND SUMMARY

1.1 Introduction

At the request of Rise Grass Valley Inc. ("Rise Grass Valley" or "Rise"), Mr. Greg Matuzak was retained to prepare an Aquatic Resources Delineation Report ("Delineation Report") for the Centennial Industrial Site located in Nevada County, California. The Delineation Report includes a delineation of potential "waters of the United States", including wetlands and "waters of the State of California", as well as assessed California Department of Fish and Wildlife ("CDFW") jurisdiction, within the Centennial Industrial Site ("Project Area"). Preparation of the Delineation Report included background research, field delineation surveys, and reporting as detailed herein.

Mr. Greg Matuzak, Principal and owner of Greg Matuzak Environmental Consulting LLC is a wetlands ecologist with 20 years of experience conducting aquatic resources delineations in Northern California. Mr. Matuzak is 40-hour Wetland Delineation Certified (Wetland Training Institute) and has conducted aquatic resources delineations for 100's of linear miles of projects and 1000s of acres of site development projects. Mr. Matuzak has lived and worked in Nevada County for over 13 years and developed aquatic resources delineations and processed permit applications for several projects within Nevada County. Ms. Wendy Boes is a local Nevada County botanist and most recently worked for the Tahoe National Forest as a botanist. Ms. Boes is an independent consultant, GIS specialist, and conducts field data collection and GIS mapping for field related projects. Mr. Matuzak and Ms. Boes were responsible for the field data collection and mapping developed as part of the development of this Delineation Report.

1.2 Project Setting

The Delineation Report includes a full coverage assessment of the 56.4-acre Centennial Industrial Site; see Appendix A for Project Area Overview Figure. The recorded owner of the surface land which comprises the Project Area is Rise Grass Valley.

The Centennial Industrial Site is part of the original land holdings of the historic Idaho-Maryland Mine, which operated between approximately 1851 and 1956. The Project Area was the location of the mine tailings storage area for the larger mine site. The site discharged water into the main stem of Wolf Creek via a decant tower, which is still in place in the northwest portion of the site. During the 1930s, the Idaho-Maryland Mine operated a mineral processing plant, located adjacent and to the east of the Project Area. The results of historic mine tailing deposition in the Project Area can still be seen in the soils within the site, some of which have the appearance of many layers of deposited material of varying color.

The Project Area is bordered by Idaho Maryland Road on the northern boundary, Centennial Drive along the northeast boundary, DeMartini RV Sales along the western boundary, commercial development along the eastern boundary, and privately-owned industrial land along the southern boundary. Overall, the Project Area is surrounded by private commercial and industrial land use and zoning.

The Project Area includes the main stem of Wolf Creek, a perennial stream. The main stem of Wolf Creek generally runs parallel to and immediately south of Idaho Maryland Road along the northern boundary of the Centennial Industrial Site. A Project Area Overview Figure is included in Appendix A.

1.3 Previous Wetland Delineations of the Project Area

Two previous delineations of “waters of the U.S.,” including wetlands, have been conducted for the Centennial Industrial Site. They include the following:

- *Idaho-Maryland Mine Project Wetland Delineation Report* developed by ESA Associates, dated December 2007. The ESA report includes the Project Area as well as other areas associated with the overall proposed mining operations at the time.
- *Delineation of Section 404 Jurisdictional Areas Idaho-Maryland Mine, Nevada County, California* developed by WRA, Inc., dated April 2008 with follow up mapping submitted to the United States Army Corps of Engineers (“Corps”) on June 5, 2008.

The WRA June 5, 2008 mapping of potential “waters of the U.S.,” including wetlands, subject to CWA Section 404 jurisdiction, formed the basis of this Delineation Report for the Centennial Industrial Site.

1.4 Purpose

The purpose of this Delineation Report is to determine the location and extent of areas that meet the Corps’ criteria as “waters of the U.S.,” including wetlands, pursuant to Section 404 of the Clean Water Act (“CWA”) (1972).

This Delineation Report may be used to assist with future development plans within the Project Area in order to avoid and minimize potential fill and/or dredge related impacts to such aquatic resources, including both “waters of the U.S.,” including wetlands, and “waters of the State of California,” if feasible within the Project Area.

Given the previous jurisdictional delineation reporting and wetland-waters mapping, this Delineation Report evaluated any changes between the present conditions compared

to the June 5, 2008 mapping of wetlands, “other waters of the U.S.,” and “waters of the State of California” within the Project Area. The previous delineation was used as an initial baseline of previously delineated wetland-waters features within the Project Area. This Delineation Report includes the methodology and updated results of the wetland-waters features within the Project Area that could be subject to current regulations.

2.0 REGULATORY OVERVIEW

2.1 Section 404 of the Clean Water Act

The U.S. Army Corps of Engineers ("Corps") and the Environmental Protection Agency ("EPA") regulate the discharge of dredge or fill material into "waters of the U.S." under Section 404 of the Clean Water Act. "Waters of the U.S." include wetlands and lakes, rivers, streams, and their tributaries. Wetlands are defined for regulatory purposes as areas "...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 solid conditions" as specified in 33 Code of Federal Regulations [CFR] 328.3, 40 CFR 230.3.

Generally, wetlands include swamps, marshes, bogs, and similar areas. Lakes, rivers, and streams are defined as "other waters of the U.S." Jurisdictional limits of these features are typically noted by the Ordinary High Water Mark ("OHWM"). The OHWM is the line on the shore established by the fluctuations of water and indicated by physical characteristics such as mark a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR 328 and 33 CFR 329).

Isolated ponds or seasonal depressions had been previously regulated as waters of the U.S. However, in *Solid Waste Agency of Northwestern Cook County (SWANCC) v. USACE et al.* (January 8, 2001), the U.S. Supreme Court ruled that certain "isolated" wetlands (e.g., non-navigable, isolated, and intrastate) do not fall under the jurisdiction of the CWA and are no longer under the jurisdiction of the Corps. Some circuit courts (e.g., *U.S. v. Deaton*, 2003; *U.S. Rapanos*, 2003; *Northern California River Watch v. City of Healdsburg*, 2006), though, have ruled that SWANCC does not prevent CWA jurisdiction if a "significant nexus" such as a hydrologic connection exists, whether it be man-made (e.g., roadside ditch) or natural tributary to navigable waters, or direct seepage from the wetland to the navigable water, a surface or underground hydraulic connection, an ecological connection (e.g., the same bird, mammal, and fish populations are supported by both the wetland and the navigable water), and changes to chemical concentrations in the navigable water is present due to water from the wetland.

Areas considered to be non-jurisdictional waters include non-tidal drainage and irrigation ditches excavated on dry land, artificially-irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions with no outlet for drainage (33 CFR, Part 328).

The *Clean Water Rule* is a 2015 regulation published by the EPA and Corps to clarify water resources management in the United States under a provision of the CWA. The regulation

defined the scope of federal water protection in a more consistent manner, particularly over streams and wetlands, which have a significant hydrological and ecological connection to traditional navigable waters, interstate waters, and territorial seas. It is also referred to as the *Waters of the United States* rule, which defines all bodies of water that fall under U.S. federal jurisdiction. The rule has been contested in litigation and in 2017 the Trump administration announced its intent to review and rescind or revise the rule. Following a Supreme Court ruling on January 22, 2018 that lifted a nationwide stay on the rule, the Trump administration formally suspended the rule until February 6, 2020, thereby giving the EPA time to issue a draft proposal of replacement water regulatory requirements.

On October 22, 2019, the EPA and the Corps published a final rule to repeal the 2015 Clean Water Rule: Definition of “Waters of the United States” (“2015 Rule”), which amended portions of the Code of Federal Regulations (CFR), and to restore the regulatory text that existed prior to the 2015 Rule. The final rule will become effective on December 23, 2019. The EPA and the Corps will implement the pre-2015 Rule regulations informed by applicable agency guidance documents and consistent with Supreme Court decisions and longstanding agency practice.

2.2 Section 401 of the Clean Water Act

Section 401 of the CWA requires an applicant, for any federal permit which may result in a discharge into waters of the U.S., to obtain a certification from the state that the discharge will comply with provisions of the CWA. The nine regions of the State Water Quality Control Board administer this program. Any condition of water quality certification would be incorporated into the Corps permit. California has a policy of no-net-loss of wetlands and typically requires mitigation for impacts to wetlands before it will issue a water quality certification. This Project is located under the jurisdiction of Region 5, the Central Valley Regional Water Quality Control Board (“RWQCB”).

2.3 Additional State Regulations Governing Wetlands and Streams

CDFW regulates the modifications of streams, rivers, and lakes under Sections 1601 to 1607 of the CDFW Code. Modification includes diverting, obstruction, or changing the natural flow or bed, channel, or bank of a regulated feature. The CDFW Code, Sections 1601 to 1607, require that CDFW be notified of any activity that could affect the band or bed of any stream that has value to fish and wildlife. In practice, CDFW authority is extended to any stream shown on a U.S. Geological Survey (USGS) topographic map, as well as unmapped channels with a definable bed and bank. Upon notification, CDFW has the discretion to execute a Streambed Alteration Agreement that stipulates restrictions on proposed project activities and mitigation requirements for proposed project impacts.

On April 2, 2019, the State Water Resources Control Board (State Water Board) adopted rules to protect wetlands and other environmentally sensitive waterways throughout the state. More than 90 percent of California's historic wetlands have been lost to development and other human activity. Wetlands are a critical natural resource that protect and improve water quality, provide habitat for fish and wildlife, and buffer developed areas from flooding and sea-level rise. The newly adopted rules provide a common, statewide definition of what constitutes a wetland. They also provide consistency in the way the State Water Board and nine regional water boards regulate activities to protect wetlands and other waterways, such as rivers and streams, and bays and estuaries. The State of California waters of the state are, by definition, broader than "waters of the United States" covered by federal regulation. The newly adopted rules do not change that and will ensure that waters of the state will continue to be protected even if protections for federal waters are narrowed by administrative actions or the courts. The new definition clarifies what is considered a wetland – and what is not – for the entire state, provides a common framework for monitoring and reporting the quality of California's remaining wetlands, helps ensure no overall net loss, and promote an increase, in the quantity, quality, and sustainability of waters of the state, including wetlands, improves transparency and consistency across the State Water Board and the nine Regional Water Quality Control Boards in how discharges of dredged or fill material in sensitive waterways are monitored and regulated, and avoids duplicative work and streamline requirements to cover all waters of the state, so both state and federal environmental concerns are addressed at once.

2.4 Regulatory Process

Any proposed development with the placement of dredge and/or fill material within areas identified as jurisdictional "waters" is subject to the permit requirements of the Corps, under Section 404 of the CWA, and would also require a Section 401 water quality certification or waiver thereof by the Central Valley RWQCB. A Streambed Alteration Agreement from CDFW would also be required for impacts within the jurisdiction covering such an Agreement with CDFW.

Prior to the development of such permit applications for potential development within the Project Area, this Delineation Report should be submitted along with a request for a Preliminary Jurisdictional Determination (PJD) as part of the Corps Section 404 permit process if any potential dredge or fill material is to be placed within any Corps jurisdictional wetlands-waters features. It is recommended that the PJD request be submitted along with this Delineation Report and a CWA Section 404 permit application. For projects where dredge and/or fill material may be placed within a CWA Section 404 regulated area less than 0.5 acres, a Pre-construction Notification (PCN) could be filed with the Corps for projects that meet the requirements for coverage under an existing Nationwide Permit. Alternatively, an Individual Permit would be required to be filed with

the Corps for projects proposing to place fill and/or dredge material within an area greater than 0.5 acres.

3.0 METHODOLOGY

The delineation of potential Section 404 “waters of the United States” and wetlands (as a subcategory of waters), RWQCB “waters of the State”, and CDFW jurisdictional areas within the Project Area was conducted on December 11th, 12th, 17th, and 18th, 2018 with follow up site visits on July 1st, 10th, and 14th, 2019 using the routine methodology as detailed in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratories, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Regions (Version 2.0)* (Corps, 2010). Reconnaissance level site visits were conducted in late November and early December 2018 that aided the characterization of the extent of potential jurisdictional areas evaluated in the middle of December 2018 and in July 2019. The entirety of the Project Area was surveyed on foot by wetland’s ecologist, Mr. Greg Matuzak, and GPS/GIS specialist and botanist, Ms. Wendy Boes, to identify and map the presence of “waters of the U.S.,” including wetlands, and “waters of the State of California.” The area surveyed includes the full 56.4-acre land package which forms the Centennial Industrial Site. The Project Area surveyed is outlined in Appendix A.

The extent or boundary of wetland habitats was further defined using routine on-site wetland determination protocol currently in use by the Corps, published Corps regulatory guidance letters, and Sacramento District regulatory policy.

3.1 Wetlands Definition

Pursuant to the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), herein referred to as the 1987 Manual, key criteria for determining the presence of wetlands are:

- (a) the presence of inundated or saturated soil conditions resulting from permanent or periodic inundation by ground water or surface water; and
- (b) a prevalence of vegetation typically adapted for life in saturated soil conditions (i.e., hydrophytic vegetation).

Explicit in the definition is the consideration of three environmental parameters: hydrology, soil, and vegetation. Positive wetland indicators of all three parameters are normally present in wetlands. The assessment of all three parameters enhances the technical accuracy, consistency, and credibility of wetland determination and is required per the 1987 Manual.

The 1987 Manual provides the framework for conducting delineations of aquatic resources and identifies the key criteria for determining the presence of wetlands regulated under the CWA. However, the more recent *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Regions (Version 2.0)* (Corps,

2010), herein referred to as the Corps Supplement (Version 2.0), provides updated clarification regarding hydrophytic vegetation indicators, hydric soils indicators, wetland hydrology indicators, growing season definition, and hydrology standards for highly disturbed and problematic wetland situations. The Corps Supplement (Version 2.0) replaces these sections of the 1987 Manual. The Project Site is located within the area covered by the Corps Supplement (Version 2.0).

3.2 Waters of the United States Definition

Aquatic habitats, other than wetlands, that are considered to be “waters of the U.S.” were also investigated as part of this study. Their landward extent was defined following the definitions provided in the Corps regulations (33 CFR §328.4(a) (b) and (c)):

- (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.
- (b) *Tidal Waters of the U.S.* The landward limits of jurisdiction in tidal waters:
 - (1) Extends to the high tide line, or
 - (2) When adjacent non-tidal waters of the U.S. are present, the jurisdiction extends to the limits identified in (c) below.
- (a) *Non-Tidal Waters of the U.S.* The limits of jurisdiction in non-tidal waters:
 - (1) In the absence of adjacent wetlands, the jurisdiction extends to the OHWM, or
 - (2) When adjacent wetlands are present, the jurisdiction extends beyond the OHWM to the limit of the adjacent wetlands.
 - (3) When the water of the U.S. consists only of wetlands, the jurisdiction extends to the limit of the wetlands.

Tributary waters and their impoundments are under the regulatory jurisdiction of the Corps and RWQCB and extend to the OHWM on opposing channel banks. Tributary waters include rivers, streams and seasonal drainage channels.

3.3 Background Resources

The existing landforms, as well as associated vegetation, hydrology, and soil conditions were studied to identify areas that would likely contain wetlands, waters, and aquatic habitats in the Project Area. Prior to conducting site surveys, site maps, topographic maps, and aerial photographs of the Project Area were obtained and reviewed. This information was used in association with detailed delineation surveys to determine the extent and boundaries of wetland features. Materials used to study the Project Area included the following resources:

- USGS Quadrangle Map for Grass Valley, California;
- U.S. Department of Agriculture Web Soil Survey (USDA 2019);
- National Wetland Inventory (NWI) mapping of the Project Area (USFWS 2019);
- *Delineation of Section 404 Jurisdictional Areas Idaho-Maryland Mine, Nevada County, California* developed by WRA, Inc., dated April 2008 with follow up mapping submitted to the "Corps" on June 5, 2008; and
- *ESA Associates Idaho-Maryland Mine Project Wetland Delineation Report* (December 2007).

3.4 Field Data Collection Methods

Data was collected on vegetation, soils, and hydrology using wetland determination protocol as described in the 1987 Manual. Both upland and wetland data were collected to distinguish wetland boundaries from the adjacent upland; in some cases, single descriptive waypoints were taken to characterize the existing vegetation, soils, and hydrology of an area. For each sample area, a sample point was sited in an area exhibiting wetland characteristics, while a second sample point was sited adjacent to the first point in an upland position that defined the transitional break between wetland and upland boundary.

No soil test pits were taken within potential aquatic features that were confined to channels, thus conforming to the definition of "other waters of the U.S." (i.e., exhibits a distinct bed and bank with an OHWM). No soil test pits were taken within ponded areas with standing water as it was assumed that such ponded areas are potential jurisdictional wetland features since they exhibited a direct connection to mapped downstream stream and/or wetland features also considered jurisdictional.

Coordinates of each sample location were recorded in the field using ESRI Collector for ArcGIS. Soil pits were not taken at every wetland feature within the Project Area if the boundaries in the field corresponded to the mapped boundaries by WRA, Inc. (WRA, 2008). At locations where the vegetation and/or surface hydrology appeared to differ from the previous WRA delineation results, a soil data point and wetland data sheets were developed to identify whether the features differed from the WRA results. When a difference in feature characterization was identified, the change in the wetland-waters feature was remapped. At locations where wetland-waters features were no longer present, the area was removed from the map.

The June 2008 WRA mapped wetlands-waters features were included as a background file within ESRI Collector for ArcGIS for comparison of the features identified in the field in December 2018 and in July 2019.

3.5 Project Area Characterization

The Centennial Industrial Site has been disturbed by historic mining and lumber mill practices, public access, and ongoing management for many years which is now considered baseline condition for the Centennial Industrial Site. Within the Centennial Industrial Site, the dumping of soils, landscape materials, and other miscellaneous items has also occurred for many decades and the current circumstances are now considered baseline or “normal” conditions given the decades that such disturbance has occurred within the Centennial Industrial Site. Areas not subject to this regular type of disturbance are dominated by native habitat and, therefore, are also the “normal” conditions within those areas of the Centennial Industrial Site. The presence of sandy loam soils within the northwestern section of the Centennial Industrial Site classifies that area as a potential *Problematic Wetland Situation* area as defined by the Corps Supplement (Version 2.0), and careful attention was paid while evaluating onsite soils within this area.

All vascular plant species identified at the time of the survey were recorded using keys and descriptions in *The Jepson Manual* (Baldwin et al., 2012). Vegetation types were classified by ESA Associates (2006) during the previous environmental review process (hereby incorporated by reference). ESA Associates mapped and classified wildlife habitats/vegetation types using the California Department of Fish and Game’s (CDFG) *A Guide to Wildlife Habitats* (Mayer and Laudenslayer, 1988). The classifications and mapping completed by ESA was found to be far more accurate than the existing CDFW CWHR layers that were evaluated for the Project Area, therefore, the ESA Associates vegetation descriptions were used as background to determine vegetation types and as a springboard for the descriptions within this and other updated reporting.

The approximate location and extent of jurisdictional wetlands/waters, as well as other relevant data, are presented on 1 inch = 200 foot scale Project Area maps and are included in Appendix F. Information obtained at the sample point locations was recorded on Corps Wetland Determination Data Form – Western Mountains, Valleys, and Coast Region included in the appendices attached to this report (see Appendix G). Photographs were also taken for selected sample wetland points that represented the Project Area (Appendix E).

Given the presence of the main stem of Wolf Creek within the Project Area, the stream was evaluated to determine if its OHWM and length differed from the previous delineation of the stream conducted by WRA, Inc. in 2008. In addition, the Project Area contains additional drainage features that connects to the main stem of Wolf Creek. Some of these drainage features were mapped as likely jurisdictional “waters of the U.S.” given their connection to the main stem of Wolf Creek, which connects to larger streams and rivers that connect with downstream navigable waterways (Bay Delta and Pacific Ocean). The entire length of each stream and drainage within the Project Area was walked and the width of each stream and drainage was compared to the width

previously recorded for each stream and drainage by WRA, Inc. in 2008. The field surveys in December 2018 and July 2019 followed very little seasonal rain events and therefore, direct observation of hydrology in some areas of the Project Area was not possible. The potential “waters of the U.S.,” including wetlands, were mapped based on the observable signs of wetland hydrology (i.e. presence of drainage patterns or other primary and secondary characteristics or an observable OHWM within the onsite stream and drainage features).

Areas containing a predominance of wetland vegetation within the Project Area were evaluated further to identify whether the underlying soils of such vegetation met the Corps criteria as a hydric soil. Soil data points were analyzed as part of this Delineation Report to identify the border between wetland data points and upland data points. The border between the wetland and upland data points was used to map the wetland features in the field using ESRI Collector for ArcGIS.

4.0 ENVIRONMENTAL SETTING

The Centennial Industrial Site is located in Nevada County, CA in the northern-central Sierra Nevada foothills. The Sierra Nevada foothills lie between the western edge of the Sierra Nevada and the eastern border of the Central Valley. The foothills form a belt 10 to 30 miles wide that ranges from 500 to 5,000 feet in elevation in a series of northwest to north-northwest aligned ridges that decline in elevation from northeast to southwest. Many rapidly flowing rivers and streams run westerly in deeply incised canyons with bedrock channels to the Central Valley and eventually to the Pacific Ocean. Alluvial fans, floodplains, and terraces are not extensive; and all but the largest streams are generally dry during the summer. Dominant vegetation communities include grasslands, oak woodlands, and chaparral.

Vegetation communities within the Centennial Industrial Site are typical of the lower Sierra Nevada foothills. However, the terrain within the Centennial Industrial Site is not typical of the lower Sierra Nevada foothills that normally vary between flat ridges and valleys to gently and moderately sloping hillsides. The Centennial Industrial Site elevation ranges from approximately 2,500 to 2,600 feet above mean sea level (MSL) and much of the Centennial Industrial Site has been impacted due to historical mining and lumber mill practices, which has included the placement of large amounts of mine tailings within the Centennial Industrial Site and the removal of vegetation, among other disturbances. The Centennial Industrial Site is located along the main stem of Wolf Creek and the interior of the site is dominated by mixed hardwood-conifer forests, with areas of montane riparian woodland, mixed chaparral, mixed wetland types, and annual grassland.

4.1 Site Drainage and Hydrology

The Centennial Industrial Site includes a perennial stream, the main stem of Wolf Creek. The main stem of Wolf Creek generally runs parallel to and immediately south of Idaho Maryland Road along the northern boundary of the Project Area. In addition, the Project Area contains several ephemeral and intermittent streams that connect with the main stem of Wolf Creek within the northwestern section of the site. The drainages and streams located within the Centennial Industrial Site are identified in Appendix F within the Aquatic Resources Delineation Results Figures. Drainage patterns within the Centennial Industrial Site drain to the main stem of Wolf Creek.

The following drainage features and patterns were identified within the Centennial Industrial Site:

- Wolf Creek, a perennial stream, runs along the north side of the Centennial Industrial Site from east to west.

- A historic log pond, associated with historic milling operations, is located just east of the Centennial Industrial Site and drains onto the property through a culvert providing a regular source of water for the eastern and northern portions of the site.
- An unnamed drainage (E-4) that flows onto the Centennial Industrial Site from a neighboring property to the west that feeds into the northwestern wetland complex where surface moisture was present.
- Wet meadow wetland (WM-8) includes a spring that is feeding it out of the base of a small elevational change.
- A small drainage (I-2) connecting another small wetland (WM-7).
- Drainage patterns within the western section of the Centennial Industrial Site run from the southwestern region through an ephemeral stream (E-3) or directly from DeMartini RV Sales through a culvert and ephemeral stream (E-4), which connects downstream with the main stem of Wolf Creek through a set of wetlands and another ephemeral stream (E-5).
- Within the eastern section of Centennial Industrial Site, drainage originates from the southeast. The property to the east directly drains to the Centennial Industrial Site through a set of riparian, freshwater marsh, and/or wet meadow wetlands before flowing towards the northwestern corner of the site through a mapped intermittent stream (I-1).
- The wetlands and waters in the eastern portion of this site drain to the northwest through an apparent manmade intermittent drainage (I-1) dating back to when the mine was in operation. The manmade intermittent drainage (I-1) ends in an area containing Fremont cottonwood trees in the northwest portion of the site and flows into the main stem of Wolf Creek through several culverts and decant tower.

Each of the mapped wetlands and drainage features within this site have a connection to the main stem of Wolf Creek.

See Appendix F for an overview of the location and extent of the wetlands, streams, and drainages within the Centennial Industrial Site.

Natural hydrological sources for the Centennial Industrial Site include precipitation and surface run-off from adjacent lands. Mean annual rainfall in the area is 53.74 inches (NRCS, 2018). During rain events over the previous month prior to the field surveys, very little surface water and no snow was identified. However, evidence of surface moisture was still present in some areas. Water stained leaves and damp surface soil/leaf litter was observed and some mapped wetland features had surface ponding (see Appendix E for the Photo Log).

4.2 Project Area Soil Types

The USDA identifies several soil types within the Centennial Industrial Site. USDA soil mapping for the Centennial Industrial Site area is included in Appendix B.

The USDA Soil Survey Mapper (USDA, 2018) indicates that the Centennial Industrial Site includes 4 soil types: Cut and fill land (Ct), Placer diggings (Pr), Rock outcrop-Dubakella complex on 5 to 50 percent slopes (RrE), and Secca-Rock outcrop complex on 2 to 50 percent slopes (ScE). These soil types are described in detail below and their presence, as identified by the USDA online mapper, is attached in Appendix B:

- **Cut and fill land (Ct).** This soil type consists of areas that have been altered by activities other than mining such that there are no intact soil characteristics. This soil is not hydric.
- **Placer diggings (Pr).** The Placer diggings series consists of remnant tertiary river deposits associated with hydraulic mining and placer mining operations as well natural deposits within stream channels. Areas with this soil type are 90 to 100 percent rock, cobble or gravel. 50 to 75 percent of these lands have a mixture of rock, cobbles, gravel and soil. This soil contains unnamed hydric inclusions in drainages and depressions.
- **Rock outcrop-Dubakella complex on 5 to 50 percent slopes (RrE).** The Rock outcrop-Dubakella complex consists of well-drained soils on mountains. This complex is made up of 50 percent Dubakella gravelly loam, 40 percent rock outcrop and 10 percent included soils. These soils formed from weathered rocks with a large amount of serpentinitic minerals. Drainage is slow and runoff is very high. These soils are not hydric. A typical profile for this complex consists of dark brown (7.5 YR 3/2) gravelly loam from 0 to 2 inches underlain by a reddish brown (5YR 3/4) gravelly clay loam from 2 to 10 inches. This layer is underlain by a variegated yellowish brown (10YR 4/4) and reddish brown (7.5YR 4/4) very cobbly clay from 11 to 21 inches. This layer underlain by a blue green, hard, fractured and partly weathered serpentinitized layer at 21 inches.
- **Secca-Rock outcrop complex on 2 to 50 percent slopes (ScE).** This complex consists of moderately well-drained soils on gently sloping to steep mountain terrain. These soils formed from basic igneous and metamorphic rock. Drainage is slow and runoff is slow to rapid. These soils are not hydric. A typical profile for Secca-Rock outcrop complex consists of brown (5YR 3/4) gravelly silt loam from 0 to 6 inches. This layer is underlain by a reddish brown (5YR 3/4) gravelly silt loam from 6 to 15 inches. This layer is underlain by dark reddish brown (5YR 3/4) cobbly silty clay loam from 15 to 22 inches. From 22 to 36 inches is a strong brown (7.5YR

4/4) cobbly clay, which is underlain by a yellowish brown (10YR 5/6) cobbly clay from 36 to 45 inches. At 45 inches is weathered metabasic rock.

4.3 Project Area Vegetation

Primary upland habitats within the Centennial Industrial Site include the following habitats:

Ponderosa Pine

Ponderosa pine (*Pinus ponderosa*) habitat is identified within the Project Area. The structure and composition of the ponderosa pine forest varies widely according to the amount of soil moisture available during the summer. The canopy closure tends to be low in the Project Area ranging from 5-35%. In the Project Area, California black oak (*Quercus kelloggii*), madrone (*Arbutus menziesii*), foothill pine (*Pinus sabieniana*), and incense cedar (*Calocedrus decurrens*) are common associates of ponderosa pine. A variety of understory shrub species occur throughout the ponderosa pine forest. In the Project Area, the more common understory shrubs are white leaf manzanita (*Arctostaphylos viscida* ssp. *viscida*), poison oak (*Toxicodendron diversilobum*), and honeysuckle (*Lonicera hispidula*). These understory shrubs form often dense, impenetrable stands, especially on open rocky slopes, and in areas of recent disturbance.

Montane Hardwood

Montane hardwood habitat is identified within the Project Area in small, localized stands. Montane hardwood is characterized here by stands of an overstory of California black oak and occasionally canyon live oak (*Quercus chrysolepis*). There is often homogeneity in the canopy structure, and canopy closure is variable between seasons as the dominant overstories species is deciduous, ranging from 5-45%. Due to the historic disturbance, there is abundant Himalayan blackberry (*Rubus armenicus*) in the understory along with other nonnatives including bristly dogtail (*Cynosurus echinatus*) and hedgenettle (*Torilis arvensis*).

Montane Hardwood-Conifer

Montane hardwood-conifer habitat in the Sierra Nevada occurs at elevations between 1,000 and 4,000 feet above MSL. It is comprised of a mosaic of hardwoods and conifers and within the Project Area is likely a midpoint on the gradient between hardwood forest and conifer forest both hardwood and conifer tree species, often in a mosaic pattern with small pure stands of conifers interspersed with small stands of hardwoods. Species associated with montane hardwood-conifer include ponderosa pine, California black oak, canyon live oak, madrone and Douglas fir.

Mixed Chaparral

Mixed chaparral is identified within the Project Area. It is primarily associated with the gabbro soils of the Secca and Dubekella complexes that are known to occur within the southwestern section of the site. In the gabbro, this vegetation type is more or less intact and is characterized by whiteleaf manzanita, buck brush (*Ceanothus cuneatus*), Oregon white oak (*Quercus garryana* var. *semota*), chaparral pea (*Pickeringia montana*), occasionally with scattered foothill pine. McNab cypress (*Hesperocyparis macnabiana*) is occasional in the southwestern portions of the Project Area. With the exception of occasional natural and manmade openings the mixed chaparral the habitat forms almost continuous stands. Mixed chaparral is also present in heavily disturbed areas, both recent and those created by placer diggings. In these more ruderal habitats there is a scattered formation of chaparral, usually characterized by whiteleaf manzanita with buck brush and coyote brush (*Baccharis pilularis*).

Annual Grassland

Annual grassland are open vegetation types that are dominated by annual plant species, often nonnative. These species will occur in the understory of other vegetation types, but in annual grasslands there is little to no overstory or shrub cover. This vegetation type is common within the Project Area where there has been historic disturbance and there is little to no water source other than rainfall. The fall rainfall will spark germination and plants will grow through the cool months and in spring will grow rapidly and flower, fruit and senesce. Common to the environmental setting of this habitat type are yellow star thistle (*Centaurea solstitialis*), garden burnett (*Poterium sanguisorba*), soft chess (*Bromus hordeaceus*), bisnaga (*Ammi visnaga*), and patches of Himalayan blackberry.

4.4 Project Area Wetland Habitats

Wetland associated habitats within the Centennial Industrial Site include the following wetland habitats:

Montane Riparian

A structural gradient generally happens from neighboring vegetation into montane riparian, resulting in oaks or pines grading in with the more riparian species. This vegetation type is characterized by two different ecological conditions, (1) placer diggings and (2) along the stretch of the main stem of Wolf Creek.

The montane riparian in the placer diggings and areas created from earth movement are characterized by black cottonwood (*Populus tremuloides*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), and occasionally ponderosa pine in the overstory. Dense thickets are often resultant with Himalayan blackberry and Baltic rush (*Juncus balticus* ssp. *atar*) in the herbaceous layer.

The montane riparian vegetation along both sides of the main stem of Wolf Creek is dominated by white alder (*Alnus rhombifolia*) with other overstory species from adjacent vegetation types, including California black oak, pine and Douglas fir. The understory of montane riparian along the stream is dominated by Himalayan blackberry.

Wet Meadow

Wet meadows generally contain a single vegetation stratum and are generally dominated by forbs and graminoids. Shrub and trees are sometimes present but generally make up a small portion of this vegetation type. This is typically a diverse plant community driven by hydrologic influences. The wet meadows in the Centennial Industrial Site are typically created where extreme disturbance has occurred in the past or the presence of placer diggings. These wet meadows are characterized by *Agrostis*, *Juncus* spp. and Baltic rush.

Freshwater Emergent Marsh Wetlands

Freshwater emergent marsh wetlands are characterized by hydrophyllic plants and generally standing water. All emergent wetlands have soils that are saturated to the extent that the soils are always anaerobic. There are fresh emergent wetlands identified within the Project Area. This habitat type within the Centennial Industrial Site is dominated by cattails (*Typha* spp.), arroyo willow, and pacific rush (*Juncus effuses* ssp. *pacificus*).

5.0 RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Aquatic Resources Delineation Results

A total of 4.97 acres of “waters of the U.S.”, including wetlands, and “waters of the State of California”, were identified and mapped within the Project Area. The 4.97 acres of wetland-waters includes 4.37 acres of mapped wetlands and 0.60 acres of mapped “other waters of the U.S.,” including the main stem of Wolf Creek, as well as several intermittent and ephemeral streams.

The 4.37 acres of wetlands identified and mapped within the Centennial Industrial Site includes:

- 2.88 acres of wet meadow wetlands (14 features mapped);
- 0.31 acres of freshwater emergent marsh wetlands (2 features mapped); and
- 1.18 acres of riparian wetlands (1 feature mapped).

Table 2 includes the list of wetlands delineated and mapped within the Project Area, including the wetland type, wetland identification number which corresponds to the delineation figures shown in Appendix F, and size of each feature.

Table 2. Wetlands Delineated Within Centennial Industrial Site

No.	Wetland Type	Wetland ID Number	Size (Acres)
1	Meadow wetland	WM-4	1.57
2	Meadow wetland	WM-5	0.86
3	Meadow wetland	WM-6	0.003
4	Meadow wetland	WM-7	0.004
5	Meadow wetland	WM-8	0.004
6	Marsh	MA-1	0.21
7	Marsh	MA-2	0.10
8	Meadow wetland	WM-9	0.02
9	Meadow wetland	WM-10	0.001
10	Meadow wetland	WM-11	0.04
11	Meadow wetland	WM-12	0.27
12	Riparian	RI-1	1.18
13	Meadow wetland	WM-13	0.03
14	Meadow wetland	WM-1	0.01
15	Meadow wetland	WM-2	0.006
16	Meadow wetland	WM-3	0.05
17	Meadow wetland	WM-14	0.01
17			4.37

The 0.60 acres (3,968 linear feet) of streams identified and mapped within the Centennial Industrial Site includes:

- One (1) perennial stream, the main stem of Wolf Creek, totaling 0.38 acres over 1,262 linear feet;
- Two (2) intermittent streams totaling 0.17 acres over 1,616 linear feet; and
- Five (5) ephemeral streams that only flow during and immediately after precipitation events totaling 0.05 acres over 1,090 linear feet.

Table 3 includes the list of streams delineated and mapped within the Centennial Industrial Site, including the stream type, stream identification number which corresponds to the delineation figures shown in Appendix F, and size of each feature.

Table 3. Streams Delineated Within Centennial Industrial Site

No.	Stream Type	Wetland ID Number	Size (Acres)
1	Perennial Stream	Wolf Creek – 1	0.38
2	Intermittent Stream	I – 1	0.16
3	Intermittent Stream	I – 2	0.006
4	Ephemeral Stream	E – 1	0.002
5	Ephemeral Stream	E – 2	0.005
6	Ephemeral Stream	E – 3	0.02
7	Ephemeral Stream	E – 4	0.02
8	Ephemeral Stream	E – 5	0.01
8			0.60

The wetland types, number, and extent of wetlands delineated within the Centennial Industrial Site in December 2018 and July 2019 are generally comparable, with only small differences in some areas, to the previous delineation by WRA, Inc. in 2008.

Given that the Centennial Industrial Site has had no significant disturbance since 2008 and the hydrology of the site has remained similar to that identified in 2008, only a small change in the number and extent of wetlands within the Project Area is to be expected. The changes that have occurred in terms of the number and extent of wetland features within the Centennial Industrial Site could be partially explained by the change in weather patterns, including several years of drought condition, over the past decade followed by years of average to high rainfall the past 3 years.

5.2 Conclusions and Recommendations

Each of the mapped wetland features and stream features included as part of this Delineation Report are assumed to fall under Corps jurisdiction pursuant to Section 404 of the CWA. There are no additional features that would fall under the RWQCB jurisdiction pursuant to the CWA and/or Porter-Cologne Water Quality Control Act.

The RWQCB pursuant to Section 401 of the CWA also has jurisdiction over areas subject to regulation by the Corps under Section 404 of the CWA. As detailed in the CWA, any proposed action that would place fill or dredge material within areas identified as Corps jurisdictional wetlands or waters would require a Department of the Army Section 404 permit and a RWQCB Section 401 Water Quality Certification, or waiver thereof, prior to the placement of fill or dredge material within such features. This investigation determined that the perennial, intermittent, and ephemeral streams within the Centennial Industrial Site and associated riparian habitat associated with the main stem of Wolf Creek would likely fall under CDFW jurisdiction as this area contains a bed and bank with associated riparian habitat. Any proposed alteration of the mapped streams and associated riparian habitat most likely would require a Streambed Alteration Agreement from the CDFW pursuant to Section 1600 *et. seq.* of the California Fish and Wildlife Code prior to any future construction within the Centennial Industrial Site, as discussed previously.

Prior to the development of such permit applications for the potential placement of fill or dredged material within any mapped wetlands or below the OHWM of any of the streams mapped within the Centennial Industrial Site, this Delineation Report should be submitted along with a request for a Preliminary Jurisdictional Determination ("PJD") as part of the Corps Section 404 permit process if any potential dredge or fill material is to be placed within any Corps jurisdictional wetlands-waters features. It is recommended that the PJD request be submitted along with this Delineation Report and a CWA Section 404 permit application concurrently, if feasible, given the Corps gives priority to PJD requests that include a permit application.

In addition, it is recommended that a functional or conditions assessment be conducted within the Centennial Industrial Site given that the functional values of the mapped "waters of the U.S.," including wetlands, within the site will assist with the determination of any required compensatory mitigation to offset fill and/or dredge impacts to such CWA regulated features. The results of the functional or conditions assessment would be included as part of any CWA Section 404 permit application and would be integrated into the identification of any proposed compensatory mitigation as part of the permit package.

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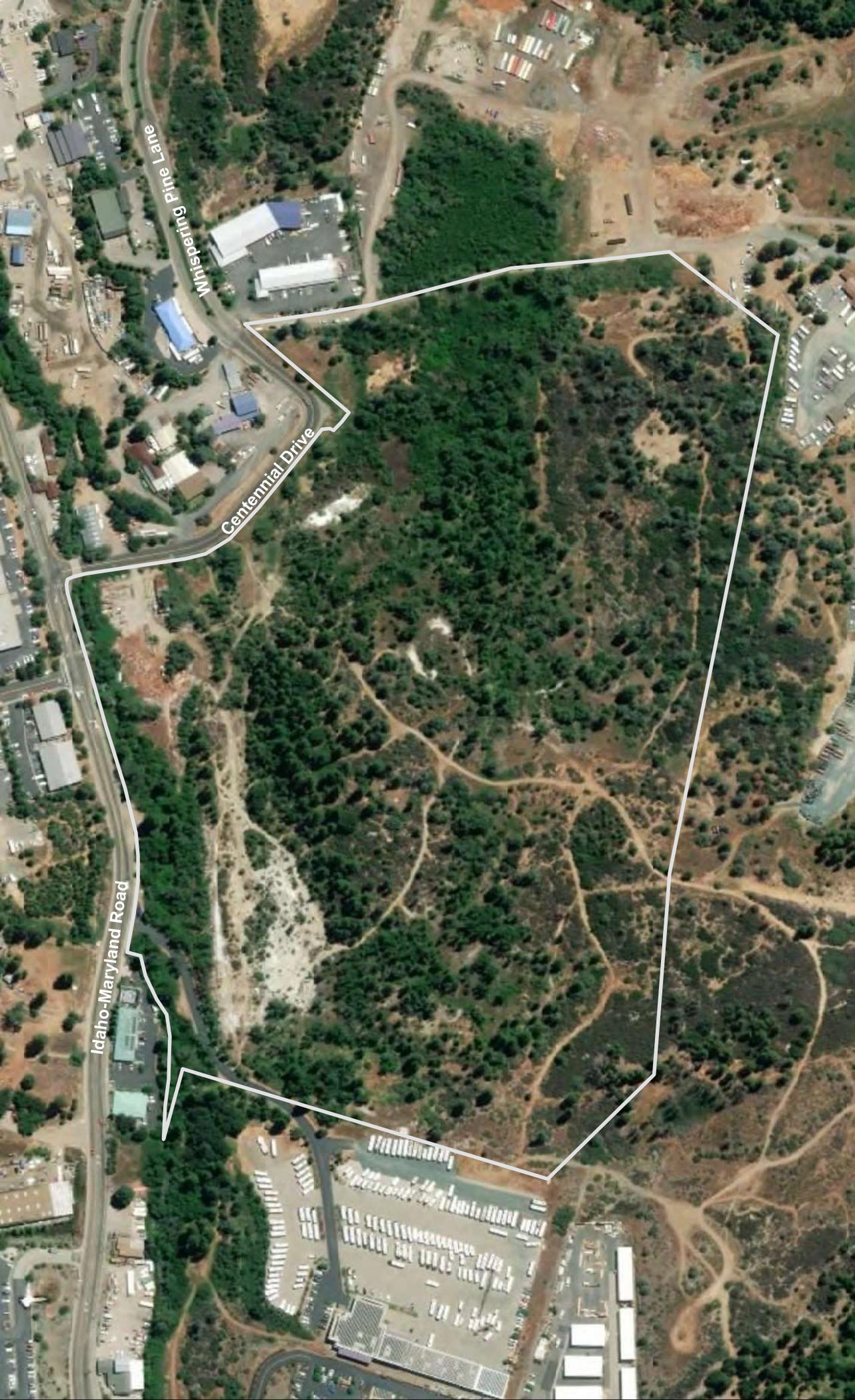
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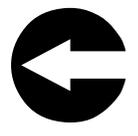
Appendix A

Project Overview Area Figure



Grass Valley, CA
Grass Valley 7.5 minute USGS quadrangle
T16N, R8E Section 26
Coordinate System: NAD 83 Zone 10N
Projection: Transverse Mercator
Datum: D_North_American_1983

Figure. Centennial Industrial Site



SCALE: 1 inch = 300 feet

Legend



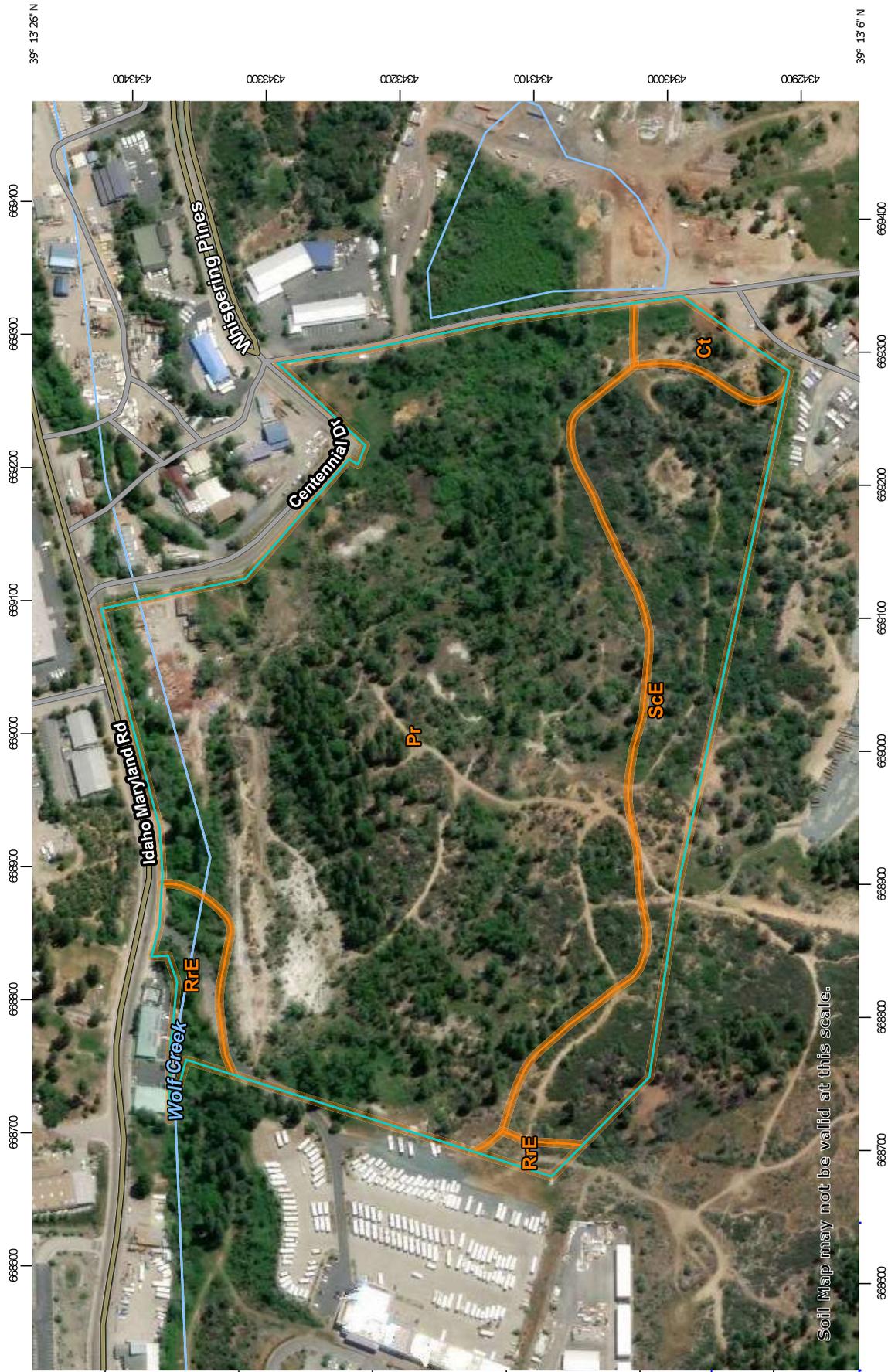
Centennial Industrial Site
Study Area, 56.41 ac.

Appendix B

USDA Soils Map

Soil Map—Nevada County Area, California

121° 2' 51" W 39° 13' 26" N



Soil Map may not be valid at this scale.

Map Scale: 1:4,360 if printed on A landscape (11" x 8.5") sheet.

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: Nevada County Area, California
 Survey Area Data: Version 11, Sep 12, 2018

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

Date(s) aerial images were photographed: Apr 20, 2017—Aug 8, 2017

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
Ct	Cut and fill land	1.1	2.2%
Pr	Placer diggings	43.2	76.4%
RrE	Rock outcrop-Dubakella complex, 5 to 50 percent slopes	1.8	3.1%
ScE	Secca-Rock outcrop complex, 2 to 50 percent slopes	10.31	18.4%
Totals for Area of Interest		56.41	100.0%

Appendix C

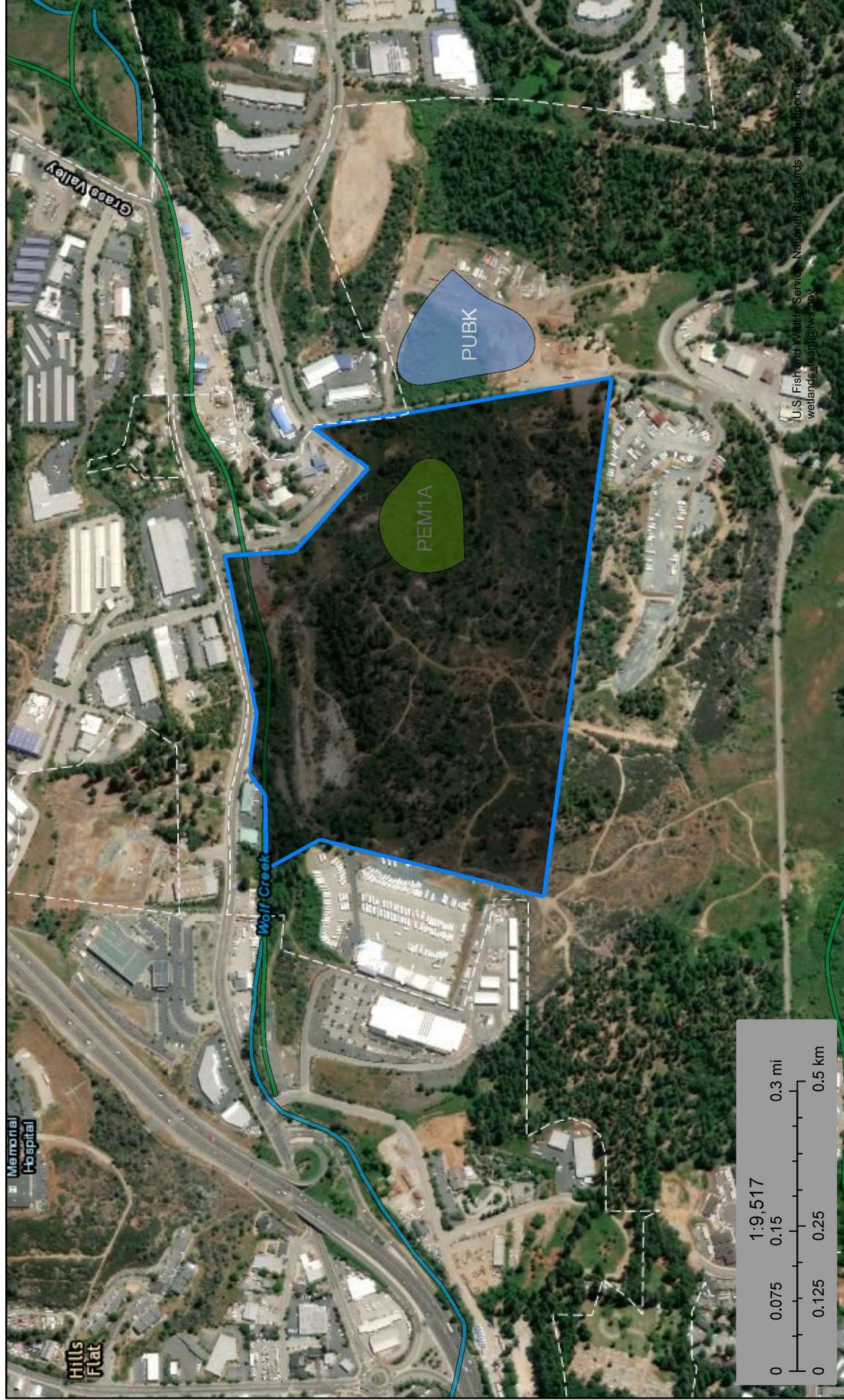
National Wetland Inventory (NWI) Map



U.S. Fish and Wildlife Service

National Wetlands Inventory

NWI Centennial Industrial Site Project Area



U.S. Fish and Wildlife Service, National Standards and Support Team
wetlands_team@fws.gov

December 7, 2018

Wetlands

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Lake
-  Other
-  Riverine

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

Appendix D

Plants Observed During Aquatic Resources Delineation

VASCULAR PLANTS OCCURRING IN THE CENTENNIAL INDUSTRIAL SITE

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
<i>Acer macrophyllum</i>	Bigleaf maple	native	Tree	-	FACU	-
<i>Agoseris retrorsa</i>	Spear leaved agoseris	native	perennial herb	-	-	-
<i>Agrostis gigantea</i>	Creeping bentgrass	non-native	perennial grass	-	FAC	-
<i>Ailanthus altissima</i>	Tree of heaven	non-native (invasive)	Tree	-	FACU	Moderate
<i>Aira caryophylla</i>	Silvery hairgrass	non-native (invasive)	annual grass	-	FACU	-
<i>Allium amplexans</i>	Narrow leaved onion	Native	perennial herb (bulb)	-	-	-
<i>Alnus rhombifolia</i>	White alder	Native	Tree	-	FACW	-
<i>Ammi visnaga</i>	Bisnaga	non-native	annual, biennial herb	-	-	-
<i>Anaphalis margaritacea</i>	Pearly everlasting	Native	perennial herb	-	FACU	-
<i>Andropogon virginicus</i> var. <i>virginicus</i>	Broomsedge bluestem	non-native	perennial grass	-	FAC	-
<i>Arbutus menziesii</i>	Madrono	Native	Tree	-	-	-
<i>Arctostaphylos mewukka</i> ssp. <i>mewukka</i>	Indian manzanita	Native	Shrub	-	-	-
<i>Arctostaphylos viscida</i> ssp. <i>viscida</i>	Smooth white leaf manzanita	Native	tree, shrub	-	-	-
<i>Artemisia douglasiana</i>	California mugwort	Native	perennial herb	-	FACW	-
<i>Asclepias</i> sp.	-	-	-	-	-	-
<i>Asclepias speciosa</i>	Showy milkweed	Native	perennial herb	-	FAC	-
<i>Avena</i> sp.	-	-	-	-	-	-
<i>Baccharis pilularis</i>	Coyote brush	Native	Shrub	-	-	-
<i>Berberis aquifolium</i> var. <i>repens</i>	Creeping oregon grape	Native	Shrub	-	FACU	-
<i>Brodiaea minor</i>	Low brodiaea	Native	perennial herb	-	-	-

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
<i>Brodiaea sierrae</i>	Sierra foothills brodiaea	Native	perennial herb	Rank 4.3	-	-
<i>Bromus hordeaceus</i>	Soft chess	non-native (invasive)	annual grass	-	FACU	Limited
<i>Bromus madritensis</i>	Foxtail chess, foxtail brome	non-native	annual grass	-	FACU	-
<i>Calocedrus decurrens</i>	Incense cedar	Native	Tree	-	-	-
<i>Calycadenia multiglandulosa</i>	Rosin weed	Native	annual herb	-	-	-
<i>Carex feta</i>	Green sheathed sedge	Native	perennial grasslike herb	-	FACW	-
<i>Ceanothus cuneatus</i>	Buck brush	Native	Shrub	-	-	-
<i>Ceanothus integerrimus</i>	Deer brush	Native	Shrub	-	-	-
<i>Ceanothus lemmonii</i>	Lemmon's ceanothus	Native	Shrub	-	-	-
<i>Centaurea solstitialis</i>	Yellow starthistle	non-native (invasive)	annual herb	-	-	High
<i>Centaureum tenuiflorum</i>	Slender centaury	non-native	annual herb	-	FACW	-
<i>Centranthus sp.</i>	-	-	-	-	-	-
<i>Centromadia fitchii</i>	Spikeweed	Native	annual herb	-	FACU	-
<i>Chlorogalum pomeridianum</i>	Amole	Native	perennial herb	-	-	-
<i>Chondrilla juncea</i>	Skeleton weed	non-native (invasive)	perennial herb	-	-	Moderate
<i>Cichorium intybus</i>	Chicory	non-native	perennial herb	-	FACU	-
<i>Cirsium vulgare</i>	Bullthistle	non-native (invasive)	perennial herb	-	FACU	Moderate
<i>Cornus nuttallii</i>	Mountain dogwood	Native	Shrub	-	FACU	-
<i>Cornus sericea</i>	American dogwood	Native	Shrub	-	FACW	-
<i>Cortaderia jubata</i>	Andean pampas grass	non-native (invasive)	perennial grass	-	FACU	High
<i>Crataegus monogyna</i>	Hawthorn	non-native (invasive)	Shrub	-	FAC	Limited
<i>Croton setiger</i>	Turkey-mullein	Native	perennial herb	-	-	-
<i>Cynodon dactylon</i>	Bermuda grass	non-native (invasive)	perennial grass	-	FACU	Moderate
<i>Cynosurus echinatus</i>	Dogtail grass	non-native (invasive)	annual grass	-	-	Moderate
<i>Cyperus eragrostis</i>	Tall cyperus	Native	perennial grasslike herb	-	FACW	-
<i>Dactylis glomerata</i>	Orchardgrass	non-native (invasive)	perennial grass	-	FACU	Limited

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
<i>Danthonia californica</i>	California oatgrass	Native	perennial grass	-	FAC	-
<i>Deschampsia elongata</i>	Hairgrass	Native	perennial grass	-	FACW	-
<i>Elymus caput-medusae</i>	Medusa head	non-native	annual grass	-	-	-
<i>Elymus elymoides</i>	Squirrel tail grass	Native	perennial grass	-	FACU	-
<i>Elymus hispidus</i>	Intermediate wheatgrass	non-native	perennial grass	-	-	-
<i>Epilobium sp.</i>	-	-	-	-	-	-
<i>Epipactis gigantea</i>	Stream orchid	Native	perennial herb	-	OBL	-
<i>Eriodictyon californicum</i>	Yerba santa	Native	Shrub	-	-	-
<i>Eriophyllum lanatum</i>	Wooly sunflower	Native	perennial herb	-	-	-
<i>Euthamia occidentalis</i>	Western goldenrod	Native	perennial herb	-	FACW	-
<i>Festuca arundinacea</i>	Reed fescue	non-native (invasive)	perennial grass	-	FAC	Moderate
<i>Festuca idahoensis</i>	Blue fescue	Native	perennial grass	-	FACU	-
<i>Festuca microstachys</i>	Small fescue	Native	annual grass	-	-	-
<i>Ficus sp.</i>	-	-	-	-	-	-
<i>Frangula californica ssp. tomentella</i>	Hoary coffeeberry	Native	Shrub	-	-	-
<i>Frangula rubra</i>	Red buckthorn	Native	Shrub	-	-	-
<i>Fremontodendron decumbens</i>	Pine hill flannelbush	Native	Shrub	FE, SR, Rank 1B.2	-	-
<i>Galium porrigens</i>	Climbing bedstraw	Native	vine, shrub	-	-	-
<i>Gamochaeta sp.</i>	-	-	-	-	-	-
<i>Garrya fremontii</i>	Fremont's silk tassel	Native	Shrub	-	-	-
<i>Grindelia camporum</i>	Gumweed	Native	perennial herb	-	FACW	-
<i>Grindelia sp.</i>	-	-	-	-	-	-
<i>Hedera helix</i>	English ivy	non-native (invasive)	vine, shrub	-	FACU	-

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
<i>Hemizonella minima</i>	Opposite leaved tarweed	Native	annual herb	-	-	-
<i>Hesperocyparis macnabiana</i>	Macnab cypress	Native	tree, shrub	-	-	-
<i>Hirschfeldia incana</i>	Mustard	non-native (invasive)	perennial herb	-	-	Moderate
<i>Holcus lanatus</i>	Common velvetgrass	non-native (invasive)	perennial grass	-	FAC	Moderate
<i>Hypericum perforatum ssp. perforatum</i>	Klamathweed	non-native	perennial herb	-	FACU	-
<i>Hypochaeris radicata</i>	Hairy cats ear	non-native (invasive)	perennial herb	-	FACU	Moderate
<i>Juncus articulatus ssp. articulatus</i>	Jointed rush	Native	perennial grasslike herb	-	OBL	-
<i>Juncus balticus ssp. ater</i>	Baltic rush	Native	perennial grasslike herb	-	FACW	-
<i>Juncus confusus</i>	Colorado rush	Native	perennial grasslike herb	-	FAC	-
<i>Juncus effusus ssp. pacificus</i>	Pacific rush	Native	perennial grasslike herb	-	FACW	-
<i>Juncus trilocularis</i>	-	Native	annual grasslike herb	-	-	-
<i>Lactuca serriola</i>	Prickly lettuce	non-native (invasive)	annual herb	-	FACU	-
<i>Lathyrus latifolius</i>	Sweet pea	non-native	perennial herb	-	-	-
<i>Leontodon saxatilis</i>	Hawkbit	non-native	annual herb	-	FACU	-
<i>Leucanthemum vulgare</i>	Oxe eye daisy	non-native (invasive)	perennial herb	-	FACU	Moderate
<i>Lilium humboldtii ssp. humboldtii</i>	Humboldt lily	Native	perennial herb	Rank 4.2	-	-
<i>Lonicera hispidula</i>	Pink honeysuckle	Native	vine, shrub	-	FACU	-
<i>Lonicera interrupta</i>	Chaparral honeysuckle	Native	vine, shrub	-	-	-
<i>Lotus corniculatus</i>	Bird's foot trefoil	non-native (invasive)	perennial herb	-	FAC	-
<i>Lysimachia arvensis</i>	Scarlet pimpernel	non-native	annual herb	-	FAC	-
<i>Madia gracilis</i>	Gumweed	Native	annual herb	-	-	-
<i>Melica californica</i>	California melic	Native	perennial grass	-	-	-
<i>Melilotus albus</i>	White sweetclover	non-native (invasive)	annual, biennial herb	-	-	-
<i>Muhlenbergia rigens</i>	Deergrass	Native	perennial grass	-	UPL	-

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
<i>Panicum sp.</i>	-	-	-	-	-	-
<i>Parthenocissus sp.</i>	-	-	-	-	-	-
<i>Penstemon heterophyllus</i>	Foothill penstemon	Native	perennial herb	-	-	-
<i>Pickeringia montana</i>	Chaparral pea	Native	Shrub	-	-	-
<i>Pinus ponderosa</i>	Yellow pine	Native	Tree	-	FACU	-
<i>Pinus sabiniana</i>	Bull pine	Native	Tree	-	-	-
<i>Plantago lanceolata</i>	Ribwort	non-native (invasive)	perennial herb	-	FACU	Limited
<i>Polygala cornuta</i>	Sierra milkwort	Native	perennial herb	-	FACW	-
<i>Polypogon sp.</i>	-	-	-	-	-	-
<i>Populus fremontii ssp. fremontii</i>	Cottonwood	Native	Tree	-	FAC	-
<i>Poterium sanguisorba</i>	Garden burnet	non-native	perennial herb	-	UPL	-
<i>Prunella vulgaris</i>	Self heal	Native	perennial herb	-	FACU	-
<i>Prunus subcordata</i>	Sierra plum	Native	tree, shrub	-	-	-
<i>Pyracantha sp.</i>	-	-	-	-	-	-
<i>Quercus garryana var. semota</i>	Oregon white oak	Native	Tree	-	FACU	-
<i>Rhamnus crocea</i>	Redberry	Native	Shrub	-	-	-
<i>Rosa canina</i>	Dog rose	non-native	Shrub	-	-	-
<i>Rubus armeniacus</i>	Himalayan blackberry	non-native (invasive)	Shrub	-	FACU	High
<i>Rubus leucodermis</i>	White bark raspberry	Native	Shrub	-	FACU	-
<i>Rumex crispus</i>	Curly dock	non-native (invasive)	perennial herb	-	FAC	Limited
<i>Salix exigua</i>	Narrowleaf willow	Native	tree, shrub	-	FACW	-
<i>Salix laevigata</i>	Polished willow	Native	Tree	-	FACW	-
<i>Salix lasiolepis</i>	Arroyo willow	Native	tree, shrub	-	FACW	-
<i>Salvia sonomensis</i>	Sonoma sage	Native	perennial herb	-	-	-
<i>Schoenoplectus acutus var. occidentalis</i>	Tule	Native	perennial grasslike herb	-	OBL	-

Scientific Name	Common Name	Origin	Form	Rarity Status	Wetland Status (WMVC 2014)	CAL-IPC Status
<i>Scutellaria tuberosa</i>	Dannie's scullcap	Native	perennial herb	-	-	-
<i>Solidago sp.</i>	-	-	-	-	-	-
<i>Toxicodendron diversilobum</i>	Poison oak	Native	vine, shrub	-	FAC	-
<i>Tragopogon dubius</i>	Goat's beard	non-native (invasive)	perennial herb	-	-	-
<i>Trichostema lanceolatum</i>	Vinegarweed	Native	annual herb	-	FACU	-
<i>Trifolium hirtum</i>	Rose clover	non-native (invasive)	annual herb	-	-	Limited
<i>Trifolium sp.</i>	-	-	-	-	-	-
<i>Triteleia hyacinthina</i>	Wild hyacinth	Native	perennial herb	-	FAC	-
<i>Typha domingensis</i>	Cattail	Native	perennial herb	-	OBL	-
<i>Verbascum blattaria</i>	Moth mullein	non-native	perennial herb	-	UPL	-
<i>Verbascum thapsus</i>	Woolly mullein	non-native (invasive)	perennial herb	-	FACU	Limited
<i>Vitis californica</i>	California wild grape	Native	vine, shrub	-	FACU	-
<i>Wyethia angustifolia</i>	Narrow leaved mule ears	Native	perennial herb	-	FACU	-
<i>Wyethia bolanderi</i>	Bolander's wyethia	Native	perennial herb	-	-	-

Appendix E

Aquatic Resources Delineation Photo Log

Photos of Aquatic Resources Delineation Field Surveys of the Centennial Industrial Site



Photo 1. Spring associated with WM-8 in the western section of the Centennial Industrial Site.



Photo 2. Wetland area WM-3 in the northwestern section of the Centennial Industrial Site.



Photo 3. Mapped drainage connecting WM-10 with WM-3 in the northern/northwestern section of the Centennial Industrial Site.



Photo 4. Roadside wetland WM-11 in the western section of the Centennial Industrial Site.



Photo 5. Wetland area WM-2 in the northwestern section of the Centennial Industrial Site.



Photo 6. Narrow wetland area of WM-5 in the western section of the Centennial Industrial Site.



Photo 7. Wetland area WM-12 in the central section of the Centennial Industrial Site.



Photo 8. Marsh wetland (MA-1) in the eastern section of the Centennial Industrial Site.



Photo 9. Wetland area MA-1 in the eastern section of the Centennial Industrial Site.



Photo 10. Wetland area (WM-4) in the eastern section of the Centennial Industrial Site.



Photo 11. Large riparian area (RI-1) in the eastern section of the Centennial Industrial Site.



Photo 12. Edge of large riparian area (RI-1) in the eastern section of the Centennial Industrial Site.



Photo 13. Previously delineated wetland area in the western section of the Centennial Industrial Site. No hydrophytic vegetation or hydric soils were present in this area in December 2018. Soil data point taken immediately southeast of mapped wetland WM-3 (see attached delineation figures).



Photo 14. Frozen, sandy loam hydric soil associated with WM-3 in the western section of the Centennial Industrial Site. Wetlands WM-3 and WM-4 were associated with sandy soils.



Photo 15. Hydric soils associated with wetland WM-5 in the western section of the Centennial Industrial Site. The northwestern section of this project area contained varied soil types.



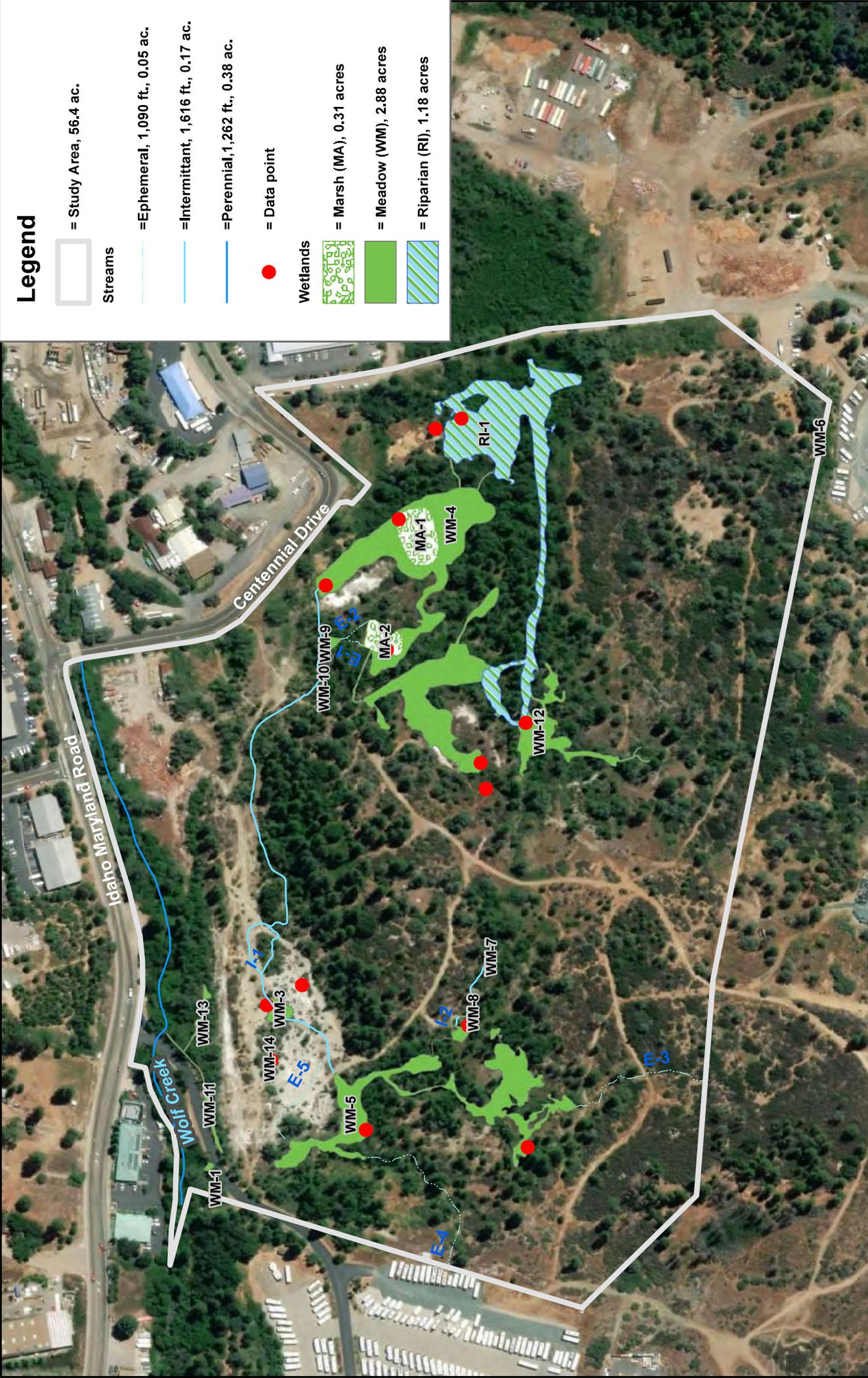
Photo 16. Sandy loam hydric soils associated with wetland WM-3 in the western section of the Centennial Industrial Site.

Appendix F

Aquatic Resources Delineation Results Figures

Legend

-  = Study Area, 56.4 ac.
- Streams**
-  = Ephemeral, 1,090 ft., 0.05 ac.
-  = Intermittent, 1,616 ft., 0.17 ac.
-  = Perennial, 1,262 ft., 0.38 ac.
-  = Data point
- Wetlands**
-  = Marsh (MA), 0.31 acres
-  = Meadow (WM), 2.88 acres
-  = Riparian (RI), 1.18 acres



This delineation has been conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the Western Mountains Regional Supplement (2010). The identification of ordinary high water mark (OHWM) was based on A Guide to Ordinary High Water Mark (OHWM) for Non-Perennial Streams in the Western Mountains (2014).

Figure. Centennial Industrial Site Aquatic Resources Delineation



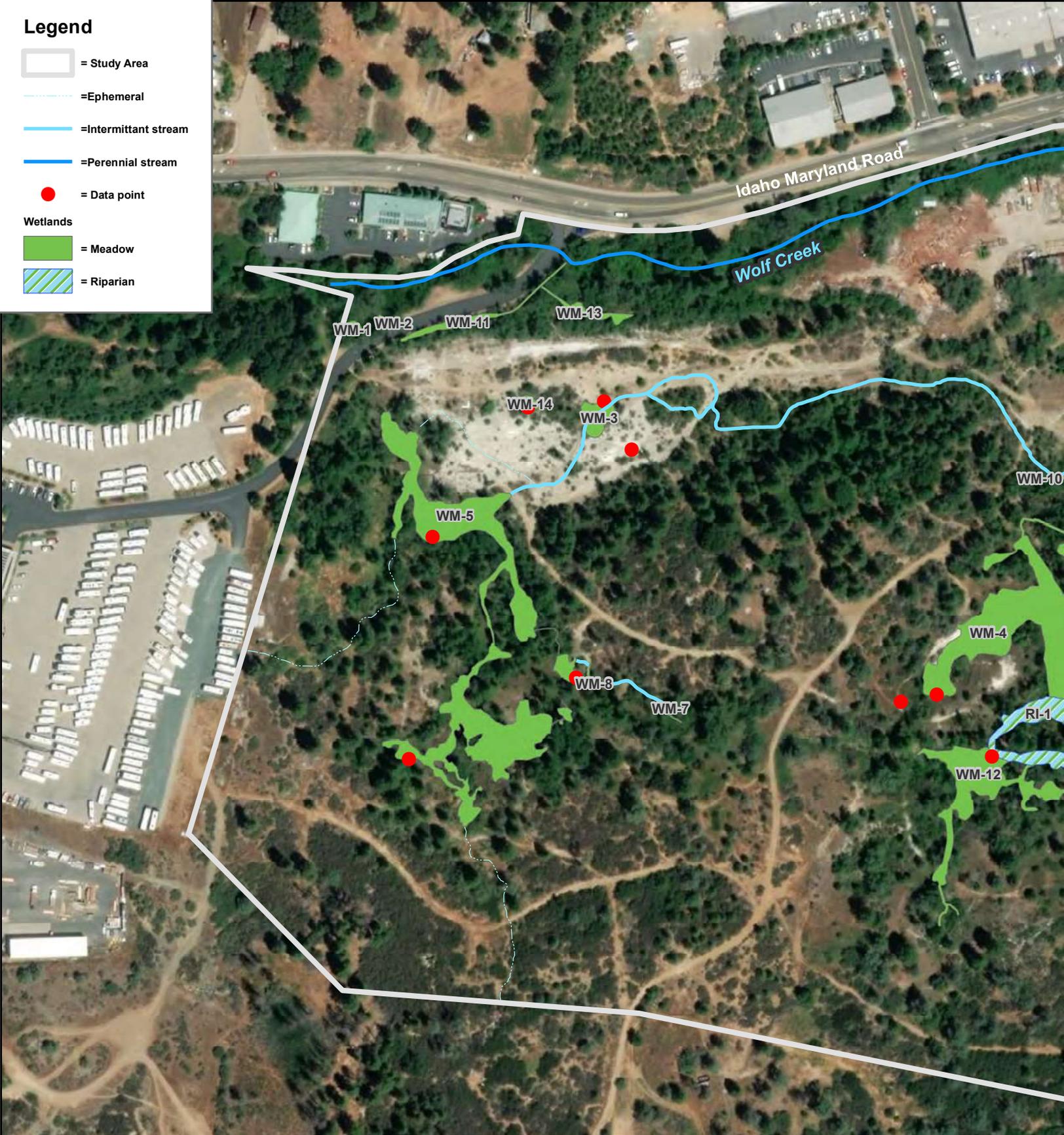
SCALE: 1 inch = 275 feet

Created August 30, 2019

Grass Valley, CA (APNs 009-550-037-000, 009-550-036-000, 009-550-032-000 & 009-550-038-000)
 Grass Valley 7.5 minute USGS quadrangle T16N, R8E Section 26
 Coordinate System: NAD 83 Zone 10N
 Projection: Transverse Mercator
 Datum: D_North_American_1983

Legend

-  = Study Area
-  = Ephemeral
-  = Intermittant stream
-  = Perennial stream
-  = Data point
- Wetlands**
-  = Meadow
-  = Riparian



**Figure. Aquatic Resources Delineation
Centennial Industrial Site, West.**

Grass Valley, CA (APNs 009-550-037-000,
009-550-036-000, 009-550-032-000
& 009-550-038-000)
Grass Valley 7.5 minute USGS quadrangle
T16N, R8E Section 26

Coordinate System: NAD 83 Zone 10N
Projection: Transverse Mercator
Datum: D_North_American_1983



SCALE: 1 inch = 200 feet

This delineation has been conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the Western Mountains Regional Supplement (2010). The identification of ordinary high water mark (OHWM) was based on A Guide to Ordinary High Water Mark (OHWM) for Non-Perennial Streams in the Western Mountains (2014).

Created August 30, 2019



Legend

-  = Study Area
 -  = Ephemeral stream
 -  = Intermittant stream
 -  = Perennial stream
 -  = Data point
- Wetlands**
-  = Marsh
 -  = Meadow
 -  = Riparian

**Figure. Aquatic Resources Delineation
Centennial Industrial Site, East**

Grass Valley, CA (APNs 009-550-037-000,
009-550-036-000, 009-550-032-000
& 009-550-038-000)
Grass Valley 7.5 minute USGS quadrangle
T16N, R8E Section 26

Coordinate System: NAD 83 Zone 10N
Projection: Transverse Mercator
Datum: D_North_American_1983



SCALE: 1 inch = 200 feet

This delineation has been conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the Western Mountains Regional Manual (2010). The identification of ordinary high water mark (OHWM) was based on A Guide to Ordinary High Water Mark (OHWM) for Non-Perennial Streams in the Western Mountains (2014).

Created August 30, 2019.

Appendix G

Aquatic Resources Delineation Data Sheets

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

Project/Site: Centennial Industrial Site City/County: Grass Valley/Nevada Co. Sampling Date: December 12, 2018
 Applicant/Owner: Rise Grass Valley Inc. State: CA Sampling Point: RI – 1 Wetland Point
 Investigator(s): Greg Matuzak, Wendy Boes Section, Township, Range: Section 26, T16N, R8E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): MLRA22A Sierra Nevada Lat: 39 degrees Long: 121 degrees Datum: WGS 84
 Soil Map Unit Name: Placer Diggings NWI classification: Not Mapped
 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Remarks: Manmade swale area that contains primarily riparian associated vegetation. This sampling site was just along the edge of a riparian mapped wetland. This riparian wetland was previously mapped by both ESA Associates in 2007 and WRA in 2008 in the same location and same extent and boundary.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis</u>	15%	Y	FACW	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: 67% (A/B)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 4 x 2 = 8 FAC species 0 x 3 = 0 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 4 (A) 8 (B) Prevalence Index = B/A = 2.0
Sapling/Shrub Stratum (Plot size: <input type="text"/>) 1. <u>Salix lasiolepis</u> 2. <u>Rosa rubiginosa</u> 3. _____ 4. _____ 5. _____	45%	Y	FACW	
	20%	Y	FACW	
_____ = Total Cover				
Herb Stratum (Plot size: <input type="text"/>) 1. <u>Juncus effuses ssp. pacificus</u> 2. <u>Lathyrus latifolius</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____	45%	Y	FACW	
	25%	Y	NL	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <input type="text"/>) 1. _____ 2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>30%</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks: Hydrophytic vegetation dominant in this data point.

SOIL

Sampling Point: RI – 1 Wetland Pt.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14"	10YR 3/4	80%	7.5YR 3/3	5%	RM	M	Loamy	Mixed loam with some sand

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Redox Depressions (F8)	

Indicators for Problematic Hydric Soils³:

³Indicators 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: Historic area of mine tailings and therefore, the soil type is Placer diggings, an NRCS hydric soil on the Nevada County list. The soil did exhibit some properties of a hydric soil given the small amount of redox features within the matrix. Soil is mostly loam with some sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks: This feature is fed by a culvert under a large berm that connects directly to the east of the project site. Directly to the east is a large pond that historically was used for logs and other uses when a mill was in directly to the east of the project site.

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

Project/Site: Centennial Industrial Site City/County: Grass Valley/Nevada Co. Sampling Date: December 12, 2018
 Applicant/Owner: Rise Grass Valley Inc. State: CA Sampling Point: RI – 1 Upland Point
 Investigator(s): Greg Matuzak, Wendy Boes Section, Township, Range: Section 26, T16N, R8E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): MLRA22A Sierra Nevada Lat: 39 degrees Long: 121 degrees Datum: WGS 84
 Soil Map Unit Name: Placer Diggings NWI classification: Not Mapped
 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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

Remarks: Upland data point adjacent to a manmade swale area that contains primarily riparian associated vegetation. This upland data point was previously mapped as upland/non-wetland by both ESA Associates in 2007 and WRA in 2008 in the same location.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u><i>Pinus ponderosa</i></u>	20%	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <input type="text" value="1"/> (A)
2. _____				Total Number of Dominant Species Across All Strata: <input type="text" value="3"/> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <input type="text" value="33%"/> (A/B)
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u><i>Rubus armeniacus</i></u>	45%	Y	FAC	Total % Cover of: Multiply by:
2. <u><i>Arctopylus viscida ssp viscida</i></u>	20%	Y	NL	OBL species <input type="text" value="0"/> x 1 = <input type="text" value="0"/>
3. _____				FACW species <input type="text" value="0"/> x 2 = <input type="text" value="0"/>
4. _____				FAC species <input type="text" value="1"/> x 3 = <input type="text" value="3"/>
5. _____				FACU species <input type="text" value="2"/> x 4 = <input type="text" value="8"/>
_____ = Total Cover				UPL species <input type="text" value="0"/> x 5 = <input type="text" value="0"/>
				Column Totals: <input type="text" value="3"/> (A) <input type="text" value="11"/> (B)
				Prevalence Index = B/A = <input type="text" value="3.67"/>
Herb Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u><i>Prunella vulgaris</i></u>	15%	Y	FACU	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____				<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____				<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>85%</u>				

Remarks: Upland vegetation dominant in this data point.

SOIL

Sampling Point: RI – 1 Upland Pt.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14"	10YR 4/4	100					Silty loam	

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

Project/Site: Centennial Industrial Site City/County: Grass Valley/Nevada Co. Sampling Date: December 12, 2018
 Applicant/Owner: Rise Grass Valley Inc. State: CA Sampling Point: WM – 12 Wetland Point
 Investigator(s): Greg Matuzak, Wendy Boes Section, Township, Range: Section 26, T16N, R8E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): MLRA22A Sierra Nevada Lat: 39 degrees Long: 121 degrees Datum: WGS 84
 Soil Map Unit Name: Placer Diggings NWI classification: Not Mapped
 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			

Remarks: Western end of manmade swale area that contains an edge between riparian associated vegetation and a mapped wet meadow wetland. This sampling site was just along the edge of a riparian mapped wetland, wet meadow wetland, and upland point. This wetland was previously mapped by both ESA Associates in 2007 as a riparian wetland and WRA in 2008 on the boundary of a riparian wetland and seasonal wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u><i>Populus fremontii ssp fremontii</i></u>	15%	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>3</u> x 2 = <u>6</u> FAC species <u>1</u> x 3 = <u>3</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>4</u> (A) <u>9</u> (B) Prevalence Index = B/A = <u>2.25</u>
Sapling/Shrub Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Rosa rubiginosa</i></u>	10%	Y	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u><i>Juncus effuses ssp. pacificus</i></u>	25%	Y	FACW	
2. <u><i>Juncus balticus ssp. ater</i></u>	15%	Y	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>60%</u>				

Remarks: Hydrophytic vegetation dominant in this data point.

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

Project/Site: Centennial Industrial Site City/County: Grass Valley/Nevada Co. Sampling Date: December 12, 2018
 Applicant/Owner: Rise Grass Valley Inc. State: CA Sampling Point: WM – 4W Upland Point
 Investigator(s): Greg Matuzak, Wendy Boes Section, Township, Range: Section 26, T16N, R8E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): MLRA22A Sierra Nevada Lat: 39 degrees Long: 121 degrees Datum: WGS 84
 Soil Map Unit Name: Placer Diggings NWI classification: Not Mapped
 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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

Remarks: Upland data point adjacent to the western end of large wet meadow wetland. This data point is located along the boundary of the western end of the wetland itself. This area was previously mapped as non-wetland/upland by both ESA Associates in 2007 and WRA in 2008.

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Worksheet
Tree Stratum (Plot size: <input type="text"/>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
1. <u><i>Pinus ponderosa</i></u>	20%	Y	FACU	
2. _____				
3. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>1</u> x 3 = <u>3</u> FACU species <u>3</u> x 4 = <u>12</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>4</u> (A) <u>15</u> (B) Prevalence Index = B/A = <u>3.75</u>
Sapling/Shrub Stratum (Plot size: <input type="text"/>)				
1. <u><i>Rubus armeniacus</i></u>	15%	Y	FAC	
2. <u><i>Arctopylus viscida ssp viscida</i></u>	30%	Y	NL	
3. _____				
4. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <input type="text"/>)				
1. <u><i>Prunella vulgaris</i></u>	15%	Y	FACU	
2. <u><i>Verbascum thapsus</i></u>	20%	Y	FACU	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <input type="text"/>)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks: Upland vegetation dominant in this data point.

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

Project/Site: Centennial Industrial Site City/County: Grass Valley/Nevada Co. Sampling Date: December 12, 2018
 Applicant/Owner: Rise Grass Valley Inc. State: CA Sampling Point: MA – 2 Wetland Point
 Investigator(s): Greg Matuzak, Wendy Boes Section, Township, Range: Section 26, T16N, R8E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): MLRA22A Sierra Nevada Lat: 39 degrees Long: 121 degrees Datum: WGS 84
 Soil Map Unit Name: Placer Diggings NWI classification: Not Mapped
 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Remarks: Marsh wetland associated with an area of perennial fresh water. Larger ponded area with open water without vegetation. This marsh wetland is located within wet meadow #4 (WM-4) and connects with ephemeral stream 1 & 2 (E-1 and E-2). This data point is located along the edge of the marsh wetland. This wetland was previously mapped as a freshwater marsh wetland by WRA (2008).

VEGETATION – Use scientific names of plants.

Tree Stratum	Plot size: <input type="text"/>	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____					Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____					
3. _____					
4. _____					
_____ = Total Cover					Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>2</u> x 1 = <u>2</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>2</u> (A) <u>2</u> (B) Prevalence Index = B/A = <u>1.0</u>
Sapling/Shrub Stratum	Plot size: <input type="text"/>	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover					
Herb Stratum	Plot size: <input type="text"/>	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Typha latifolia</u>		20%	Y	OBL	
2. <u>Scirpus sp.</u>		15%	Y	OBL	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
_____ = Total Cover					
Woody Vine Stratum	Plot size: <input type="text"/>	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____					
2. _____					
_____ = Total Cover					
% Bare Ground in Herb Stratum <u>65% water</u>					
_____ = Total Cover					

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

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

5 - Wetland Non-Vascular Plants¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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Remarks: Hydrophytic vegetation dominant in this data point. The freshwater marsh vegetation dominated the ponded area and there was some surface water without any vegetation.

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

Project/Site: Centennial Industrial Site City/County: Grass Valley/Nevada Co. Sampling Date: December 11, 2018
 Applicant/Owner: Rise Grass Valley Inc. State: CA Sampling Point: WM – 5S Wetland Point
 Investigator(s): Greg Matuzak, Wendy Boes Section, Township, Range: Section 26, T16N, R8E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): MLRA22A Sierra Nevada Lat: 39 degrees Long: 121 degrees Datum: WGS 84
 Soil Map Unit Name: Placer Diggings NWI classification: Not Mapped
 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Remarks: Southern end of a large mapped wet meadow wetland within the western section of the project site. This wetland was previously mapped by ESA Associates in 2007 as a wet meadow wetland and by WRA in 2008 the feature was mapped as a seasonal wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
(Plot size: <input type="text"/>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <input type="text" value="3"/> (A) Total Number of Dominant Species Across All Strata: <input type="text" value="3"/> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <input type="text" value="100%"/> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <input type="text" value="0"/> x 1 = <input type="text" value="0"/> FACW species <input type="text" value="3"/> x 2 = <input type="text" value="6"/> FAC species <input type="text" value=""/> x 3 = <input type="text" value=""/> FACU species <input type="text" value="0"/> x 4 = <input type="text" value="0"/> UPL species <input type="text" value="0"/> x 5 = <input type="text" value="0"/> Column Totals: <input type="text" value="3"/> (A) <input type="text" value="6"/> (B) Prevalence Index = B/A = <input type="text" value="2.0"/>
Sapling/Shrub Stratum (Plot size: <input type="text"/>)				
1. <u>Rosa rubiginosa</u>	10%	Y	FACW	
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <input type="text"/>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus effuses ssp. pacificus</u>	25%	Y	FACW	
2. <u>Juncus balticus ssp. ater</u>	20%	Y	FACW	
3. <u>Carex feta</u>	15%	N	FACW	
4. <u>Lysamachia latifolia</u>	10%	N	FACW	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <input type="text"/>)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>30%</u>				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks: Hydrophytic vegetation dominant in this data point.

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

Project/Site: Centennial Industrial Site City/County: Grass Valley/Nevada Co. Sampling Date: December 11, 2018
 Applicant/Owner: Rise Grass Valley Inc. State: CA Sampling Point: WM – 5N Wetland Point
 Investigator(s): Greg Matuzak, Wendy Boes Section, Township, Range: Section 26, T16N, R8E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): MLRA22A Sierra Nevada Lat: 39 degrees Long: 121 degrees Datum: WGS 84
 Soil Map Unit Name: Placer Diggings NWI classification: Not Mapped
 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Remarks: Northern end of a large mapped wet meadow wetland within the western section of the project site. This wetland was previously mapped by ESA Associates in 2007 as a wet meadow wetland and by WRA in 2008 the feature was mapped as a seasonal wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>3</u> x 2 = <u>6</u> FAC species _____ x 3 = _____ FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>3</u> (A) <u>6</u> (B) Prevalence Index = B/A = <u>2.0</u>
Sapling/Shrub Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rosa rubiginosa</u>	<u>15%</u>	<u>Y</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juncus effuses ssp. pacificus</u>	<u>15%</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Juncus balticus ssp. ater</u>	<u>20%</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Carex feta</u>	<u>10%</u>	<u>N</u>	<u>FACW</u>	
4. <u>Lysamachia latifolia</u>	<u>10%</u>	<u>N</u>	<u>FACW</u>	
5. <u>Epilobium densiflorum</u>	<u>10%</u>	<u>N</u>	<u>FACW</u>	
6. <u>Rubus armeniacus</u>	<u>10%</u>	<u>N</u>	<u>FAC</u>	
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>25%</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

Remarks: Hydrophytic vegetation dominant in this data point.

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

Project/Site: Centennial Industrial Site City/County: Grass Valley/Nevada Co. Sampling Date: December 11, 2018
 Applicant/Owner: Rise Grass Valley Inc. State: CA Sampling Point: WM – 3 Wetland Point
 Investigator(s): Greg Matuzak, Wendy Boes Section, Township, Range: Section 26, T16N, R8E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): MLRA22A Sierra Nevada Lat: 39 degrees Long: 121 degrees Datum: WGS 84
 Soil Map Unit Name: Placer Diggings NWI classification: Not Mapped
 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			

Remarks: Northwestern section of the project site and located directly adjacent to Intermittent Stream – 1 (I-1). This wetland was not previously mapped by ESA Associates in 2007 or by WRA in 2008.

VEGETATION – Use scientific names of plants.

Stratum	Plot size: <input type="text"/>	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum	(Plot size: <input type="text"/>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <input type="text" value="3"/> (A) Total Number of Dominant Species Across All Strata: <input type="text" value="3"/> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <input type="text" value="100%"/> (A/B)
1. <u>Salix laevigata</u>		15%	Y	FACW	
2. _____					
3. _____					
4. _____					
_____ = Total Cover					Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <input type="text" value="0"/> x 1 = <input type="text" value="0"/> FACW species <input type="text" value="3"/> x 2 = <input type="text" value="6"/> FAC species <input type="text"/> x 3 = <input type="text"/> FACU species <input type="text" value="0"/> x 4 = <input type="text" value="0"/> UPL species <input type="text" value="0"/> x 5 = <input type="text" value="0"/> Column Totals: <input type="text" value="3"/> (A) <input type="text" value="6"/> (B) Prevalence Index = B/A = <input type="text" value="2.0"/>
Sapling/Shrub Stratum	(Plot size: <input type="text"/>)				
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover					
Herb Stratum	(Plot size: <input type="text"/>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus effuses ssp. pacificus</u>		20%	Y	FACW	
2. <u>Juncus balticus ssp. ater</u>		10%	N	FACW	
3. <u>Eleocharis sp.</u>		40%	Y	FACW	
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
_____ = Total Cover					
Woody Vine Stratum	(Plot size: <input type="text"/>)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____					
2. _____					
_____ = Total Cover					
% Bare Ground in Herb Stratum <u>30%</u>					

Remarks: Hydrophytic vegetation dominant in this data point.

SOIL

Sampling Point: WM – 3 Wetland Pt.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10"	10YR 4/2	95%	Gley 1 2/5N	5%	C	M	Clay loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> X No <input type="checkbox"/>
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Remarks: Historic area of mine tailings and therefore, the soil type is Placer diggings, an NRCS hydric soil on the Nevada County list. The soil did exhibit some properties of a hydric soil given the presence of gleyed soil features within the matrix. Soil is a clay loam.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:	Wetland Hydrology Present? Yes <input type="checkbox"/> X No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 4 inches	

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

Remarks: This feature contains the presence of wetland hydrology. Saturation was present at about 4 inches within the first 10 inches of the soil matrix.

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

Project/Site: Centennial Industrial Site City/County: Grass Valley/Nevada Co. Sampling Date: December 11, 2018
 Applicant/Owner: Rise Grass Valley Inc. State: CA Sampling Point: WM – 2 Wetland Point
 Investigator(s): Greg Matuzak, Wendy Boes Section, Township, Range: Section 26, T16N, R8E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): MLRA22A Sierra Nevada Lat: 39 degrees Long: 121 degrees Datum: WGS 84
 Soil Map Unit Name: Placer Diggings NWI classification: Not Mapped
 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			

Remarks: Northwestern area of project site. This wetland is listed as WM-4 on the map, but it is WM-2 given that WM-4 is a large wet meadow wetland within the eastern section of the project site. This wetland was not previously mapped by ESA Associates in 2007 and was mapped as a seasonal wetland by WRA in 2008.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																																			
1. <u>Salix laevigata</u>	20%	Y	FACW	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Number of Dominant Species That Are OBL, FACW, or FAC:</td> <td style="text-align: center;">3</td> <td style="text-align: center;">(A)</td> </tr> <tr> <td>Total Number of Dominant Species Across All Strata:</td> <td style="text-align: center;">3</td> <td style="text-align: center;">(B)</td> </tr> <tr> <td>Percent of Dominant Species That Are OBL, FACW, or FAC:</td> <td style="text-align: center;">100%</td> <td style="text-align: center;">(A/B)</td> </tr> </table>	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%	(A/B)																																										
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Remarks: Hydrophytic vegetation dominant in this data point.

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

Project/Site: Centennial Industrial Site City/County: Grass Valley/Nevada Co. Sampling Date: December 11, 2018
 Applicant/Owner: Rise Grass Valley Inc. State: CA Sampling Point: Non Wetland – adjacent to Wetland Point #3
 Investigator(s): Greg Matuzak, Wendy Boes Section, Township, Range: Section 26, T16N, R8E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0%
 Subregion (LRR): MLRA22A Sierra Nevada Lat: 39 degrees Long: 121 degrees Datum: WGS 84
 Soil Map Unit Name: Placer Diggings NWI classification: Not Mapped
 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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

Remarks: Northwestern area of project site. This data point documents that a previously mapped seasonal wetland by WRA in 2008 (mapped as Wetland G by WRA) no longer is located within the open, sandy, and highly disturbed area of the northwestern portion of the project site. See photos in the Aquatic Resources Delineation identifying the discoloration of soils due to historic fill and tailings left within the project site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <input type="text"/>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <input type="text"/> (A) Total Number of Dominant Species Across All Strata: <input type="text"/> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <input type="text"/> (A/B)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 0 (A) 0 (B) Prevalence Index = B/A = <input type="text"/>
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Woody Vine Stratum (Plot size: <input type="text"/>) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>100%</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks: Sandy open area just south of Wetland Data Point (WM-2). There is no vegetation in this open, sandy, and disturbed area. Therefore, hydrophytic vegetation is not present.

