Prospectus for Judge Orr Mitigation Bank



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December 2021 Revised May 2022 Revised July 2022 Revised September 2022

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List of Acronyms and Abbreviations

Cedar Creek Associates, Inc.

EPA U.S. Environmental Protection Agency

HGM Hydrogeomorphic Wetland Classification System

HUC Hydrologic Unit Code

IPaC Information, Planning, and Conservation System

NWI National Wetland Inventory
Pete Lien Pete Lien & Sons, Inc.
PCA Potential Conservation Area
USACE U.S. Army Corps of Engineers
USFWS U.S. Fish and Wildlife Service

WOTUS Waters of the U.S.

Wetland Indicator Codes

OBL Obligate Wetland FACW Facultative Wetland

FAC Facultative

FACU Facultative Upland

UPL Upland

1.0 OBJECTIVES OF PROPOSED BANK

The primary goal of the project is to develop a commercial wetland mitigation bank, with the intent of providing compensatory mitigation for permitted impacts to Wetlands and Waters of the United States. This will be accomplished through establishment, enhancement, and preservation of wetlands on the bank property. The Site is owned by the bank sponsor, Pete Lien and Sons, Inc., which ensures long term management plans are carried out. The bank property's desirability as a mitigation property is its potential for ecological uplift opportunities. The bank property has sufficient hydrology with a perennial stream and a natural seep. The mitigation credits generated by the bank will be used by permittees within the southwest tablelands ecoregion of the Arkansas River watershed. The Judge Orr bank will provide greater flexibility to applicants needing to comply with mitigation requirements as transportation projects and future regional growth create a need for additional compensatory mitigation options.

In this way the proposed bank seeks to:

- 1. Establish, enhance, and preserve aquatic resources to provide compensatory mitigation for unavoidable impacts to Waters of the United States.
- Provide an advanced compensatory mitigation alternative to permittee-responsible
 mitigation in a region with a single mitigation bank and no in-lieu fee program. Bank
 credits to be made available commercially.

The bank property is a 48.4-acre drainage basin on the eastern portion of a 92.5-acre pasture (Site) northeast of the city of Falcon (section 34, T12S R64W) in El Paso County, Colorado (Figure 1). The bank property is located on the eastern half of the Site, this area was selected because it encompasses all of the bank features and is controlled by the sponsor (Figure 6). The bank is within the Foothills Grasslands of the Southwestern Tablelands ecoregion and supports a palustrine system of herbaceous wet meadows dominated by grasses and a pond dominated by open water and cattails (Figure 2). The bank property is within the Upper Arkansas Basin and the banks hydrology is supported by a crossing stream and local seep. Table 1 below summarizes the Site conditions and proposed bank operations for the Judge Orr Mitigation Bank project.

Table 1. Judge Orr Mitigation Bank Summary

| Project Name | Judge Orr Mitigation Bank | | | |
|--|---|---------------------------------------|--|--|
| Project Sponsors | Pete Lien and Sons, Inc. | | | |
| Project Land Owner | Pete Lien and Sons, Inc. | | | |
| Site Location | S1/2 of SW1/4 of section 34, T.12S, R.64W | | | |
| Counties within the watershed | El Paso and Pueblo | | | |
| HGM Classification | SLOPE: groundwater discharge, satura | ted; <i>herbaceous</i> , <i>shrub</i> | | |
| | RIVERINE: freshwater, flood plain, pond | ded; <i>herbaceous</i> | | |
| NWI Classification | PEM1: Palustrine Persistent Freshwater | Emergent | | |
| | PSS1: Palustrine Scrub-Shrub Broad-Le | eaved Deciduous | | |
| | PUB3: Palustrine Unconsolidated Botton | n, Mud | | |
| | | Southwestern Tablelands (26) | | |
| Ecoregion | Region 26j | Foothill Grasslands (j) | | |
| 6-digit HUC | Upper Arkansas | 110200 | | |
| 8-digit HUC | Chico | 11020004 | | |
| 10-digit HUC | Black Squirrel Creek | 1102000402 | | |
| 12-digit HUC | Haegler Ranch | 110200040201 | | |
| Proposed Service Area | Colorado portions of the Southwestern | | | |
| | Tablelands within the Upper Arkansas Includes HU-8: | | | |
| | (HU-6) | 11020002 through 11020013 | | |
| | Ownership, Ground water rights, mineral rights, Colorado Water Law, | | | |
| Protection Mechanism | and Easements | | | |
| Monitoring Frequency | Annually for 5 years or until Project is | complete | | |
| Anticipated Date of Final Monitoring | 2027 | | | |
| Size of Site Property | 92.5 ac | | | |
| Size of Bank Property | 48.4 ac | | | |
| Species of Concern | None | | | |
| Pre-Existing Wetlands in Bank 19.0 ac (including open water) | | | | |
| Pre-Existing Upland Buffer in Bank | 23.0 ac | | | |
| Stream Length on Site | Tributary-East: 687 feet (868 feet including Pond) | | | |
| | Tributary-West: 1,164 feet | | | |

2.0 ECOLOGICAL SUITABILITY OF THE SITE

2.1 Historical Land Use

The Site is currently vacant with no permanent structures other than the perimeter fence. The Site is zoned as agricultural land with the intended land use of grazing-land, but since it's purchase in April of 2018, grazing has been removed from the property. Observations indicated that the property is still utilized by urban wildlife such as prairie dogs, coyotes, songbirds, and migratory birds such as Canadian geese.

The abutting property (north and east boundaries) is an undeveloped lot, currently being used for livestock grazing. The southern boundary of the bank property runs parallel Judge Orr Rd., and the western boundary runs parallel to Stapleton Rd.

The development of a mitigation bank on the property will not have an adverse impact on adjacent lands. As Figure 8 depicts, the bank property is located within CNHP potential conservation area ranked as B2 with a very high biodiversity significance. These regions of biodiversity significance were determined by comparing land areas for their relative capacity to support unique ecological communities, a particular species, or suit of species. The historic grazing and extensive prairie dog colony on Site has diminished biodiversity so the generalized CHNP rank of B2 is not applicable to the Site in its current condition. Proposed mitigation activities should benefit Site biodiversity.

2.2 Wildlife

Wetland and upland herbaceous habitats in the bank property are valuable habitats in that they typically support a greater diversity of plants and animals. In addition, many wildlife species from adjacent upland habitats rely on wetland habitats for obtaining food, cover, and water on a regular or intermittent basis. These wetland areas are fairly well developed in terms of soils and hydrology, but species diversity is limited to the same dominant herbaceous species (1-3 species per wetland) and woody species presence is relatively minor and underdeveloped with the exception of coyote willow (*Salix exigua*) dominating WL-2. Wildlife species potentially present in wetland and upland herbaceous habitats along the unnamed drainage and in the northeast property corner include small mammals, Woodhouse's toad (*Anaxyrus woodhousii*), chorus frog (*Pseudacris* sp.), and

wandering garter snake (*Thamnophis elegans* ssp. *vagrans*). Red fox (*Vulpes vulpes*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), and open-country raptors such as redtailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), kestrel (*Falco sparverius*) and ferruginous hawk (*Buteo regalis*) may also hunt the drainage.

In terms of vegetation and wildlife species diversity, wildlife habitat value, and potential to support sensitive plant and wildlife species, the stream and pond areas represent the most important habitats in the bank property. Open water habitats are limited in areal extent in the Greater Colorado Springs Area. Wetlands and associated seasonal open water habitats provide foraging, resting, and breeding habitat for some urban adapted species of waterfowl such as mallard (*Anas platyrhynchos*) and Canada goose (*Branta canadensis*). Wetlands with herbaceous and woody vegetation cover also support a variety of other wildlife populations including small mammals, mammalian predators, songbirds, reptiles, and amphibians.

Larger trees and snags in riparian habitats near the bank property provide important foraging and/or nesting habitat for woodpeckers, variety of songbirds, and raptors such as red-tailed hawk, Swainson's hawk, kestrel, and great horned owl (*Bubo virginianus*).

An active prairie dog colony is located throughout the uplands of the property. Other wildlife observations were limited to one coyote, five Canadian geese and several songbirds including the red-winged blackbird (*Agelaius phoeniceus*) utilizing the pond and stream.

2.3 Special Status Species and their Habitats

The USFWS Information, Planning, and Conservation System (IPaC) query revealed three birds, two fishes, one insect, and two flowering plants with the potential to occur in the bank property. Bird species are Eastern Black Rail (*Laterallus jamaicensis* ssp. *jamaicensis*), Piping Plover (*Charadrius melodus*), and Whooping Crane (*Grus americana*). Fishes species are Greenback Cutthroat Trout (*Oncorhynchus clarkii stomias*) and Pallid Sturgeon (*Scaphirhynchus albus*). The insect species is Monarch butterfly (*Danaus plexippus*). Flowering plant speces are Ute Ladies'-tresses (*Spiranthes diluvialis*) and Western Prairie Fringed Orchid (*Platanthera praeclara*). The results of the query are found in Appendix E.

Ute Ladies'-tresses occurs along riparian edges, gravel bars, old oxbows, high flow channels, and moist to wet meadows along perennial streams. It typically occurs in stable

wetland and seepage areas associated with old landscape features within historical floodplains of major rivers. It also is found in wetland and seepage areas near freshwater lakes or springs. Western Prairie Fringed Orchid occurs most often in mesic to wet unplowed tallgrass prairies and meadows but have been found in old fields and roadside ditches.

According to the USFWS determination key, the Site falls outside of parameters which would normally trigger protocol surveys for Ute Ladies'-tresses. The Site is located at an elevation above 6,500 ft along a perennial tributary of Black Squirrel Creek (Figure 4, Figure 3). The Site is not located in the 100-year flood plain and has no connectivity to Fountain Creek. Further, none of the commonly associated species were observed during the field surveys.

While seep fed wet meadows and a perennial stream channel with frequently flooded areas occur on Site, the Site also has a history of being heavily grazed, contains areas of elevated noxious/invasive weeds, and has an extensive prairie dog colony in the abutting upland habitats. All of this indicates that Ute Ladies'-tresses are unlikely to occur on the Site, and potential impacts from proposed mitigation actions are low to non-existent.

Given that the listed flowering species and fish species are not present in the preexisting areas, it is unlikely that they will establish in the post-mitigation areas. Even if biodiversity on Site increases, it is unlikely that the listed bird and insect species would occur post-mitigation actions given the surrounding anthropogenic activities.

2.4 Sufficient Water Rights and Assurances

During a permit application for a ground water well in 2019, it was documented that Pete Lien was allowed access to the groundwater from the Laramie-Fox Hills, Arapahoe, and Denver aquifers underlying the Site property. While the well was never developed and the permit expired in 2020, the water rights remain intact. This ensures that the groundwater hydrology is protected and remains intact to support wetlands within the bank property. Public notice of this is provided in Appendix F.

Furthermore, all the surface water associated with this bank is part the Upper Black Squirrel Designated Basin Water Management District and is inherently protected by Colorado water law. Therefore, no user can negatively impact other users without a

substitute water supply plan which reduces the likelihood that the Site-level water supply for both groundwater and surface water would be affected by future development or use. All property rights documents are included in Appendix F.

2.5 Baseline Documentation

2.5.1 Ecoregion

Level 3 Ecoregion - SOUTHWESTERN TABLELANDS

The southwestern Tablelands flank the High Plains with red hued canyons, mesas, badlands, and dissected river breaks. Unlike most adjacent Great Plains ecological regions, little of the Southwestern Tablelands is in cropland. Much of this region is in subhumid grassland and semiarid range land. The potential natural vegetation is gramabuffalo grass with some mesquite-buffalo grass in the southeast, juniper-scrub oakmidgrass savanna on escarpment bluffs, and shinnery (midgrass prairie with open low and shrubs) along the Canadian River.

Level 4 Ecoregion – FOOTHILL GRASSLANDS

The foothill grasslands of the Southwestern Tablelands exists between 5,900-7,000 feet (50-200 feet) on dissected and irregular plains. Surface geology in this region is quaternary alluvium, tertiary and Cretaceous arkosic conglomerate, sandstone, claystone, and shale. Soil series within the region are Bresser, Truckton, Ellicott, Stapleton, Columbine, Cushman, and Ascalon. Primariy land use and cover are grassland, rangeland, some scattered woodland and cropland. There is Increasing urban and residential development throughout the region. Annual precipitation is between 14-20 inches.

The natural vegetation communities are foothill prairies with a scattering of pine woodlands. Dominant species include yellow Indiangrass (*Sorgastrum nutans*), big and little bluestem (*Andropogon gerardii* and *A. scoparius*, respectively), switchgrass (*Panicum virgatum*), fescues (*Festuca* spp.), mountain muhly (Muhlenbergia montana), Junegrass (*Koeleria macrantha*), bluebunch wheatgrass (*Pseudoroegneria spicata*), needle-and-thread (*Hesperostipa comata*), slender wheatgrass (*Elymus trachycaulus*), Western wheatgrass (*Pascopyrum smithii*), sideoats grama (*Bouteloua curtipendula*), and

galleta grass (*Hilaria* spp.). Ponderosa pine (*Pinus ponderosa*), mountain mahogany (*Cercocarpus montanus*), Gambel oak (*Quercus gambelii*), Western serviceberry (*Amelanchier alnifolia*), and chokecherry (*Prunus virginiana*) are also found in small, scattered pockets.

2.5.2 Hydrology

The National Hydrography Dataset (NHD) indicates that there are two un-named intermittent streams crossing the Site and an associated pond that is intermittently flooded. These un-named streams merge approximately 23 nautical miles downstream of the Site and are tributaries to the Black squirrel Creek, which feeds into the Chico Creek, and ultimately the Arkansas River before moving out of the Upper Arkansas River Basin (Figure 3). The Western stream (Tributary-West) crosses in the southwest corner of the Site and is functioning as an ephemeral drainage which has upstream diversions and impoundment to re-direct and alters flows. The stream enters the Site via a culvert under Stapleton Rd and flows southeast into the roadside ditch (South Ditch) paralleling Judge Orr Rd. There is no culvert where Tributary-West intersects Judge Orr Rd. Rather, two loose-rock water bars help to control and re-direct surface flows into the stormwater drainage system. An open grate is located further east along the Site's property line, which could be an underground portion of the stormwater detention system, but this has not been confirmed. Surface connection to the downstream portion of the stream could not be determined. There is a single wetland located along the downstream side of the concrete-rock water bar which has been augmented enough to retain a small area of surface water. OHWM indicators are inconsistent along Tributary-West. Tributary-West was dry during all three field surveys and does not intersect the bank property (Figure 7).

The Eastern stream (Tributary-East) crosses through the northeast corner of the property and is ponded at the eastern boarder of the bank property before leaving the Site. Based on field observations the stream and pond contained water throughout most of the year and would be more accurately categorized as perennial. The stream enters the Site through the fence line and flows over an earthen water bar and into the pond. The pond is artificial and maintained by the earthen dam that restricts surface water. The stream has eroded a channel through the water bar. Most of the water exits the pond under the dam to continue off Site or through evaporation, but there is also an overflow

outlet where surface water is directed further on Site southwest along the dam. Max water depth in the channel varies, with upstream depths around 0.5 inches and downstream depths around 2 inches with a low flow rate of approximately 37.6 cubic inch/sec. Tributary-East has continuous OHWM indicators which continue along the defined channel and around the pond. Max depth of the pond is estimated to be less than 2 ft. There are no OHWM indicators along the overflow outlet. Tributary-East supports a portion of the wetlands on the bank property (Figure 7).

NHD does not list any seeps/springs on or around the Site, however observations indicate that there is a seepage spring supporting most of the wetlands on the bank property. The seepage area is dispersed across the northeast corner of the bank property and is denoted by hydrophytic vegetation semi-permanently inundated to a max depth of 0.5 inches and a healthy stand of coyote willows (Figure 7). Site observations indicate that the seep is a developed perennial helocrene spring emerging into a wet meadow with a max water depth of 0.5 inches but no open water. There are no diversions or regulation, but historic grazing has disturbed the spring through soil disturbance (hoof shears) and increased noxious weeds. No aquatic or semi-aquatic fauna were observed within the spring. It is possible that the seepage area extends to the north of the Site, but due to access restrictions, this was not confirmed during the field surveys. While most of the seep's water likely leaves through infiltration and evapotranspiration, it is expected that any remaining water is emptying into the Tributary-East stream system.

While surface connectivity between Tributary-East and other waters of the U.S., is confirmed, there are several impoundments and diversions used for local industrial/agricultural purposes both up and downstream of the Site which affect the stream's functionality. Surface connectivity between Tributary-West and other waters of the U.S. is unconfirmed by the field observations Neither tributary is navigable, and no interstate or foreign commerce is supported at or upstream of the Site. According to the EPA's evaluation of the Chico Creek tributaries in 2020, aquatic life is impaired due to elevated ammonia levels.

2.5.3 Geology/Topography

The Site elevation ranges between 6,800 ft. in the northwest corner and 6,740 ft in the southeast corner with a consistently low gradient (Figure 4). It is relatively flat, as reflected by the 60 ft. change in elevation. There are no slopes over 20% within the property boundary except for those associated with the earthen dam and the roadside ditches.

2.5.4 Soils

The USDA Web Soil Survey lists two soil series as present within the project (Figure 5). Most upland areas within the project boundary exist on Columbine gravelly sandy loam which have a very low surface runoff potential and consist of well-draining soils with a 2% rating for hydric components, making them highly suitable for warm season grasses, mat forming forbs, and low statured shrubs/subshrubs. These soils have historically supported native prairies but have since been converted to rangeland. Most wetlands and proposed mitigation activities within the project boundary exist on Fluvaquentic Haplaqolls which are poorly drained and have a very high surface runoff potential when thoroughly wet, with a 99% rating for hydric components, making them highly suitable to wetland establishment and/or re-establishment.

The delineated wetland boundary (Figure 7) follows closely to the WSS boundary for Fluvaquentic Haplaqolls soils on Site (Figure 5). The change between these two soils is distinct and readily observed in the field observations. Soil profiles were evaluated in the uplands and delineated wetlands to provide comparison data. While hydric indicators were found predominantly within areas indicated as Fluvaquentic Haplaqolls soils, thus supporting the WSS determination of hydric soils within the bank property, the WSS mapping is still generalized. Meaning, some samples collected in Fluvaquentic Haplaqolls as shown on Figure 5 lacked hydric indicators or consisted of characteristics more in line with Columbine gravelly sandy loam and vice versa.

While all samples collected within the delineated wetland contain hydric indicators for soil, it is important to note that the lack of hydric indicators does not necessarily indicate that the soils are not hydric; vegetation and hydrology was also assessed during the delineation of wetlands within the bank property to help determine if hydric soils are present. There are some areas where hydric indicators were observed or assumed which lack either dominant

hydric vegetation or wetland hydrology. These areas were excluded from the pre-existing wetland delineation but are largely targeted for establishment mitigation actions.

Field observations of the Fluvaquentic Haplaqolls soils consisted of a dark surface layer between 11 and 32 inches thick followed immediately by a much lighter, depleted layer throughout the remaining sample. Redox features consisting of depletions and/or prominent and distinct concentrations as soft masses and pore linings were regularly observed within the dark surface of the hydric soils and were less frequently observed within the lower profiles. Generally, the surface layers consisted of clay/loam textures with varying degrees of sand while the depleted layers consisted of coarser sandy material. A shallow O-Horizon was sometimes observed between 2 and 4 inches thick, but most of the samples consisted of mineral soils. Field observations of the Columbine gravelly sandy loam soils consist of lighter soils without depletions or redox features. Generally, these soils consist of a single layer or layers denoted by a change in texture. These soils typically have a loamy/sandy texture with varying degrees of clay appearing in the profiles.

3.0 SITE INVENTORY

The 92.5-acre Site containing the proposed bank property (48.4 ac) is generally comprised of three pre-existing areas; uplands, wetlands, and open water (Figure 7). The wetlands include all areas which exhibit all three characteristics of a wetland (vegetation, soils, and hydrology) as defined by USACE. The open water includes inundated areas with little to no rooted vegetation and is restricted to the OHWM associated with the pond. The uplands include all remaining areas of the Site where vegetation communities are dominated by upland species. Most of the uplands lack all three characteristics of a wetland, but there are some areas within the uplands which exhibit one or two of the required USACE wetland characteristics. There are 4 potential WOTUS located on Site, two tributaries (including associated wetlands), one pond, and one seep (including associated wetlands). The details of the aquatic resources associated with the Site are listed in Table 2 below.

Field verification and identification of OHWM associated with potential waters of the U.S. (WOTUS) within the Site were conducted on May 18, 2022. Initial wetland delineations were conducted in May and June 2021 and additional samples were collected in support of this delineation on May 19 and June 29, 2022. All findings have been revised as of July 2022 to reflect the definition of WOTUS as defined in the current Implementation of Waters of the United States (EPA, Pre-2015 Regulatory definition and practice). No jurisdictional determination has been made regarding the wetlands and waters of the U.S. on site.

There are several grass-lined "furrows" located within the upland and occasionally intersecting the pre-existing wetlands. There are four water bars on Site located along the tributaries formed from several materials including earth (earthen water bar), loose stacked rocks (loose-rock water bar), and rocks which have been concreted in place (concrete-rock water bar). There are two roadside ditches which are part of the stormwater detention system, but these ditches do not intersect the Site boundary (Figure 6). Photo locations of the map features including the wetlands and waters are shown on Figure 6.

Table 2. Aquatic Resource Inventory

| Aquatic Resource | Bank Property | Cowardian Code | Area (ac.) | Length x Width (ft.) | How Frequency | Connectivity |
|-----------------------------|------------------|-------------------|---------------|-------------------------|------------------|---|
| Tributary-East | In Bank | PEM1Hh | 0.26 | 687 x 22 | Perennial | Black Squirrel Creek> Chico Creek> Arkansas River |
| Wetland-4 | In Bank | PEM1D | 1.66 | | Perennial | Tributary-East |
| Pond | In Bank | PUB3 | 0.39 | 181 x 134 | Perennial | Tributary-East |
| Tributary-West ¹ | Out of Bank | | | 1,164 x 15 | Ephemeral | Tributary-East> Black Squirrel Creek> Chico Creek> Arkansas River |
| Wetland-5 | Out of Bank | PEM1F | 0.03 | | Perennial | Tributary-West |
| Seep ² | In Bank | PEM1F | | 350 x 158 | Perennial | Tributary-East |
| Wetland-1 | In Bank | PEM1B | 14.91 | | Perennial | Tributary-East |
| Wetland-2 | In Bank | PSS1B | 0.10 | | Perennial | Tributary-East |
| Wetland-3 | In Bank | PEM1B | 1.69 | | Perennial | Tributary-East |

¹Length measurements include portions distinguishable from the roadside ditch; Width measurements were collected where OHWM is present. Downstream connectivity was undetermined during site surveys. OHWM and Wetland-5 are outside of the Bank Property.

Cross sections of the tributaries were documented at 6 representative points to assess the potential waters of the US and document any OHWM indicators (Figure 7). Anthropogenic influences, vegetation characteristics, OHWM indicators, dimensions, and a field drawing of the cross section were all collected at these points. These field sheets are provided in Appendix B.

Climate data from nearby Colorado Springs indicates that the area is in a drought. Annual precipitation hasn't been well above average (15.97 inches) since 2015, when a record high of 25.25 inches were accumulated. Annual precipitation between 2016 and 2018 were around average with a low of 14.35 inches and a high of 18.44 inches. Annual precipitation in 2019 was 11.75 and 2020 had the lowest record precipitation, 9.89 inches, since 2012. 2021 had a slight increase in annual precipitation to 14.46 inches but remained below average and the current precipitation accumulation in 2022 (0.82 inches) is also below average for January through June (1.19 inches).

This ongoing drought was observed on Site as well. The extent of surface water and saturated soils extended further out towards the delineated wetland boundary during initial site visits in 2020 and 2021. The Eastern tributary and pond contained water at or above the OHWM during the initial site visits as well. As of the most recent site visit in late June 2022, surface water levels have dropped to below the OHWM in the Eastern tributary and pond and is only present in measurable amounts around the seepage area in Wetland-1. Saturation

²Measurments include max dimensions of inundated areas in the bank property at the seep's origin which overlaps portions of Wetland-1 and Wetland-2.

within the soil profile and water table depths were also notably different between the initial observations in 2021 and the supplemental soil sampling which occurred in 2022. Redox features within the dark surface layer were more readily identified in 2022 versus 2021 given that the soils were saturated further down the profiles, leaving the upper layers in a "dryer" state.

3.1 Wetland Inventory

The USFWS National Wetland Inventory (NWI) lists two types of wetlands within the project boundary; Riverine wetlands which are located along the western stream and Freshwater Emergent Wetlands which are located along the eastern stream (including the ponded section). Field observations indicate that the NWI boundaries are not accurate for this Site. There is one small, localized wetland (Wetland-5) located in Tributary-West and one continuous wetland (Wetland-4) located along Tributary-East. Wetland-4 and the pond along Tributary-East have the HGM Classification of RIVERINE: freshwater, flood plain, ponded; *Herbaceous*. The three remaining wetlands (Wetland-1, Wetland-2, and Wetland-3) are located between the seep and the southeast corner of the bank property. These wetlands have the HGM Classification of SLOPE: groundwater discharge, saturated; *herbaceous, shrub*. Wetalnd-3 is located between the "Riverine" and "Slope" wetlands and is likely supported by both systems to some degree.

A total of 19.0 acres were delineated on May 14 and June 4 in 2021, within the bank property. An additional 0.03 acres of wetlands were delineated outside of the bank property on May 19, 2022. Additional soils data were collected on May 19 and June 29 in 2022. No changes were made to the pre-existing wetland boundaries within the bank property after May 19, 2022. Individual characteristics for each of the delineated wetlands are provided in Table 3 below. Wetland delineation and sampling work for the wetlands on the property were completed using the methods and techniques specified for "routine on-site delineations" in the publication, *Corps of Engineers Wetlands Delineation Manual* (USACE 1987), and supplemented by the document, *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region, Version 2.0* (USACE 2010). A summary of these results is found in Table 4 below. Soil profile photos are presented in Appendix A and field forms are presented in Appendix C.

Table 3. Wetland Inventory Summary

| Wetland | | Was and Additional |
|-----------|----------|---|
| ID | Acres | Vegetation |
| Wetlands | Supporte | d by the Seep |
| | | Vegetation near the seep is dominated by Nebraska sedge, clustered field sedge, and |
| | | common three-square. Mountain rush and switchgrass become more dominant |
| | | further from the seep, but the sedges remain prevalent throughout the wetland. |
| | | Canada thistle and musk thistle are more concentrated near the seep, were observed |
| 1 | 14.91 | through the wetland. |
| | | Vegetation is dominated by coyote willows in the shrub stratum with clustered field |
| | | sedge, mountain rush, and Nebraska sedge present in the herb stratum. Canada |
| 2 | 0.10 | thistle is also prevalent in the understory. |
| | | Vegetation is dominated by mountain rush in the herb stratum. Shrub stratum is |
| | | minimal (<2% of the aerial extent) but Wood's rose and Western snowberry were |
| 3 | 1.69 | also observed. Canada thistle is present in low densities. |
| Wetlands | Supporte | ed by Tributary-East |
| | | Vegetation is dominated by common three-square, mountain rush, and clustered field |
| 4 | 1.66 | sedge. |
| Perennial | | Vegetation below the OHWM is dominated by Nebraska sedge, softstem bullrush, and |
| Stream | 0.26 | broadleaf cattails. |
| | | Little to no rooted vegetation is present (<10% of the aerial extent). Broadleaf cattails |
| | | and softstem bullrush are present near the upstream inlet and along a portion of the |
| Pond | 0.39 | shoreline. |
| Wetlands | Supporte | ed by Tributary-West |
| | | Vegetation is dominated by common spikerush, goldenrod species, and softstem |
| | | bullrush in the herb stratum. Shrub stratum is minimal (<2% of the aerial extent) but |
| | | coyote willows were also observed. A few willows and a single cottonwood sapling |
| 5 | 0.03 | were growing out of the concrete-rock water bar above the wetland. |

Wetland-1, Wetland-2, and Wetland-3 are located on the gradual slope fed by a spring where groundwater is discharged to the surface creating an area with saturated overflow and no channel formation. These wetlands occur on a slight southeastern gradient of 1.7% which intergrades into the riverine wetlands downstream of the earthen dam. The predominant source of water is groundwater and interflow discharging at the land surface. Precipitation is a secondary contributing source of water. Hydrodynamics are dominated by downslope unidirectional water flow. These wetlands lose water primarily through saturated subsurface flows and by evapotranspiration. Wetland-1 contains the seep and extends towards the southeast corner of the bank property. Soils are continuously saturated and frequently inundated (approximately 0.5 inches) near the seepage area. Soils further from the seepage area appear to be seasonally saturated, with saturation appearing lower in the soil profile. Wetland-2 is located within the seepage area. Soils appear to be seasonally saturated, with saturation appearing lower in the soil profile. Wetland-3 is located between

Wetland-1 and Wetland-4 along the eastern bank property boundary. Soils appear to be seasonally saturated, with saturation appearing lower in the soil profile.

Wetland-4 and the Pond are associated with Tributary-East. Dominant water sources are overbank flow from the channel or subsurface hydraulic connections between the stream channel and wetlands. Additional sources are interflow, overland flow from adjacent uplands, and precipitation. When overbank flow occurs, surface flows down the floodplain may dominate hydrodynamics. These wetlands lose surface water through the return of floodwater to the channel after flooding and through surface flow to the channel during rainfall events. They lose subsurface water by discharge to the channel and evaporation. These wetlands are dominated by herbaceous species. Wetland-4 is located along Tributary-East, constrained by local relief. Water flows at or below the OHWM year-round and is dominated by persistent emergent vegetation. Soils above OHWM are continuously saturated to temporarily flooded. The artificial pond is located where Tributary-East exits the bank property along the eastern boundary. It is part of the same palustrine system as Wetland-4 but lacks the emergent vegetation and consists of a muddy unconsolidated bottom below the OHWM.

Wetland-5 is associated with Tributary-West. Dominant water sources are precipitation and overland flow from adjacent uplands. Wetland-5 is located immediately downstream of a concrete-rock water bar in Tributary-West. A small portion contained surface water and soils appear to be seasonally saturated to intermittently flooded. It is likely that this wetland is artificial and wouldn't exist without the water bar retaining water in the channel.

Table 4. USACE Wetland Delineation Sample Point Summary

| Sample Point | Associated Map Features | Dominant Species/Wetland Designation | % Cover | Hydric Vegetation Present | Hydric Soils Present | Hydrology Present |
|-----------------|---------------------------------|---|-------------------|---------------------------------|----------------------------|----------------------|
| SP-1 | Upland (UEN-3) | Juncus arcticus ssp. littoralis - FACW | 30 | Yes | No | Yes |
| SP-2 | Wetland-1 (WEN-1) | Carex praegracilis - FACW Carex nebrascensis - OBL | 40 35 | Yes | Yes | Yes |
| SP-3 | Wetland-1 (WEN-1) | Schoenoplectus pungens - OBL Carex praegracilis - FACW | 40 15 | Yes | Yes | Yes |
| SP-4 | Upland (WES-4) | Elymus lanceolatus spp. lanceolatus - UPL Bromopsis inermis - UPL Pascopyrum smithii - UPL | 35 15 15 | No | No - Lacking Redox | Yes |
| SP-5 | Wetland-4 (WEN-3) | Schoenoplectus pungens - OBL Juncus arcticus ssp. littoralis - FACW | 45 30 | Yes | Yes | Yes |
| SP-6 | Upland (UEN-1) | Artemisia frigida - UPL Erigeron spp UPL Pascopyrum smithii - FACU | 15 10 10 | No | No* | No |
| SP-7 | Wetland-1 (WEN-1) | Carex nebrascensis - OBL Juncus arcticus ssp. littoralis - FACW Salix exigua - FACW | 25 15 3 | Yes | Yes | Yes |
| SP-8 | Wetland-1 (WEN-1) | Juncus arcticus ssp. littoralis - FACW Cirsium arvense - FACU | 18 12 | Yes | Yes | Yes |
| SP-9 | Wetland-1 (WEN-1) | Panicum c.f. virgatum - FAC Juncus arcticus ssp. littoralis - FACW Rosa woodsii - FACU | 30 15 2 | Yes | Yes | Yes |
| SP-10 | Upland (UEN-3) | Bouteloua gracilis - UPL Artemisia frigida - UPL Yucca glauca - UPL | 25 8 5 | No | Yes | No |
| SP-11 | Wetland-3 (WEN-2) | Juncus arcticus ssp. littoralis - FACW Rosa woodsii - FACU Symphoricarpos occidentalis - UPL | 35 1 1 | Yes | Yes | Yes |
| SP-12 | Upland (WES-6) | Elymus lanceolatus spp. lanceolatus - UPL Carex stenophylla - UPL | 25 15 | No | Yes+ | Yes |
| SP-13 | Upland (UEN-1) | Hetertheca villosa - UPL Carex stenophylla - UPL Elymus lanceolatus spp. lanceolatus - UPL Artemisia frigida - UPL | 25 8 8 8 | No | No | No |
| SP-14 | Wetland-1 (WEN-1) | Carex praegracilis - FACW Schoenoplectus pungens - OBL | 45 30 | Yes | Yes | Yes |
| SP-15 | Upland (UEN-1) | Elymus lanceolatus spp. lanceolatus - UPL Bromopsis inermis - UPL | 25 15 | No | No | No |
| SP-16 | Perennial Stream (OWEN-2) | Schoenoplectus tabernaemontani - OBL Typha latifolia - OBL | 35 25 | Yes | Yes* | Yes |
| SP-17 | Wetland-4 (WEN-4) | Carex praegracilis - FACW Schoenoplectus pungens - OBL | 40 30 | Yes | Yes | Yes |

^{*}No soil profile collected.

⁺Soils initially observed in 2021 or May 2022. Assumed Hydric based on representative characteristics observed during the secondary sampling in June 2022.

Table 4. USACE Wetland Delineation Sample Point Summary (Cont'd)

| | | | | Hydric | Hydric | |
|-------|--------------------------|---|----------------------|------------|------------------|-----------|
| _ | Associated | Dominant Species/Wetland | | Vegetation | Soils | Hydrology |
| Point | Wetland | Designation | % Cover | Present | Present | Present |
| SP-18 | Upland | Bouteloua gracilis - UPL | 30 | No | No | No |
| 0. 10 | (UEN-2) | Elymus lanceolatus spp. lanceolatus - UPL | 20 | | | |
| SP-19 | Upland (WES-2) | Bouteloua gracilis - UPL | 40 | No | Yes ⁺ | No |
| SP-20 | Upland (WES-3) | Elymus lanceolatus spp. lanceolatus - UPL Juncus arcticus ssp. littoralis - FACW | 40 20 | No | Yes | Yes |
| SP-21 | Upland (WES-1) | Pascopyrum smithii - UPL Elymus lanceolatus spp. lanceolatus - UPL | 40 20 | No | Yes ⁺ | Yes |
| SP-22 | Wetland-1 (WEN-1) | Carex nebrascensis - OBL | 80 | Yes | Yes | Yes |
| SP-23 | Upland (WES-6) | Bouteloua dactyloides - FACU Elymus lanceolatus spp. lanceolatus - UPL | 45 15 | No | No | No |
| SP-24 | Upland (WES-5) | Schizachyrium scoparium - FACU Elymus lanceolatus spp. lanceolatus - UPL | 30 15 | No | Yes | No |
| SP-25 | Upland (UEN-1) | Elymus lanceolatus spp. lanceolatus - UPL Hetertheca villosa - UPL Schizachyrium scoparium - FACU Solidago sp UPL | 15 15 10 10 | No | No | No |
| SP-26 | Wetland-2 (WP-1) | Salix exigua - FACW | 80 | Yes | Yes | Yes |
| SP-27 | Upland (UEN-3) | Bouteloua gracilis - UPL Cirsium arvense - FACU Pascopyrum smithii - UPL Elymus lanceolatus spp. lanceolatus - UPL | 10 10 10 25 | No | Yes | No |
| SP-28 | Upland (UEN-3) | Elymus lanceolatus spp. lanceolatus - UPL Pascopyrum smithii - UPL | 20 | No | No | No |
| SP-29 | Upland (WES-7) | Schizachyrium scoparium - FACU Juncus arcticus ssp. littoralis - FACW | 30 20 | No | Yes | Yes |
| SP-30 | Upland (UEN-3) | Elymus lanceolatus spp. lanceolatus - UPL Juncus arcticus ssp. littoralis - FACW Bouteloua gracilis - UPL | 20 15 15 | No | No | No |
| SP-31 | Upland (WES-1) | Bouteloua gracilis - UPL Carex praegracilis - FACW Hesperstipa comata - UPL Juncus arcticus ssp. littoralis - FACW | 15 10 10 10 | No | Yes | Yes |
| SP-32 | Wetland-5 (No Action) | Schoenoplectus tabernaemontani - OBL Eleocharis palustris - OBL Solidago sp UPL | 15 15 15 | Yes | Yes | Yes |
| SP-33 | Upland (No Action) | Bouteloua dactyloides - FACU Solidago sp UPL Unknown Annual Forb - UPL | 10 10 8 | No | No | No |
| SP-34 | Wetland-1 (WEN-1) | Juncus arcticus ssp. littoralis - FACW Calamovilfa longifolia - UPL | 60 20 | Yes | Yes | Yes |
| SP-35 | Upland (UEN-1) | Bouteloua dactyloides - FACU Pascopyrum smithii - UPL | 10 8 | No | No* | No |

^{*}No soil profile collected.

⁺ Soils initially observed in 2021 or May 2022. Assumed Hydric based on representative characteristics observed during the secondary sampling in 2022.

3.2 Upland Vegetation

There is a total of 73.5 acres of upland on the Site. The existing upland vegetation has been "thinned" due to the presence of an extensive prairie dog colony. Cover in the uplands is relatively short and sparce throughout the property, but notably increases with the proximity to the wetlands. Dominant species within the upland area are: Western wheatgrass, thick spike wheatgrass (*Elymus lanceolatus* spp. *lanceolatus*), blue grama (*Bouteloua gracilis*), fringed sage (*Artemisia frigida*), and soapweed (*Yucca glauca*).

Areas within the upland which exhibit some wetland characteristics have a greater potential for the wetlands to establish in these areas after the mitigation efforts have occurred, thereby increasing the post-mitigation wetland acreage within the bank. Vegetation within these areas are dominated with these same upland species but hydric species such as mountain rush (*Juncus arcticus* ssp. *littoralis*), Nebraska sedge (*Carex nebrascensis*), and switchgrass (*Panicum virgatum*) are also common.

3.3 Invasive Species

Noxious and invasive species were observed on the property in 2021 and 2022. The B list noxious weeds, Canada thistle (*Cirsium arvensis*) and musk thistle (*Carduus nutans*) were observed within both wetland and upland vegetation. The C list noxious weeds, Common mullein (*Verbascum thapsus*) and cheatgrass (*Bromus tectorum*) were observed within the upland vegetation. Various invasive annuals such as Russian thistle (*Salsola tragus*) and tall tumbleweed mustard (*Sisymbrium altissimum*) were also observed in the upland.

4.0 BANK ESTABLISHMENT

4.1 Bank Protection Instrument

Pete Lien owns the Site and bank property outright, so grazing rights, easement establishment, and development decisions can all be made in the best interest of the bank. The property is currently zoned A-35, Agricultural (35-acres). If approved, the Bank mitigation property will be placed under a permanent conservation easement in favor of a certified land trust. The conservation easement will be recorded in the El Paso County deed records and will not only prohibit cattle grazing and commercial development but also restrict any Site activities and disturbance that do not support the functional objectives of the Project. The Site will be monitored annually by the land trust to ensure that these easement restrictions are followed. The conservation easement will include the USACE's rights to enforce the easement and the right to comment on any modifications that could occur at the Bank.

4.2 Determination of Credits

Functional credit determination will be outlined in detail in the Bank Development Plan and will follow the standardized compensatory mitigation procedures for quantifying compensatory mitigation found in the Colorado Mitigation Procedures (USACE 2020). This methodology will evaluate existing and potential wetland conditions and allow for the determination of credit types and mitigation ratios. These functions include short- and/or long-term surface water storage, subsurface water storage, modernization of groundwater flow and discharge, dissipation of energy, cycling of nutrients, removal of elements and compounds, retention of particulates, export of organic carbon, and maintenance of plant and animal communities.

Pre-existing areas will be protected and mitigated through the establishment, enhancement, and preservation of aquatic resources within the bank property. Each mitigation action will generate varying degrees of functional uplift for wetlands at the bank. Established and/or re-established wetlands will experience significant functional uplift to all of the aforementioned ecological functions. This transformation will also result in a net gain in wetland acreage. Enhancement activities, including weeding, native vegetation

seeding/planting, and cattle exclusion, will improve an individual or smaller suit of functions including plant and animal communities, nutrient cycling, and retention of particulates. These activities, however, will not increase the net acreage of wetlands at the bank. Preservation will not result in any functional uplift given that preservation denotes maintenance of existing function. The ratios presented on the credit estimate table below were derived from the guidance and at this time do not account for any projected uplift in the FACWet analysis. The selected ratios are typically the midpoint of the acceptable ratios in the guidance for establishment, enhancement, and preservation of aquatic resources.

Some of the pre-existing areas discussed in sections 2.0 and 3.0 above occur outside of the bank property and have no influence on the areas within the bank property. As such these areas are excluded from any mitigation actions and subsequent credit generation. Table 5 lists the features included in the mitigation bank (Figure 9), along with a suitable credit ratio (USACE 2020), and the resulting credit estimate.

Table 5. Credit Estimate

| Area | Acres | Credit Ratio* | Credit Estimate |
|----------------------------|-------|---------------|-----------------|
| Open Water Enhancement | 0.7 | 4:1 | 0.2 |
| Wetland Establishment | 6.4 | 1.5:1 | 4.3 |
| Wetland Enhancement | 18.3 | 4:1 | 4.6 |
| Wetland Preservation | 0.1 | 5:1 | 0.0 |
| Upland Buffer Enhancement+ | 23.0 | 10:1 | 1.0 |
| Total Acreage** | 48.4 | | 10.1 |

^{*} Expressed in acres per credit

4.3 Mitigation Work Plan

Based on preliminary field data obtained in 2020 and 2021 the following mitigation efforts are proposed. This includes an assessment of wetlands using the current version of the Functional Assessment of Colorado Wetlands (FACWet), vegetative assessment, invasive species inventory, and wildlife utility assessment. A comprehensive mitigation work plan will be presented in full in the Mitigation Banking Instrument and associated exhibits.

^{**}Table acres may not sum to exact total acreage due to rounding errors.

⁺ May not exceed 10% of total credits

4.3.1 FACWet Results

During the 2020 FACWet assessment of current conditions, wetlands were divided into three areas: groundwater derived, perennial surface water derived, and ponding caused by earthen dam. Groundwater derived wetlands (Wetlands 1, 2, & 3) are shown on Figure 11. They are palustrine wetlands dominated by herbaceous species with some isolated wooded areas (i.e. willow, rose and snowberry) and comprise 16.7 acres. Perennial surface water derived wetlands are shown on Figure 11 (Tributary East and Wetland 4). consist of the riverine wetlands which contain herbaceous and shrub areas (i.e. rose and snowberry) and comprise 2.5 acres. The pond area includes the ponded portion of the riverine wetlands which also supports herbaceous and shrub areas (Figure 11). The FACWet findings are summarized here with the raw data and calculations presented in Appendix D.

Groundwater Derived Wetlands – These wetlands area covered 16.7 acres. After a FACWet analysis, this area received a composite functional capacity index (FCI) score of 0.80. The mesic wetland is considered at the low end of "Highly Functioning". The main stressors acting on this wetland are nearby roads, upgradient water usage, the upgradient and downgradient earthen dams, livestock grazing, and non-native/invasive herbaceous plant species.

Surface Water Derived Wetlands – The property contained 1.9 acres of stream wetland habitat. This wetland received a composite FCI score of 0.79, classifying it in the upper range of "Functioning". This score is mainly driven by stressors to the source water upstream, the historical presence of livestock, and the presence of non-native/invasive herbaceous plant species. Falcon High School, the athletics fields, and the surrounding housing developments 2.5 to 3 miles northwest of this property are located at the historical headwater of this drainage. This affects the source water through groundwater pumping, impermeable surface runoff, and could potentially affect water quality via fertilizers and other non-point sources.

Pond – While the pond has the smallest acreage of the analyzed wetlands, 0.4 acres, and it is the most highly modified. The FACWet analysis determined this wetland to be "Functioning Impaired" resulting in a composited FCI score of 0.69. The dominant stressors affecting this wetland include upgradient alterations to the water source, upgradient and

downgradient earthen dams, and most predominately the artificial construction of the pond itself and the adjacent dam.

4.3.2 Planned Mitigation Activities

The following mitigation activities will be applied to areas throughout the bank property (Figure 9).

- Establishment Activities To be applied to upland areas abutting pre-existing wetlands which contain hydric soil indicators but are lacking dominant hydric vegetation and/or wetland hydrology.
- Enhancement Activities To be applied to pre-existing wetlands, open water and upland areas within the bank property to increase functionality.
- Preservation Activities To be applied to areas where no mitigation action is occurring but will ensure the current level of functionality is maintained.

4.3.3 Establishment

Wetland establishment in the bank property involves vegetation management, seeding/planting of desirable wetland species, and the continued exclusion of livestock. Minor earthwork may be required to ensure consistent hydrodynamics in isolated areas where partially elevated swales and grass lined "furrows" have formed.

4.3.4 Enhancement

Wetland and open water enhancement in the bank property will involve vegetation management, seeding/planting of desirable wetland species, and the continued exclusion of livestock. It is expected that existing willow patches will naturally expand however, planting willow whips from different species or sourced from other locations in the area will improve genetic diversity and resilience.

Upland buffer enhancement in the bank property will involve prairie dog management, vegetation management, seeding/planting of native upland species, and the continued exclusion of livestock. Enhancing the native grasslands in the bank property will drastically improve this habitat.

4.3.5 Preservation

Preservation of WL-2 in the seepage area and Tributary-East (below OHWM) will require no immediate actions as the entire Site is fenced and no grazing is to occur on Site. Should it be considered beneficial to the bank, a fence may be placed to separate the western portion of the Site from the bank property. These measures will ensure degradation of functionality is limited naturally occurring events.

4.3.6 Invasive Species Management

Noxious weeds will be managed throughout the bank property. The sponsor will develop an eradication plan for noxious weeds on the bank property. This will involve the use of environmentally approved herbicide. Remediation efforts should include the following:

- 1) Control
- 2) Biomass Reduction
- 3) Seeding of desirable Species
- 4) Monitoring
- 5) Long-Term Maintenance

4.3.7 Ecological Uplift

The Southwestern Tablelands ecoregion is dominated by semi-arid rangeland, situated between the Great Plains and the Southern Rocky Mountains. The ecological characteristics of this region have given rise to a unique array of wildlife and aquatic resources.

The semi-arid climate and intermittent hydrology of the region makes these wetlands an important resource for wildlife. Wetlands are vital for a host of migratory birds and small mammals who depend on wetlands for breeding, foraging and rest stops. Native perennial grasslands are another habitat that have been disappearing across the United States, making uplands which support native grasses an important resource.

The mitigation efforts discussed above will improve the quality of the current wetland area and is likely to establish new wetlands in the abutting areas which could potentially

create a much-needed habitat for migratory birds and other small mammals. Preservation of the pond and enhancement of the shoreline is particularly beneficial in the semi-arid climate.

4.4 Permitting Requirements

The proposed restoration activities at the bank property are likely to have little to no impact on the potential jurisdictional wetlands and waters located within the bank property. Should the aquatic resources be determined jurisdictional, and mitigation activities are determined to have an impact on these resources, a Section 404 Nationwide Permit issued through the USACE may be required. Other state or local permits may be required for grading activities and will be obtained as necessary.

5.0 PROPOSED SERVICE AREA

In-line with the watershed approach, the proposed service area would cover most of the Upper Arkansas River basin (110200). Given the different hydrologic, climactic, and biological conditions between ecoregions, the service area is limited to the Southwest Tablelands ecoregion within the Colorado boarder of the Upper Arkansas River basin, to ensure future credits are representative of the functional wetlands on the bank property. The proposed service area is shown on Figure 10. The watersheds within the proposed service area are listed in Table 6 below.

The USACE South Pacific Divison's (SPD) Mitigation and Monitoring Guidelines issued January 12, 2015, states that a bank's service area includes, at minimum, the HUC-10 watershed containing the bank property. Additional watersheds requiring minimal justification include: 1) HUC-10 watersheds within the HUC-8 sub-basin containing the bank property, 2) watersheds abutting the HUC-10 watershed containing the bank property, and 3) areas within the same ecoregion as the bank property. All other areas included in the proposed service area will require substantial justification for their inclusion.

Table 6. Service Area Watershed Summary

| | | <u> </u> | |
|--------------------------------------|------------|-------------------------------------|------------|
| Watershed Name ¹ | HCU-10 | Watershed Name ¹ | HCU-10 |
| Outlet Fourmile Creek | 1102000202 | Muddy Creek | 1102000904 |
| Hardscrabble Creek | 1102000203 | Headwaters Rule Creek | 1102000905 |
| Eightmile Creek-Arkansas River | 1102000204 | Outlet Rule Creek | 1102000906 |
| Beaver Creek | 1102000205 | John Martin Reservoir-Arkansas Rive | 1102000907 |
| Red Creek-Arkansas River | 1102000206 | Caddoa Creek | 1102000908 |
| Turkey Creek | 1102000207 | Mud Creek | 1102000909 |
| Pueblo Reservoir-Arkansas River | 1102000208 | Dry Creek-Arkansas River | 1102000910 |
| Dry Creek-Arkansas River | 1102000209 | Salt Lake | 1102000911 |
| Greenhorn Creek | 1102000210 | Kiowa Creek | 1102000912 |
| Headwaters Saint Charles River | 1102000211 | Clay Creek | 1102000913 |
| Saint Charles River-Arkansas River | 1102000212 | Neenoshe Reservoir-Arkansas River | 1102000914 |
| Monument Creek | 1102000301 | Buffalo Creek-Arkansas River | 1102000915 |
| Upper Fountain Creek | 1102000302 | Wolf Creek | 1102000916 |
| Middle Fountain Creek | 1102000303 | Granada Creek-Arkansas River | 1102000917 |
| Lower Fountain Creek | 1102000304 | Cheyenne Creek-Arkansas River | 1102000919 |
| Brackett Creek-Black Squirrel Creek* | 1102000401 | Chicosa Arroyo | 1102001005 |
| Black Squirrel Creek* | 1102000402 | Frijole Creek-Purgatoire River | 1102001006 |
| Chico Creek* | 1102000403 | San Francisco Creek | 1102001007 |
| Haynes Creek | 1102000501 | Trinchera Creek | 1102001008 |
| Kramer Creek | 1102000502 | Trementina Creek | 1102001009 |
| Chicosa Creek-Arkansas River | 1102000503 | Van Bremer Arroyo | 1102001010 |
| Lake Meredith | 1102000504 | Luning Arroyo-Purgatoire River | 1102001011 |
| Dry Creek | 1102000505 | Taylor Arroyo | 1102001012 |
| Timpas Creek | 1102000506 | Perly Canyon-Purgatoire River | 1102001013 |
| Dye Reservoir-Arkansas River | 1102000507 | Plum Creek | 1102001014 |
| Crooked Arroyo | 1102000508 | Chacuaco Creek | 1102001015 |
| Anderson Arroyo-Arkansas River | 1102000509 | Lockwood Arroyo-Purgatoire River | 1102001016 |
| Dog Springs Arroyo-Huerfano River | 1102000603 | Smith Canyon | 1102001017 |
| Upper Cucharas River | 1102000604 | Jack Canyon-Purgatoire River | 1102001018 |
| Middle Cucharas River | 1102000605 | Outlet Purgatoire River | 1102001019 |
| Sandy Arroyo | 1102000606 | Headwaters Big Sandy Creek | 1102001101 |
| Lower Cucharas River | 1102000607 | Lake Creek-Big Sandy Creek | 1102001102 |
| Apache Creek-Huerfano River | 1102000608 | Barron Creek-Big Sandy Creek | 1102001103 |
| Huerfano Lake-Huerfano River | 1102000609 | Sevenmile Creek-Big Sandy Creek | 1102001104 |
| Headwaters Apishapa River | 1102000701 | Outlet Big Sandy Creek | 1102001109 |
| Upper Apishapa River | 1102000702 | Long Branch | 1102001201 |
| Middle Apishapa River | 1102000703 | South Rush Creek | 1102001202 |
| Lower Apishapa River | 1102000704 | Headwaters Rush Creek | 1102001203 |
| Steels Fork | 1102000801 | Upper Rush Creek | 1102001204 |
| Upper Horse Creek | 1102000802 | Middle Rush Creek | 1102001205 |
| Breckenridge Creek | 1102000803 | Lower Rush Creek | 1102001206 |
| Middle Horse Creek | 1102000804 | Upper Two Butte Creek | 1102001301 |
| Lower Horse Creek | 1102000805 | Middle Two Butte Creek | 1102001302 |
| Mustang Creek | 1102000901 | Plum Creek | 1102001303 |
| Headwaters Adobe Creek | 1102000902 | Lower Two Butte Creek | 1102001304 |
| Outlet Adobe Creek | 1102000903 | | |
| *Watersheds are within the same sub- | | s the hank property | |

^{*}Watersheds are within the same sub-basin (HCU-8) as the bank property

¹Watersheds listed in bold are entirelly within the survice area, all others overlap the service area.

5.1 WATERSHED CONTAINING THE BANK PROPERTY

The bank property is located within the Black Squirrel Creek watershed (1102000402), which is part of the Chico sub-basin (11020004). Based on the SPD guidance this watershed is automatically included in the service area. The Brackett Creek-Black Squirrel Creek (1102000401) and Chico Creek (1102000403) watersheds abut the Black Squirrel Creek watershed that contains the bank property and area also contained within the Chico sub-basin and the Southwestern Tablelands ecoregion. Given their ecological and hydrological similarities to the watershed containing the bank property and the SPD guidance, these watersheds are included in the service area and require no further justification.

5.2 Additional Watersheds

All these watersheds are within the Upper Arkansas (110200) hydrologic basin and contain the Southwestern Tablelands ecoregion (whole or in part). These watersheds extend south, east, and west of the bank property and are justified for inclusion in the service area due to the similarity of aquatic resource types that exist throughout the ecoregion encompassing these watersheds.

In addition to the ecological similarity and hydrologic connectivity, these watersheds are critical to the economic viability of the bank. The lands surrounding the bank and extending east to southeast are primarily agricultural lands with limited annual impacts. The greater Colorado Springs area to the west and Pueblo to the southwest, however have experienced significant growth in the last 30 years. These areas have a strong commercial economy, particularly in the technology sector. There are also several large military installations including the U.S. Air Force Academy and U.S. Air Force Space Command in the greater Colorado Springs area. This area has also increased in popularity as a destination for outdoor recreationalists. It is thus important for the watersheds along the western edge of the ecoregion be included in the bank's service area. Since the 2008 USACE final mitigation rule established a hierarchy expressing the Corps' preference for mitigation banks over other types of compensatory mitigation, including these watersheds in the bank's service area is providing a preferred mitigation alternative in these regions.

6.0 Need and Technical Feasibility of the Bank

6.1 General Need

The entire state of Colorado only has a handful of approved mitigation banks, with only one servicing the southeastern portion of the state. Given that mitigation banks are still the most preferred compensatory mitigation option (over in-lieu fee programs and permittee-responsible mitigation), Judge Orr Mitigation Bank would provide a superior mitigation option for permittees in the southeastern Colorado region. According to the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS), there are 5 banks with overlapping service areas, but two are single-client banks, and two are pending private commercial banks. Thus, only the Maria Lake Mitigation Bank is providing credits to southwest Colorado, with 9 credits available as of December 2021.

Between 2010 and 2020, Colorado seen nearly 15% increase in population growth (approximately 750,000 people) making it the 6th fastest growing state by population according to the 2020 census data. El Paso County, where the bank is located, saw a growth of 17.4% between 2010 and 2020, with an estimated population of 730,395 people as of April 1, 2020.

In addition to the increased urban and industrial development in this region, poor grazing management in the slower developing areas continues to threaten the ecological integrity and sustainability of biological resources, including wetlands and native grasslands, in the region. This creates the need for wetland mitigation, protection, and enhancement of these valuable resources.

6.2 Technical Feasibility

The bank property can be accessed by vehicle from Stapleton Rd. The bank property has never been used as a mitigation previously, and there are no current easements or encumbrances on the bank property. It is subject to development by the supervisor and there are no leases attached to the Site, meaning that grazing can be prohibited indefinitely. The sponsor has the right to place appropriate conservation easement on the property to ensure protection in perpetuity. As discussed in Section 2.4, sufficient stream flows, springs, and hydrology exist to support the establishment and long-term sustainability of the bank.

The mitigation and management methods proposed for the bank are standard activities that have been conducted on similar wetland mitigation sites and have been shown to be effective. There will be no operable control structures within the bank property that will require management in perpetuity. Performance standards will be in place to evaluate the success of proposed mitigation actions, and an adaptive management and adaptive monitoring plan will provide ability to detect problems and devise specific solutions if they arise.

A Class I File Search conducted by Centennial Archaeology LLC indicates that there are three potential historic resources within the project area, and several in the greater file search area. Resources in the greater file search area, which is the subject property as well as a 0.5-mile-wide buffer extending in all directions from the project area, consist of roadways, dams, reservoirs, a ranch, and two buildings. Historic resources specific to the project area are an unnamed two-track road that extends generally north from Judge Orr Road to the Gieck Ranch, an unnamed reservoir, and a dam associated with the reservoir. These resources date to at least 1940 as they are shown on the 1940 Falcon 1:24,000-scale USGS topographic map. The Colorado Division of Water Resources (DWR) does not list the reservoir or dam on their online database for water-control features and structures. No previously documented sites or surveys were on file with the Colorado Office of Archaeology and Historic Preservation (OAHP) Compass and General-Purpose Viewer (GPV) web applications within the file search area, and no previously documented cultural resources will be impacted by the proposed project. No buildings are present on the subject parcel and, based on El Paso County Assessor's record, it is currently designated as agricultural grazing land. It should be noted that the file search data mainly reflect prior investigations. A comprehensive field inventory (Class III) would be required to identify and appropriately document and assess resources within the boundaries of the project area.

7.0 BANK OPERATIONS

7.1 Sponsor Qualifications

Founded in 1944, Pete Lien has an extensive history with sourcing minerals and contributing to industrial construction. Pete Lien has operated in Colorado since the midsixties. Throughout the history of the company, the Lien's core business has been acquiring key agricultural lands and enhancing some by harvesting additional resources, primarily limestone, sand and gravel, to grow the business to land management & mining. The original quarry that Pete bought from his supplier has been mined and reclaimed. The company has purchased thousands of acres, mostly ranches, while accumulating 100's of years of mineral reserves and currently has active mines in northern Colorado, western South Dakota, and eastern Wyoming.

Founded in 1982, Cedar Creek is a practical and specialized ecological consulting firm based in Ft. Collins, Colorado. Providing biological, soil, and risk assessment services to support environmental permitting and planning, regulatory compliance, and closure requirements. Clientele include energy and mineral extraction companies, land developers and land management groups, and other clients whose projects disturb the land surface. Specializing in project-specific soils, vegetation, and wildlife solutions as well as arid landscape reclamation design, projects are located throughout the U.S. and internationally.

8.0 Management Strategy

8.1 Ownership Arrangements

The Judge Orr Mitigation Bank and underlying bank property will be owned and operated by Pete Lien as its sponsor. Portions of the Site not included in the bank property are subject to future development at the sponsors digression. There are no mineral/subsurface reservations to third parties or other similar site encumbrances that will interfere with bank establishment.

8.2 Interim Management

The interim management strategy for the bank will focus on construction of the mitigation bank and implementation of establishment, enhancement, and preservation of aquatic resources. During this period, the sponsor will conduct performance monitoring to measure success compared with clearly defined criteria and deploy adaptive management strategies to ensure that the ecological uplift goals of the bank are met.

8.2.1 Performance Standards

The overall performance standards and success criteria for wetland compensation will center on demonstrable ecological lift within the bank property using guidelines set forth by the *SPD Uniform Performance Standards for Compensatory Mitigation Requirements* (USACE 2012). This lift will be measured using physical, hydrological, and biological metrics where applicable. Specific standards and monitoring schedule will be outlined in the Bank Development Plan following approval from the District Engineers.

8.2.2 Monitoring Requirements

In addition to the functional assessment, performance monitoring will be conducted for all areas within the bank where credits will be generated. In the development plan, specific performance criteria for each type of wetland will be established based on the uniform performance standards developed by the USACE SPD. The uniform performance standards provide measurable targets for ecological functions including hydrology, native vegetation cover, invasive vegetation cover, water quality, and species richness. Associated with each target is also an allowable timeframe to achieve the stated target if performance standard is

not met by the established deadline, adaptive management actions will be undertaken, and credit releases may be delayed. Monitoring will be conducted by Cedar Creek for five years or until the District Engineers determines the project is completed. The data will be collected and analyzed annually to ensure success criteria and performance standards are being met.

In addition to the performance monitoring required under the development plan, any additional monitoring, maintenance, and management activities will be specified in the LTMP. This will further ensure the success of the aquatic resources at the bank.

8.3 Long Term Management

The long-term management strategy for the bank will center on monitoring, boundary maintenance, and site protection. Additionally, the sponsor will ensure an adequate long term funding mechanism for the management activities. The sponsor will be the designated long-term steward unless the sponsor designates at is option and subject to USACE approval, an alternative third-party assignee ("Third-Party Steward") to be the bank's long-term steward. A Long-Term Management Plan (LTMP) will be included with the banking instrument, which will detail management needs, performance standards, costs, and funding mechanism consistent with 33 CFR 332.7(d). The LTMP will also include a weed abatement management plan and will be developed to ensure perpetual maintenance of the Bank property after all success criteria have been met and all credits released. The Sponsor, or its heirs, assigns, or purchasers, shall be responsible for protecting the Bank in perpetuity. The Long-Term Management Plan will be recorded as an attachment to the conservation easement deed, and an escrow account will be established by Pete Lien to assure funding for these long-term management goals. The long-term management activities will initially be conducted by Pete Lien. At a later date, and with approval from the USACE, Pete Lien plans to nominate a permanent long-term steward.

Minor issues such as trash, fence damage, and change in vegetation or invasive species which can be addressed by the sponsor. More complex issues such as extensive plant mortality or noticeable reduction in available water, the USACE should be notified and presented with corrective measures and a schedule for remediation. If USACE determines that performance standards have not been met or the area is not on track to meet the respective standards, then the monitoring period may be extended. USACE may also revise

monitoring requirements when additional remediation is required. In the event that success criteria have not been met, remedial action will be taken within 90 days of USACE approval.

8.4 Assurances

Financial assurances will be provided by Pete Lien following the guidelines set forth in *Implementing Financial Assurances for Mitigation Project Success* (USACE 2016). As such, short-term financial assurances will be used to ensure completion of the mitigation provider's obligations to implement a required mitigation project and meet specified ecological performance standards in the event that the mitigation provider proves unable or unwilling to meet those obligations. Long-term protection will be provided through conservation easements and endowment funds to ensure protection of the mitigation site from encroachment or degradation. Since long-term management may include active management measures such as posting property boundaries, repair and replacement of fencing, control of invasive species, and other management activities, both long-term protection and long-term management of the mitigation project may necessitate the mitigation provider to establish funding mechanisms that provide the sponsor (or some other entity that is charged with maintaining the site) with the resources needed for these activities. The details of the proposed construction, performance, interim, and long-term management assurances will be presented in the Mitigation Banking Instrument, as necessary.

9.0 PROJECT REPRESENTATIVES

Bank Sponsor and Land Owner: Pete Lien and Sons, Inc.

Contact Name: Danielle Wiebers

Address: 3370 Drennan Industrial Loop North Colorado Springs, CO 80910

Email: DWiebers@petelien.com Phone Number: (605) 939-2686

Bank Agent: Cedar Creek Associates, Inc.

Address: PO Box 252150 Fort Collins, CO 80526

Contact 1: Jesse Dillon, Principal Email: jdillon@cedarcreek.app
Phone Number: (970) 988-3106

Contact2: Gloria Sargent, Plant Ecologist

Email: gsargent@cedarcreek.app
Phone Number: (540) 968-1655

10.0CITATIONS

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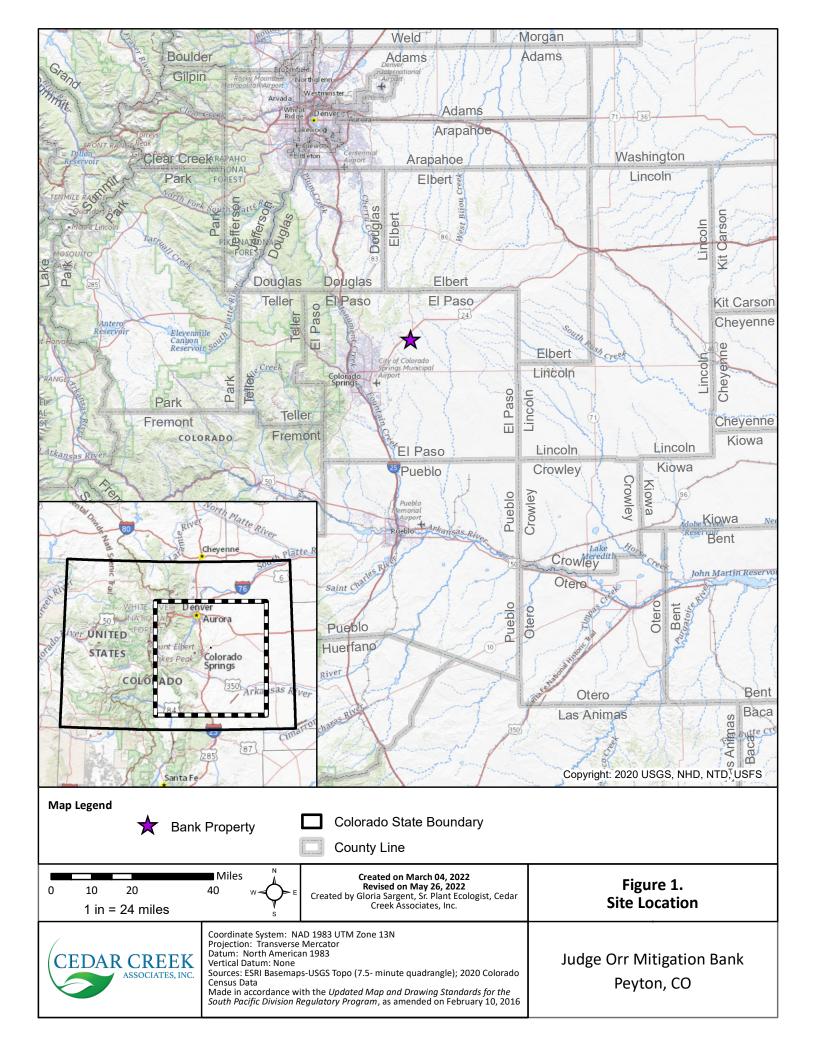
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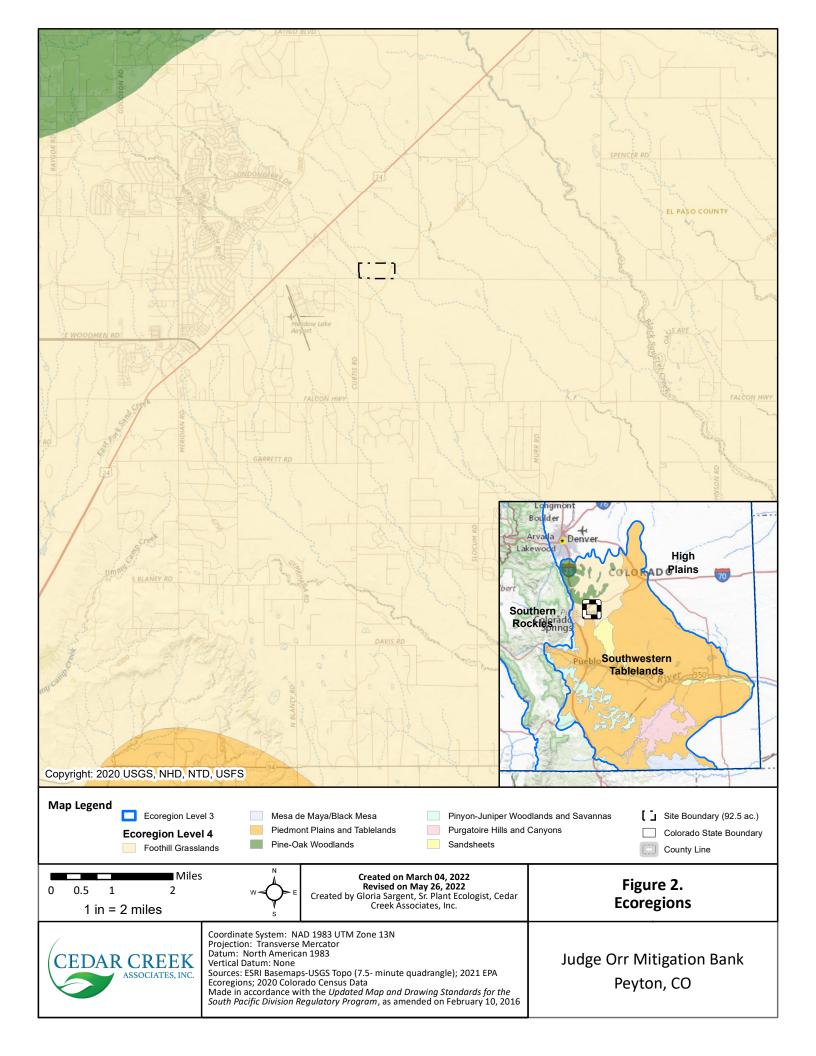
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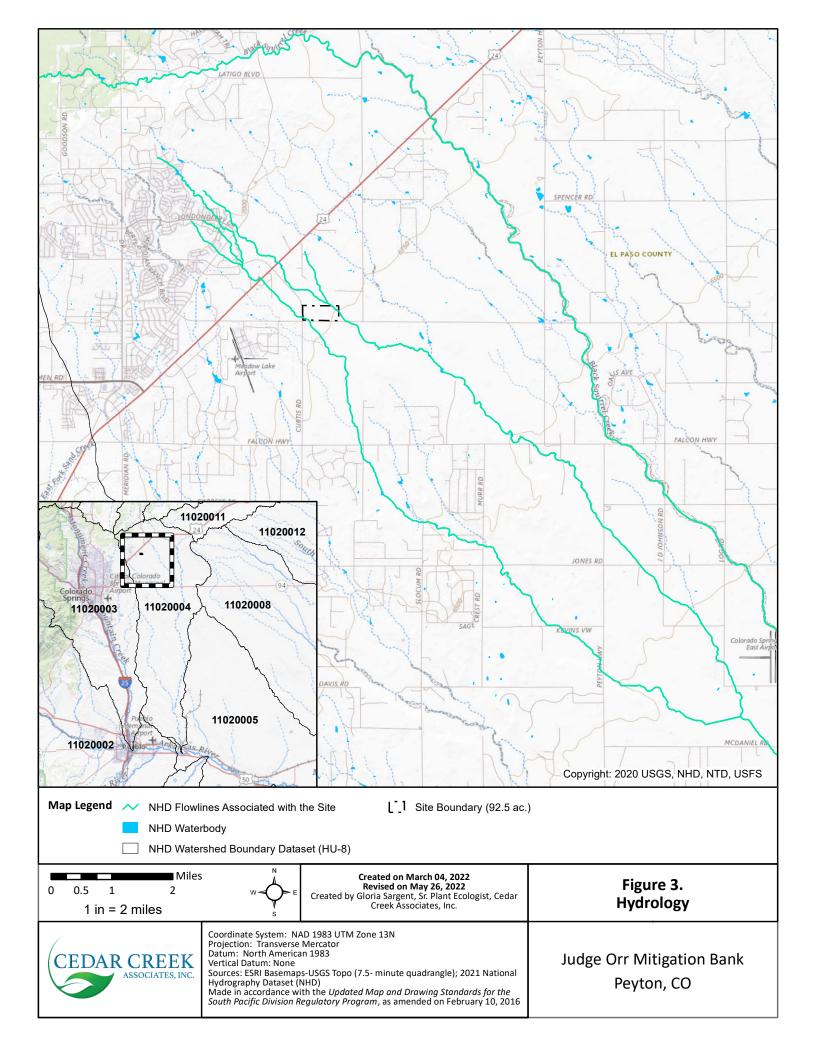
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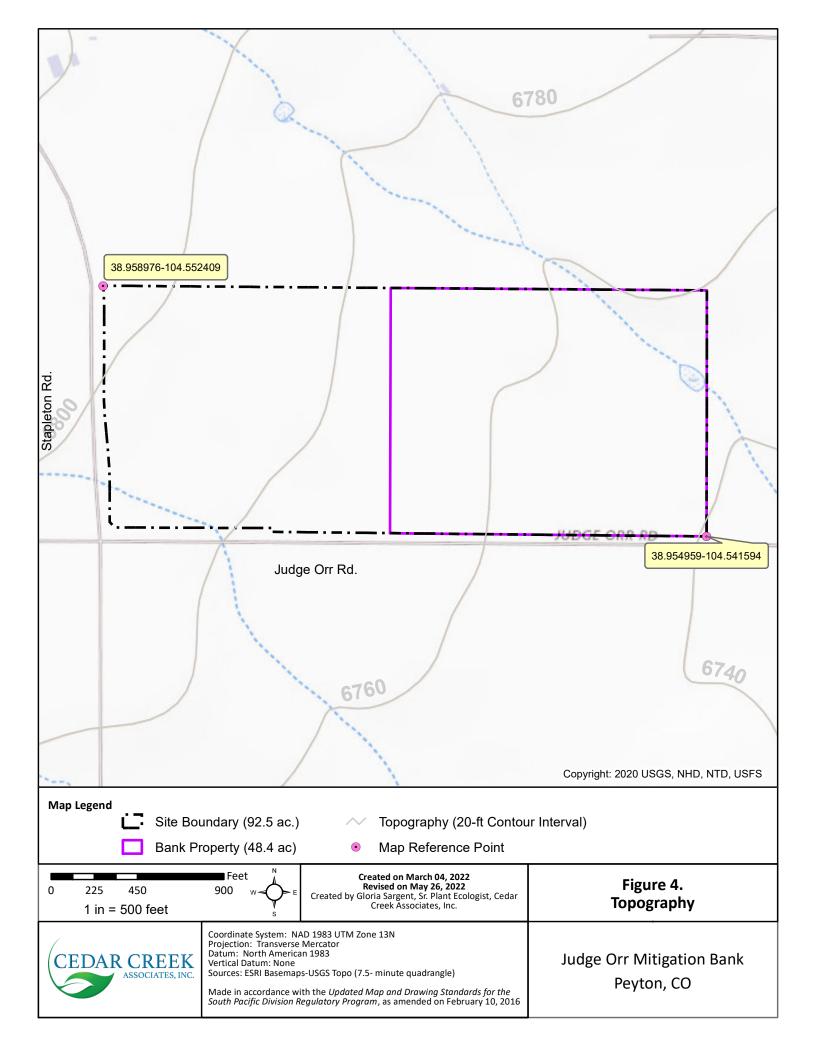
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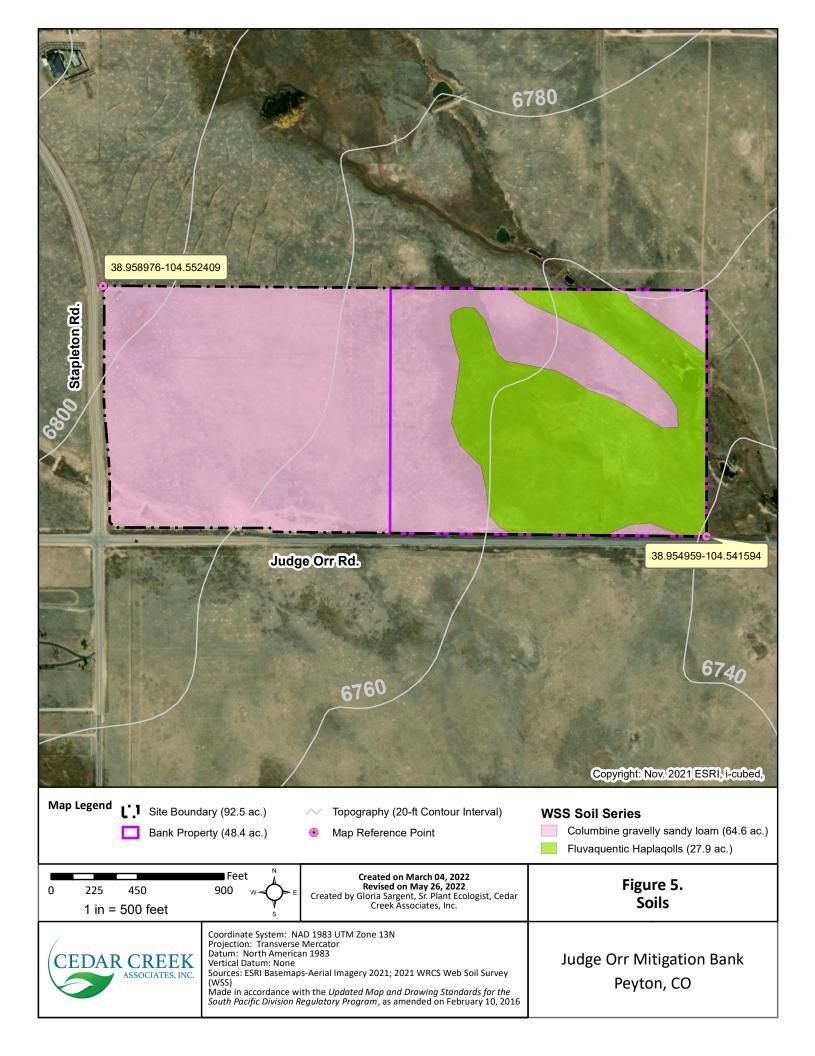
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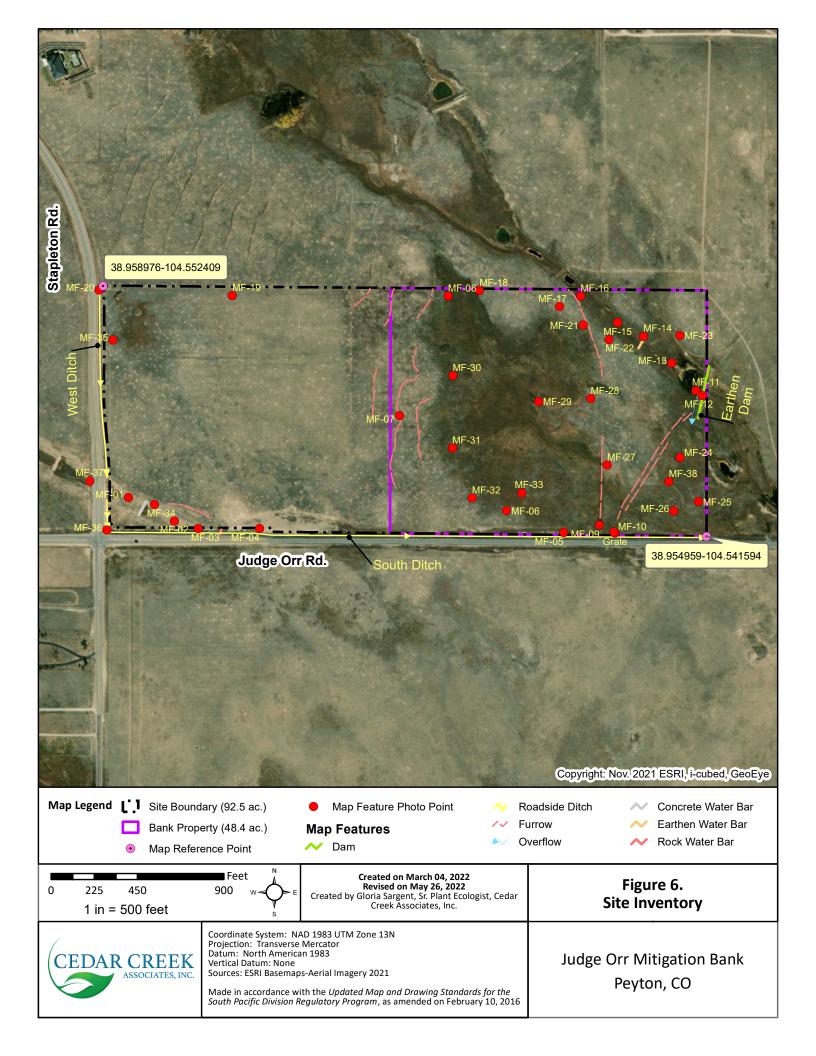


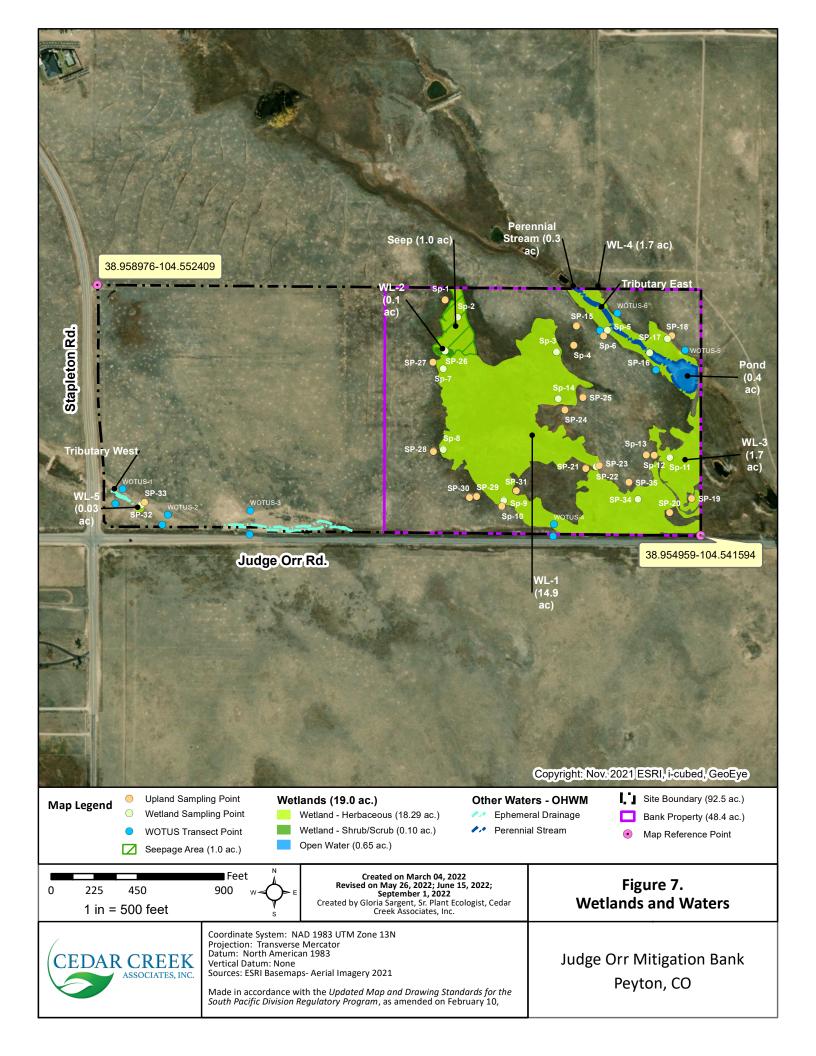


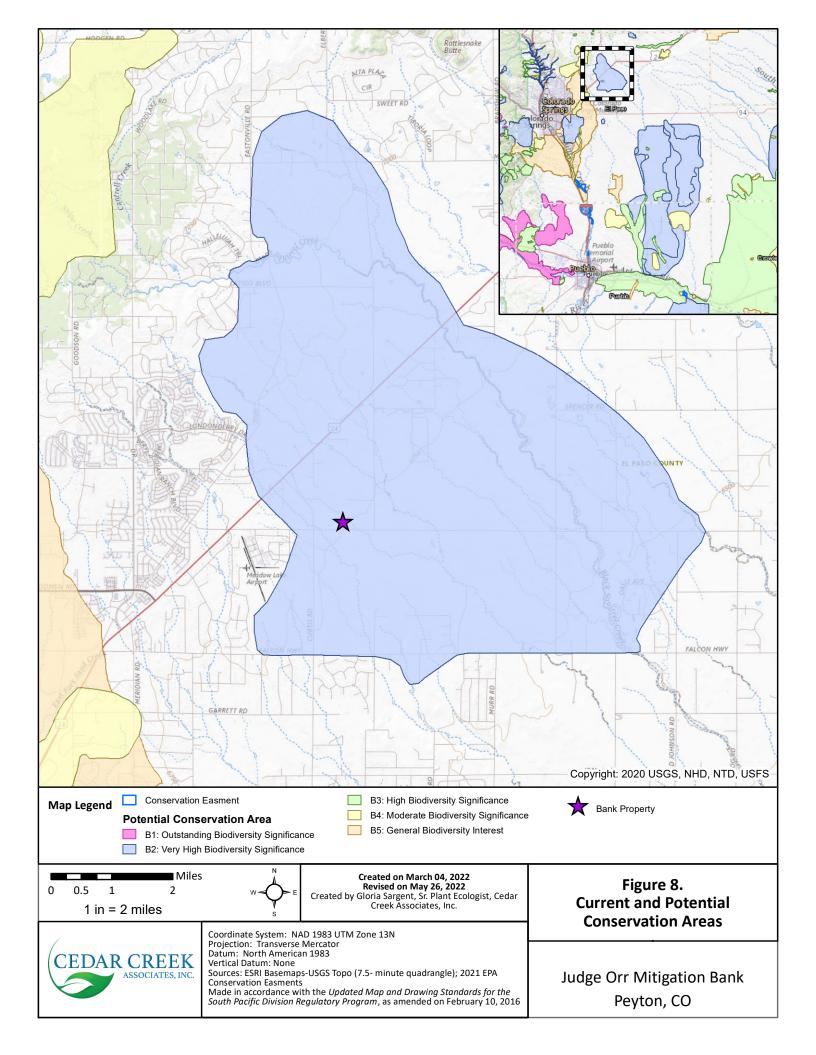


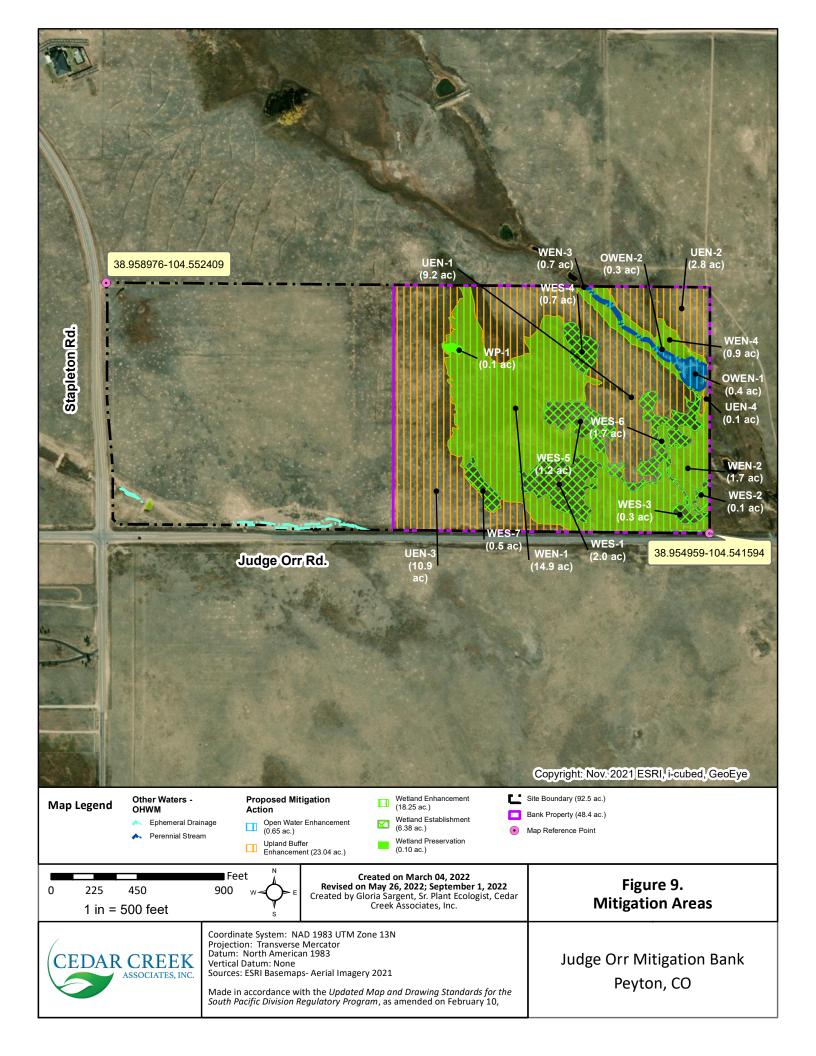


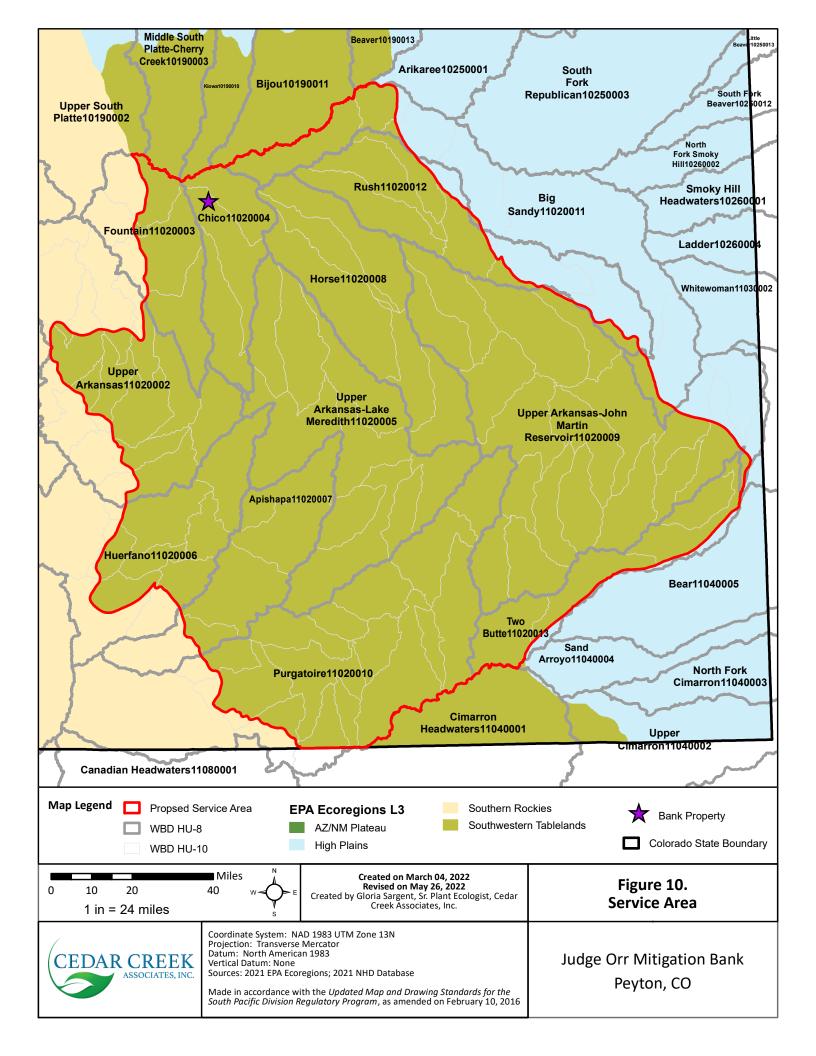


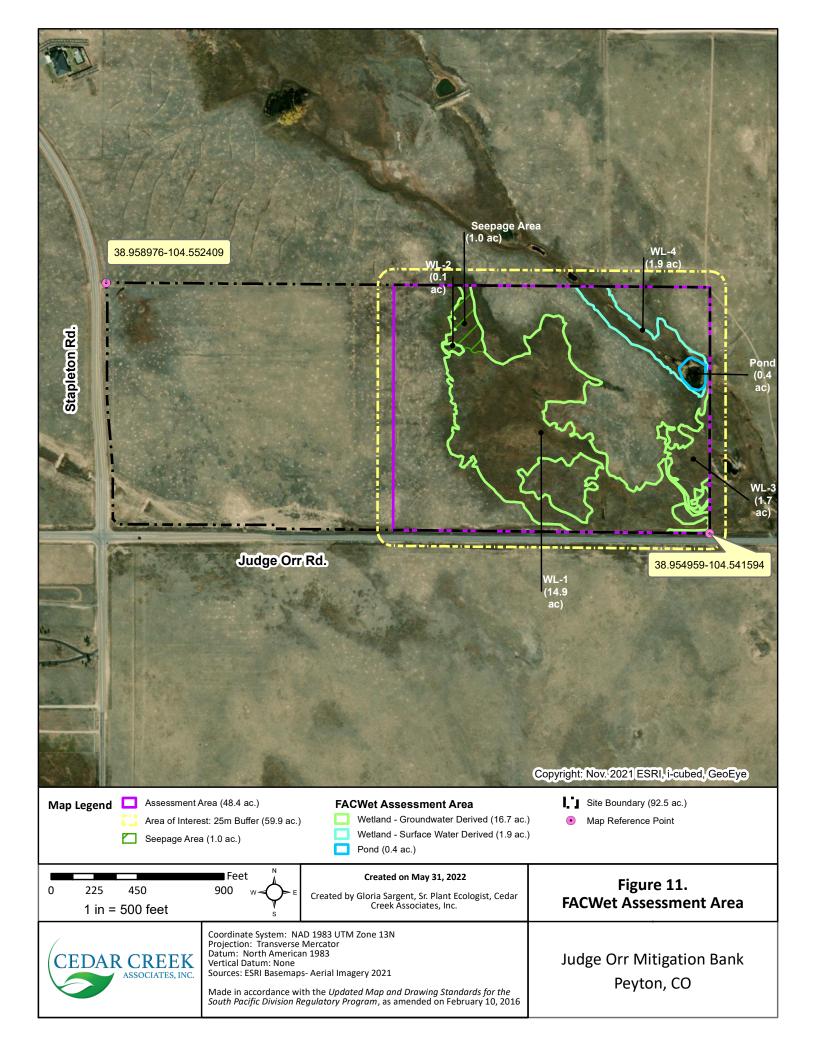










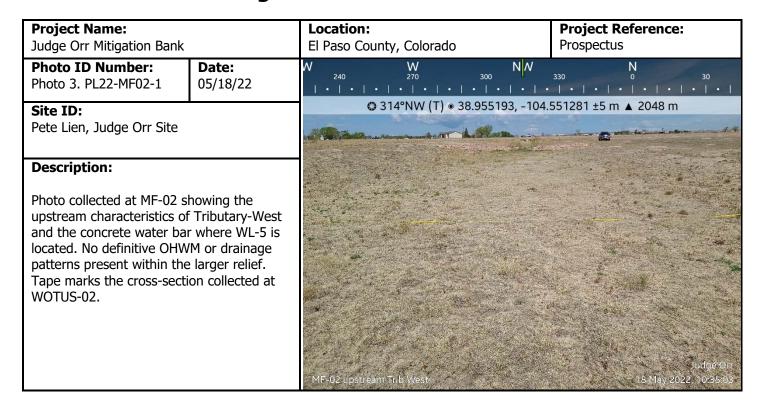


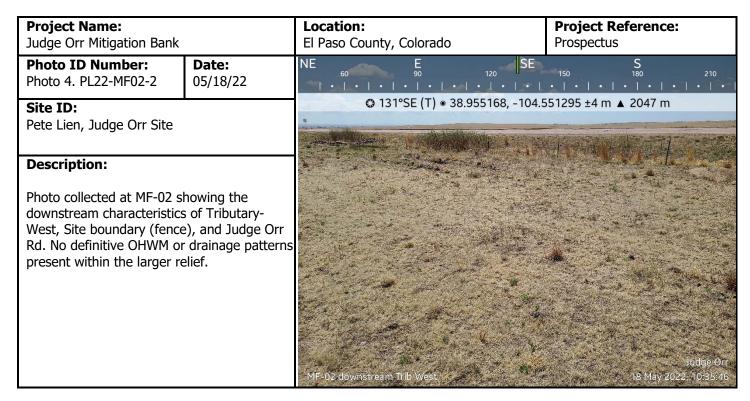
Appendix A Representative Photos

| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|---|---|--|------------------------------------|
| Photo ID Number: Photo 1. PL22-MF01-1 | Date: 05/18/22 | W NW 300 330 3 | N NE |
| Site ID: Pete Lien, Judge Orr Site | | • 321°NW (T) • 38.95553, -104.5 | 552131 ±5 m ▲ 2055 m |
| Description: Photo collected at MF-01 sh upstream characteristics of and the culvert under Stapl the tributary enters the Site Foreground (left) shows ve and drainage patterns with relief. Tape marks the cross-section WOTUS-01. | Tributary-West eton Rd. where property. ry limited OHWM in the larger | MF-01 upstream Trib West | Judge Off 18 May 2022, 10:07:37 |

| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|--|---------------------------------------|--|
| Photo ID Number: Photo 2. PL22-MF01-2 | Date: 05/18/22 | NE E SE | 150 180 210 • • • • • • • |
| Site ID: Pete Lien, Judge Orr Site | | ○ 129°SE (T) • 38.955524, -104. | 55213 ±3 m ▲ 2050 m |
| Description: Photo collected at MF-01 st downstream characteristics West and the concrete-rock Foreground (right) shows and drainage patterns with relief. | s of Tributary- k water bar. very limited OHWM | | Tudne Ort |
| | | MF-01 downstream Trib West | 18 May 2022, 10:08:52 |

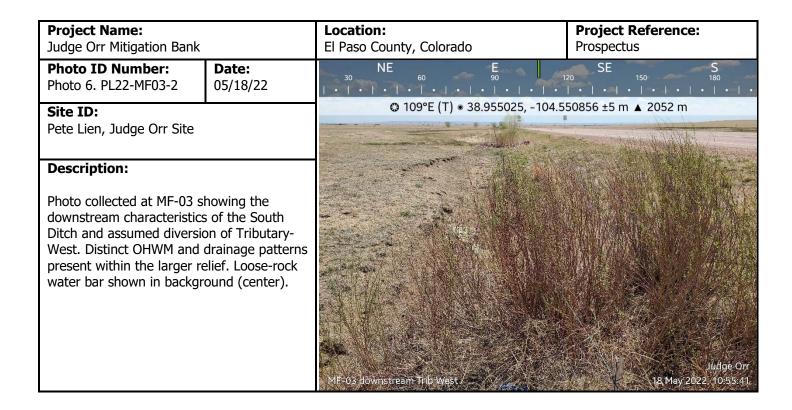






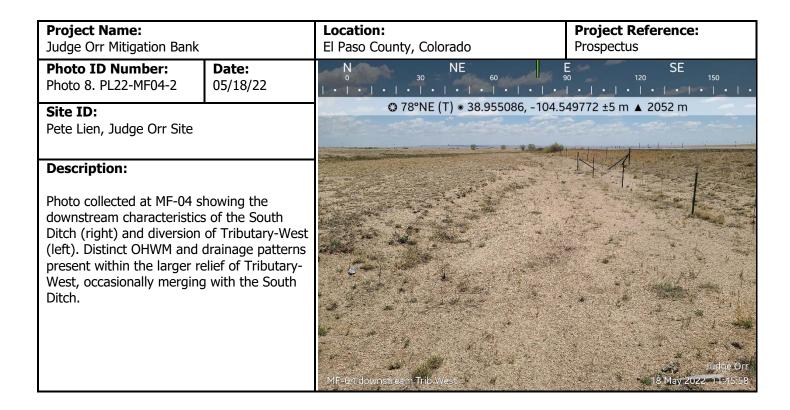


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---------------------------------------|---|
| Photo ID Number: Photo 5. PL22-MF03-1 | Date: 05/18/22 | SW W 240 270 300 | NW 330 0 30 |
| Site ID: Pete Lien, Judge Orr Site | | ③ 309°NW (T) ● 38.955023 | , -104.550865 ±4 m ▲ 2053 m |
| Description: | | | A Commence of the Commence of |
| Photo collected at MF-03 showing the upstream confluence of of Tributary-West (right), the South Ditch (left), and the Site boundary (fence). No definitive OHWM or drainage patterns present within the larger relief associated with Tributary-West. Some patches of willows and notable change in vegetation cover located in the South Ditch (off-site). | | | |
| | | MF-03 upstream Tob West | Judge Off 18 May 2022, 10-55-12 |



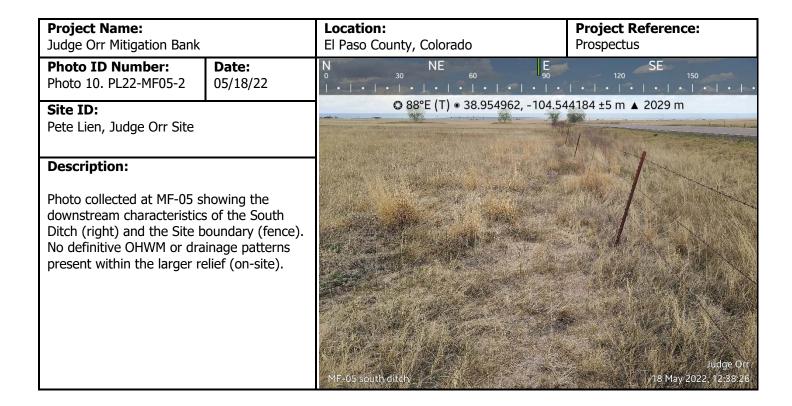


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|---|-----------------------|--|-----------------------------------|
| Photo ID Number: Photo 7. PL22-MF04-1 | Date: 05/18/22 | S SW 240 240 1 • 1 • 1 • 1 • 1 • 1 • 1 | W NW 330 |
| Site ID: Pete Lien, Judge Orr Site | | © 253°SW (T) ● 38.954965, -104.5 | 49802 ±10 m ▲ 2040 m |
| Photo collected at MF-04 showing the upstream characteristics of the South Ditch (left) and diversion of Tributary-West (right). Distinct OHWM and drainage patterns present within the larger relief of Tributary-West, separate from the South Ditch. Tape marks the cross-section collected at WOTUS-03. | | MF-0-1 upstream Trib West | Judge Or 8. May 2022, 11:45:31 |





| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---|------------------------------------|
| Photo ID Number: Photo 9. PL22-MF05-1 | Date: 05/18/22 | SW W 300 NW 330 NW 1 NW | |
| Site ID: Pete Lien, Judge Orr Site | | © 273°W (T) ● 38.954935, -104. | 544174 ±8 m ▲ 2025 m |
| Description: | | | Market State of the |
| Photo collected at MF-05 showing the upstream characteristics of the South Ditch (left) and the Site boundary (fence). No definitive OHWM or drainage patterns present within the larger relief (on-site). Tape marks the cross-section collected at WOTUS-04. | | | |
| | | MF-05 south ditch | Judge Orr 18 May 2022, 12:38:11 |



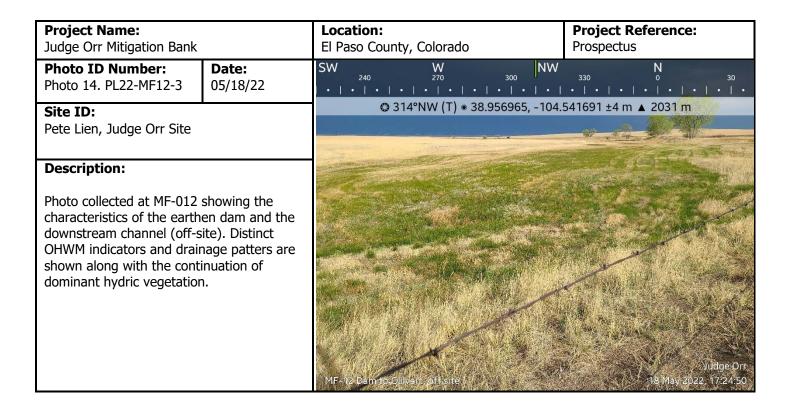


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|--|------------------------------------|
| Photo ID Number: Photo 11. PL22MF11-1 | Date: 05/18/22 | NW N N 300 300 1 • • • • • • • • • • | NE E 90 |
| Site ID: Pete Lien, Judge Orr Site | | © 27°N (T) ● 38.956868, -104.54 | 41737 ±9 m ▲ 2040 m |
| Description: | | And the same of th | |
| Photo collected at MF-011 showing the characteristics of the pond below OHWM (left) and the Site boundary (fence). Songbirds are pictured along the fence and perched on the cattails. | | | |
| | | MF-11 songbirds | Judge Orr 18 May 2022, 16:13:42 |

| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---------------------------------------|--|
| Photo ID Number: Photo 12. PL22MF12-1 | Date: 05/18/22 | S SW 240 270 180 | NW 300 330 |
| Site ID: Pete Lien, Judge Orr Site | | © 268°W (T) ● 38.956974, -104.5 | .41648 ±11 m ▲ 2036 m |
| Description: | | | |
| Photo collected at MF-012 showing the characteristics of the pond below OHWM and the inlet of Tributary-East (background, center). | | | AND THE PROPERTY OF THE PARTY O |
| Certier). | | | |
| | | MF-12 Pònd | Judge Orr 18 May 2022 <i>(17</i> -23-13 |



| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|---|--|---------------------------------------|------------------------------------|
| Photo ID Number: Date: 05/18/22 | | E SE 150 150 150 150 | S SW 210 SW 240 |
| Site ID: Pete Lien, Judge Orr Site | | • 159°SE (T) • 38.956957, -104 | .541651 ±4 m ▲ 2033 m |
| Description: Photo collected at MF-012 showing the characteristics of the earthen dam and the overflow outlet (right). | | MF-12-Dam and Overflow | Judge Ori 18 May 2022, 17 23 45 |





| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|---|-----------------------|--|--|
| Photo ID Number: Photo 15. PL22-MF13-1 | Date: 05/18/22 | SW 240 270 I I I I I I I I I I I I I I I I I I I | NW 300 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| Site ID: Pete Lien, Judge Orr Site | | © 280°W (T) ● 38.957414, -104. | .542188 ±5 m ▲ 2024 m |
| Photo collected at MF-13 showing the upstream characteristics of Tributary-East. Distinct OHWM and flowing water present within the larger relief of Tributary-East. The cross-section collected at WOTUS-05 was collected in the foreground (Tape line missing). | | ME-13 upstream Trib East | Judge Orr 18 May 2022, 17:28:38 |



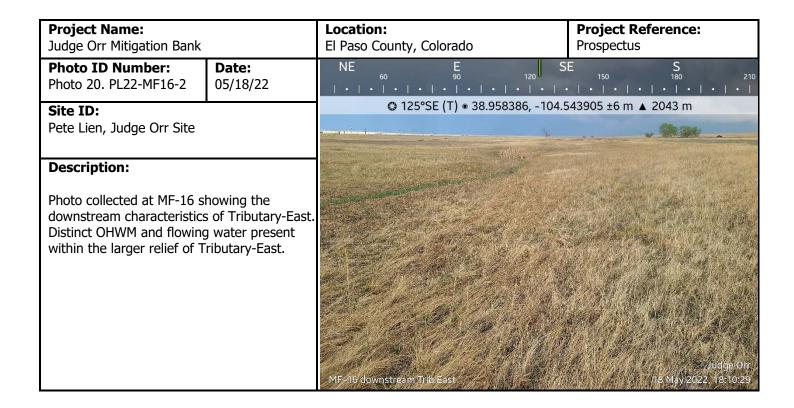


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|---|---------------------------------------|------------------------------------|
| Photo ID Number: Photo 17. PL22-MF15-1 | Date: 05/18/22 | W NW 3300 NW | N NE 60 |
| Site ID: Pete Lien, Judge Orr Site | | © 349°N (T) ● 38.958004, -104.5 | 43224 ±3 m ▲ 2036 m |
| Photo collected at MF-15 sh upstream characteristics of Distinct OHWM and flowing within the larger relief of Tr Tape marks the cross-section WOTUS-06. | Tributary-East. water present ibutary-East. | MF-15 upstream Trib East | Judge Opt 18 May 2022, 18:04:11 |

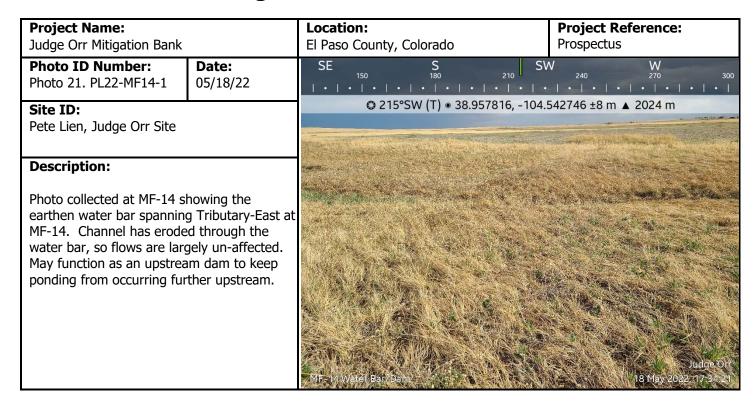
| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|--|-------------------------------------|
| Photo ID Number: Photo 18. PL22-MF15-2 | Date: 05/18/22 | E SE S 60 90 120 150 180 210 • • • • • • • • • • | |
| Site ID: Pete Lien, Judge Orr Site | | © 141°SE (T) ● 38.958016, -104.5 | 43217 ±3 m ▲ 2037 m |
| Description: | | | State of the second second second |
| Photo collected at MF-15 showing the downstream characteristics of Tributary-East. Distinct OHWM and flowing water present within the larger relief of Tributary-East. | | | |
| | | | |
| | | MF-15 downstream Trib East | Judge Orr. 18 May 2022, 18:04:54 |

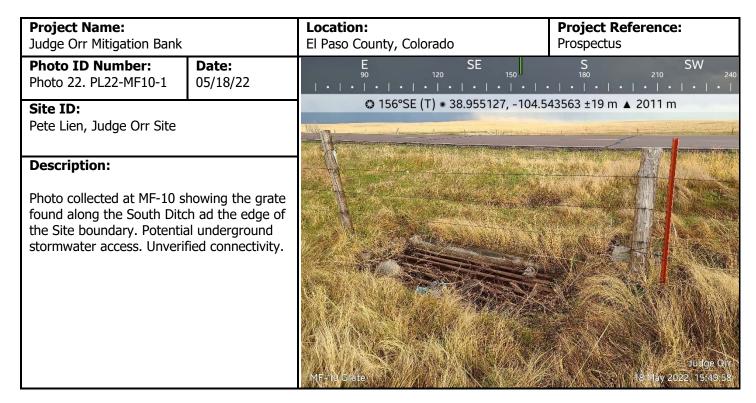


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|--|---|--------------------------------------|
| Photo ID Number: Date: Photo 19. PL22-MF16-1 05/18/22 | | W NW 330 10 10 10 10 10 10 10 10 10 10 10 10 10 | N NE 60 |
| Site ID: Pete Lien, Judge Orr Site | | © 331°NW (T) ● 38.958411, -104. | 543923 ±7 m ▲ 2050 m |
| Description: | | | |
| Photo collected at MF-16 showing the upstream characteristics of Tributary-East. Distinct OHWM and flowing water present within the larger relief of Tributary-East. Shows where Tributary-East enters the site and the continuation of OHWM and associated wetlands continuing upstream of the Site boundary (fence). | | | Judge On |
| | | MF-16 upstream Trib East | 18 May 2022, 18 10 08 |













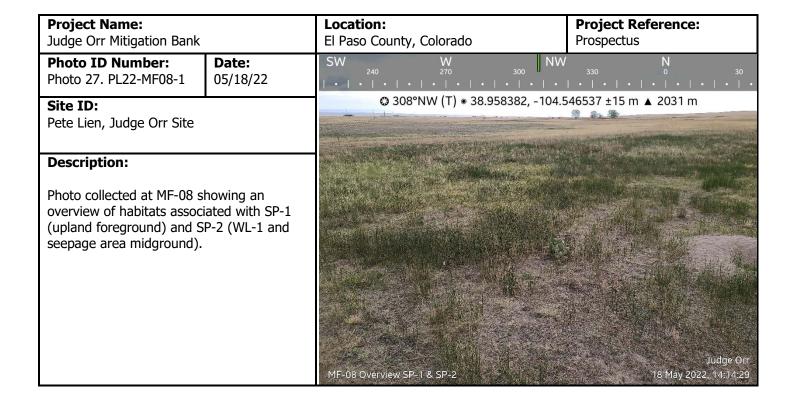
| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|--|-----------------------------------|
| Photo ID Number: Photo 24. PL22-MF36-1 | Date: 05/19/22 | North Elevation | |
| Site ID: Pete Lien, Judge Orr Site | | ② 205°S (T) ● 38.955109, -104.55 | 52715 ±18 m ▲ 2024 m |
| Photo collected at MF-36 showing the South Ditch parallel to the Stie boundary (fence) and Judge Orr Rd. (right). Notable change in vegetation cover and species present between the Site and the ditch. | | MF=36:South Duch | Judge Off 19 May 2022 18 29 41 |



Project Name: Location: **Project Reference:** El Paso County, Colorado Prospectus Judge Orr Mitigation Bank Photo ID Number: Date: **East Elevation** Photo 25. PL22-MF37-1 05/19/22 © 284°W (T) • 38.955814, -104.552879 ±9 m ▲ 2035 m Site ID: Pete Lien, Judge Orr Site **Description:** Photo collected at MF-37 showing the upstream characteristics of Tributary-West (off-site). Distinct drainage patterns and change in vegetation species present within the larger relief of Tributary-East. Shows patches of hydrophytic vegetation in channel upstream of the Site. 19 May 2022, 18:31:20

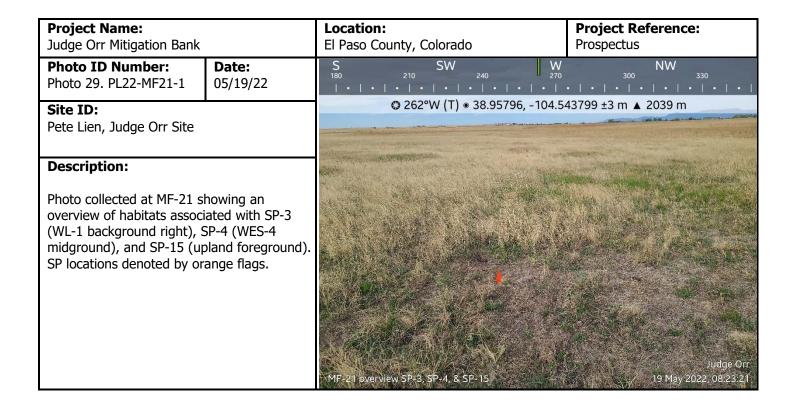


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|--|--------------------------------------|
| Photo ID Number: Photo 26. PL22-MF06-1 | Date: 05/18/22 | NW N N N 100 N 100 N 100 N N N N N N N N N | NE E 90 • • • • • • • |
| Site ID: Pete Lien, Judge Orr Site | | ② 15°N (T) ● 38.955286, -104.5 | 45242 ±4 m ▲ 2035 m |
| Description: | | | |
| Photo collected at MF-06 showing an overview of habitats associated with SP-9 (WL-1 background) and SP-10 (upland foreground). | | | |
| | | | Page 1 |
| | | MF-06 overview SP-9 & SP-10 | Judge Orr 18 May 2022 , 12-5-3-13 |



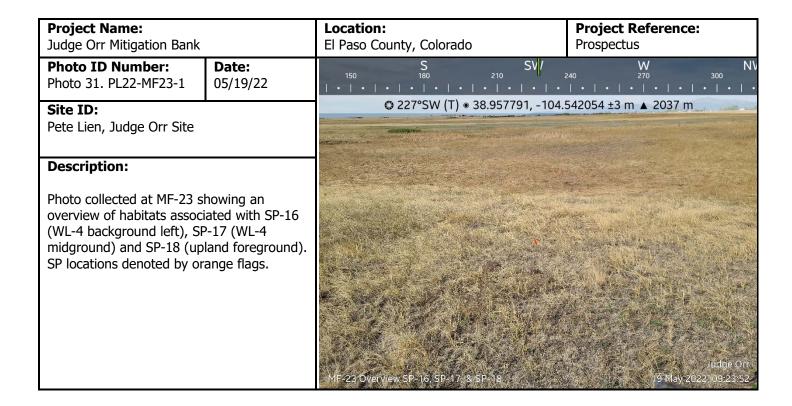


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---------------------------------------|------------------------------------|
| Photo ID Number: Photo 28. PL22-MF18-1 | Date: 05/18/22 | SW W NV | N 330 0 30 • • • • • • • |
| Site ID: Pete Lien, Judge Orr Site | | • 305°NW (T) • 38.958483, -104. | 545735 ±3 m ▲ 2045 m |
| Description: Photo collected at MF-18 showing the continuation of WL-1 and the potential offsite seepage area located north of the Site boundary (fence). | | MF-18 Wetland off site | Judge Orr 18 May 2022, 18:15:49 |



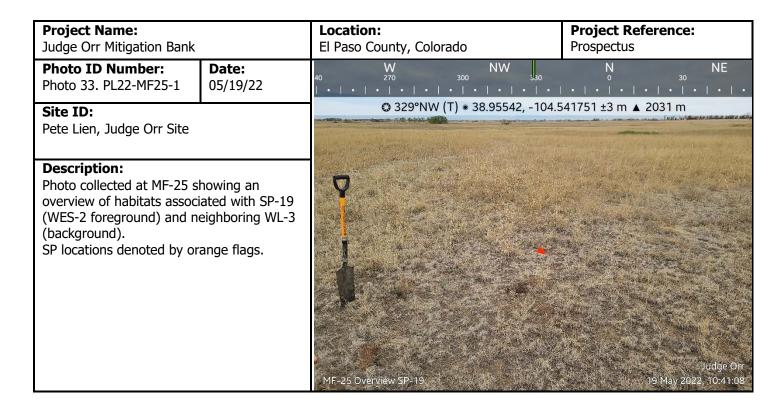


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|---|-----------------------|--|---|
| Photo ID Number: Photo 30. PL22-MF22-1 | Date: 05/19/22 | NW N N NE | E 60 90 120 • • • • • • |
| Site ID: Pete Lien, Judge Orr Site | | 38.957781, -104.5 38.957781, -104.5 | 43299 ±3 m ▲ 2037 m |
| Description: | | | |
| Photo collected at MF-22 showing an overview of habitats associated with SP-5 (WL-4 background) and SP-6 (upland foreground). SP locations denoted by orange flags. | | | |
| | | | |
| | | MF-22 Overview SP-5 & SP-6. | Judge Orr 19 May 2022, 09:02:40 |

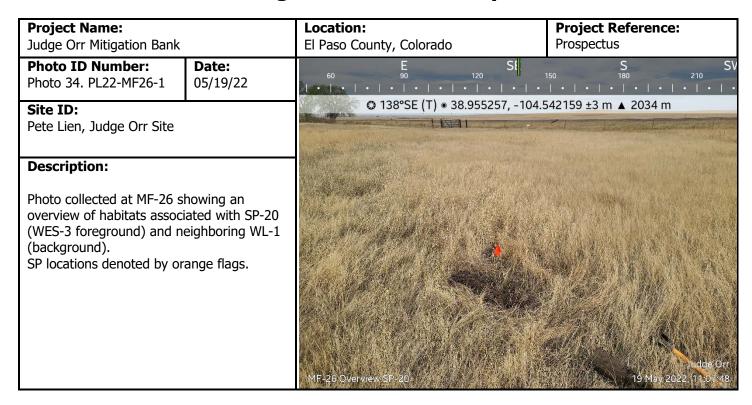


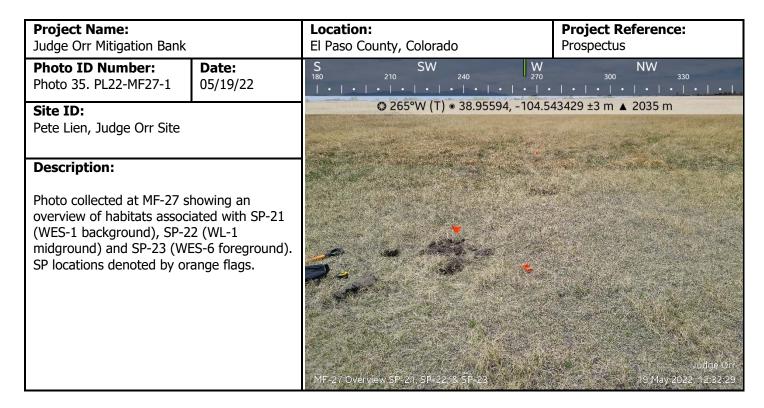


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|--|--|
| Photo ID Number: Photo 32. PL22-MF24-1 | Date: 05/19/22 | S SW 240 240 1 | W NW 330 330 • • • • • • • |
| Site ID: Pete Lien, Judge Orr Site | | © 256°SW (T) ● 38.956016, -104 | 4.5421 ±3 m ▲ 2034 m |
| Photo collected at MF-24 showing an overview of habitats associated with SP-11 (WL-3 foreground), SP-12 (WES-6 midground) and SP-13 (upland background). SP locations denoted by orange flags. | | MF-24 Overview SP21 1 SP212 8 SP-13 | Judge Orr 19 May 2022–10:26:50 |



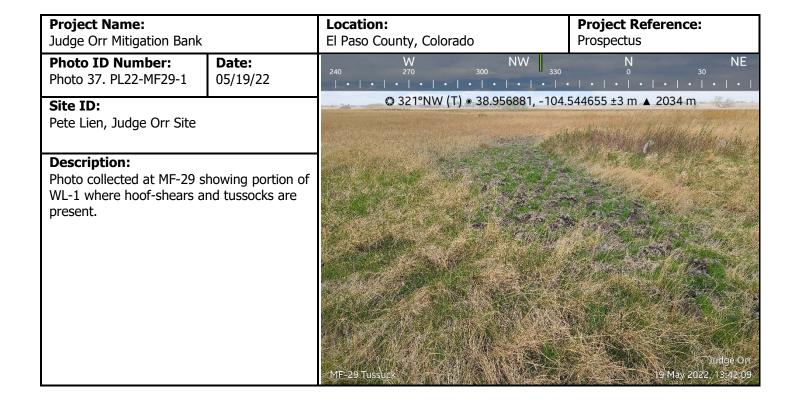






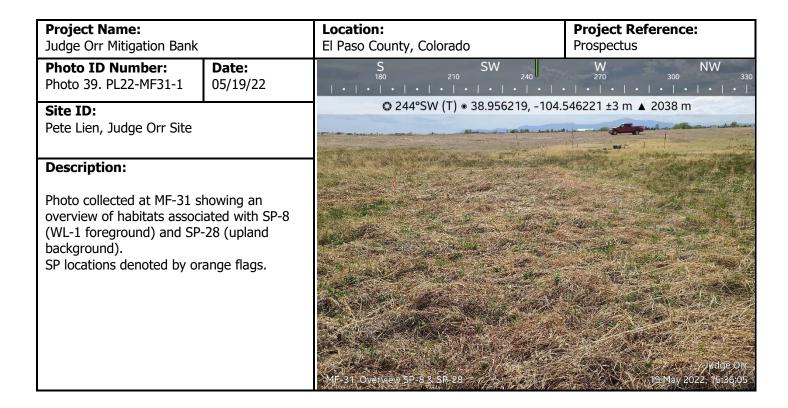


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|---|-----------------------|---------------------------------------|------------------------------------|
| Photo ID Number: Photo 36. PL22-MF28-1 | Date: 05/19/22 | S SW 210 240 | W NW 370 300 330 |
| Site ID: Pete Lien, Judge Orr Site | | © 253°SW (T) ● 38.956876, -104.5 | 543768 ±3 m ▲ 2034 m |
| Description: Photo collected at MF-28 showing an overview of habitats associated with SP-14 (WL-1 background right), SP-24 (WES-4 midground right) and SP-25 (upland foreground). SP locations denoted by orange flags. | | MF-28 Overview SP-14, SP-24, & SP-25 | Judge O r 19 May 2022, 13:11:56 |

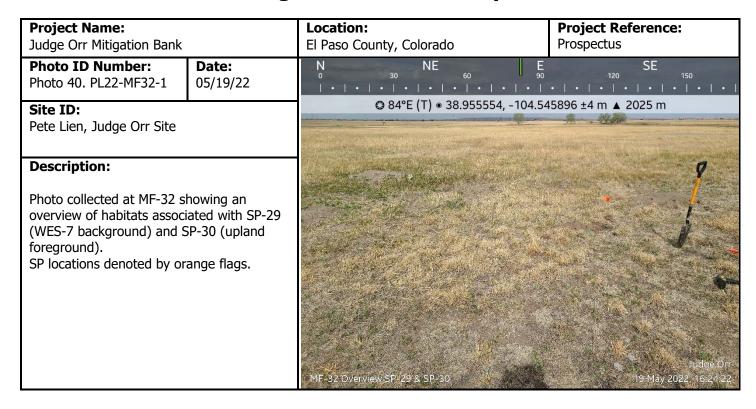


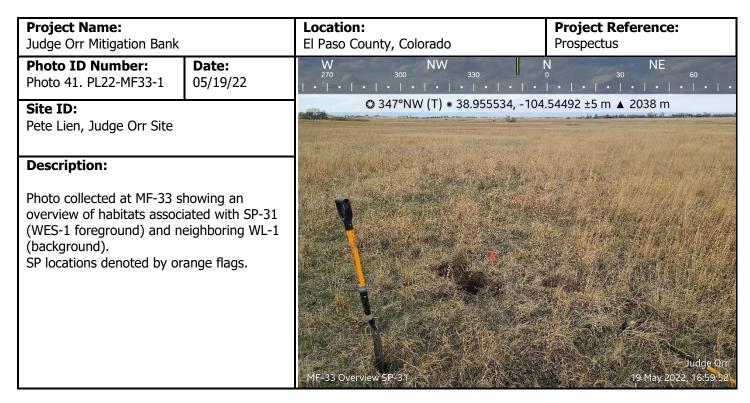


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---------------------------------------|----------------------------------|
| Photo ID Number: Photo 38. PL22-MF30-1 | Date: 05/19/22 | W NW 330 1. • • • • • • | N NE 60 |
| Site ID: Pete Lien, Judge Orr Site | | © 344°NW (T) ● 38.957281, -104 | .54621 ±3 m ▲ 2040 m |
| Description: Photo collected at MF-30 showing an overview of habitats associated with SP-7 (WL-1 foreground), SP-26 (WL-2 background willows) and SP-27 (upland background left). SP locations denoted by orange flags. | | MF-30 OVERWEW SP. // SP. 26 & SP. 27 | -Indige Ort |



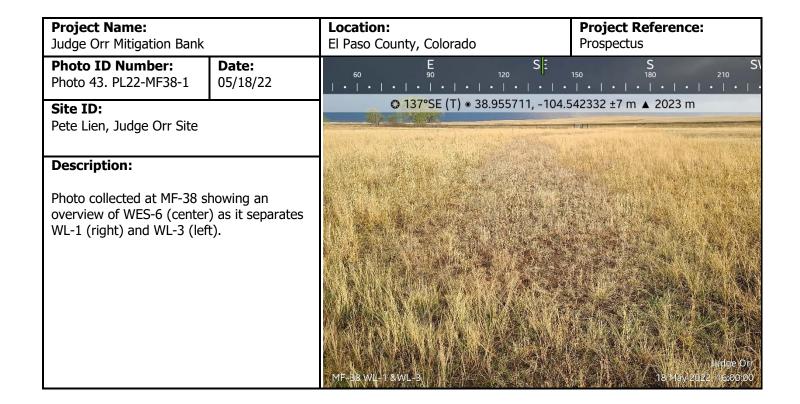








| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|--|------------------------------------|
| Photo ID Number: Photo 42. PL22-MF34-1 | Date: 05/19/22 | S SW W 240 270 V V V V V V V V V | |
| Site ID: Pete Lien, Judge Orr Site | | ② 260°W (T) ◎ 38.955407, -104.5 | 51625 ±7 m ▲ 2027 m |
| Photo collected at MF-34 showing an overview of habitats associated with SP-32 (WL-5 midground) and SP-33 (upland foreground). SP locations denoted by orange flags. | | MF-34 Overview SP-32 & SP-38 | Judge Orr 19 May 2022, 17:43:23 |



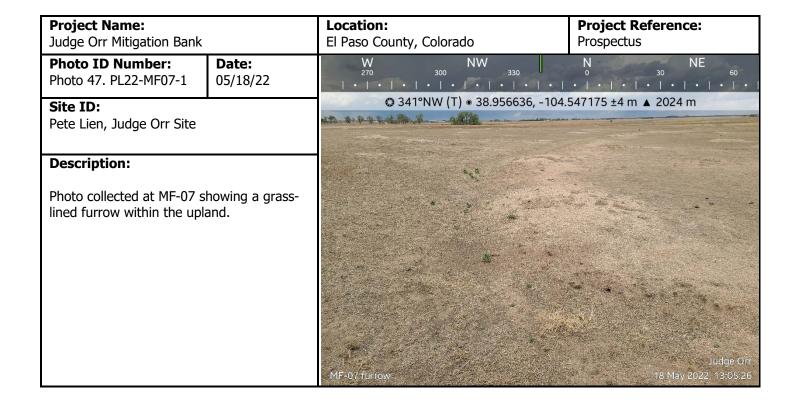


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|---|-----------------------|--|------------------------------------|
| Photo ID Number: Photo 44. PL22-MF38-2 | Date: 05/18/22 | N NE E SE 0 30 60 90 120 150 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | |
| Site ID: Pete Lien, Judge Orr Site | | © 81°E (T) ● 38.955717, -104.5 | 54231 ±4 m ▲ 2026 m |
| Description: Photo collected at MF-38 showing an overview of WES-6 (foreground) and WL-3 (background). | | MF-38 WL-3 | Judge Off 18 May 2022, 16:00:34 |





| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|--|------------------------------------|
| Photo ID Number: Photo 46. PL22-MF09-1 | Date: 05/18/22 | NW N | NE E 90 |
| Site ID: Pete Lien, Judge Orr Site | | • 4°N (T) • 38.955122, -104.54 | 43543 ±4 m ▲ 2034 m |
| Description: | | ************************************** | |
| Photo collected at MF-09 s overview a grass-lined furr WL-1. | | | |
| | | | |
| | | | |
| | | MF-09 Furrow | Judge Orr 18 May 2022, 15:46:00 |



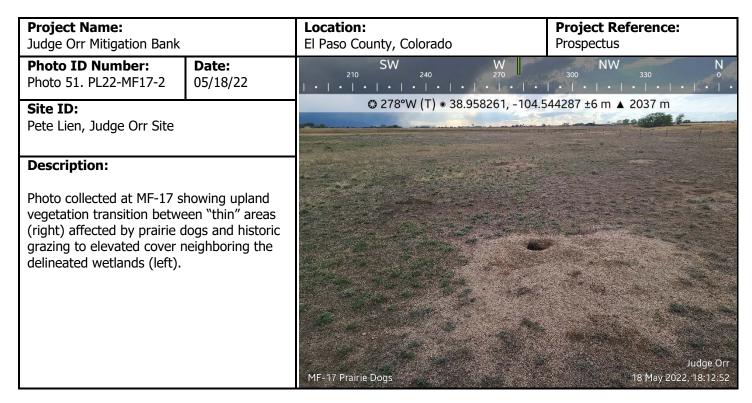


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|---|-----------------------|---------------------------------------|-----------------------------------|
| Photo ID Number: Photo 48. PL22-MF07-2 | Date: 05/18/22 | SW W 270 270 1 • • • • • • | NW 330 0 |
| Site ID: Pete Lien, Judge Orr Site | | © 273°W (T) ● 38.956675, -104.5 | 547195 ±5 m ▲ 2033 m |
| Photo collected at MF-07 sh lined furrow, prairie dog col "thinning" effect of vegetati upland. | ony, and | ME-07 Upland Prairie Dogs | Ludge On 18 May 2022, 13:05:57 |

| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|---|-----------------------|---|---|
| Photo ID Number: Photo 49. PL22-MF07-3 | Date: 05/18/22 | NW N N NE | E 60 90 120 • • • • • • |
| Site ID: Pete Lien, Judge Orr Site | | ③ 40°NE (T) ● 38.956698, -104.54 | 47194 ±15 m ▲ 2032 m |
| Description: | | | |
| Photo collected at MF-07 sl dog colony and "thinning" vegetation within the uplar | effect of | | |
| | | | |
| | | MF-07 Upland Prairie Dogs | Judge Orr 18 May 2022, 13:09:19 |









| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|---|-----------------------|---------------------------------------|--|
| Photo ID Number: Photo 52. PL22-MF19-1 | Date: 05/18/22 | SE S 180 180 | SW W 210 240 270 • • • • • • |
| Site ID: Pete Lien, Judge Orr Site | | • 194°S (T) • 38.958428, -104.5 | 50288 ±12 m ▲ 2040 m |
| Description: | | | |
| Photo collected at MF-19 showing upland vegetation transition that has less impact from "thinning". | | | |
| | | MF-19 Upland | Judge Off 18 May 2022, 18:25:09 |

| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---------------------------------------|---|
| Photo ID Number: Photo 53. PL22-MF35-1 | Date: 05/19/22 | NE E | SE S 120 150 18 • • • • • • |
| Site ID: Pete Lien, Judge Orr Site | | • 92°E (T) • 38.957767, -104.55 | 2427 ±7 m ▲ 2033 m |
| Photo collected at MF-35 sh vegetation transition that ha from "thinning". | | ME-35 | ludge Orfi 19 May 2022, 118:23:37 |

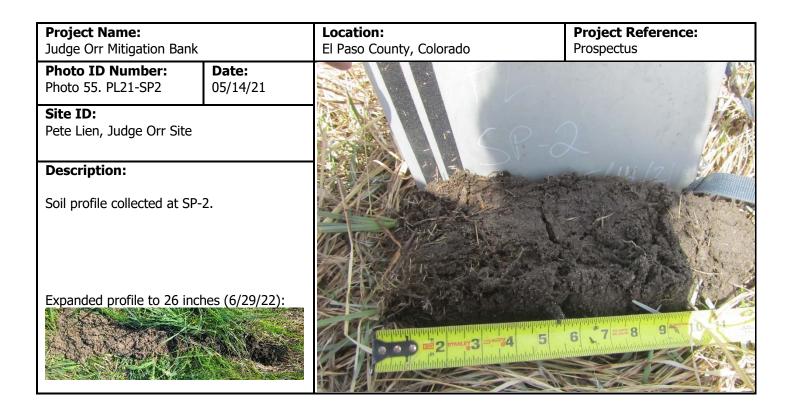


Project Name:
Judge Orr Mitigation Bank

Photo ID Number:
Photo 54. PL21-SP1

Site ID:
Pete Lien, Judge Orr Site

Description:
Soil profile collected at SP-1.



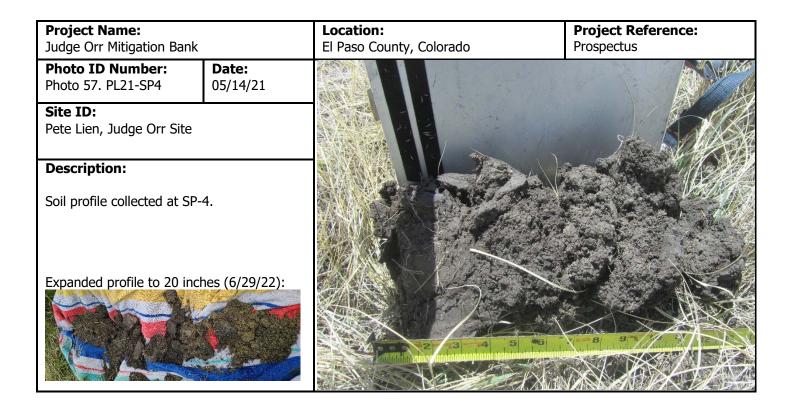


Project Name:
Judge Orr Mitigation Bank

Photo ID Number:
Photo 56. PL21-SP3

Site ID:
Pete Lien, Judge Orr Site

Description:
Soil profile collected at SP-3.





Location:

Location:

Project Name:Judge Orr Mitigation Bank

Photo ID Number:

Photo 58. PL21-SP5

Date: 05/14/21

Site ID:

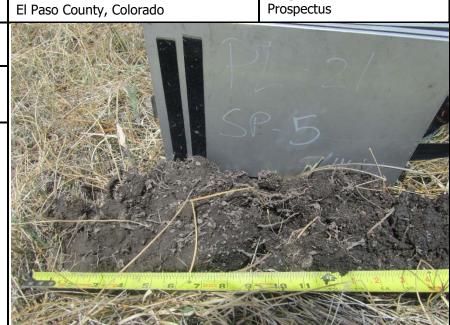
Pete Lien, Judge Orr Site

Description:

Soil profile collected at SP-5.

Expanded profile to 28 inches (6/29/22):





Project Reference:

Project Reference:

Project Name:Judge Orr Mitigation Bank

Photo ID Number:Date:Photo 59. PL21-SP706/04/21

Site ID:

Pete Lien, Judge Orr Site

Description:

Soil profile collected at SP-7.

Expanded profile to 38 inches (6/29/22):





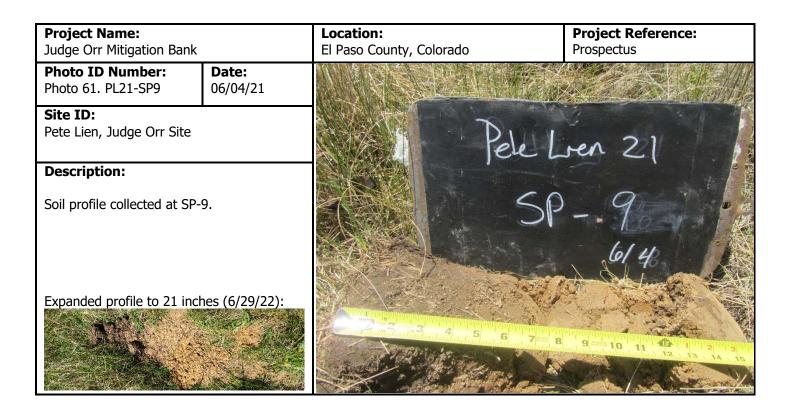


Project Name:
Judge Orr Mitigation Bank

Photo ID Number:
Photo 60. PL21-SP8

Site ID:
Pete Lien, Judge Orr Site

Description:
Soil profile collected at SP-8.





Project Name:
Judge Orr Mitigation Bank

Photo ID Number:
Photo 62. PL21-SP10

Site ID:
Pete Lien, Judge Orr Site

Description:
Soil profile collected at SP-10.



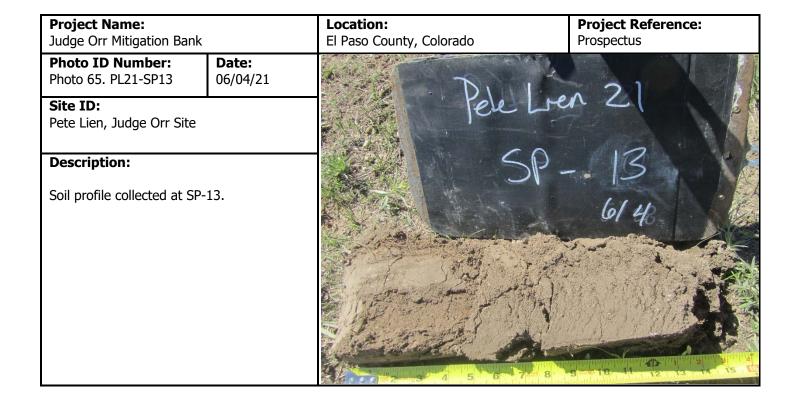


Project Name:
Judge Orr Mitigation Bank

Photo ID Number:
Photo 64. PL21-SP12

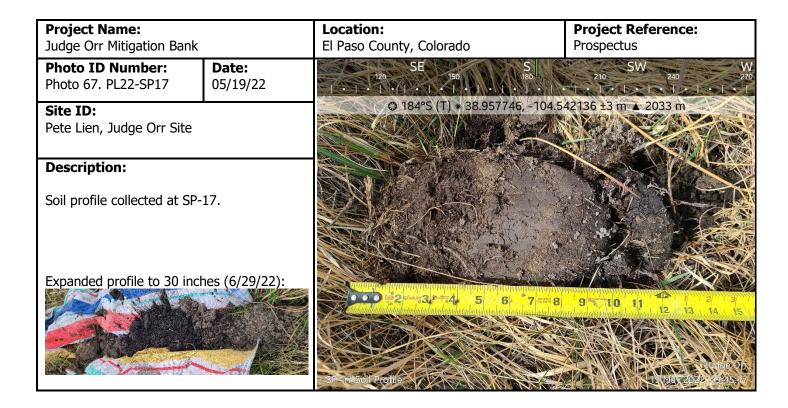
Site ID:
Pete Lien, Judge Orr Site

Description:
Soil profile collected at SP-12.



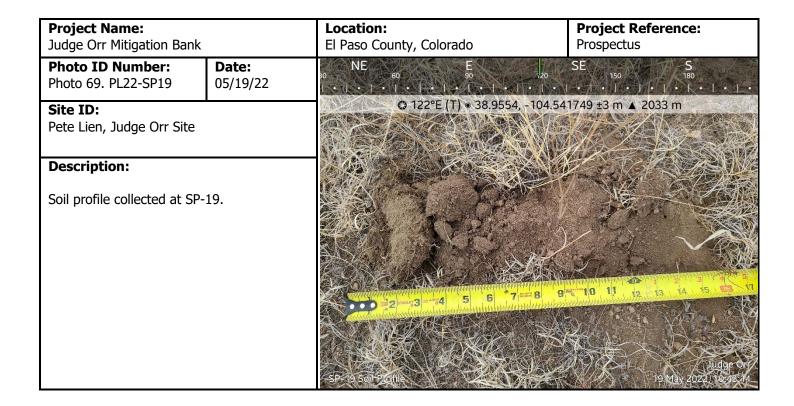


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---|---|
| Photo ID Number: Photo 66. PL22-SP15 | Date: 05/19/22 | E SE 150 150 150 150 150 150 150 150 150 150 | SW 240 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| Site ID: Pete Lien, Judge Orr Site | 1 | ○ 160°SE (T) • 38.957945, -104.543803 ±3 m ▲ 2040 m | |
| Description: | | | |
| Soil profile collected at SP-15. | | | |
| | | | |
| | | SP-15 Soil Profile I | Judge On 19 May 2622 708 20 28 |



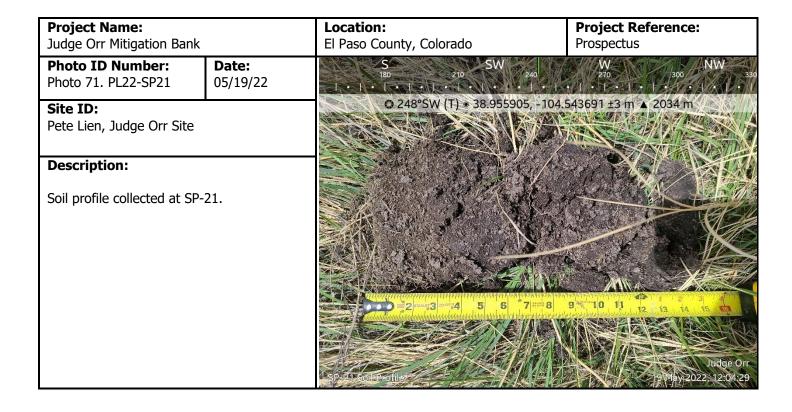


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---|--|
| Photo ID Number: Photo 68. PL22-SP18 | Date: 05/19/22 | NE E 120 | SE 150 180 |
| Site ID: Pete Lien, Judge Orr Site | | ○ 112°E (T) • 38.957784, -104.5 | 42061 ±3 m ▲ 2033 m |
| Description: | | | |
| Soil profile collected at SP-18. | | | |
| | | 2 may 3 = -34 5 6 7 2 may 8 | 9 10 11 12 13 14 15 |
| | | SP Visi Soil Piolite | India :s0 ; ; ; ; jo Mey 2022 : 100 9 (6 |



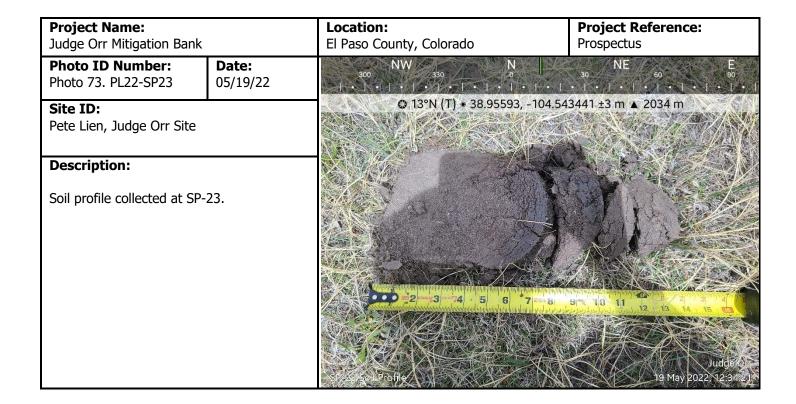


Project Name: Location: **Project Reference:** Prospectus Judge Orr Mitigation Bank El Paso County, Colorado Photo ID Number: Date: Photo 70. PL22-SP20 05/19/22 ● 38.955242, -104.542164 ±3 m ▲ 2035 m Site ID: Pete Lien, Judge Orr Site **Description:** Soil profile collected at SP-20. Expanded profile to 26 inches (6/29/22):

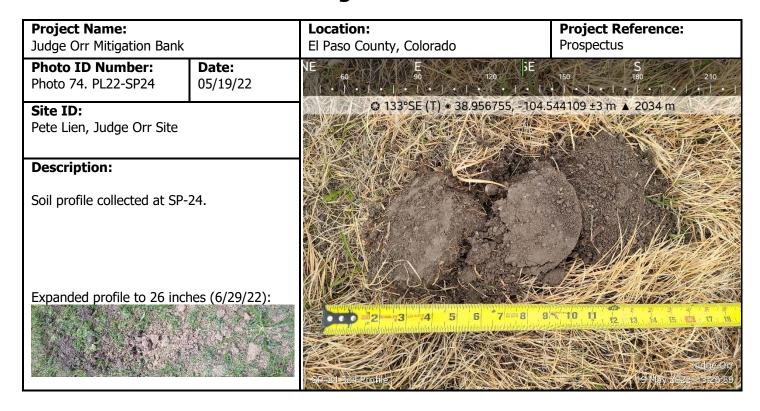


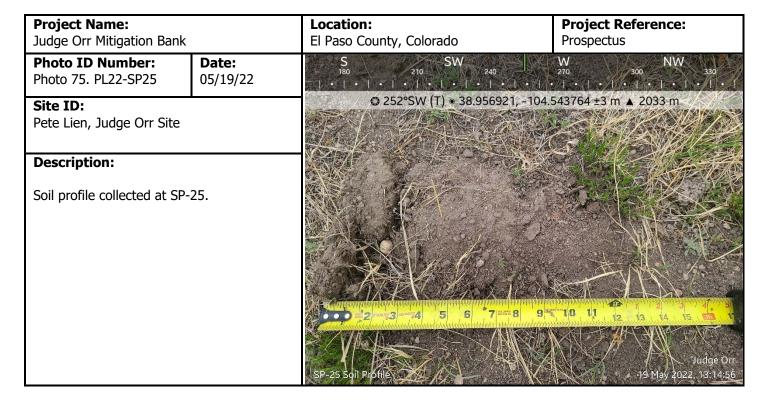


Project Name: Location: **Project Reference:** Prospectus Judge Orr Mitigation Bank El Paso County, Colorado Photo ID Number: Date: Photo 72. PL22-SP22 05/19/22 © 259°W (T) • 38.955932, -104.543518 ±3 m A 2036 m Site ID: Pete Lien, Judge Orr Site **Description:** Soil profile collected at SP-22. Expanded profile to 25 inches (6/29/22):



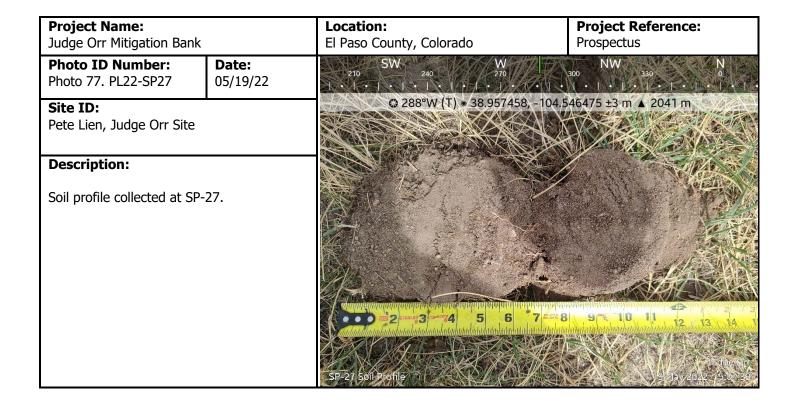






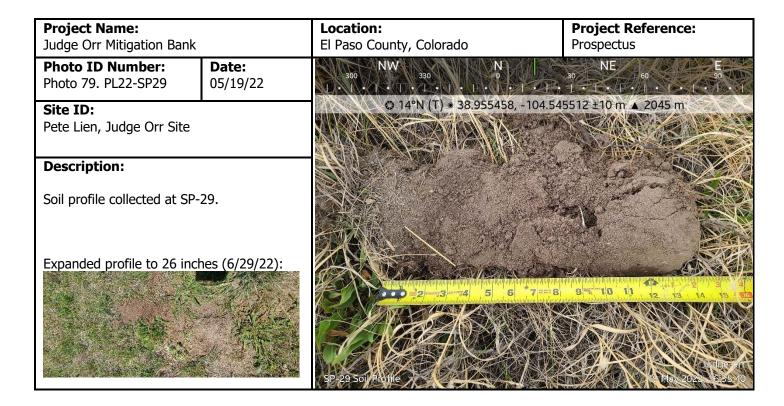


Project Name: Location: **Project Reference:** Prospectus Judge Orr Mitigation Bank El Paso County, Colorado **Photo ID Number:** NE Date: Photo 76. PL22-SP26 05/19/22 © 113°E (T) • 38.957577, -104.546281 ±3 m ▲ 2039 m Site ID: Pete Lien, Judge Orr Site **Description:** Soil profile collected at SP-26. Expanded profile to 26 inches (6/29/22):



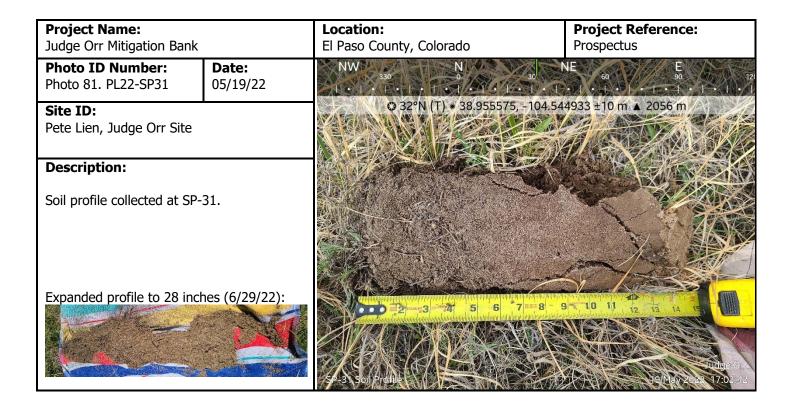


| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---|----------------------------------|
| Photo ID Number: Photo 78. PL22-SP28 | Date: 05/19/22 | SV SV 210 SV | 240 W 300 NV |
| Site ID: Pete Lien, Judge Orr Site | | ○ 228°SW (T) ● 38.956151, -1 | 04.546489 ±3 m ▲ 2039 m |
| Description: Soil profile collected at SP-28. | | 2 mg 3 mg 4 5 6 7 mg 8 mg 9 | Judge O III |





| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---------------------------------------|--|
| Photo ID Number: Photo 80. PL22-SP30 | Date: 05/19/22 | NW 330 NW | NE 30 -60 - |
| Site ID: Pete Lien, Judge Orr Site | | 359°N (T) • 38.955501, - | 104.545854 ±7 m ▲ 2041 m |
| Description: | | | |
| Soil profile collected at SP-30. | | | |
| | | P 30 S of Profile 7 | 8 9 10 11 12 13 14 15 |





| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|---|--|
| Photo ID Number: Photo 82. PL22-SP32 | Date: 05/19/22 | NE 0 30 NE 60 60 | E SE 120 |
| Site ID: Pete Lien, Judge Orr Site | | • 57°NE (T) • 38.955434, -104 | .551722 ±4 m ▲ 2040 m |
| Description: | | | |
| Soil profile collected at SP-32. | | | |
| | | | |
| | | SP-32 Soil Profile | 7 8 9 10 11 12 13 14 Judge Orr 19 May 2022, 17:45:43 |

| Project Name: Judge Orr Mitigation Bank | | Location: El Paso County, Colorado | Project Reference: Prospectus |
|--|-----------------------|--|--------------------------------------|
| Photo ID Number: Photo 83. PL22-SP33 | Date: 05/19/22 | NW 380 0 30 | NE E 90 120 |
| Site ID: Pete Lien, Judge Orr Site | | ◆ 40°NE (T) • 38.955463, | -104.551779 ±3 m ▲ 2045 m |
| Description: | | | |
| Soil profile collected at SP- | 33. | | |
| | | 2 may 3 1 manufactur mujuru musuu muunuu muunuu muunuu muunuu maka 1 may | 10 11 12 13 14 15 15 17 |
| | | SP 33 Soil Profile | ludge Ort 74 19:May 2022 18:05:27 |



Project Name: Location: **Project Reference:** El Paso County, Colorado Prospectus Judge Orr Mitigation Bank Photo ID Number: Date: Photo 84. PL22-SP14 06/29/22 Site ID: Pete Lien, Judge Orr Site **Description:** Soil profile collected at SP-14. Sample not to scale in photo, expanded due to use of auger to achieve appropriate depth of 21 inches.

Note: Photo of soil profile at sample SP-34 was not collected due to camera malfunction.



Appendix B OWUS and OHWM Identification Forms

Waters of the US Inventory and OHWM Identification Datasheet

| Project/Site: Judge Or Mit | 1. 2.1/ | 1, | nvestigator(s): Galori | . Su - 4 |
|--|---------------------|----------------|---------------------------|--|
| Applicant/Owners | James Bank | | | a sarzino |
| Applicant/Owner: Reference Do normal circumstances exist on the | na sita? | | ate: 5/18/22 | |
| Do Hormal Circumstances exist on ti | he site? | IS | the Site Significantly di | sturbed? ハロ |
| Feature ID: Tributory - West | Sample Point: 6 | VOTUS-1 L | andform/Local relief: 🕜 | range / lancare |
| Potential anthropogenic influences of | on the channel syst | tem: | | |
| current upsteam at | | | law (ROLK) down | tream on sile |
| Site description (Are Wetland Indica | tors Present?): | le shalland on | March down to all | diversity Day |
| Sciendery Hydrology med pres | ent du la ou | a same a manda | la 4 so be las soils | |
| Cross section drawing | and to eve | Work work | ing & , in whom & soils | or va |
| Year and | | | 11 44 | Englan lan down nel off Bas soo more prevalent |
| | | | V | Eylan lan fam |
| 29" der 4 | · W | V 12 | 24" | mel off |
| 1 | de Ve o Ye | | | & Bas so more prevalent |
| NWI 84Ft. 57 | 884 | 21 81 | OSF | or slopes + Terrace. |
| Characterstics | | \ | | |
| Avg. Sediment texture | fines w/ Movial | Secret ! | Community Age | |
| Tree Cover (%) | 8 | N/A | | |
| Shrub Cover (%) | 290 | Early (Herb/S | eedling) | · |
| Herb Cover (%) | 4090 X | Mid (Herb/Sh | rub/Sapling) | |
| Total Cover (%) | 4090 × | - | rub/Mature Trees) | |
| Max Water Depth (in.) and F | | _ | Standay or flows | 1 sales |
| Indicators | | ~ 10 10 | 2000000 | 0 |
| Mudcracks | Benches | | Change in veg species | / community |
| Ripples | Soil develop | ment - | Change in veg cover | , community |
| Drifts and/or debris | X surface relie | - | Change in character of | f soil |
| Bed and bank | Break in ban | _ | Other: | 1 3011 |
| Other: | Other: | - | Other: | |
| petiter. | | | | |
| Feature ID: Tribuley - west | Sample Point: 🛴 | JOTUS-2 La | andform/Local relief: | hanne) / concare |
| Potential anthropogenic influences of | n the channel syst | tem: | | |
| matherer (lax) & cultury | up stream, | Roadsiche | ditch dwarfer bars | down stream |
| Site description (Are Wetland Indicat | ors Present?): 🔑 | de shallow | enamel dom by u | planet new ?? |
| Jun bal minimal & seco | ident butrolog | millionators 1 | accent no hilde | Sails or ver (dom) |
| Cross section drawing | · · | | | |
| E graner | mesic | | Upleaner | And sco dom |
| × 6~. V | | | YV-SIG | Bongra channel |
| TO Y | Y- Y- 15 | | Chile year | Bou sim |
| A11.) | JE KAN Y Y V V V V | IN VIVYEY | | bas 500 7 |
| | 1554 3754 | 18 0 | Off | And Sco John Eyrland and bunk |
| Characterstics | Freson / Allevia | Evenel | Ć | Het VII - ferrace |
| Avg. Sediment texture | thus or man | | Community Age | - Land |
| Tree Cover (%) | 0 | N/A | | i |
| Shrub Cover (%) | × V | Early (Herb/S | | |
| Herb Cover (%) | 59 X | Mid (Herb/Sh | | |
| Total Cover (%) | 55 | _ | rub/Mature Trees) | |
| Max Water Depth (in.) and F | low Rate | Din no s. | tending or flower | a water |
| Indicators | | | 9 | |
| Mudcracks | Benches | > | Change in veg species | |
| Ripples | Soil developr | ment | Change in veg cover (| increased in channel) |
| Drifts and/or debris | xurface relief | f | Change in avg. sedime | |
| Bed and bank | Break in ban | k slope | Other: | * |
| Other: | Other: | | Other: | * |

Waters of the US Inventory and OHWM Identification Datasheet

| Applicant | ite: Judge Orr Mitgation /Owner: Rete Leene al circumstances exist on the | | Dat | estigator(s): Gloria Sargunt te: 5/18/77 he Site Significantly disturbed? NO |
|-------------|---|-----------------------------|--------|--|
| Feature II | D: Tributary - West | Sample Point: WoTus-3 | Lar | adform/Local relief: Channel concerns |
| | anthropogenic influences or | | | , |
| Roadste | Le ditch ornallel Rock | (box diversions upstre | ma | |
| Site descr | iption (Are Wetland Indicate | ors Present?): Wide Shallo | | rappel of sparce veg below OHWM. |
| Remaining | channel dow by Upland | Lives. some mydre wer an | exent | , secondary hydrology indicators present. |
| Cross sect | tion drawing | 1 July 1 w | | upland - Spance |
| Speared | The not bel | Ferry Spare OHW | 56 | No Run erisp |
| Box sver | Judy on Rd | 1 0" | | Num chap |
| Eylon | lan 4' | X 3 /13 | | 31" Het vil |
| Het vi | | | 1 | 7 1 200 34 |
| art fr | 160 FT 115 | 8 4 928x 7484 | 2 | 3 H 1884 WI Arel S CO |
| Character | | | | Di- |
| | vg. Sediment texture | Frees w/ Allewial Grave | | Community Age |
| | ree Cover (%) | N/A | | , , , , |
| 1 | rub Cover (%) | Early (Her | b/See | edling) |
| He | erb Cover (%) | Mid (Herb |)/Shru | ub/Sapling) |
| To | otal Cover (%) | Late (Herb | o/Shr | ub/Mature Trees) |
| M | ax Water Depth (in.) and Flo | ow Rate | 0 5 | tandy or Flowing water |
| Indicators | <u>, </u> | | | 0 |
| | Mudcracks | Benches | X | Change in veg species |
| | Ripples | Soil development | X | Change in veg cover |
| | Drifts and/or debris | surface relief | X | Change in avg. sediment texture , larger grave |
| X | Bed and bank | Break in bank slope | | Other: Soil sorting Below O Hour |
| / | Other: | Other: | | Other: |
| | | | | |
| | D: Southern Pitch | Sample Point: WOTUS- 4 | Lan | dform/Local relief: channel / concert |
| | anthropogenic influences or | | | |
| | | allel, Eince trueryholve | | |
| Site descri | iption (Are Wetland Indicato | ors Present?): Wide Shallow | cha | nnel dan by upland my with some |
| | | lan Hydrolms indicators | | |
| | ion drawing upland | o o po mesic | | land mesic |
| Uplanel | op server | Sence | | boure |
| Elylanlo | in a land co | 1 | | July And sco |
| Art Fris | in sur on la | Star Land Control of | · Vind | 24" Elylanlan |
| Browne? | 24' | A VALVE VELVE | 4 /4/ | ost what |
| Charastar | | 19 47 40 61 | 354 | 02.1 |
| Character | | | | |
| | /g. Sediment texture | Fives of alluvial grown | | Community Age |
| | ree Cover (%) | <u> </u> | | |
| | rub Cover (%) | Early (Her | | C, |
| H€ | erb Cover (%) | | | ub/Sapling) |
| To | otal Cover (%) | 12% Late (Herb | o/Shr | ub/Mature Trees) |
| M | ax Water Depth (in.) and Flo | ow Rate | Ster | rdry or flowing water |
| Indicators | - Few + sparatiz, not pr | evalent evoysh to delike | eate | |
| | Mudcracks | Benches | V | Change in veg species (June willow inchannel). |
| | Ripples | Soil development | | Change in veg cover |
| _ | Drifts and/or debris | X surface relief | | Change in avg. sediment texture |
| | Bed and bank | Break in bank slope | - | Other: |
| | - | | - | 1 |
| | Other: | Other: | | Other: |

Sur but Sur but Berson be Per vil

Waters of the US Inventory and OHWM Identification Datasheet

| 0.0 | ant/Owner: R | ices exist on t | he site? Ye | | Date: 5/18122 Is the Site Significantly disturbed? | NO |
|-------------------------|--|--|--|--|--|-----------------------------|
| Featu | re ID: Tributur | y - East | Sample Point | t: WOTUS-5 | Landform/Local relief: Zivernu/ | concave |
| Poten | | nic influences | on the channel | system: Imp | unelments diversions up to | |
| Site de | escription (Are V | Vetland Indica | tors Present?): | Perennial Riv | erne System Flowing SE thy | ayu orp |
| Son | e Asclep in w | etland ama | S. Transitions | & From Uplan | nd to wetland to upland | 0 19 |
| | section drawing | | | | tland mesic upland | K Fence |
| 1 | 3' | THE CALL | MAL.W. | DAXALA | MAICH VE VE VE VE 123" | |
| Chara | cterstics | os 1310 ft | 10 | \$ 101Ft 72F+ | 38Ft 9Ft 0FF | W |
| Upla | Avg. Sediment | texture 1 | Fire's | | Community Age | |
| 0 | Tree Cover (%) | | OX. | N/A | community Age | |
| 590 | Shrub Cover (% | /- | 8 | - | o/Seedling) - channel | |
| | Herb Cover (% | , | 8590 | | /Shrub/Sapling) - WL/Upland | |
| | Total Cover (% | 10.0 | 85 | | /Shrub/Mature Trees) | |
| -131 | Max Water De | | | | Osec/251, 39.58/25, 43.94/25 | |
| Indica | | | | | aug. 39.6 sec. 12 feet 1241, | |
| | | | | | | |
| | Mudcracks | 5 | Benches | | Change in veg species / commun | |
| | | 5 | ✓ Benches ✓ Soil deve | | | |
| . " | Mudcracks | | | lopment | Change in veg species / commun | |
| - " | Mudcracks Ripples | or debris | Soil deve | lopment | Change in veg species / commun | |
| | Mudcracks Ripples Drifts and/ | or debris | Soil deve | lopment elief | Change in veg species / commune Change in veg cover Change in character of soil | |
| Featu | Mudcracks Ripples Drifts and/ Bed and ba Other: | or debris | Soil deve surface re Break in I Other: | lopment elief bank slope | Change in veg species / commune Change in veg cover Change in character of soil Other: Other: | nity |
| Featu l Poten | Mudcracks Ripples Drifts and/ Bed and ba Other: | or debris | Soil deve Surface re Break in I Other: | lopment elief bank slope :: WOTUS-(a | Change in veg species / commune Change in veg cover Change in character of soil Other: | oncare. |
| Poten | Mudcracks Ripples Drifts and/ Bed and ba Other: re ID: In low base tial anthropogen | or debris ank | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): | lopment elief bank slope t: WOTUS-6 system: Impa | Change in veg species / commun Change in veg cover Change in character of soil Other: Other: Landform/Local relief: Riverne/ undments up + down st | oncare. |
| Poten | Mudcracks Ripples Drifts and Bed and ba Other: re ID: re ID: cescription (Are W | Vetland Indica | Soil deve Surface re Break in I Other: Sample Point on the channel s | lopment elief bank slope t: WOTUS-6 system: Impo | Change in veg species / communication Change in veg cover Change in character of soil Other: Other: Landform/Local relief: Riverne/ undments up + down st Riverse system flowing SE + pland. | Concare |
| Poten | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: In but to be to b | Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): | lopment elief bank slope t: WOTUS-6 system: Impo | Change in veg species / commun Change in veg cover Change in character of soil Other: Other: Landform/Local relief: Riverne/ undments up + down st | Concau |
| Poten | Mudcracks Ripples Drifts and/ Bed and ba Other: re ID: In low base tial anthropogen | Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): | lopment elief bank slope t: WOTUS-6 system: Impa Rerennial land to u Office m Change | Change in veg species / communication Change in veg cover Change in character of soil Other: Other: Landform/Local relief: Riverne/ undments up + down st Riverse system flowing SE + pland. | Concau |
| Site de | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: In but to be to b | Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): | lopment elief bank slope t: WOTUS-6 system: Impo Rerennial land to u Offwm in Change WL | Change in veg species / communication Change in veg cover Change in character of soil Other: Other: Landform/Local relief: Riverne/ undments up + down st Riverne system flowing set pland. Upland | Concare ream |
| Poten | Mudcracks Ripples Drifts and Bed and ba Other: re ID: Iri by Escription (Are W Francistran section drawing | Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): | lopment elief bank slope t: WOTUS-Co system: Impo Revential land to u Offum in Change Linguit Li | Change in veg species / communication Change in veg cover Change in veg cover Change in character of soil Other: Other: Change in veg species / communication Other: Other: Change in veg species / communication Other: Other: | Concare ream |
| Site de | Mudcracks Ripples Drifts and/ Bed and ba Other: re ID: In June tial anthropogen escription (Are W resction drawing | Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): | lopment elief bank slope t: WOTUS-6 system: Impo Rerennial land to u Offwm in Change WL | Change in veg species / communication Change in veg cover Change in character of soil Other: Other: Landform/Local relief: Riverne/ undments up + down st Riverne system flowing set pland. Upland | Concare ream |
| Site de Cross | Mudcracks Ripples Drifts and/ Bed and ba Other: re ID: Tribute tial anthropogen escription (Are W resection drawing | Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): | lopment elief bank slope t: WOTUS-Co system: Impo Rerennial land to u Offum in Change Linguit Li | Change in veg species / communication Change in veg cover Change in veg cover Change in character of soil Other: Other: Change in veg species / communication Other: Change in veg species / communication Other: Other: Change in veg species / communication Other: Change in veg species / communication Other: Other: Change in veg species / communication Other: Other: Other: Other: Change in veg species / communication Other: Other: | Concare ream |
| Site de Cross | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: Tripples tial anthropogen escription (Are Wassection drawing Avg. Sediment | Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): | lopment elief bank slope t: WOTUS-Co system: Import Change to a Offwm m Change WL 13' Change WL 14644 3464 | Change in veg species / communication Change in veg cover Change in veg cover Change in character of soil Other: Other: Change in veg species / communication Other: Other: Change in veg species / communication Other: Other: | Concare ream |
| Site de Cross | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: re ID: rescription (Are Wassection drawing cterstics Avg. Sediment Tree Cover (%) | Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): | lopment elief bank slope t: WOTUS-Co system: Impo Rerennial land to u OHUM in Change Linguit Lin | Change in veg species / communication Change in veg cover Change in veg cover Change in character of soil Other: Other: Landform/Local relief: Riverne/ undments up + down st Riverne system slowing set pland Thank Upland Community Age | Concare ream |
| Site de Cross | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: re | Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): and to uct | lopment elief bank slope t: WOTUS-6 system: Impa Rerennial land to u Offwm in Change WIL N/A Early (Herb | Change in veg species / communication Change in veg cover Change in veg cover Change in character of soil Other: Other: Change in veg cover Change in veg species / communication Other: Other: Change in veg species / communication Other: | Concare ream |
| Site de Cross | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: re | Vetland Indica Vetland Indica Vetland Vetland Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): and to uct All Strains and to uct | Ilopment elief bank slope t: WOTUS-Co system: Import Changel Land Lo a Office m Changel WIL N/A Early (Herb Mid (Herb) | Change in veg species / communication Change in veg cover Change in veg cover Change in character of soil Other: Other: Change in character of soil Other: Other: Landform/Local relief: Riverne/ undments up + down st Riverne system flowing set pland Upland Community Age O/Seedling) //Shrub/Sapling) | Concare ream |
| Site de Cross | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: re ID: rescription (Are Westerstics Avg. Sediment Tree Cover (%) Shrub Cover (%) Total Cover (%) | Vetland Indication Vetland (Indication) Texture With texture With the Standard (Indication) Texture With the Standard (Indic | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): and to uct The St Change of the Store of the Sto | lopment elief bank slope t: WOTUS-6 system: Impo Revennial land to u Offism in Change WI ANA Early (Herb Mid (Herb) Late (Herb) | Change in veg species / communication / Change in veg cover Change in veg species / communication Other: Other: Change in veg species / communication Other: Other: Change in veg species / communication Other: | Concare ream |
| Site de Cross | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: re | Vetland Indication Vetland (Indication) Texture With texture With the Standard (Indication) Texture With the Standard (Indic | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): and to uct The St Change of the Store of the Sto | lopment elief bank slope t: WOTUS-6 system: Impo Revennial land to u Offism in Change WI ANA Early (Herb Mid (Herb) Late (Herb) | Change in veg species / communication Change in veg cover Change in veg cover Change in character of soil Other: Other: Change in character of soil Other: Other: Landform/Local relief: Riverne/ undments up + down st Riverne system flowing set pland Upland Community Age O/Seedling) //Shrub/Sapling) | Concare ream |
| Site de Cross | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: re | vetland Indica Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): and to uct 1584 666 1099 1090 1090 1090 1090 1090 1090 | lopment elief bank slope t: WOTUS-6 system: Impo Revennial land to u Offism in Change WI ANA Early (Herb Mid (Herb) Late (Herb) | Change in veg species / communication of communication of soil of the communication of the | Concare ream |
| Site de Cross | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: re ID: cial anthropogen escription (Are Wassection drawing Avg. Sediment Tree Cover (%) Shrub Cover (%) Herb Cover (%) Total Cover (%) Max Water Dettors Mudcracks | vetland Indica Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): and to uct Fine Sample Point on the channel stors Present?): and to uct Benches | Ilopment elief bank slope t: WOTUS-Co system: Impo Rerennial land to u Offwm m Chand to u Offwm m Chand Land Ho u Offwm m Chand Chand Land Ho u Offwm m Chand Ch | Change in veg species / communication of communication of soil of ther: Other: Change in character of soil of ther: Other: Landform/Local relief: Riverne / who was a factor of soil of the soil o | Concare ream |
| Site de Cross | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: re | vetland Indica vetland Indica vetland Indica vetland vetland vetland vetland vetland vetland vetland | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): and to uch Hist Garage Point on the channel stors Present?): and to uch Benches Soil deve | Ilopment elief bank slope t: WOTUS-6 system: Import Change Change WIL N/A Early (Herb Mid (Herb) Late (Herb) Co.5 in Ilopment | Change in veg species / communication / Change in veg cover Change in veg cover Change in character of soil Other: Other: Change in character of soil Other: Other: Landform/Local relief: Riverne/ Riverne system flowing set pland Pland Community Age O/Seedling) /Shrub/Sapling) /Shrub/Mature Trees) Magnade Change in veg species Change in veg cover | concau ream may prep. |
| Site de Cross | Mudcracks Ripples Drifts and/Bed and ba Other: re ID: re ID: cial anthropogen escription (Are Wassection drawing Avg. Sediment Tree Cover (%) Shrub Cover (%) Herb Cover (%) Total Cover (%) Max Water Dettors Mudcracks | vetland Indica Vetland Indica | Soil deve surface re Break in I Other: Sample Point on the channel stors Present?): and to uct Wisst was a surface re Soil deve surface re | Ilopment elief bank slope t: WOTUS-6 system: Import Change Change WIL N/A Early (Herb Mid (Herb) Late (Herb) Co.5 in Ilopment | Change in veg species / communication of communication of soil of ther: Other: Change in character of soil of ther: Other: Landform/Local relief: Riverne / who was a factor of soil of the soil o | concare ream |

Appendix C

USACE Wetland Delineation Forms

WETLAND DETERMINATION DATA FORM – Great Plains Region

| Project/Site: Judge Orr Wetland Mitigation Bank | (| City/Co | unty: El Paso C | ounty | Sampling Da | te: 5/14/21 |
|--|---------------------|---------|------------------------------|---|--------------------------|-----------------|
| Applicant/Owner: Pete Lien & Sons | | | | State: CO | _ Sampling Po | int: SP-1 |
| Investigator(s): Gloria Sargent | ; | Section | , Township, Ra | nge: 34, T12S R64W | | |
| Landform (hillslope, terrace, etc.): Terrace | | | | | | Slope (%): 0-1 |
| Subregion (LRR): G | | | | Long: -104.546236 | | |
| Soil Map Unit Name: Columbine gravelly sandy loam, (| to 3 percent slop | oes | | NWI classification: None | | |
| Are climatic / hydrologic conditions on the site typical f | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | 'Normal Circumstances" | | X No |
| | | | | | • | |
| Are Vegetation, Soil, or Hydrology | naturally pro | biemau | c? (II ne | eeded, explain any answ | ers in Remarks | -) |
| SUMMARY OF FINDINGS – Attach site n | nap showing | samp | ling point l | ocations, transect | s, importan | t features, etc |
| Hydrophytic Vegetation Present? Yes X | No | | | | | |
| | No X | | s the Sampled | | V | |
| | No | ١ | within a Wetlar | nd? Yes | No X | |
| Remarks: | <u> </u> | | | | | |
| Annual precipitation was below ave | rage from 2 | 2018- | 2020 for th | ne region. Preci | oitation fro | m Jan 2021 |
| to survey date has been at or above | 0 | | | · · · · · · · · · · · · · · · · · · · | | |
| | | | | | | |
| VEGETATION – Use scientific names of | | | | | | |
| Tree Stratum (Plot size: 100sq.m. | Absolute % Cover | | nant Indicator es? Status | Dominance Test wor | | |
| 1 | | | | Number of Dominant : That Are OBL, FACW | • | |
| 2. | | | | (excluding FAC-): | | (A) |
| 3. | | | | Total Number of Dom | inant | |
| 4. | | | | Species Across All St | | (B) |
| | 0 | | Cover | Percent of Dominant S | Species | |
| Sapling/Shrub Stratum (Plot size: 100sq.m. | .) | | | That Are OBL, FACW | | (A/B |
| 1 | | | | Prevalence Index wo | rksheet: | |
| 2 | | | | Total % Cover of: | ML | ultiply by: |
| 3 | | | | OBL species | x 1 = | |
| 45. | | | | FACW species | x 2 = _ | |
| o | 0 | = Total | Cover | FAC species | x 3 = _ | |
| Herb Stratum (Plot size: 100sq.m. | | rotar | 00101 | FACU species | | |
| 1. Juncus arcticus ssp. littoralis | 30 | Х | FACW | * | x 5 = _ | |
| 2. Carex duriscula | 10 | | UPL | Column Totals: | (A) _ | (B) |
| 3. Elymus elymoides | 2 | | UPL FACUL | Prevalence Inde | x = B/A = | |
| Pascopyrum smithii Achillea millefolium | 10 | | FACU FACU | Hydrophytic Vegetat | | |
| 6. Aster sp. | | | UPL | 1 - Rapid Test for | | |
| 7. Verbascum thapsus | | | UPL | 2 - Dominance Te | est is >50% | |
| · · · | <u>-</u> | | | 3 - Prevalence In | dex is ≤3.0 ¹ | |
| 8 9 | | | | 4 - Morphological | | |
| 10. | | | | | ks or on a sepa | • |
| | | = Total | Cover | Problematic Hydr | opnytic vegetat | ion (Explain) |
| Woody Vine Stratum (Plot size: 100sq.m. | | | | ¹ Indicators of hydric so | | |
| 1 | | | | be present, unless dis | turbed or proble | amauc. |
| 2 | | | | Hydrophytic | | |
| % Bare Ground in Herb Stratum 43 | 0 | = Total | Cover | Vegetation Present? Y | es X No | o |
| Remarks: | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

US Army Corps of Engineers Great Plains – Version 2.0

SOIL

Sampling Point: **SP-I**

| Profile Desc | cription: (Describe | to the dep | oth neede | d to docun | nent the ir | ndicator | or confirr | m the absence | e of indicators.) |
|--------------|-------------------------------|---------------------|---------------------------------------|------------------------|----------------|-------------------|------------------|-----------------------|---|
| Depth | Matrix | | | | x Features | | . 2 | | |
| (inches) | Color (moist) | <u>%</u> | | (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | Remarks |
| 0-3 | 10423/3 | | SYR | 3/4 | <u>~</u> | <u>し</u> | <u> </u> | Sandy | Loam |
| | 104R 2/2 | 2_ | | | | | | | |
| | • | | | | | | | | |
| 3-4 | 104R 3/3 | 98 | 5YR | 4/,_ | 2 | | DI | < | Jama |
| <u> </u> | 10 1K 13 | | <u> </u> | 70 | | | <u> </u> | Sarely | LOUWI |
| | 1 - 47 - | <u> </u> | | 5 14 | | | | • | · |
| 7-19 | 10 YR 4/3 | <u>98</u> | 5YR | <u> </u> | _2_ | <u> </u> | M | Loany | Sanc |
| | | | | | | | | 0 | |
| | | | | | | | | | |
| 1Tuno: C=C | oncentration, D=Dep | Jotion DM | -Doducod | Motrix CS | C=Covered | or Coata | d Sand C | roino ² Lo | ocation: PL=Pore Lining, M=Matrix. |
| | Indicators: (Applic | | | | | | u Sanu G | | s for Problematic Hydric Soils ³ : |
| Histosol | | abic to an | | _ Sandy G | | | | | Muck (A9) (LRR I, J) |
| | pipedon (A2) | | _ | | Redox (S5) | | | | t Prairie Redox (A16) (LRR F, G, H) |
| | istic (A3) | | _ | - | Matrix (Se | | | | Surface (S7) (LRR G) |
| | en Sulfide (A4) | | _ | | Mucky Mine | | | | Plains Depressions (F16) |
| | d Layers (A5) (LRR F | F) | _ | | Gleyed Ma | . , | | _ | RR H outside of MLRA 72 & 73) |
| | ıck (A9) (LRR F, G, I | | | _ | d Matrix (F | | | Redu | ced Vertic (F18) |
| Deplete | d Below Dark Surfac | e (A11) | _ | _ Redox [| Dark Surfac | ce (F6) | | Red F | Parent Material (TF2) |
| ·—— | ark Surface (A12) | | _ | | d Dark Sur | | | - | Shallow Dark Surface (TF12) |
| - | Mucky Mineral (S1) | | _ | | Depression | | | | (Explain in Remarks) |
| ·—— | Mucky Peat or Peat (| , , | . , | | ains Depre | | • | | s of hydrophytic vegetation and |
| 5 cm Mi | ucky Peat or Peat (S | 3) (LRR F) | 1 | (ML | RA 72 & 7 | 3 of LRR | (H) | | nd hydrology must be present, |
| Postriotivo | Layer (if present): | | | | | | | unies | s disturbed or problematic. |
| | Layer (ii present). | | | | | | | | |
| Type: | -l \. | | | | | | | Hardela Cal | il Present? Yes No X |
| | ches): | | | | | | | Hydric So | il Present? Yes No |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| HYDROLO | GY | | | | | | | | |
| | drology Indicators: | | | | | | | | |
| - | cators (minimum of o | | d check a | III that annly | (1) | | | Second | lary Indicators (minimum of two required) |
| - | Water (A1) | nic require | | | | | | | rface Soil Cracks (B6) |
| | ater Table (A2) | | | Salt Crust Aquatic Inv | | (D13) | | | arsely Vegetated Concave Surface (B8) |
| Saturati | ` , | | · · · · · · · · · · · · · · · · · · · | Hydrogen | | , , | | | ainage Patterns (B10) |
| | larks (B1) | | · · · · · · · · · · · · · · · · · · · | Dry-Seaso | | | | | idized Rhizospheres on Living Roots (C3) |
| | nt Deposits (B2) | | | Oxidized R | | | | | where tilled) |
| Sedimer | . , , | | Δ | | not tilled) | es on Liv | ing Roots | | ayfish Burrows (C8) |
| | at or Crust (B4) | | | Presence | | d Iron (C/ | 1) | | turation Visible on Aerial Imagery (C9) |
| Iron Dep | • • | | | Thin Muck | | | •) | | omorphic Position (D2) |
| - | on Visible on Aerial I | lmagery (F | | Other (Exp | | | | | C-Neutral Test (D5) |
| | stained Leaves (B9) | iiilageiy (L | ''' — | Other (LXP | naiii iii ixei | iiaiks) | | | ost-Heave Hummocks (D7) (LRR F) |
| Field Obser | | | | | | | | | ostrieave riuminocks (Dr) (LIKKT) |
| Surface Wat | | · 00 | No. V | Depth (inc | ahaa): | | | | |
| | | | | | | | | | |
| Water Table | | | | Depth (inc | | | | | - · · · · · · · · · · · · · · · · · · · |
| Saturation P | resent? | es | No X | Depth (inc | ches): | | _ Wet | land Hydrolog | gy Present? Yes X No |
| | corded Data (stream | gauge, m | onitoring v | vell, aerial p | ohotos, pre | vious ins | pections), | , if available: | |
| | ` | , , | J | | • | | . , | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

WETLAND DETERMINATION DATA FORM – Great Plains Region

| Project/Site: Judge Orr Wetland Mitigation Bank | | City/Cou | inty: El Paso C | ounty | _ Sampling Date: _ | 5/14/21 |
|--|------------------------|---------------------------------------|----------------------------------|---|---|------------------|
| Applicant/Owner: Pete Lien & Sons | | | | State: CO | Sampling Point: | SP-2 |
| Investigator(s): Gloria Sargent | | Section, | Township, Ra | inge: 34, T12S R64W | | |
| | | | | convex, none): Concave | Slo | pe (%): <u>3</u> |
| Subregion (LRR): G | Lat: _ ^{38.9} | 958075 | | Long: <u>-104.54601</u> | Datu | m: NAD83z13 |
| Soil Map Unit Name: Fluvaquentic Haplaquolls, nearly | | | | NWI classific | | ' |
| Are climatic / hydrologic conditions on the site typical f | | | | | | |
| Are Vegetation, Soil, or Hydrology | - | | | "Normal Circumstances" | | No |
| Are Vegetation, Soil, or Hydrology | | | | eeded, explain any answe | | 110 |
| | | | | | | |
| SUMMARY OF FINDINGS – Attach site n | nap showing | samp | ling point l | ocations, transects | s, important fe | atures, etc |
| Hydrophytic Vegetation Present? Yes X | No | | a tha Camplad | l Auga | | |
| | No | | s the Sampled vithin a Wetlar | | No | |
| Wetland Hydrology Present? Yes X | No | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | vitilili a vvetiai | iu: 165 <u></u> | NO | - |
| Remarks: | | • | | | | |
| Area not mapped as a wetland in the N | WI database | e. Anr | nual precipi | itation was below a | average from : | 2018-2020 |
| for the region. Precipitation from Jan 2 | 021 to surve | y date | has been | at or above average | ge for the regi | on. |
| VEGETATION – Use scientific names of | olante | | | | | |
| | Absolute | Domin | ant Indicator | Dominance Test work | kshoot: | |
| Tree Stratum (Plot size: 100 sq.m. | | | es? Status | Number of Dominant S | | |
| 1 | | | | That Are OBL, FACW, | | |
| 2 | | | | (excluding FAC-): | | (A) |
| 3 | | | | Total Number of Domir | | |
| 4 | | | | Species Across All Stra | ata: | (B) |
| Sapling/Shrub Stratum (Plot size: 100 sq.m. | 0 | = Total | Cover | Percent of Dominant S | | (4 (5) |
| | | | | That Are OBL, FACW, | or FAC: | (A/B) |
| 1 2 | | | | Prevalence Index wor | rksheet: | |
| 3. | | | | Total % Cover of: | Multipl | y by: |
| 4. | | | | OBL species | | |
| 5. | | | | FACW species | | |
| | 0 | = Total | Cover | FAC species | | |
| Herb Stratum (Plot size: 100 sq.m. | 25 | V | OBL | FACU species | | |
| Carex nebrascensis Carex praegracilis | 35 40 | X | OBL FACW | | x 5 = | |
| Juncus arcticus ssp. littoralis | | | FACW | Column Totals: | (A) | (B) |
| 4. Cirsium arvense | | | FACU | Prevalence Index | x = B/A = | |
| 5. Panicum c.f. virgatum | 1 | | FAC | Hydrophytic Vegetati | on Indicators: | |
| 6. | | | | 1 - Rapid Test for | Hydrophytic Veget | ation |
| 7. | | | | 2 - Dominance Tes | | |
| 8. | | | | 3 - Prevalence Ind | | |
| 9. | | | | 4 - Morphological | Adaptations¹ (Prov ⟨s or on a separate | |
| 10 | | | | Problematic Hydro | • | * |
| 400 | 82 | = Total | Cover | | | |
| Woody Vine Stratum (Plot size: 100 sq.m. | | | | ¹ Indicators of hydric so be present, unless dist | | |
| 1 | | | | | | |
| 2 | | | | Hydrophytic Vegetation | | |
| % Bare Ground in Herb Stratum 18 | <u> </u> | = Total | Cover | Present? Ye | es X No _ | |
| Remarks: | | | | _I | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

US Army Corps of Engineers Great Plains – Version 2.0

Sampling Point: SP-2

| Profile Desc | cription: (Describe t | o the dep | th needed to docum | nent the ir | ndicator o | r confir | m the absence | of indic | ators.) |
|------------------------------|---|---------------|-------------------------|---------------------------|---|------------------|-----------------|-------------|--------------------------------------|
| Depth | Matrix | 0/ | | x Features | | Loc ² | Tauduma | | Damada |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | | Type ¹ | | | | Remarks |
| 0-7 | 104R2/2 | 100 | | | | | Sandy | <u>Loam</u> | |
| 11 . 10 | 104R2/2 | <u> </u> | 210 21. | | | Ωι | | 1 | |
| 4-18 | 10 916 9/1 | 48 | 59K 3/4 | | <u> </u> | 74 | Sandy | Lam | |
| 17 01 | 10110 111 | | VO 5/m | | | | | | |
| 18-26 | 104R 4/2 | [00 | 5 YK -18 | | <u>C</u> | M | Loamy | Sand | gravel |
| . ——— | | | | | | | | | |
| · —— | | | | | | | | | |
| | | | | | | | | | |
| | oncentration, D=Depl | | | | | d Sand G | | | L=Pore Lining, M=Matrix. |
| Hydric Soil | Indicators: (Applica | able to all | LRRs, unless other | wise note | ed.) | | Indicator | s for Prob | olematic Hydric Soils ³ : |
| Histosol | ` ' | | | Gleyed Mat | | | | |) (LRR I, J) |
| | oipedon (A2) | | - | Redox (S5) | | | | | ledox (A16) (LRR F, G, H) |
| Black Hi | | | | d Matrix (Se | • | | | • | S7) (LRR G) |
| | en Sulfide (A4) | | - | Mucky Min | | | _ | | pressions (F16) |
| | d Layers (A5) (LRR F | | | Gleyed Ma | , , | | ` | | side of MLRA 72 & 73) |
| | ick (A9) (LRR F, G, F | | | d Matrix (F | , | | | ced Vertic | ` ' |
| | d Below Dark Surface ark Surface (A12) | (AII) | Redox [| Jark Surrad d Dark Sur | | | | | terial (TF2) Park Surface (TF12) |
| | Mucky Mineral (S1) | | | Dark Sur Depression | , , | | | | in Remarks) |
| - | Mucky Peat or Peat (| S2) (I RR (| | ains Depre | | 16) | | | phytic vegetation and |
| | icky Peat or Peat (S3 | | | RA 72 & 7 | | | | - | ogy must be present, |
| 0 0111 1110 | iony i out or i out (oo | , (=::::) | (| | 0 01 2.111 | ••, | | - | d or problematic. |
| Restrictive I | Layer (if present): | | | | | | | | · |
| Type: | | | | | | | | | |
| Depth (inc | ches): | | | | | | Hydric So | I Present | :? Yes <u>X</u> No |
| Remarks: | <u> </u> | | | | | | | | |
| Re- | visited in | June | 2022 to a | يما لور | t 50i | 1 de | pths 12 | -26 | ν, |
| | | | | | | | | | |
| HYDROLO | GY | | | | | | | | |
| | drology Indicators: | | | | | | | | |
| _ | cators (minimum of or | ne required | l; check all that appl | y) | | | Second | ary Indica | ators (minimum of two require |
| Surface | Water (A1) | | Salt Crust | (B11) | | | Su | face Soil | Cracks (B6) |
| | ater Table (A2) | | Aquatic Inv | | : (B13) | | | | getated Concave Surface (B |
| X Saturation | | | Hydrogen | | , , | | | | tterns (B10) |
| • • | larks (B1) | | Dry-Seaso | | | | | | izospheres on Living Roots (|
| | nt Deposits (B2) | | Oxidized F | | | na Poots | | where till | |
| | | | | | CS OII LIVII | ng Roots | | | |
| | posits (B3) | | | not tilled) | d Inc. (C.4 | ` | · <u></u> | • | rows (C8) |
| _ | at or Crust (B4) | | Presence | | |) | | | isible on Aerial Imagery (C9) |
| | posits (B5) | (5. | Thin Muck | | | | | | Position (D2) |
| | on Visible on Aerial Ir | magery (B7 | 7) Other (Exp | olain in Rer | narks) | | | | Test (D5) |
| | tained Leaves (B9) | | | | | | Fro | st-Heave | Hummocks (D7) (LRR F) |
| Field Obser | | | . V - | | | | | | |
| Surface Water | | | No X Depth (inc | | | - | | | |
| Water Table | | | No 🗶 Depth (ind | | <u>и" </u> | _ | | | v |
| Saturation P | resent? Ye | es <u>X</u> I | No Depth (inc | ches): | 2 | _ Wet | land Hydrolog | gy Preser | nt? Yes X No |
| (includes cap Describe Re | corded Data (stream | gauge, mo | nitoring well, aerial r | ohotos, pre | vious insp | pections) | , if available: | | |
| | , | <u>.</u> | - ' | • | · | , | | | |
| Remarks: | | | | | | | | | |
| | المام أ مران | _ | 1 1 0- | 1) . | <u> </u> | シ ト | 27 | | |
| Wo | Her table p | msen | t ut 125 | " i'n | 70V~ | , W | سان | | |
| | | | | | | | | | |

WETLAND DETERMINATION DATA FORM – Great Plains Region

| Project/Site: Judge Orr Wetland Mitigation Bank | | City/Cour | nty: El Paso C | ounty | _ Sampling Date: | 5/14/21 |
|--|-------------------------|-----------|----------------------------|---|--------------------------|--------------|
| Applicant/Owner: Pete Lien & Sons | | | | State: CO | Sampling Point: | SP-3 |
| Investigator(s): Gloria Sargent | | Section, | Township, Ra | inge: 34, T12S R64W | | |
| | | | | convex, none): Concave | Slo | pe (%): 0-1 |
| Subregion (LRR): G | Lat: 38.9 | 95757 | | Long: -104.544201 | Datı | ım: NAD83z13 |
| Soil Map Unit Name: Columbine gravelly sandy loam, | | | | NWI classifi | | |
| Are climatic / hydrologic conditions on the site typical | | | | | | |
| Are Vegetation, Soil, or Hydrology | - | | | "Normal Circumstances" | | No |
| Are Vegetation, Soil, or Hydrology | | | | eeded, explain any answe | | 110 |
| | | | | | | |
| SUMMARY OF FINDINGS – Attach site | map showing | sampl | ing point l | ocations, transects | s, important fe | eatures, etc |
| Hydrophytic Vegetation Present? Yes X | No | | | | | |
| Hydric Soil Present? Yes X | No | | the Sampled | | | |
| | No | W | ithin a Wetlar | 1d? Yes ^_ | No | _ |
| Remarks: | | | | | - | |
| Area not mapped as a wetland in the N | NWI database | e. Ann | ual precipi | tation was below a | average from | 2018-2020 |
| for the region. Precipitation from Jan 2 | 2021 to surve | y date | has been | at or above average | ge for the reg | ion. |
| VECETATION | | | | | | |
| VEGETATION – Use scientific names of | | | | T | | |
| Tree Stratum (Plot size: 100 sq.m. | Absolute <u>% Cover</u> | | int Indicator S? Status | Dominance Test worl | | |
| 1 | | - | | Number of Dominant S That Are OBL, FACW, | | |
| 2. | | | | (excluding FAC-): | | (A) |
| 3 | | | | Total Number of Domir | nant | |
| 4 | | | | Species Across All Stra | ata: | (B) |
| 0 11 (0) 1 0 (0) 1 (0) eg m | 0 | = Total C | Cover | Percent of Dominant S | species | |
| Sapling/Shrub Stratum (Plot size: 100 sq.m. | | | | That Are OBL, FACW, | or FAC: | (A/B) |
| 1 | | | | Prevalence Index wo | rksheet: | |
| 2 | | | | Total % Cover of: | Multip | ly by: |
| 3 | | | | OBL species | x 1 = | |
| 5 | | | | FACW species | x 2 = | |
| | 0 | = Total C | Cover | FAC species | x 3 = | |
| Herb Stratum (Plot size: 100 sq.m. | | | | FACU species | | |
| 1. Schoenoplectus pungens | 40 | X | OBL | | x 5 = | |
| 2. Iris missouriensis | | | FACW | Column Totals: | (A) | (B) |
| 3. Panicum c.f. virgatum 4. Carex praegracilis | <u>5</u> | X | FAC FACW | Prevalence Index | x = B/A = | |
| 5. Aster sp. | 13 | ^ | UPL | Hydrophytic Vegetati | | |
| Koeleria macrantha | | | UPL | 1 - Rapid Test for | Hydrophytic Vege | tation |
| | <u>·</u> | | | 2 - Dominance Te | st is >50% | |
| 7 | | | | 3 - Prevalence Ind | lex is ≤3.0 ¹ | |
| 8 | | | | 4 - Morphological | | |
| 10. | | | | data in Remark Problematic Hydro | s or on a separate | , |
| | | = Total C | Cover | Problematic Hydro | pnytic vegetation | (Explain) |
| Woody Vine Stratum (Plot size: 100 sq.m. | | | | ¹ Indicators of hydric so | | |
| 1 | | | | be present, unless dist | urbed of problems | auG. |
| 2 | | | | Hydrophytic | | |
| % Bare Ground in Herb Stratum 37 | 0 | = Total C | Cover | Vegetation Present? Yes | es X No _ | |
| Remarks: | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

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| Profile Desc | ription: (Describe t | o the dep | th needed | to docun | nent the | indicator | or confirr | m the absence of indicators.) |
|---------------|---|------------|--------------|---------------|------------|--------------------------|------------------|--|
| Depth | Matrix | | | | x Feature | | | |
| (inches) | Color (moist) | % | Color (r | noist) | % | Type ¹ | Loc ² | Texture Remarks |
| 0-5 | 104R 2/2 | 100 | | | | | | Sandy Clay |
| | | | | | | | | 0 0 |
| 5-14 | 2.54 2.5/1 | 98 | 1040 | 5/12 | 2. | <u> </u> | m | Silly olong |
| | <u> </u> | | 1011 | 70 | | | | 31 17 Clay |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | · |
| | | | | | | | | · |
| | oncentration, D=Deple | | | | | | ed Sand G | |
| _ | Indicators: (Applica | ble to all | | | | | | Indicators for Problematic Hydric Soils ³ : |
| Histosol | ` ' | | | Sandy C | - | | | 1 cm Muck (A9) (LRR I, J) |
| | oipedon (A2) | | | | Redox (St | | | Coast Prairie Redox (A16) (LRR F, G, H) |
| l — | stic (A3) | | | | Matrix (| | | Dark Surface (S7) (LRR G) |
| | en Sulfide (A4) | ` | | | | neral (F1) atrix (F2) | | High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) |
| | d Layers (A5) (LRR F uck (A9) (LRR F, G, H | | _ | | d Matrix (| | | Reduced Vertic (F18) |
| | d Below Dark Surface | | X | , Redox E | | | | Red Parent Material (TF2) |
| | ark Surface (A12) | (, , | | | | urface (F7) |) | Very Shallow Dark Surface (TF12) |
| | Mucky Mineral (S1) | | | | Depressio | | | Other (Explain in Remarks) |
| 2.5 cm N | Mucky Peat or Peat (S | (LRR (| G, H) | High Pla | ins Depr | essions (F | 16) | ³ Indicators of hydrophytic vegetation and |
| 5 cm Mu | icky Peat or Peat (S3 |) (LRR F) | | (ML | RA 72 & | 73 of LRR | H) | wetland hydrology must be present, |
| | | | | | | | | unless disturbed or problematic. |
| Restrictive | Layer (if present): | | | | | | | |
| Type: | | | | | | | | ., |
| Depth (in | ches): | | | | | | | Hydric Soil Present? Yes X No |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| HYDROLO | GY | | | | | | | |
| Wetland Hy | drology Indicators: | | | | | | | |
| Primary India | cators (minimum of or | ne require | d; check all | that apply | /) | | | Secondary Indicators (minimum of two required) |
| X Surface | Water (A1) | | s | Salt Crust | (B11) | | | Surface Soil Cracks (B6) |
| | ater Table (A2) | | A | quatic Inv | ertebrate | es (B13) | | Sparsely Vegetated Concave Surface (B8) |
| X Saturation | | | | lydrogen : | | | | X Drainage Patterns (B10) |
| Water M | larks (B1) | | [| ry-Seaso | n Water | Table (C2) | | Oxidized Rhizospheres on Living Roots (C3) |
| Sedimer | nt Deposits (B2) | | 0 | oxidized R | hizosphe | eres on Liv | ing Roots | (C3) (where tilled) |
| Drift Dep | posits (B3) | | | (where r | ot tilled |) | _ | Crayfish Burrows (C8) |
| Algal Ma | at or Crust (B4) | | F | | | ed Iron (C4 | 1) | Saturation Visible on Aerial Imagery (C9) |
| Iron Dep | posits (B5) | | Т | hin Muck | Surface | (C7) | | X Geomorphic Position (D2) |
| Inundati | on Visible on Aerial In | nagery (B | 7) (| Other (Exp | lain in Re | emarks) | | FAC-Neutral Test (D5) |
| Water-S | tained Leaves (B9) | | | | | | | Frost-Heave Hummocks (D7) (LRR F) |
| Field Obser | vations: | | | | | | | |
| Surface Wat | er Present? Ye | s X | No | Depth (inc | ches): | 2 | | |
| Water Table | | | No X | | | | | |
| Saturation P | | | No | | | | Wet | land Hydrology Present? Yes X No |
| (includes car | oillary fringe) | | | | | | | |
| Describe Re | corded Data (stream | gauge, m | onitoring we | ell, aerial p | hotos, pi | revious ins | pections), | , if available: |
| | | | | | | | | |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

WETLAND DETERMINATION DATA FORM – Great Plains Region

| Project/Site: Judge Orr Wetland Mitigation Bank | | City/Co | unty: El Paso (| County | _ Sampling Date: | 5/14/21 |
|---|----------------|---------|----------------------------------|--|--|-----------------|
| Applicant/Owner: Pete Lien & Sons | | | - | State: CO | | |
| Investigator(s): Gloria Sargent | | | | | | |
| • , , - | | | | convex, none): none | SI | ope (%): 0-1 |
| Subregion (LRR): G | | | • | | | , |
| Soil Map Unit Name: Columbine gravelly sandy loam, 0 to 3 | | | | | | |
| Are climatic / hydrologic conditions on the site typical for th | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | "Normal Circumstances" | | No |
| Are Vegetation, Soil, or Hydrology | | | | eeded, explain any answ | - | 110 |
| SUMMARY OF FINDINGS – Attach site map | | | | | | eatures, etc. |
| Hydrophytic Vegetation Present? Yes 1 | No X | T. | l- 4b - 0b- | J. A | | |
| Hydric Soil Present? Yes | No X | | ls the Sampleo within a Wetla | | No X | |
| Wetland Hydrology Present? Yes X | No | | witiiii a vvetia | nu: res | NO <u></u> | _ |
| Remarks: | | | | | _ | |
| Annual precipitation was below averag | | | | ne region. Precip | oitation from | Jan 2021 |
| to survey date has been at or above a | verage fo | or the | e region. | | | |
| VEGETATION – Use scientific names of plan | nts. | | | | | |
| | | Domir | nant Indicator | Dominance Test wor | ksheet: | |
| <u>Tree Stratum</u> (Plot size: 100 sq.m. | | | es? Status | Number of Dominant S | • | |
| 1 | | | | That Are OBL, FACW, (excluding FAC-): | , or FAC 0 | (A) |
| 2 | | | | | | (/ \/ |
| 3 | | | | Total Number of Domi Species Across All Str | 2 | (B) |
| 4 | 0 | | | | | () |
| Sapling/Shrub Stratum (Plot size: 100 sq.m. | - | rotar | 00101 | Percent of Dominant S That Are OBL, FACW | or FAC: 0 | (A/B) |
| 1 | | | | Prevalence Index wo | rkehoot: | |
| 2 | | | | Total % Cover of: | | olv bv |
| 3 | | | | OBL species | | |
| 4 | | | | FACW species | | |
| 5 | 0 | = Total | Cover | FAC species | | |
| Herb Stratum (Plot size: 100 sq.m. | | rotar | | FACU species | x 4 = | |
| 1. Pascopyrum smithii | 15 | X | FACU | UPL species | | |
| 2. Elymus lanceolatus spp. lanceolatus | 35 | X | UPL | Column Totals: | (A) | (B) |
| Bromopsis inermis Achillea millefolium | <u>15</u> 1 | X | — UPL FACU | Prevalence Inde | x = B/A = | |
| 5. Cirsium arvense | _ <u>'</u> | | FACU | Hydrophytic Vegetat | | |
| a Frigeron spn | | | UPL | 1 - Rapid Test for | Hydrophytic Vege | tation |
| 6. <u>Engelon 3pp.</u> 7. | | | | 2 - Dominance Te | st is >50% | |
| 8. | | | | 3 - Prevalence Inc | | |
| 9. | | | | 4 - Morphological | Adaptations¹ (Pro ks or on a separate | vide supporting |
| 10 | | | | Problematic Hydro | | |
| Manda Vina Obadana (Dlata in 100 sq m | 72 | = Total | Cover | 1. | | , , , |
| Woody Vine Stratum (Plot size: 100 sq.m.) 1. | | | | ¹ Indicators of hydric so be present, unless dis | | |
| 2. | | | | Hydrophytic | | |
| 22 | 0 | = Total | Cover | Vegetation Present? Y | es No_> | (|
| % Bare Ground in Herb Stratum 28 Remarks: | | | | 7 1000/101 | | |
| Tomano. | | | | | | |
| | | | | | | |
| | | | | | | |

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SOIL Sampling Point: SP-4

| Depth | cription: (Describe to Matrix | сор | | x Features | | or comm | ii tile abselle | oc of marcators. |
|---|--|---|-----------------------|----------------------------|-------------------|------------------|---------------------------------------|---|
| (inches) | Color (moist) | % | Color (moist) | <u> %</u> | Type ¹ | Loc ² | Texture | Remarks |
| 0-7 | 7.64R 2.5/1 | 100 | | | | | Uax L | cam |
| 7-16 | 5Y3/1 | 60 | | <u> </u> | | | Clark | gana |
| | 7.54R 2.5/1 | 30 | | | | | <u> </u> | |
| | 54 5/2 | | | | | | | |
| <u> </u> | | 10_ | | | | | | 61 1 |
| 16-20 | 546/2 | <u>70 </u> | | | | | Sandy | Clay Loam |
| | 2.54 6/4 | <u> 10 _</u> | | | | | | |
| | 2.5 Y 6/2 | 20 | | | | | | |
| | | | | | | | | |
| | oncentration, D=Deple | | | | | d Sand G | | ocation: PL=Pore Lining, M=Matrix. |
| - | Indicators: (Applica | ble to all LR | | | | | | rs for Problematic Hydric Soils ³ : |
| Histosol | ` ' | | | Gleyed Mat | . , | | | n Muck (A9) (LRR I, J) |
| | oipedon (A2) | | | Redox (S5) | | | | st Prairie Redox (A16) (LRR F, G, H) |
| Black Hi | en Sulfide (A4) | | | d Matrix (S6 Mucky Mine | | | | c Surface (S7) (LRR G) n Plains Depressions (F16) |
| | d Layers (A5) (LRR F) | | | Gleyed Mat | | | _ | LRR H outside of MLRA 72 & 73) |
| | uck (A9) (LRR F, G, H) | | | d Matrix (F | | | ` | uced Vertic (F18) |
| | d Below Dark Surface | | | Dark Surfac | | | | Parent Material (TF2) |
| Thick Da | ark Surface (A12) | | Deplete | d Dark Sur | face (F7) | | Very | / Shallow Dark Surface (TF12) |
| | lucky Mineral (S1) | | | Depression | . , | | | er (Explain in Remarks) |
| | Mucky Peat or Peat (S | | | ains Depres | | | | rs of hydrophytic vegetation and |
| 5 cm Mu | icky Peat or Peat (S3) | (LRR F) | (ML | RA 72 & 7 | 3 of LRR | H) | | and hydrology must be present, |
| | | | | | | | unles | ss disturbed or problematic. |
| | Layer (if present): | | | | | | | |
| Type: | | | _ | | | | | v |
| Depth (inc | ches): | | _ | | | | Hydric Sc | oil Present? Yes No |
| Remarks: | • | | | | | | | |
| R | le-visited in | n Jure | 2022 4 | ص دي الو | ict s | soil a | depths | 14-20" |
| deples | hed matri | x lane | Ler at | sic.V | dark | 416 | face b | 14-20" out NO Redox Obsave |
| HYDROLO | GY | | | | | | , | |
| | drology Indicators: | | | | | | | |
| _ | cators (minimum of on | e required: c | heck all that appl | v) | | | Secon | ndary Indicators (minimum of two required) |
| | Water (A1) | o roquirou, o | Salt Crust | • | | | · · · · · · · · · · · · · · · · · · · | urface Soil Cracks (B6) |
| · <u></u> | ater Table (A2) | | · | vertebrates | (R13) | | | parsely Vegetated Concave Surface (B8) |
| X Saturation | | | | Sulfide Od | | | | rainage Patterns (B10) |
| - | larks (B1) | | | on Water Ta | , , | | | xidized Rhizospheres on Living Roots (C3) |
| | nt Deposits (B2) | | Oxidized F | | , , | ina Roots | · | (where tilled) |
| Drift Dep | | | | not tilled) | C3 OII LIVI | ing recots | | rayfish Burrows (C8) |
| | at or Crust (B4) | | | of Reduced | d Iron (C4 | 1) | | aturation Visible on Aerial Imagery (C9) |
| _ | | | | Surface (C | | 7) | 4.0 | eomorphic Position (D2) |
| Iron Den | | | | , | • | | | AC-Neutral Test (D5) |
| Iron Dep | | nagery (R7) | Other (Ev | | | | | |
| Inundation | on Visible on Aerial Im | nagery (B7) | Other (Exp | olain in Rer | ilaiks) | | | |
| Inundation | on Visible on Aerial Im tained Leaves (B9) | nagery (B7) | Other (Exp | olain in Rer | ilaiks) | | | rost-Heave Hummocks (D7) (LRR F) |
| Inundation Water-Signature Field Observed | on Visible on Aerial Im tained Leaves (B9) vations: | | | | ilaiks) | | | |
| Inundatio Water-S Field Observ Surface Water | on Visible on Aerial Imtained Leaves (B9) vations: er Present? Ye | s No | X Depth (in | ches): | · | _ | | |
| Inundatio Water-S Field Observ Surface Water Water Table | on Visible on Aerial Imtained Leaves (B9) vations: er Present? Ye Present? Ye | s No s No | X Depth (in Depth (in | ches): ches): | · | | Fr | rost-Heave Hummocks (D7) (LRR F) |
| Inundation Water-S Field Observ Surface Water Water Table Saturation Processing Section 1.1 | on Visible on Aerial Imtained Leaves (B9) vations: er Present? Ye Present? Ye resent? Ye | s No | X Depth (in Depth (in | ches): ches): | · | | Fr | |
| Inundation Water-S Field Observ Surface Water Water Table Saturation Profits (includes cap | on Visible on Aerial Imtained Leaves (B9) vations: er Present? Ye Present? Ye resent? Ye | s No s No s No | Depth (in Depth (in | ches): ches): ches): | ID. | | Fr | rost-Heave Hummocks (D7) (LRR F) |
| Inundation Water-S Field Observ Surface Water Water Table Saturation Profincludes cap | on Visible on Aerial Imtained Leaves (B9) vations: er Present? Present? Ye resent? Ye pillary fringe) | s No s No s No | Depth (in Depth (in | ches): ches): ches): | ID. | | Fr | rost-Heave Hummocks (D7) (LRR F) |
| Inundation Water-S Field Observ Surface Water Water Table Saturation Profits (includes cap | on Visible on Aerial Imtained Leaves (B9) vations: er Present? Present? Ye resent? Ye pillary fringe) | s No s No s No | Depth (in Depth (in | ches): ches): ches): | ID. | | Fr | rost-Heave Hummocks (D7) (LRR F) |
| Inundatio Water-S Field Observ Surface Water Water Table Saturation Pri (includes cap Describe Rec | on Visible on Aerial Imtained Leaves (B9) vations: er Present? Present? Ye resent? Ye pillary fringe) | s No s No s No | Depth (in Depth (in | ches): ches): ches): | ID. | | Fr | rost-Heave Hummocks (D7) (LRR F) |
| Inundatio Water-S Field Observ Surface Water Water Table Saturation Pri (includes cap Describe Rec | on Visible on Aerial Imtained Leaves (B9) vations: er Present? Present? Ye resent? Ye pillary fringe) | s No s No s No | Depth (in Depth (in | ches): ches): ches): | ID. | | Fr | rost-Heave Hummocks (D7) (LRR F) |

WETLAND DETERMINATION DATA FORM – Great Plains Region

| Project/Site: Judge Orr Wetland Mitigation Bank | (| City/County | y: El Paso C | ounty | Sampling Date: 5/14/21 |
|--|----------|-------------|--------------|--|--|
| Applicant/Owner: Pete Lien & Sons | | | | | |
| Investigator(s): Gloria Sargent Section, Township, Range: 34, T12S R64W | | | | | |
| dform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave Slope (%): 2-3 | | | | | |
| Subregion (LRR): G | | | | | |
| Soil Map Unit Name: Fluvaquentic Haplaquolls, nearly level | | | | NWI classific | |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _X (If no, explain in Remarks.) | | | | | |
| Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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. | | | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | latabase | with | | nd? Yes X tation was below a | |
| VEGETATION – Use scientific names of plants. | | | | | |
| <u>Tree Stratum</u> (Plot size: 100 sq.m.) 1 2 3 4 | | Species? | Status | Dominance Test work Number of Dominant S That Are OBL, FACW, (excluding FAC-): Total Number of Domin Species Across All Stra | Species or FAC(A) nant |
| Sapling/Shrub Stratum (Plot size: 100 sq.m.) 1 | 0 | = Total Co | ver | | or FAC: (A/B) |
| 2 | | | | Prevalence Index wor | rksheet: Multiply by: |
| 3 | | | | | x 1 = |
| 4 | | | | | x 2 = |
| 5 | 0 | - Total Co | vor | | x 3 = |
| Herb Stratum (Plot size: 100 sq.m. | · | - Total Co | vei | FACU species | x 4 = |
| 1. Juncus arcticus ssp. littoralis | 30 | Х | FACW | UPL species | x 5 = |
| 2. Schoenoplectus pungens | 45 | X | OBL | Column Totals: | (A) (B) |
| 3. Iris missouriensis | 5 | | FACW | Prevalence Index | ς = B/A = |
| 4. Panicum c.f. virgatum 5. Cirsium arvense | 3 | | FACU FACU | Hydrophytic Vegetati | |
| 6. Carex nebrascensis | 5 | | OBL | | Hydrophytic Vegetation |
| 7. onopordum acanthium | 1 | | UPL | 2 - Dominance Te | st is >50% |
| 8 | | | | 3 - Prevalence Ind | ex is ≤3.0 ¹ |
| 9. | | | | 4 - Morphological | Adaptations ¹ (Provide supporting |
| 10 | | | | _ | (s or on a separate sheet) |
| 10. | 0.0 | = Total Co | | Problematic Hydro | ophytic Vegetation ¹ (Explain) |
| Woody Vine Stratum (Plot size: 100 sq.m.) 1 | | | | ¹ Indicators of hydric so be present, unless dist | oil and wetland hydrology must curbed or problematic. |
| 2. | | | | Hydrophytic | |
| | • | = Total Co | | Vegetation | X No. |
| % Bare Ground in Herb Stratum 10 | | | | Present? Ye | es X No |
| Remarks: | _4 | NI-1 | -1 ' | ! !! | |
| Vegetation in abutting channel is dominated by Nebraska sedge, speedwell, narrowleaf cattails and algae. | | | | | |

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| | | to the dept | th needed to docum | ient the | iluicator | or commi | ii tile abselle | · •a.• | 410101) |
|--|--|------------------|---|--|--|------------------------------|--|---|---|
| Depth | Matrix | | | K Feature | | | | | |
| (inches) | Color (moist) | <u></u> % | Color (moist) | % | Type ¹ | Loc ² | Texture | | Remarks |
| 0-3 | 104231 | 100 | | | | | aughe | <u>am</u> | |
| 3-7 | 10 YR 2/1 | 100 | 754R46 | 2 | (| M | Sandy | Clas | Loam |
| 7-20 | 10482/1 | 100 | - | ' | | | Sandy | Clay | Loam |
| 20-28 | 2.54 4/1 | 65 | | | | | Loumy | . 0 | Ď |
| <u> </u> | 2.546/2 | 20 | | | | | <u> </u> | سمح. | и |
| | | | | | | | | | |
| | 2.545/1 | 15 | | - | | | | | |
| | - | | | | | | | | |
| | | | | | | | | | |
| ¹Type: C=Co | oncentration, D=Dep | letion, RM= | Reduced Matrix, CS | =Covere | d or Coate | d Sand G | rains. ² Lo | cation: F | PL=Pore Lining, M=Matrix. |
| Hydric Soil I | ndicators: (Applic | able to all I | LRRs, unless other | wise not | ed.) | | Indicators | for Prol | olematic Hydric Soils³: |
| Histosol | (A1) | | Sandy G | Sleyed Ma | atrix (S4) | | 1 cm l | Muck (A9 |) (LRR I, J) |
| - | pipedon (A2) | | Sandy R | | | | | | Redox (A16) (LRR F, G, H) |
| Black His | ` ' | | Stripped | | | | | | S7) (LRR G) |
| | n Sulfide (A4) | - \ | - | - | neral (F1) | | _ | | pressions (F16) |
| | Layers (A5) (LRR I | | Loamy G | - | | | • | | side of MLRA 72 & 73) |
| | ick (A9) (LRR F, G, I d Below Dark Surfac | • | Depleted Redox D | d Matrix (| | | | ced Vertic | c (F18) iterial (TF2) |
| l — · | ark Surface (A12) | C (ATT) | • • | | ice (i 0) irface (F7) | | | | Park Surface (TF12) |
| | lucky Mineral (S1) | | Redox D | | , , | | - | | in Remarks) |
| | lucky Peat or Peat (| S2) (LRR G | | | essions (F | 16) | | | phytic vegetation and |
| ' | cky Peat or Peat (S | , , | · · · — | | 73 of LRR | | | | ogy must be present, |
| | | | | | | | unless | s disturbe | ed or problematic. |
| Restrictive L | _ayer (if present): | | | | | | | | |
| Type: | | | | | | | | | • |
| Depth (inc | ches): | | | | | | Hydric Soi | l Present | ? Yes <u>X</u> No |
| Remarks: | | | | | | | | | - L |
| | | | | | | | | 121 | - B!! |
| (| Re-visited | in Ju | re 2022 | 10 col | lect | soil | depths | 14- | 28" |
| | Re-visited unce of w | in Ju ater fo | the 2022 | to col | lect tering | 50il 50il | depths wolor 1k | 14- Pedox | 28" Nelow 20" |
| Pres | ence of w | in Ju akr to | we 2022 ! We may b | to cul | lect tering | soil soil | depths color 1k | 14- Pedu x | 28" helow 20" |
| Pres. | ence of w GY | ater to | we 2022 ! We may b | اص ما د عا | lect lering | soil soil | depths color 1k | 14- Pedux | 28" helow 20" |
| HYDROLOG Wetland Hyd | Unce of wo GY drology Indicators: | ater fa | ble may b | z q1: | lect lering | soil soil | Wor 1k | edu x | helow 20" |
| HYDROLOG Wetland Hyd Primary Indic | Ence of word of control of contro | ater fa | l; check all that apply | /) | lect lering | soil soil | Color /k | ary Indica | nators (minimum of two required) |
| HYDROLOG Wetland Hyd Primary Indic | GY drology Indicators: eators (minimum of o | ater fa | t; check all that apply Salt Crust (| /) (B11) | <u>lering</u> | 50il 50il | Second Sur | ary Indica | ators (minimum of two required) Cracks (B6) |
| HYDROLOG Wetland Hyd Primary Indice Surface V High Wa | GY drology Indicators: eators (minimum of o Water (A1) ter Table (A2) | ater fa | I; check all that apply Salt Crust (Aquatic Inv | (B11) | s (B13) | 50il 50;1 | Second Sur Spa | ary Indicates Soil arsely Ve | ators (minimum of two required) Cracks (B6) getated Concave Surface (B8) |
| HYDROLOG Wetland Hyde Primary Indice Surface V High Wa Saturation | GY drology Indicators: eators (minimum of o Water (A1) ter Table (A2) on (A3) | ater fa | i; check all that apply Salt Crust (Aquatic Inv | (B11) vertebrate Sulfide O | s (B13) dor (C1) | <u>so;1</u> | Second Sur Spa X Dra | ary Indica face Soil arsely Ve iinage Pa | ators (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) |
| HYDROLOG Wetland Hyde Primary Indice Surface V High Wa Saturation Water M: | drology Indicators: cators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) | ater fa | I; check all that apply Salt Crust (Aquatic Inv Hydrogen S Dry-Season | (B11) vertebrate Sulfide On | s (B13) dor (C1) Table (C2) | | Second Sur Spa X Dra Oxi | ary Indica face Soil arsely Ve iinage Pa dized Rh | Ators (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) |
| HYDROLOG Wetland Hyd Primary Indic Surface V High Wa Saturatio Water Market Sediment | drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) arks (B1) tt Deposits (B2) | ater fa | Salt Crust (Aquatic Inv Hydrogen S Dry-Season Oxidized R | (B11) vertebrate Sulfide O n Water T chizosphe | es (B13) dor (C1) Table (C2) res on Liv | | Second | ary Indica face Soil arsely Ve inage Pa dized Rh | ators (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) |
| Wetland Hyden Surface Water Management Sediment Drift Dep | drology Indicators: cators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) | ater fa | : check all that apply Salt Crust (Aquatic Inv Hydrogen S Dry-Season Oxidized R (where n | (B11) vertebrate Sulfide Or n Water Thisosphe not tilled) | es (B13) dor (C1) Table (C2) res on Liv | Soil | Second | ary Indica face Soil arsely Ve iinage Pa dized Rh where till ryfish Bur | ators (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) |
| Wetland Hyde Primary Indice Surface Yelligh Was Saturation Water Missediment Drift Dep | drology Indicators: cators (minimum of or Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) | ater fa | i; check all that apply Salt Crust (Aquatic Inv Hydrogen S Dry-Season Oxidized R (where n | (B11) vertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce | es (B13) dor (C1) Table (C2) res on Liv | Soil | Second Sur Spa X Dra Cra (C3) Cra Sat | ary Indica face Soil arsely Ve inage Pa dized Rh where till yyfish Bur uration V | ators (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) isible on Aerial Imagery (C9) |
| Wetland Hyde Primary Indice Surface Value High Wa Saturation Water M. Sediment Drift Dep Algal Ma Iron Dep | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) | okr fo | Salt Crust (Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence of | (B11) vertebrate Sulfide O n Water T chizosphe not tilled) of Reduce Surface (| es (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 | Soil | Second Second Sur Spa X Dra Cra X Sat X Geometric Second Sec | ary Indica face Soil arsely Ve inage Pa dized Rh where till lyfish Bur uration V omorphic | ators (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) isible on Aerial Imagery (C9) Position (D2) |
| HYDROLOG Wetland Hyde Primary Indice Surface V High Wa Saturation Water Mark Sediment Drift Dep Algal Ma Iron Dep Inundation | drology Indicators: cators (minimum of | okr fo | Salt Crust (Aquatic Inv Hydrogen S Dry-Season Oxidized R (where n Thin Muck | (B11) vertebrate Sulfide O n Water T chizosphe not tilled) of Reduce Surface (| es (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 | Soil | Second | ary Indica face Soil arsely Ve iinage Pa dized Rh where till byfish Bur uration V omorphic C-Neutra | etors (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) |
| HYDROLOG Wetland Hyd Primary Indic Surface High Wa Saturatio Water March Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water-St | drology Indicators: cators (minimum of of of the cators) Water (A1) Arter Table (A2) Arter Table (A2) Arter Table (B2) Arter Table (B2) Arter Table (B3) Arter Table (B4) Arter Table (B4) Arter Table (B4) Arter Table (B4) Arter Table (B5) Arter Table (B2) Arter | okr fo | Salt Crust (Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence of | (B11) vertebrate Sulfide O n Water T chizosphe not tilled) of Reduce Surface (| es (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 | Soil | Second | ary Indica face Soil arsely Ve iinage Pa dized Rh where till byfish Bur uration V omorphic C-Neutra | ators (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) isible on Aerial Imagery (C9) Position (D2) |
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| Wetland Hyde Primary Indice Surface Yelligh Was Saturation Water Management Sediment Drift Depton Algal Management Inundation Water-Stellight Stelling Water-Stelling Sediment Drift Depton Algal Management Inundation Water-Stelling Sediment Sediment Drift Depton Algal Management Inundation Water-Stelling Sediment Drift Depton Dept | drick of wider of the desired of the | magery (B7 | Salt Crust (| (B11) vertebrate Sulfide Or n Water This contilled) of Reduce Surface (clain in Researches): | es (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 (C7) emarks) | ing Roots | Color /k Second Sur Spa X Dra Oxi (C3) Cra X Sat X Gee FAC Fro | ary Indica face Soil arsely Ve iinage Pa dized Rh where till byfish Bur uration V comorphic C-Neutra st-Heave | etors (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) Hummocks (D7) (LRR F) |
| HYDROLOG Wetland Hyd Primary Indic Surface V High Wa Saturatio Water Management Sediment Drift Dep Algal Management Iron Dep Inundatio Water-St Field Observ Surface Water Saturation Primary Indices | drology Indicators: cators (minimum of or Water (A1) ther Table (A2) on (A3) arks (B1) the Deposits (B2) cosits (B3) the or Crust (B4) cosits (B5) on Visible on Aerial I tained Leaves (B9) vations: er Present? Present? Y | magery (B7 | check all that apply | (B11) vertebrate Sulfide Or n Water This contilled) of Reduce Surface (clain in Researches): | es (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 (C7) emarks) | ing Roots | Color /k Second Sur Spa X Dra Oxi (C3) Cra X Sat X Gee FAC Fro | ary Indica face Soil arsely Ve iinage Pa dized Rh where till byfish Bur uration V comorphic C-Neutra st-Heave | etors (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) |
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| HYDROLOG Wetland Hyde Primary Indice Surface V High Wa Saturatio Water Many Sediment Drift Dep Algal Many Iron Dep Inundatio Water-St Field Observ Surface Water Water Table Saturation Pr (includes cap) Describe Rec | drology Indicators: cators (minimum of o Water (A1) ther Table (A2) on (A3) arks (B1) the Deposits (B2) cosits (B3) the or Crust (B4) cosits (B5) on Visible on Aerial I tained Leaves (B9) vations: er Present? Present? Y resent? Y | magery (B7 | Salt Crust (Salt Crust (Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence of Thin Muck Other (Exp | (B11) vertebrate Sulfide O n Water T chizosphe tot tilled) of Reduce Surface (clain in Re ches): ches): | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots Wetler pections), | Second Sur Spa X Dra Oxi (C3) Cra X Sat X Gee FAC Fro | ary Indica face Soil arsely Ve inage Pa dized Rh where till byfish Bur uration V comorphic C-Neutral st-Heave | etors (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) Hummocks (D7) (LRR F) |
| HYDROLOG Wetland Hyde Primary Indice Surface V High Wa Saturatio Water Many Sediment Drift Dep Algal Many Iron Dep Inundatio Water-St Field Observ Surface Water Water Table Saturation Pr (includes cap) Describe Rec | drology Indicators: cators (minimum of o Water (A1) ther Table (A2) on (A3) arks (B1) the Deposits (B2) cosits (B3) the or Crust (B4) cosits (B5) on Visible on Aerial I tained Leaves (B9) vations: er Present? Present? Y resent? Y | magery (B7 | Salt Crust (Salt Crust (Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence of Thin Muck Other (Exp | (B11) vertebrate Sulfide O n Water T chizosphe tot tilled) of Reduce Surface (clain in Re ches): ches): | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots Wetler pections), | Second Sur Spa X Dra Oxi (C3) Cra X Sat X Gee FAC Fro | ary Indica face Soil arsely Ve inage Pa dized Rh where till byfish Bur uration V comorphic C-Neutral st-Heave | etors (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) Hummocks (D7) (LRR F) |
| HYDROLOG Wetland Hyde Primary Indice Surface V High Wa Saturatio Water Many Sediment Drift Dep Algal Many Iron Dep Inundatio Water-St Field Observ Surface Water Water Table Saturation Pr (includes cap) Describe Rec | drology Indicators: cators (minimum of o Water (A1) ther Table (A2) on (A3) arks (B1) the Deposits (B2) cosits (B3) the or Crust (B4) cosits (B5) on Visible on Aerial I tained Leaves (B9) vations: er Present? Present? Y resent? Y | magery (B7 | Salt Crust (Salt Crust (Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence of Thin Muck Other (Exp | (B11) vertebrate Sulfide O n Water T chizosphe tot tilled) of Reduce Surface (clain in Re ches): ches): | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots Wetler pections), | Second Sur Spa X Dra Oxi (C3) Cra X Sat X Gee FAC Fro | ary Indica face Soil arsely Ve inage Pa dized Rh where till byfish Bur uration V comorphic C-Neutral st-Heave | etors (minimum of two required) Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) Hummocks (D7) (LRR F) |

| Project/Site: Judge Orr Wetland Mitigation Bank | City/County: El Paso County | | | | | | | | |
|--|-----------------------------|--------|---------|---------------------|--|--------------------------|---------------------------|-----------------|--|
| Applicant/Owner: Pete Lien & Sons | | | | | State: CO | _ Samplinç | Point: SP-6 | | |
| Investigator(s): Gloria Sargent | | | | | nge: 34, T12S R64W | | | | |
| | | | | | convex, none): none | | Slope (% | (a): <u>0-1</u> | |
| Subregion (LRR): G | Lat: 38.9 | 957798 | 3 | | Long: <u>-104.543339</u> | | Datum: N | AD83z13 | |
| Soil Map Unit Name: Fluvaquentic Haplaquolls, nearly level | | | | | NWI classifi | cation: Nor | ne | | |
| Are climatic / hydrologic conditions on the site typical for thi | | | | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | | 'Normal Circumstances" | | Yes X | No | |
| Are Vegetation, Soil, or Hydrology | | | | (If ne | eeded, explain any answ | ers in Rema | arks.) | | |
| SUMMARY OF FINDINGS - Attach site map | showing | sam | pling | point l | ocations, transects | s, import | ant featur | es, etc. | |
| Hydrophytic Vegetation Present? Yes N | lo X | | lo the | Compled | Avec | | | | |
| Hydric Soil Present? Yes N | | | | Sampled a Wetlar | | No_ | X | | |
| Wetland Hydrology Present? YesN | lo <u>X</u> | | WILLIII | i a vvetiai | iu: 165 | | | | |
| Remarks: | - f 0 | 040 | 202 | 0 f = tl= | a na sia na Dua sin | .:4_4: | f la | 2024 | |
| Annual precipitation was below averag | | | | | ne region. Precip | itation | rrom Jan | 2021 | |
| to survey date has been at or above av | rerage to | or the | e reg | jion. | | | | | |
| VEGETATION – Use scientific names of plan | nts. | | | | | | | | |
| 400 ag m | Absolute | | | ndicator | Dominance Test wor | ksheet: | | | |
| Tree Stratum (Plot size: 100 sq.m. | % Cover | | | | Number of Dominant S | | | | |
| 1 | | | | | That Are OBL, FACW, (excluding FAC-): | or FAC | 0 | (A) | |
| 2 | | | | | | | | _ () | |
| 3 | | - | | | Total Number of Domi Species Across All Str | | 3 | _ (B) | |
| | 0 | = Tota | al Cove | r | Percent of Dominant S | enocios | | | |
| Sapling/Shrub Stratum (Plot size: 100 sq.m.) | | | | | That Are OBL, FACW, | | 0 | _ (A/B) | |
| 1. Artemisia frigida | 15 | | | UPL | Prevalence Index wo | rksheet: | | | |
| 2 | | | | | Total % Cover of: | | Multiply by: | | |
| 3 | | | | | OBL species | | | | |
| 4 | | | | - | FACW species | | | | |
| 5 | 4.5 | = Tota | al Cove | ır | FAC species | | | | |
| Herb Stratum (Plot size: 100 sq.m. | | - 1018 | ai Cove | -1 | FACU species | | \ = | <u> </u> | |
| 1. Astragalus spp. | 5 | | | UPL | UPL species | | | | |
| 2. Erigeron spp. | 10 | X | | UPL | Column Totals: | (A) | | (B) | |
| 3. Poa secunda | _ 5 | | | FACU | Prevalence Inde | x = B/A = | | | |
| 4. Allium spp. 5 Pascopyrum smithii | 1 10 | X | | UPL FACU | Hydrophytic Vegetat | - | | | |
| Pascopyrum smithii Carex duriuscula | 5 | ^ | | UPL | 1 - Rapid Test for | | | | |
| - Antennaria parvifolia | 1 | | | UPL | 2 - Dominance Te | st is >50% | | | |
| 8 | | | | | 3 - Prevalence Inc | lex is ≤3.0 ¹ | | | |
| 9 | | | | | 4 - Morphological | Adaptation | s ¹ (Provide s | upporting | |
| 10. | | | | | data in Remark Problematic Hydro | | | | |
| | | | al Cove | r | <u> </u> | | | , | |
| Woody Vine Stratum (Plot size: 100 sq.m.) 1 | | | | | ¹ Indicators of hydric so be present, unless dis | | | y must | |
| 2. | | | | | Hydrophytic | | | | |
| | 0 | | | | Vegetation | | No X | | |
| % Bare Ground in Herb Stratum 63 | | | | | Present? Yo | <u></u> | No X | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

SOIL Sampling Point: SP-6

| | cription: (Descri | e to the depth | | | | or confirm | the absence of | indicators.) |
|--------------|---|-------------------|----------------------|--------------------------|-------------------|------------------|------------------|---|
| Depth | Matrix | | | ox Feature | | 1002 | Touture | Domanica |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | <u>Texture</u> | Remarks |
| | | | | | | | | |
| | | | | | | | | |
| | <u> </u> | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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| - | | | | | . ——— | | | |
| | | | | | | | · | |
| | - | | | | | | | |
| | Concentration, D=D | | | | | ed Sand Gr | | on: PL=Pore Lining, M=Matrix. |
| | Indicators: (App | licable to all Li | | | | | | r Problematic Hydric Soils ³ : |
| Histoso | ` ' | | | Gleyed Ma | . , | | | ck (A9) (LRR I, J) |
| _ | Epipedon (A2) Histic (A3) | | · | Redox (S5 d Matrix (S | , | | | airie Redox (A16) (LRR F, G, H) face (S7) (LRR G) |
| | en Sulfide (A4) | | | Mucky Mir | | | | ns Depressions (F16) |
| | ed Layers (A5) (LR | R F) | | Gleyed Ma | | | _ | H outside of MLRA 72 & 73) |
| | uck (A9) (LRR F, C | | | ed Matrix (| , | | | Vertic (F18) |
| | ed Below Dark Surf | ace (A11) | | Dark Surfa | , , | | | nt Material (TF2) |
| | oark Surface (A12) Mucky Mineral (S1 | ` | | ed Dark Su Depressio | . , | | | llow Dark Surface (TF12) plain in Remarks) |
| | Mucky Peat or Pea | | | ains Depre | . , | 16) | | hydrophytic vegetation and |
| | lucky Peat or Peat | , , , , , , | , – | RA 72 & | • | , | | ydrology must be present, |
| | • | , , , , | , | | | , | | sturbed or problematic. |
| Restrictive | Layer (if present) | : | | | | | | |
| Type: | | | | | | | | |
| Depth (ir | nches): | | | | | | Hydric Soil Pr | esent? Yes No X |
| Remarks: | | | | | | | • | |
| | | | | | | | | |
| No soil pro | offile required. V | egetation is e | ntirely upland a | and FAC | U specie | s and the | ere are no wetla | and hydrology indicators present |
| HYDROLO | OGY | | | | | | | |
| | /drology Indicator | re. | | | | | | |
| _ | icators (minimum d | | check all that ann | lv) | | | Secondary | Indicators (minimum of two required) |
| | e Water (A1) | n one required, | Salt Crus | | | | | e Soil Cracks (B6) |
| | ater Table (A2) | | | vertebrate | es (B13) | | | ely Vegetated Concave Surface (B8) |
| | ion (A3) | | | Sulfide O | . , | | | ge Patterns (B10) |
| | Marks (B1) | | | on Water 1 | , , | | | ed Rhizospheres on Living Roots (C3) |
| | ent Deposits (B2) | | | | , , | ing Roots (| (C3) (whe | re tilled) |
| Drift De | eposits (B3) | | (where | not tilled) | | | Crayfis | h Burrows (C8) |
| Algal M | lat or Crust (B4) | | Presence | of Reduce | ed Iron (C | 1) | Saturat | tion Visible on Aerial Imagery (C9) |
| Iron De | posits (B5) | | Thin Muc | k Surface (| (C7) | | Geomo | orphic Position (D2) |
| | tion Visible on Aeri | 0 , (, | Other (Ex | plain in Re | emarks) | | _ | eutral Test (D5) |
| | Stained Leaves (B | 9) | | | | | Frost-F | leave Hummocks (D7) (LRR F) |
| Field Obse | | | ~ | | | | | |
| Surface Wa | ter Present? | | Depth (ir | | | | | |
| Water Table | e Present? | | Depth (ir | | | | | V |
| Saturation F | Present? apillary fringe) | Yes No | Depth (ir | iches): | | _ Wetla | and Hydrology P | resent? Yes No X |
| | ecorded Data (stre | am gauge, mon | itoring well, aerial | photos, pr | evious ins | pections), | if available: | |
| | , | | | | | . , | | |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Project/Site: Judge Orr Wetland Mitigation Bank | | City/Cou | unty: El Paso C | County | Sampling Da | ate: 6/04/21 |
|--|---------------|----------|-----------------|---|--|--------------------|
| Applicant/Owner: Pete Lien & Sons | | - | - | State: CO | Sampling Po | oint: SP-7 |
| Investigator(s): Gloria Sargent | | | | | | |
| • () | | | | convex, none): none | | Slope (%): 1-2 |
| Subregion (LRR): G | | | | | | |
| Soil Map Unit Name: Columbine gravelly sandy loam, 0 to 3 | | | | | | |
| | | | | | | |
| Are climatic / hydrologic conditions on the site typical for the | | | | | | V |
| Are Vegetation, Soil, or Hydrology | | | | 'Normal Circumstances' | | |
| Are Vegetation, Soil, or Hydrology | naturally pro | blemati | c? (If ne | eeded, explain any ansv | vers in Remarks | s.) |
| SUMMARY OF FINDINGS - Attach site map | showing | samp | oling point l | ocations, transect | ts, importan | t features, etc. |
| Hydrophytic Vegetation Present? Yes X 1 | No | | . 41 0 | 1.4 | | |
| Hydric Soil Present? Yes X | No | | s the Sampled | | No | |
| Wetland Hydrology Present? Yes X | | ' | within a Wetlar | na? Yes 🔨 | NO | |
| Remarks: | | | | | | |
| Annual precipitation was below averag | e from 2 | 2018-2 | 2020 for th | ne region. Preci | pitation fro | m Jan 2021 |
| to survey date has been at or above a | | | | J | • | |
| | | | | | | |
| VEGETATION – Use scientific names of plan | nts. | | | | | |
| Tree Stratum (Plot size: 100 sq.m. | Absolute | | nant Indicator | Dominance Test wo | | |
| | | | es? Status | Number of Dominant That Are OBL, FACW | | |
| 1 | | | | (excluding FAC-): | , or FAC | (A) |
| 2. | | | | Tatal Number of Dans | -: | |
| 3 | | | | Total Number of Dom Species Across All St | | (B) |
| 4 | 0 | | | | | |
| Sapling/Shrub Stratum (Plot size: 100 sq.m. | | - Total | Covei | Percent of Dominant That Are OBL, FACW | | (A/B) |
| 1. Salix exigua | 3 | Χ | FACW | | | |
| 2 | | | | Prevalence Index we | | |
| 3 | | | | Total % Cover of | | |
| 4 | | | | OBL species | | |
| 5 | | | | FACW species | | |
| 100 sq m | 3 | = Total | Cover | FAC species FACU species | | |
| Herb Stratum (Plot size: 100 sq.m.) 1 Carex nebrascensis | 25 | Х | OBL | UPL species | | |
| 2 Juncus arcticus ssp. littoralis | 15 | X | FACW | Column Totals: | | |
| 3. Bromus inermis | 5 | | UPL | Coldifili Totals. | (^) | (B) |
| 4 Poa palustris | 10 | | FACW | Prevalence Inde | ex = B/A = | |
| 5. Carex praegracilis | _ | | FACW | Hydrophytic Vegeta | tion Indicators | : |
| 6. Cirsium arvense | 3 | | FACU | 1 - Rapid Test for | r Hydrophytic V | egetation |
| 7. Taraxacum officinale | 1 | | FACU | 2 - Dominance T | | |
| 8. Senecio multilobatus | 1 | | UPL | 3 - Prevalence In | | |
| g. Iris missouriensis | 3 | | FACW | 4 - Morphologica | ıl Adaptations ¹ (I rks or on a sepa | Provide supporting |
| 10. | | | | Problematic Hydi | | |
| | 64 | = Total | Cover | Froblematic riyul | opriylic vegeta | tion (Explain) |
| Woody Vine Stratum (Plot size: 100 sq.m.) 1 | | | | ¹ Indicators of hydric s be present, unless dis | | |
| 2 | | | | Hydrophytic | | |
| | _ | = Total | Cover | Vegetation | V | |
| % Bare Ground in Herb Stratum <u>36</u> | | . 5 601 | | Present? | res X N | o |
| Remarks: | | | | • | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sampling Point: <u>SP-7</u>

| inches) | Color (moist) | % | Color (moist) | x Features | _Type ¹ _ | Loc ² | Texture | | Remarks |
|--|--|---------------------|---|--|---|------------------|--|--|--|
| 0-3 | 104R 2/2 | [00 | | | | | Sandy | Lexam | |
| | | | | | | | 32.00 | | |
| 3-24 | 1042 2/2 | 95 | 1.57R 4/6 | ~ | <u> </u> | PL | Sancha | Lean | gravel |
| | 10 114 70 | | 4.012 14 | | | +- | 0 | <u> </u> | 9/00-1 |
| 4-32 | 7.5 YR 2.5/1 | (90) | 104R 4/6 | 3 | \overline{C} | m | Clari | ······ | |
| | 2.54 4/2 | 37 | | | | | <u> </u> | | |
| | | | | | | | | - | |
| <u> 2-38</u> | 545/2 | 90 | 104R 5/4 | 10 | _ <u>C</u> _ | _M | | Loum | |
| | | | Reduced Matrix, CS | | | d Sand G | | | ore Lining, M=Matrix. |
| | | able to all | LRRs, unless other | | | | | | natic Hydric Soils ³ : |
| _ Histosol | ` ' | | | Sleyed Ma | | | | Muck (A9) (LI | |
| | pipedon (A2) | | | Redox (S5 | | | | | x (A16) (LRR F, G, H) |
| _ Black His | , , | | | l Matrix (S | | | | Surface (S7) Plains Depres | |
| | n Sulfide (A4) I Layers (A5) (LRR I | =\ | | Mucky Mir Gleyed Ma | | | _ | | of MLRA 72 & 73) |
| | ick (A9) (LRR F, G, I | | | d Matrix (I | | | | ced Vertic (F1 | |
| | Below Dark Surfac | | Redox D | | | | | Parent Materia | , |
| | ark Surface (A12) | ` '/ | | | rface (F7) | | | | Surface (TF12) |
| | lucky Mineral (S1) | | | Depression | | | - | r (Explain in R | |
| 2.5 cm N | lucky Peat or Peat (| S2) (LRR (| | | | 16) | ³ Indicator | s of hydrophyt | ic vegetation and |
| 5 cm Mu | cky Peat or Peat (S | 3) (LRR F) | (ML | RA 72 & 7 | 73 of LRR | H) | wetla | nd hydrology r | nust be present, |
| | | | | | | | unles | s disturbed or | problematic. |
| strictive L | _ayer (if present): | | | | | | | | |
| | | | | | | | | | |
| Туре: | | | | | | | | | V |
| · - | ches): | | | | | | Hydric So | il Present? | Yes No |
| Depth (inc | ches): | | | | | | | | Yes No |
| Depth (inc | ches): | | | ر ما اور | <u> </u> | | | | Yes No |
| Depth (inc | ches): | | - 2072 to | دي) لود | J 50 | oil d | | | Yes No |
| Depth (independent) | ches): | | | دي الود | A so | oil d | | | Yes No |
| Depth (incomarks: | ches): -visited in GY | June | | دي) لود | t so | oil d | | | Yes No |
| Depth (incomarks: Report of the property of t | ches): -visikd in GY drology Indicators: | . June | - 2022 to | | A so | oil d | eptus 1 | 4-38'' | |
| Depth (incomarks: DROLO etland Hydinary Indice | GY drology Indicators: eators (minimum of o | . June | 2077 to | y) | A so | oil d | eptus 1 | 니~ 3명 '' | (minimum of two require |
| Depth (incomarks: DROLO etland Hydical Surface | GY drology Indicators: eators (minimum of o | . June | 2072 to | y) (B11) | | oil d | epths 1 Second | 4-38" dary Indicators rface Soil Cra | (minimum of two requirecks (B6) |
| Depth (incomarks: DROLO etland Hyd mary Indic Surface High Wa | GY drology Indicators: eators (minimum of o Water (A1) ter Table (A2) | . June | d; check all that apply Salt Crust Aquatic Inv | y) (B11) vertebrate | s (B13) | oil d | Second Su Su Su Su Su Su Su S | dary Indicators rface Soil Cra arsely Vegeta | (minimum of two requirecks (B6) ted Concave Surface (B |
| DROLO etland Hyd mary Indic Surface High Wa Saturatio | GY drology Indicators: eators (minimum of o Water (A1) ter Table (A2) on (A3) | . June | d; check all that apply Salt Crust Aquatic Inv | y) (B11) vertebrate Sulfide Od | s (B13) dor (C1) | oil d | Second Su Su Sp X Dri | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr | (minimum of two requirecks (B6) ted Concave Surface (Bas (B10) |
| DROLO calculation Calculation | GY drology Indicators: eators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) | . June | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso | y) (B11) vertebrate Sulfide Od | s (B13) dor (C1) able (C2) | | Second Second Su | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr didized Rhizos | (minimum of two requirecks (B6) ted Concave Surface (B |
| Depth (incomarks: DROLO etland Hydical Surface High Water Management of the command of the c | GY drology Indicators: eators (minimum of or Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) | . June | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F | y) (B11) vertebrate Sulfide Oo in Water T Rhizosphe | s (B13) dor (C1) able (C2) res on Liv | | Second Substitute Sub | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr idized Rhizos where tilled) | (minimum of two requirecks (B6) ted Concave Surface (B is (B10) oheres on Living Roots (|
| Depth (incomarks: Canonic Properties of the content of the conten | GY drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) on Deposits (B2) onsits (B3) | . June | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R | y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) | s (B13) dor (C1) able (C2) res on Livi | ing Roots | Second Second Su | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr idized Rhizos where tilled) ayfish Burrows | (minimum of two requirecks (B6) ted Concave Surface (Bas (B10) otheres on Living Roots (Bs (C8) |
| Depth (incomercial property) DROLO etland Hydimary Indica Surface High Water May Sedimer Drift Depton Algal May | GY drology Indicators: cators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) osits (B3) at or Crust (B4) | . June | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R (where r | y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce | s (B13) dor (C1) Table (C2) res on Liv | ing Roots | Second Second Su Sp X Dri (C3) Cri Sa | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr idized Rhizos where tilled) ayfish Burrows turation Visible | (minimum of two requirecks (B6) ted Concave Surface (Bas (B10) oheres on Living Roots (Bas (C8)) |
| Depth (incomercial property) DROLO etland Hydio Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep | GY drology Indicators: eators (minimum of of the control of the c | ne required | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck | y) (B11) vertebrate Sulfide Oden Water Technicosphe not tilled) of Reduce Surface (| s (B13) dor (C1) Table (C2) res on Livi | ing Roots | Second Su | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr ridized Rhizos where tilled) ayfish Burrows turation Visible comorphic Pos | (minimum of two requirects (B6) ted Concave Surface (Bas (B10) beheres on Living Roots (Bas (C8) e on Aerial Imagery (C9) |
| Depth (incomarks: Comarks: DROLO etland Hyd imary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundation | GY drology Indicators: eators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial I | ne required | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck | y) (B11) vertebrate Sulfide Oden Water Technicosphe not tilled) of Reduce Surface (| s (B13) dor (C1) Table (C2) res on Livi | ing Roots | Second Su Sp X Dra C(C3) (C3) Cr Sa X Ge FA | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr ridized Rhizos where tilled) ayfish Burrows turation Visible comorphic Pos | (minimum of two requirecks (B6) ted Concave Surface (Bas (B10) otheres on Living Roots (Bas (C8) e on Aerial Imagery (C9) ition (D2) |
| Depth (incomarks: DROLO etland Hyd imary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Water-Si | GY drology Indicators: eators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial I tained Leaves (B9) | ne required | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck | y) (B11) vertebrate Sulfide Oden Water Technicosphe not tilled) of Reduce Surface (| s (B13) dor (C1) Table (C2) res on Livi | ing Roots | Second Su Sp X Dra C(C3) (C3) (C4) FA | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr ridized Rhizos where tilled) ayfish Burrows turation Visible comorphic Pos | (minimum of two requirects (B6) ted Concave Surface (Bas (B10) beheres on Living Roots (Bas (C8) e on Aerial Imagery (C9) |
| Depth (incomarks: DROLO etland Hyd imary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Water-Si | GY drology Indicators: eators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial I tained Leaves (B9) | ne required | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R (where r Presence of Thin Muck T) Other (Exp | y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface (blain in Re | s (B13) dor (C1) Table (C2) res on Livi | ing Roots | Second Su Sp X Dra C(C3) (C3) (C4) FA | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr ridized Rhizos where tilled) ayfish Burrows turation Visible comorphic Pos | (minimum of two requirecks (B6) ted Concave Surface (Bas (B10) otheres on Living Roots (Bas (C8) e on Aerial Imagery (C9) ition (D2) |
| Depth (incomercial process) DROLO etland Hydimary Indication Surface High Water Management Sedimer Drift Depth Algal Management Inundation Water-Sield Observers | GY drology Indicators: eators (minimum of o Water (A1) tter Table (A2) on (A3) arks (B1) ot Deposits (B2) osits (B3) at or Crust (B4) osits (B5) on Visible on Aerial I tained Leaves (B9) vations: | magery (B | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R (where r Presence of Thin Muck T) Depth (inc | y) (B11) vertebrate Sulfide Oden Water Telephot tilled) of Reduce Surface (olain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) marks) | ing Roots | Second Su Sp X Dra C(C3) (C3) (C4) FA | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr ridized Rhizos where tilled) ayfish Burrows turation Visible comorphic Pos | (minimum of two requirecks (B6) ted Concave Surface (Bas (B10) otheres on Living Roots (Bas (C8) e on Aerial Imagery (C9) ition (D2) |
| Depth (incommarks: CDROLO etland Hydeimary Indicommary Indicommar | GY drology Indicators: eators (minimum of or Water (A1) ther Table (A2) on (A3) arks (B1) arks (B1) arks (B3) arks (B3) arks (B3) arks (B4) oosits (B3) art or Crust (B4) oosits (B5) on Visible on Aerial I tained Leaves (B9) vations: er Present? | magery (B | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R (where r Presence of Thin Muck T) Other (Exp | y) (B11) vertebrate Sulfide Oden Water Telephot tilled) of Reduce Surface (olain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) marks) | ing Roots | Second Second Su Sp X Dr: Cr: Sa X Ge FA Free | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr didized Rhizos where tilled) ayfish Burrows turation Visible comorphic Pos a.C-Neutral Tes ost-Heave Hur | (minimum of two requirecks (B6) ted Concave Surface (Bas (B10) otheres on Living Roots (B (C8) e on Aerial Imagery (C9) ition (D2) ot (D5) nmocks (D7) (LRR F) |
| Depth (incomarks: DROLO etland Hyd imary Indic Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Water-Si eld Observ arface Water Table | GY drology Indicators: eators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial I tained Leaves (B9) vations: er Present? Y | magery (B | d; check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R (where r Presence of Thin Muck T) Depth (inc | y) (B11) vertebrate Sulfide Oo n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) marks) | ing Roots | Second Second Su Sp X Dr: Cr: Sa X Ge FA Free | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr didized Rhizos where tilled) ayfish Burrows turation Visible comorphic Pos a.C-Neutral Tes ost-Heave Hur | (minimum of two requirecks (B6) ted Concave Surface (Bas (B10) otheres on Living Roots (B (C8) e on Aerial Imagery (C9) ition (D2) ot (D5) nmocks (D7) (LRR F) |
| Depth (incomercial process) DROLO etland Hyderimary Indice High Water Marcomercial profit Deptercial profit Deptercia | GY drology Indicators: eators (minimum of or | magery (B | d: check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck T) No X Depth (inc | y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re ches): ches): | s (B13) dor (C1) Table (C2) res on Livi dd Iron (C4 C7) marks) | ing Roots | Second Su Sp X Dra Ox (C3) (C3) FA Free | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr didized Rhizos where tilled) ayfish Burrows turation Visible comorphic Pos a.C-Neutral Tes ost-Heave Hur | (minimum of two requirects (B6) ted Concave Surface (Bas (B10) otheres on Living Roots (Bas (C8) e on Aerial Imagery (C9) ition (D2) otheres (D7) (LRR F) |
| Depth (incomercial process) DROLO etland Hydio Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-Si eld Observation Process | GY drology Indicators: eators (minimum of or | magery (B | d; check all that apply Salt Crust Aquatic Inv. Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck T) Depth (inc. | y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re ches): ches): | s (B13) dor (C1) Table (C2) res on Livi dd Iron (C4 C7) marks) | ing Roots | Second Su Sp X Dra Ox (C3) (C3) FA Free | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr didized Rhizos where tilled) ayfish Burrows turation Visible comorphic Pos a.C-Neutral Tes ost-Heave Hur | (minimum of two requirecks (B6) ted Concave Surface (Bas (B10) otheres on Living Roots (B (C8) e on Aerial Imagery (C9) ition (D2) ot (D5) nmocks (D7) (LRR F) |
| Depth (incomarks: PROLO etland Hydio Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-Si eld Observation atter Table atturation Procludes cap | GY drology Indicators: eators (minimum of or | magery (B | d: check all that apply Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence of Thin Muck T) No X Depth (inc | y) (B11) vertebrate Sulfide Od n Water T Rhizosphe not tilled) of Reduce Surface (olain in Re ches): ches): | s (B13) dor (C1) Table (C2) res on Livi dd Iron (C4 C7) marks) | ing Roots | Second Su Sp X Dra Ox (C3) (C3) FA Free | dary Indicators rface Soil Cra arsely Vegeta ainage Patterr didized Rhizos where tilled) ayfish Burrows turation Visible comorphic Pos a.C-Neutral Tes ost-Heave Hur | (minimum of two requirecks (B6) ted Concave Surface (Bas (B10) otheres on Living Roots (B (C8) e on Aerial Imagery (C9) ition (D2) ot (D5) nmocks (D7) (LRR F) |

| Project/Site: Judge Orr Wetland Mitigation Bank | | City/C | ounty: | El Paso C | County Sampling Date: 6 | | | /21 |
|--|---------------|---------|--------|---------------------|--------------------------------------|------------|-----------------|-----------------------|
| Applicant/Owner: Pete Lien & Sons | | - | - | | State: CO | | - | |
| Investigator(s): Gloria Sargent | | | | | | | .g . s | |
| • , , | | | | | convex, none): none | | Slone (| y ₆). 0-1 |
| Subregion (LRR): G | | | | • | , | | | |
| | | | | | | | | 17 12 002 10 |
| Soil Map Unit Name: Columbine gravelly sandy loam, 0 to 3 | | | | | | | | |
| Are climatic / hydrologic conditions on the site typical for the | | | | | | | | |
| Are Vegetation, Soil, or Hydrology | significantly | disturk | bed? | Are " | 'Normal Circumstances" | present? | Yes X | No |
| Are Vegetation, Soil, or Hydrology | naturally pro | blema | atic? | (If ne | eeded, explain any answ | ers in Ren | narks.) | |
| SUMMARY OF FINDINGS - Attach site map | showing | sam | pling | g point l | ocations, transects | s, impo | rtant featu | res, etc. |
| Hydrophytic Vegetation Present? Yes X | No | | le the | Sampled | ΙΑτορ | | | |
| Hydric Soil Present? Yes X | No | | | n a Wetlar | | No |) | |
| Wetland Hydrology Present? Yes X | No | | Within | ii u vvotiui | 100 | | ′ - | |
| Remarks: | | | | | | | | |
| Annual precipitation was below average | • | | | | ne region. Precip | oitation | from Jar | า 2021 |
| to survey date has been at or above a | verage fo | or th | e re | gion. | | | | |
| VEGETATION – Use scientific names of plan | nte | | | | | | | |
| VEGETATION - Ose scientific flames of plan | Absolute | Dam | inant | Indicator | Dominance Test wor | lra baati | | |
| Tree Stratum (Plot size: 100 sq.m. | % Cover | | | Indicator Status | Number of Dominant S | | | |
| 1 | | | | | That Are OBL, FACW, | | | |
| 2 | | | | | (excluding FAC-): | | 1 | (A) |
| 3 | | | | | Total Number of Domi | nant | | |
| 4 | | | | | Species Across All Str | ata: | 2 | (B) |
| 100 as == | 0 | = Tota | al Cov | er | Percent of Dominant S | pecies | | |
| Sapling/Shrub Stratum (Plot size: 100 sq.m.) | | | | | That Are OBL, FACW, | or FAC: | 50 | (A/B) |
| 1 | | | | | Prevalence Index wo | rksheet: | | |
| 2 | | | | | Total % Cover of: | | Multiply by: | |
| 3 | | | | | | x | | |
| 4 | | | | | FACW species 28 | | | |
| 5 | 0 | | -1.0 | | FAC species 1 | | | |
| Herb Stratum (Plot size: 100 sq.m. | | = 1018 | ai Cov | er | | x | | |
| 1. Cirsium arvense | 12 | Χ | | FACU | | x | 5 = 25 | |
| 2. juncus arcticus ssp. littoralis | 18 | Χ | | FACW | Column Totals: 57 | (<i>F</i> | A) <u>161</u> | (B) |
| 3. Carex stenophylla | 3 | | | UPL | | | 2 92 | |
| 4. Trifolium spp. | 1 | | | UPL | Prevalence Inde | | | |
| 5. Muhlenbergia c.f. asperifolia | 10 | | | FACW | Hydrophytic Vegetati | | | |
| 6. Achillea millefolium | _ 1 | | | FACU | 1 - Rapid Test for 2 - Dominance Te | | • | 1 |
| 7. Carex nebrascensis | 5 | | | OBL | 3 - Prevalence Inc | | | |
| 8. Pascopyrum smithii | 5 | | | FACU | 4 - Morphological | | | unnorting |
| 9. Cryptantha spp. | _ 1 | | | UPL | data in Remark | s or on a | separate she | et) |
| 10. Plantago major | _ 1 | | | FAC | Problematic Hydro | phytic Ve | egetation¹ (Ex | olain) |
| Woody Vine Stratum (Plot size: 100 sq.m. | 57 | = Tota | al Cov | er | ¹ Indicators of hydric so | il and wa | tland bydralac | ny muot |
| 1. (Plot size: Plot size:) | | | | | be present, unless dis | | | ly must |
| 2 | | | | | Hydrophytic | | | |
| | | = Tota | al Cov | er | Vegetation | | | |
| % Bare Ground in Herb Stratum 43 | | | 301 | | Present? Yo | es X | No | - |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

US Army Corps of Engineers

Sampling Point: <u>SP-8</u>

| | - | - | | | | or confir | m the absence of indicators.) |
|-------------------|----------------------------|---------------|--------------------------|----------------|------------------------|--------------|--|
| Depth (inches) | Matrix Color (moist) | % | Color (moist) | x Feature % | S Type ¹ | Loc² | Texture Remarks |
| 0-8 | 1042 2/1 | 0 4 | 54R3/4 | | | | |
| <u> </u> | 1034 71 | _ 10_ | 5 1K-74 | | | 16 | Sandy Chy Loam |
| 8-14 | 10 YR 2/ | <u> </u> | | - | | | Secondar Characteristics |
| 0-14 | 10 1K -7 | 1 100 | - | | . ——— | | Saray Clay Loam |
| | | | - | | | | |
| - | | | | | . —— | | gravel 12-14" |
| - | | | | | | | |
| | | | - | | | | |
| | | | | | | | |
| | | • | =Reduced Matrix, C | | | ed Sand G | |
| - | | icable to all | LRRs, unless othe | | | | Indicators for Problematic Hydric Soils ³ : |
| Histoso | ` ' | | Sandy | - | | | 1 cm Muck (A9) (LRR I, J) |
| | pipedon (A2) | | Sandy I | | | | Coast Prairie Redox (A16) (LRR F, G, H) |
| | listic (A3) | | Strippe | • | , | | Dark Surface (S7) (LRR G) |
| _ , , | en Sulfide (A4) | | | Mucky Mi | | | High Plains Depressions (F16) |
| | d Layers (A5) (LRF | | | Gleyed M | | | (LRR H outside of MLRA 72 & 73) |
| | uck (A9) (LRR F, G | | | ed Matrix (| | | Reduced Vertic (F18) |
| | ed Below Dark Surfa | ace (A11) | X Redox | | | | Red Parent Material (TF2) |
| | ark Surface (A12) | | | | urface (F7) | | Very Shallow Dark Surface (TF12) |
| | Mucky Mineral (S1) | | Redox | | | 40) | Other (Explain in Remarks) |
| | Mucky Peat or Pea | | | | essions (F | | ³ Indicators of hydrophytic vegetation and |
| 5 CIII IVI | ucky Peat or Peat (| 53) (LKK F) | (IVIL | .KA /2 & | 73 of LRR | (H) | wetland hydrology must be present, |
| Doctrictive | Lavar (if present) | | | | | | unless disturbed or problematic. |
| | Layer (if present): | | | | | | |
| · · · | | | | | | | ~ ~ ~ |
| Depth (ir | nches): | | | | | | Hydric Soil Present? Yes X No |
| Remarks: | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| HYDROLO |)GV | | | | | | |
| | drology Indicator | e· | | | | | |
| | | | d; check all that appl | lv) | | | Secondary Indicators (minimum of two required) |
| | • | i one require | | | | | · · · · · · · · · · · · · · · · · · · |
| | Water (A1) | | Salt Crust | | (5.40) | | Surface Soil Cracks (B6) |
| | ater Table (A2) | | Aquatic In | | | | Sparsely Vegetated Concave Surface (B8) |
| X Saturati | | | Hydrogen | | | | X Drainage Patterns (B10) |
| | Marks (B1) | | Dry-Seaso | | , , | | Oxidized Rhizospheres on Living Roots (C3) |
| Sedime | nt Deposits (B2) | | X Oxidized F | Rhizosphe | res on Liv | ing Roots | (C3) (where tilled) |
| Drift De | posits (B3) | | (where | not tilled) | | | Crayfish Burrows (C8) |
| Algal M | at or Crust (B4) | | Presence | of Reduce | ed Iron (C4 | 1) | Saturation Visible on Aerial Imagery (C9) |
| Iron De | posits (B5) | | Thin Muck | Surface | (C7) | | X Geomorphic Position (D2) |
| Inundat | ion Visible on Aeria | ıl Imagery (B | (57) Other (Ex | plain in Re | emarks) | | FAC-Neutral Test (D5) |
| | Stained Leaves (B9 | | | | | | Frost-Heave Hummocks (D7) (LRR F) |
| Field Obse | | • | | | | | |
| | | Yes | No Y Denth (in | ches). | | | |
| Water Table | Procent? | Voc | No X Depth (in Depth (in | choc): | | _ | |
| | | | | | | _ | V |
| Saturation F | resent? pillary fringe) | Yes | No Depth (in | ches): _C |) | _ Wet | tland Hydrology Present? Yes No |
| Describe Re | ecorded Data (strea | m gauge. m | onitoring well, aerial | photos. nr | evious ins | pections) | , if available: |
| | | 5 | g, as.iai | ,, p. | | , | , |
| Remarks: | | | | | | | |
| incilialits. | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| Project/Site: Judge Orr Wetland Mitigation Bank | (| City/Co | unty: El Paso | County | _ Sampling Dat | te: 6/04/21 |
|---|-----------|---------|----------------|--|------------------------------------|-----------------------|
| Applicant/Owner: Pete Lien & Sons | | | | State: CO | Sampling Poi | nt: SP-9 |
| Investigator(s): Gloria Sargent | | Section | n, Township, R | ange: 34, T12S R64W | | |
| | | | | , convex, none): none | | Slope (%): <u>0-1</u> |
| Subregion (LRR): G | Lat: 38.9 | 55447 | | Long: -104.545182 | D | atum: NAD83z13 |
| Soil Map Unit Name: Fluvaquentic Haplaquolls, nearly level | | | | | | |
| Are climatic / hydrologic conditions on the site typical for this | | | | | | |
| Are Vegetation, Soil, or Hydrologys | - | | | "Normal Circumstances" | | X No |
| Are Vegetation, Soil, or Hydrology r | | | | needed, explain any answe | | |
| SUMMARY OF FINDINGS – Attach site map | | | | | | |
| Hydrophytic Vegetation Present? Yes X N | | | | | | |
| Hydric Soil Present? Yes X N | | | Is the Sample | | | |
| Wetland Hydrology Present? Yes X N | | | within a Wetla | and? Yes <u>^</u> | No | |
| Remarks: | | | | | | |
| Annual precipitation was below average | | | | he region. Precip | oitation from | m Jan 2021 |
| to survey date has been at or above av | erage fo | or the | e region. | | | |
| VEGETATION - Use scientific names of plan | ts. | | | | | |
| 400 | Absolute | | nant Indicator | Dominance Test worl | ksheet: | |
| Tree Stratum (Plot size: 100 sq.m. | | | es? Status | Number of Dominant S | • | |
| 1 | | | | That Are OBL, FACW, (excluding FAC-): | or FAC 2 | (A) |
| 2 | | | | - | | |
| 3 | | | | Total Number of Domir Species Across All Stra | | (B) |
| 4 | 0 | | | • | | (=) |
| Sapling/Shrub Stratum (Plot size: 100 sq.m. | | | | Percent of Dominant S That Are OBL, FACW, | pecies or FAC: 67 | (A/B) |
| 1. Rosa woodsii | 2 | Χ | FACU | | | (, , -) |
| 2 | | | | Prevalence Index wor | | |
| 3 | | | | Total % Cover of: | | Itiply by: |
| 4 | | | | OBL species FACW species | | |
| 5 | | - | | FAC species | | |
| Herb Stratum (Plot size: 100 sq.m. | 2 | = Total | I Cover | FACU species | | |
| 1 Achillea millefolium | 5 | | FACU | UPL species | | |
| 2. Penstemon albidus | 5 | - | UPL | Column Totals: | | |
| 3. Panicum c.f. virgatum | 30 | X | FAC | | | |
| 4. Juncus arcticus ssp. littoralis | 15 | X | FACW | Prevalence Index | | |
| 5. Bromus inermis | 5 | | UPL | Hydrophytic Vegetati | | |
| 6. Cirsium arvense | 10 | | FACU | 1 - Rapid Test for | | getation |
| 7. Elymus elymoides | 1 | | UPL | 2 - Dominance Te | | |
| 8. Comandra umbellata | _ 1 | | UPL | 3 - Prevalence Ind | | rovido oupporting |
| 9 | | | | | Adaptations (P ks or on a separ | |
| 10 | | | | - Problematic Hydro | phytic Vegetati | on¹ (Explain) |
| Woody Vine Stratum (Plot size: 100 sq.m. | 72 | = Total | l Cover | ¹ Indicators of hydric so | il and watland b | avdralogy must |
| 1 | | | | be present, unless dist | | |
| 2. | | | | Hydrophytic | | |
| | 0 | = Total | l Cover | Vegetation | . X | |
| % Bare Ground in Herb Stratum 28 | | | | Present? Ye | es X No | <u>'——</u> |
| Remarks: | | | | | | |
| | | | | | | |
| | | | | | | |

Sampling Point: 5P-9

| | Color (moist) | <u>%</u> | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture Remarks |
|--|--|---------------------|--|---|---|------------------|--|
|)-5 | 104R 2/1 | 98 | 104R3/6 | 2 | | m | <u>Clay loarn</u> |
| 5-11 | 104R 2/1 | (e0 | • | | | | Sandy Clay Locum |
| | 10 YR 4/3 | 40 | | | | | |
| 1 - 1/1 | 2.54 6/2 | 92 | 7.54R 5/8 | <u></u> | | | 7 1 1 |
| 1-14 | 2.51 9/3 | | +.5 JK '8 | | <u></u> | _W(| Sandy Clay Loan |
| 1-21 | 2.5 Y 4/3 | OP | 7.5YK 3/8 | _30 | <u> </u> | _W_ | Loamy Sand |
| | 2.5Y 6/2 | _30 | | | | | |
| /pe: C=C | concentration, D=Dep | letion, RM= | Reduced Matrix, CS= | | or Coate | d Sand G | rains. ² Location: PL=Pore Lining, M=Matrix. |
| | | | LRRs, unless otherv | | | | Indicators for Problematic Hydric Soils ³ : |
| _ Histosol | I (A1) | | Sandy Gl | eyed Ma | trix (S4) | | 1 cm Muck (A9) (LRR I, J) |
| _ | pipedon (A2) | | Sandy Re | | | | Coast Prairie Redox (A16) (LRR F, G, H) |
| | istic (A3) | | Stripped | | | | Dark Surface (S7) (LRR G) |
| | en Sulfide (A4) | - \ | Loamy M | - | | | High Plains Depressions (F16) |
| | d Layers (A5) (LRR I | | Loamy G | | | | (LRR H outside of MLRA 72 & 73) |
| | uck (A9) (LRR F, G, I d Below Dark Surfac | | Depleted X Redox Da | | | | Reduced Vertic (F18) Red Parent Material (TF2) |
| | ark Surface (A12) | ~ (* * * † *) | - | | rface (F7) | | Very Shallow Dark Surface (TF12) |
| | Mucky Mineral (S1) | | Redox De | | | | Other (Explain in Remarks) |
| | Mucky Peat or Peat (| S2) (LRR G | | | | 16) | ³ Indicators of hydrophytic vegetation and |
| _ 5 cm M | ucky Peat or Peat (S | 3) (LRR F) | (MLR | A 72 & 7 | 3 of LRR | H) | wetland hydrology must be present, |
| | | | | | | | unless disturbed or problematic. |
| strictive | Layer (if present): | | | | | | |
| | | | | | | | |
| Туре: | | | | | | | V |
| Depth (in | nches): | | | | | | Hydric Soil Present? Yes X No |
| Depth (in emarks: | iches): | | | اد موالد | - co. | ماء ا | |
| Depth (in emarks: | -visited in | | | را (ور) | t 50i | 1 de | Hydric Soil Present? Yes X No |
| Depth (in emarks: | visited in | Ture | | الوح) | t 50i | l de | |
| Depth (in Permarks: | oches): | Ture | 2022 to ca | | t 50i | 1 de | oths 14-21" |
| Depth (in emarks: CDROLO etland Hy imary Indi | oches):OGY rdrology Indicators: cators (minimum of o | Ture | 2077 to co |) | 501 | l de | Secondary Indicators (minimum of two require |
| Depth (in emarks: DROLO etland Hy imary India Surface | OGY redrology Indicators: cators (minimum of o | Ture | 2077 to co |) 311) | | 1 de | Secondary Indicators (minimum of two require Surface Soil Cracks (B6) |
| Depth (in emarks: DROLO etland Hy imary Indi Surface High Wa | OGY rdrology Indicators: cators (minimum of o | Ture | 2072 to co |) 311) ertebrates | s (B13) | l de | Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 |
| Depth (in emarks: DROLO etland Hy imary Indi _ Surface _ High Wa _ Saturati | ordes): | Ture | 2072 to co |) 311) ertebrates ulfide Od | s (B13) lor (C1) | l de | Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 X Drainage Patterns (B10) |
| Depth (in emarks: DROLO etland Hy imary Indi Surface High Wa Saturati Water M | oches): OGY Idrology Indicators: Cators (minimum of of the Water (A1) ater Table (A2) ion (A3) Marks (B1) | Ture | 2022 to co |) 311) ertebrates ulfide Od Water T | s (B13) dor (C1) able (C2) | | Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 X Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (6) |
| Depth (in emarks: Proceeding the process of the pr | ordes): | Ture | 2072 to ca | 311) ertebrates ulfide Od Water T | s (B13) dor (C1) able (C2) | | Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) |
| Depth (in emarks: DROLO etland Hy imary Indi Surface High Wa Saturati Water Note the sedime of the prift De | ordes): | Ture | 2022 to co | 311) ertebrates ulfide Od Water Tanizospher ot tilled) | s (B13) dor (C1) able (C2) res on Livi | ng Roots | Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (Where tilled) Crayfish Burrows (C8) |
| Depth (in emarks: DROLO etland Hy imary Indi Surface High Water Now Sedime Drift De Algal Ma | ordes): | Ture | d; check all that apply Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no | 311) ertebrates ulfide Od Water Taizospher of tilled) | s (B13) lor (C1) able (C2) res on Livi d Iron (C4 | ng Roots | Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 X Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) |
| Depth (in emarks: DROLO etland Hy imary Indi Surface High Wa Saturati Water N Sedime Drift De Algal Ma Iron De | ordes): OGY Ordrology Indicators: cators (minimum of order (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) | Jure | 2072 to can be called that apply and a called that apply and a called that apply and a called the called that apply and a called the called that apply and a called the called t | 311) ertebrates culfide Od Water Taizospher ot tilled) f Reducee Gurface ((| s (B13) lor (C1) able (C2) res on Livi d Iron (C4 | ng Roots | Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) |
| Depth (in emarks: DROLO etland Hy imary India Surface High Water Mater | ordes): OGY Odrology Indicators: cators (minimum of order (Ma)) ater Table (Ma) Marks (Ma) nt Deposits (Ma) at or Crust (Ma) posits (Ma) ion (Ma) | Jure | 2072 to can be called that apply and a called that apply and a called that apply and a called the called that apply and a called the called that apply and a called the called t | 311) ertebrates culfide Od Water Taizospher ot tilled) f Reducee Gurface ((| s (B13) lor (C1) able (C2) res on Livi d Iron (C4 | ng Roots | Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B6) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) FAC-Neutral Test (D5) |
| Depth (in emarks: CDROLO etland Hy imary Indi Surface High Wa Saturati Water N Sedime Drift De Algal Mi Iron De Inundati Water-S | or Crust (B4) posits (B5) in Claim (B5) in Claim (B6) | Jure | 2072 to can be called that apply and a called that apply and a called that apply and a called the called that apply and a called the called that apply and a called the called t | 311) ertebrates culfide Od Water Taizospher ot tilled) f Reducee Gurface ((| s (B13) lor (C1) able (C2) res on Livi d Iron (C4 | ng Roots | Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) |
| Depth (in emarks: CDROLO etland Hy imary Indi Surface High Water N Sedime Drift De Algal Mall Iron De Inundati Water-Seld Obser | ordes): | Jurenne required | 2022 to can disched all that apply a salt Crust (I a Aquatic Inverse of a County of the County of th | 311) ertebrates ulfide Od Water Taizospher ot tilled) f Reduces Gurface (Gain in Rei | s (B13) lor (C1) able (C2) res on Livi d Iron (C4 | ng Roots | Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| Depth (in emarks: CDROLO Cetland Hyrimary Indi Surface High Water N Sedime Drift De Algal Ma Iron De Inundati Water-S Celd Obser | ordes): OGY Ordrology Indicators: cators (minimum of order (M1) ater Table (M2) fon (M3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) rvations: ter Present? Y | ne required | 2072 to can disched all that apply a salt Crust (I Aquatic Inverse of Control | B11) ertebrates culfide Od Water Taizospher ot tilled) f Reducee Gurface (Cain in Rec | s (B13) lor (C1) able (C2) res on Livi d Iron (C4 | ng Roots | Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| Depth (in emarks: CDROLO Cetland Hy rimary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Inundati Water-Seld Obser urface Wat dater Table | or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) rvations: ter Present? Y | magery (B7 | 2022 to can be called that apply a salt Crust (I a Aquatic Inverse of a Dry-Season a Oxidized Rho a Depth (inch No X Depth (inch No X Depth (inch A Control of A | 311) ertebrates ulfide Od Water Taizospher ot tilled) f Reduces Surface (Cain in Ren | s (B13) dor (C1) able (C2) res on Livi d Iron (C4 C7) marks) | ng Roots | Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) |
| Depth (in emarks: CDROLO Cetland Hyrimary Indi Surface High Water Manager Manager Manager Manager Manager Manager Mater Seld Observation Penciudes ca | ordes): OGY Ordrology Indicators: cators (minimum of order (Mater (Ma | magery (B7 | 2072 to can describe the control of | 311) ertebrates culfide Od Water T nizospher ot tilled) f Reduces Gurface ((ain in Rei nes): nes): | s (B13) flor (C1) able (C2) res on Livi d Iron (C4 C7) marks) | ng Roots)WetI | Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8 Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Mageomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) |
| Depth (in emarks: DROLO etland Hy imary Indi Surface High Water N Sedime Drift De Algal Ma Iron De Inundati Water-Seld Obser urface Water Table aturation Percludes ca | ordes): OGY Ordrology Indicators: cators (minimum of order (Mater (Ma | magery (B7 | 2022 to can be call that apply a salt Crust (I a Aquatic Inverse of the call that apply) Salt Crust (I a Aquatic Inverse of the call that apply) Aquatic Inverse of the call that apply (I a Aquatic Inverse of the call that apply) Aquatic Inverse of the call that apply (I apply) Aquatic Invers | 311) ertebrates culfide Od Water T nizospher ot tilled) f Reduces Gurface ((ain in Rei nes): nes): | s (B13) flor (C1) able (C2) res on Livi d Iron (C4 C7) marks) | ng Roots)WetI | Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B6) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (10) (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) |
| Depth (in marks: PROLO etland Hy mary Indi Surface High Wa Sedime Drift De Algal Ma Iron De Inundati Water-Seld Obser offace Water Table atturation Poludes ca | ordes): OGY Ordrology Indicators: cators (minimum of order (Mater (Ma | magery (B7 | 2072 to can describe the control of | 311) ertebrates culfide Od Water T nizospher ot tilled) f Reduces Gurface ((ain in Rei nes): nes): | s (B13) flor (C1) able (C2) res on Livi d Iron (C4 C7) marks) | ng Roots)WetI | Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B6) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (10) (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) |

| Project/Site: Judge Orr Wetland Mitigation Bank | | City/C | ounty: | El Paso C | County Sampling Date: 6/04/21 | | | 21 |
|---|---------------------|--------|---------|------------|---|-------------------------|---------------------------|-----------|
| Applicant/Owner: Pete Lien & Sons | | | | | State: CO | Sampling | Point: SP-1 | 0 |
| Investigator(s): Gloria Sargent | | | | | nge: 34, T12S R64W | | | |
| | | | | | convex, none): none | | Slope (% | 6): 0-1 |
| Subregion (LRR): G | | | | | | | | |
| Soil Map Unit Name: Fluvaquentic Haplaquolls, nearly leve | el | | | | NWI classifi | cation. Nor | ne | |
| Are climatic / hydrologic conditions on the site typical for t | | | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | | 'Normal Circumstances" | | Ves X | No |
| Are Vegetation, Soil, or Hydrology | | | | | eeded, explain any answe | • | <u></u> | 110 |
| SUMMARY OF FINDINGS – Attach site ma | | | | | | | | res, etc. |
| Hydrophytic Vegetation Present? Yes | | | | | | · · | | |
| Hydric Soil Present? Yes X | No | | | Sampled | | | V | |
| Wetland Hydrology Present? Yes | | | withii | n a Wetlar | nd? Yes | No _ | | |
| Remarks: | | ! | | | | | | |
| Annual precipitation was below averaged to survey date has been at or above a | - | | | | ne region. Precip | itation | from Jar | 2021 |
| VEGETATION – Use scientific names of pla | ints. | | | | | | | |
| Tree Stratum (Plot size: 100 sq.m. | Absolute % Cover | | | Indicator | Dominance Test work | | | |
| 1 | | | | | Number of Dominant S That Are OBL, FACW, | | | |
| 2. | | | | | (excluding FAC-): | | 0 | (A) |
| 3. | | | | | Total Number of Domii | nant | | |
| 4. | | | | | Species Across All Stra | | 3 | (B) |
| 100 og 75 | 0 | = Tota | al Cove | er | Percent of Dominant S | pecies | | |
| Sapling/Shrub Stratum (Plot size: 100 sq.m.) 1. Artemisia frigida | Ω | v | | LIDI | That Are OBL, FACW, | or FAC: | 0 | (A/B) |
| Yucca glauca | 5 | X | | UPL | Prevalence Index wo | rksheet: | | |
| | | | | 01 L | Total % Cover of: | | Multiply by: | |
| 3 | | | | | OBL species | x 1 | = | |
| 4 | | | | | FACW species | x 2 | 2 = | |
| | 10 | = Tota | al Cove | er | FAC species | x 3 | 3 = | |
| Herb Stratum (Plot size: 100 sq.m. | · | | | | FACU species | | l = | |
| 1. Penstemon albidus | 4 | | | UPL | UPL species | | | |
| 2. Bouteloua gracilis | 25 | Х | | UPL | Column Totals: | (A) | | (B) |
| 3. Elymus elymoides | <u>5</u> 1 | | | UPL | Prevalence Index | κ = B/A = | | |
| 4. dalea purpurea 5. Panicum c.f. virgatum | _ ' | | | UPL FAC | Hydrophytic Vegetati | - | | |
| 5. Panicum c.f. virgatum 6. Dalea c.f. tenuifolia | _ ' | - | | UPL | 1 - Rapid Test for | Hydrophyti | c Vegetation | |
| 7. pascopyrum smithii | _ | | | FACW | 2 - Dominance Te | st is >50% | | |
| 8 chenopodium album | 1 | | | FACU | 3 - Prevalence Ind | ex is ≤3.0 ¹ | | |
| g physaria acutifolia | 1 | | | UPL | 4 - Morphological | Adaptation | s ¹ (Provide s | upporting |
| 10. | | | | | data in Remark Problematic Hydro | | | |
| | 44 | = Tota | al Cove | er | Problematic Hydro | priyuc veg | etation (⊏xp | Diairi) |
| Woody Vine Stratum (Plot size: 100 sq.m.) 1 | | | | | ¹ Indicators of hydric so be present, unless dist | | | y must |
| 2. | | | | | Hydrophytic | | | |
| | _ | | al Cove | er | Vegetation | | No X | |
| % Bare Ground in Herb Stratum 56 | | | | | Present? Ye | | No X | - |
| Remarks: | | | | | | | | |

Sampling Point: SP-10

| Profile Desc | ription: (Describe | to the dep | oth needed | to docun | nent the ir | ndicator | or confir | m the absence | e of indicators.) |
|--|---|---------------------|---------------------------------------|---------------|----------------------------|-------------------|------------------|------------------|---|
| Depth | Matrix | 0/ | | | x Features | | . 2 | <u> </u> | 5 |
| (inches) | Color (moist) | <u> </u> | | (moist) | <u> </u> | Type ¹ | Loc ² | Texture | Remarks |
| 0-5 | 104R 2/2 | 95 | 5YR | 7/6 | | <u> </u> | PL | Sandy | Claz loam |
| | | | | | | | | | |
| 5~1\ | 2.54 4/3 | 60 | 7.5YR | 5/g | 40 | C | m | Sanda | Loam |
| | | | | | | | | 0 | |
| 11- 14 | 2.57 5h | 91. | 5YR | 510 | 4 | | m | 014.14 | |
| " " " " " " " " " " | <u> 7.21 16</u> | <u> </u> | <u> </u> | -/ D | | | YY | - cuy se | <u> </u> |
| | | - —— | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | oncentration, D=Dep | | | | | | ed Sand 0 | | ocation: PL=Pore Lining, M=Matrix. |
| Hydric Soil | Indicators: (Applic | able to all | LRRs, un | less other | wise note | ed.) | | Indicator | s for Problematic Hydric Soils ³ : |
| Histosol | (A1) | | _ | _ Sandy C | - | | | | Muck (A9) (LRR I, J) |
| - | oipedon (A2) | | _ | - | Redox (S5) | | | | t Prairie Redox (A16) (LRR F, G, H) |
| Black Hi | | | _ | | Matrix (Se | | | | Surface (S7) (LRR G) |
| | en Sulfide (A4) | _, | _ | - | Mucky Min | | | _ | Plains Depressions (F16) |
| | d Layers (A5) (LRR I ick (A9) (LRR F, G, l | | _ | | Gleyed Ma | | | , | RR H outside of MLRA 72 & 73) |
| | d Below Dark Surfac | • | ∇ | • | d Matrix (F Dark Surfac | | | | ced Vertic (F18) Parent Material (TF2) |
| - | ark Surface (A12) | C (A11) | | _ | d Dark Sur | . , |) | · | Shallow Dark Surface (TF12) |
| | fucky Mineral (S1) | | | | Depression | | , | | (Explain in Remarks) |
| - | Mucky Peat or Peat (| S2) (LRR | G, H) | | ins Depre | | 16) | | s of hydrophytic vegetation and |
| 5 cm Mu | icky Peat or Peat (S | 3) (LRR F) |) | (ML | RA 72 & 7 | 3 of LRR | H) | wetla | nd hydrology must be present, |
| | | | | | | | | unles | s disturbed or problematic. |
| Restrictive I | Layer (if present): | | | | | | | | |
| Type: | | | | | | | | | V |
| Depth (inc | ches): | | | | | | | Hydric So | il Present? Yes X No |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | OV | | | | | | | | |
| HYDROLO | | | | | | | | | |
| - | drology Indicators: | | | | | | | | |
| | cators (minimum of o | ne require | d; check a | II that apply | y) | | | | dary Indicators (minimum of two required) |
| | Water (A1) | | | Salt Crust | | | | | rface Soil Cracks (B6) |
| | iter Table (A2) | | | Aquatic Inv | | ` ' | | | arsely Vegetated Concave Surface (B8) |
| Saturation | | | · · · · · · · · · · · · · · · · · · · | Hydrogen | | | | | ainage Patterns (B10) |
| Water M | ` , | | | Dry-Seaso | | | | | idized Rhizospheres on Living Roots (C3) |
| | nt Deposits (B2) | | | Oxidized R | | es on Liv | ing Roots | | where tilled) |
| Drift Dep | | | | | not tilled) | | | | ayfish Burrows (C8) |
| _ | at or Crust (B4) | | | Presence of | | , | 4) | | turation Visible on Aerial Imagery (C9) |
| Iron Dep | | | | Thin Muck | | | | | eomorphic Position (D2) |
| | on Visible on Aerial I | magery (E | 57) | Other (Exp | lain in Rer | marks) | | | C-Neutral Test (D5) |
| | tained Leaves (B9) | | | | | | | Fro | ost-Heave Hummocks (D7) (LRR F) |
| Field Obser | | | v | _ | | | | | |
| Surface Water | | | No X | | | | | | |
| Water Table | | | No X | | | | | | 1/ |
| Saturation P | resent? Y | es | No X | Depth (inc | ches): | | We | tland Hydrolo | gy Present? Yes NoX |
| (includes cap | oillary fringe) corded Data (stream | naline m | onitoring w | ell aerial r | nhotos pro | vious inc | nections |) if available. | |
| Pegoline IVE | ooraca Data (streatti | gaage, III | ormorning w | on, acriai þ | o.o., pre | , , ious IIIS | ,peoulo113 | ,, ii avaliabic. | |
| Domorko | | | | | | | | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| İ | | | | | | | | | |

| Project/Site: Judge Orr Wetland Mitigation Bank | | City/C | ounty: El | ounty | Sampling Date: 6/04/21 | | | |
|--|------------------|--------|-----------------------|---------|--|------------|-------------------|-------------|
| Applicant/Owner: Pete Lien & Sons | | | - | | State: CO | | - | |
| Investigator(s): Gloria Sargent | | | | | | | | |
| | | | | | convex, none): Concave | | Slope (% |)· 0-1 |
| Subregion (LRR): G | | | | | | | | |
| Soil Map Unit Name: Fluvaquentic Haplaquolls, nearly leve | Lat .l | | | | _ Long | etion: PF | Datum =M1 | |
| • | | | | | NWI classific | | | |
| Are climatic / hydrologic conditions on the site typical for the | | | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | | | | | No |
| Are Vegetation, Soil, or Hydrology | naturally pro | blema | atic? | (If ne | eeded, explain any answe | rs in Rem | narks.) | |
| SUMMARY OF FINDINGS - Attach site map | showing | sam | pling p | oint l | ocations, transects | , impor | rtant featur | es, etc. |
| Hydrophytic Vegetation Present? Yes X | No | | la tha Ca | | A | | | |
| Hydric Soil Present? Yes X | No | | Is the Sa within a | • | | No | | |
| Wetland Hydrology Present? Yes X | No | | within a | vvetian | ia? Yes <u>^</u> | NO | | |
| Remarks: | | | | | | | | |
| Annual precipitation was below average | ge from 2 | 2018 | -2020 | for th | ne region. Precip | itation | from Jan | 2021 |
| to survey date has been at or above a | • | | | | | | | |
| | | | | | | | | |
| VEGETATION – Use scientific names of pla | nts. | | | | | | | |
| Tree Stratum (Plot size: 100 sq.m. | Absolute % Cover | | ninant Indi | | Dominance Test work | | | |
| | % Cover | | | alus_ | Number of Dominant S That Are OBL, FACW, | | | |
| 1 2 | | | | | (excluding FAC-): | JI FAC | 1 | _ (A) |
| | | | | | Total Number of Domin | ont | | |
| 3 4. | | | | | Species Across All Stra | | 3 | (B) |
| | 0 | = Tota | al Cover | | | | | _ |
| Sapling/Shrub Stratum (Plot size: 100 sq.m.) | | 100 | | | Percent of Dominant Sport That Are OBL, FACW, | | 33 | (A/B) |
| 1. Rosa woodsii | _ 1 | Х | FA | CU | | | | |
| 2. Symphoricarpos occidentalis | _ 1 | X | UP | 'L | Prevalence Index wor | | Maritim Ira hara | |
| 3 | | | | | Total % Cover of: OBL species 0 | x | | |
| 4 | | | | | OBL species 0 FACW species 35 | | | |
| 5 | _ | | | | FAC species 5 | | | |
| Herb Stratum (Plot size: 100 sq.m. | 2 | = Tota | al Cover | | | ^ | | |
| 1. Juncus arcticus spp. littoralis | 35 | Х | FA | CW | | | 5 = ⁴⁵ | |
| 2. Rumex crispus | | | FA | | Column Totals: 64 | | | |
| 3. Cirsium arvense | 2 | | FA | | Column Foldio. | (/ \ | ·) | (D) |
| 4. Elymus lanceolatus spp. lanceolatus | 8 | | FA | CU | Prevalence Index | = B/A = | 2.97 | |
| 5. Achillea millefolium | 3 | | FA | CU | Hydrophytic Vegetation | | | |
| 6. Bromus inermis | 5 | | UP | 'L | 1 - Rapid Test for I | | ŭ | |
| 7. Schizachyrium scoparium | 1 | | UP | 'L | 2 - Dominance Tes | | | |
| 8. Pascopyrum smithii | 1 | | FA | CU | 3 - Prevalence Inde | | | |
| 9. Orobanche spp. | 2 | | UP | L | 4 - Morphological A | Adaptation | ns¹ (Provide si | upporting |
| 10 | | | | | Problematic Hydro | | | |
| | 00 | = Tota | al Cover | | <u> </u> | | | , |
| Woody Vine Stratum (Plot size: 100 sq.m.) 1. | | | | | ¹ Indicators of hydric soi be present, unless dist | | | / must |
| 2. | | | | | Hydrophytic | | | |
| | | | al Cover | | Vegetation | | | |
| % Bare Ground in Herb Stratum <u>38</u> | | | | | Present? Ye | s <u>X</u> | No | |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

SOIL

Sampling Point: **SP-**[]

| | Matrix | | | x Features | | | m the absence | | , | |
|--|---|---------------------|---|---|--|-----------|--|--|--|--|
| Depth (inches) | Color (moist) | % | Color (moist) | % realures | Type ¹ | Loc² | Texture | | Rem | arks |
| 0-15 | 7.54R 2.5/ | 100 | | | | | Sandy (| laz | Loam | growel |
| | | | | | | | | | | |
| 15-20 | 104R 2/1 | 93 | 10YR7/2 | 5 | \mathcal{D} | M | Sandy | Cla | 4 | |
| | | - | 7.54R 3/4 | 2 | <u> </u> | m | 0 | | 0 | |
| | | | | | | | | - | | |
| 20-26 | 1048 B/1 | 60 | 2544/2 | 2 | $\overline{\mathcal{D}}$ | m | Sandy | Cla | ч. | |
| | 10422/1 | 38 | | | | | 0 | | 0 | |
| | - | . <u>——</u> | | | | | | | | |
| | oncentration, D=Dep | | | | | d Sand G | | | | ing, M=Matrix. |
| - | Indicators: (Applic | able to all | | | | | | | oblematic Hy | |
| Histosol | (A1) pipedon (A2) | | | Gleyed Ma Redox (S5) | | | | | 49) (LRR I, J) | (LRR F, G, H) |
| | stic (A3) | | | d Matrix (S | • | | | | (S7) (LRR 0 | |
| | en Sulfide (A4) | | | Mucky Min | , | | | | Depressions (I | |
| | d Layers (A5) (LRR F | =) | | Gleyed Ma | | | _ | | utside of ML | |
| | ıck (A9) (LRR F, G, I | | Deplete | ed Matrix (F | - 3) | | Reduc | ced Ver | tic (F18) | · |
| | d Below Dark Surfac | e (A11) | | Dark Surfa | . , | | · | | Material (TF2) | |
| • | ark Surface (A12) | | | d Dark Su | | | - | | Dark Surface | |
| - | Mucky Mineral (S1) | 00) / I DD / | | Depression | , , | 40) | | | in in Remarks | |
| | Mucky Peat or Peat (| | | ains Depre | | | | - | rophytic vege | |
| 5 CIII IVIL | ıcky Peat or Peat (S | 5) (LKK F) | (IVIL | .RA 72 & 7 | 3 OI LKK | п) | | - | ology must be bed or proble: | |
| Restrictive I | Layer (if present): | | | | | | unico | diotari | bed of problem | nauc. |
| Type: | | | | | | | | | | • • |
| Depth (in | | | | | | | | | | |
| | cnes): | | | | | | Hvdric Soi | l Prese | nt? Yes | X No |
| Remarks: | cnes): | | | | | | Hydric Soi | l Prese | ent? Yes_ | <u>X</u> No |
| Remarks: | Re-visited | in J | | to co | ilect | 501 | | | | <u>X</u> No |
| Remarks: | Re-visited GY | in J | iune 2072 | to co | ilect | 501 | | | | <u>X</u> No |
| Remarks: | Re-visifed GY drology Indicators: | | | | llect | 50i | l depths | 5 12 | 1-26" | |
| Remarks: HYDROLO Wetland Hyderimary India | Re-visiked GY drology Indicators: cators (minimum of o | | d; check all that appl | y) | llect | 50i | l depths | ary Indi | -26" | um of two required) |
| Remarks: HYDROLO Wetland Hyder Primary Indice Surface | GY drology Indicators: cators (minimum of o | | d; check all that appl | (B11) | | 50i | Second Sur | ary Indi | icators (minimoli Cracks (B6 | um of two required) |
| HYDROLO Wetland Hyder Primary India Surface High Wa | GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) | | d; check all that appl Salt Crust Aquatic In | y) (B11) vertebrate: | s (B13) | 50i | Second Sur Spa | ary Indi | icators (minimoil Cracks (B6 | uum of two required)) ncave Surface (B8) |
| HYDROLO Wetland Hy Primary Indic Surface High Wa X Saturatio | GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) | | d; check all that appl Salt Crust Aquatic In Hydrogen | (B11) vertebrates Sulfide Oc | s (B13) dor (C1) | 50i | Second Sur Spa | ary Indi face So arsely V inage F | icators (minimoli Cracks (B6 | num of two required)) ncave Surface (B8) |
| HYDROLO Wetland Hyde Primary Indice Surface High Wat X Saturatio Water M | GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) | | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso | y) (B11) vertebrates Sulfide Oc on Water T | s (B13) dor (C1) able (C2) | | Second Sur Spa A Dra Oxi | ary Indi face So arsely V inage F dized F | icators (minimoli Cracks (B6/egetated CorPatterns (B10) | num of two required)) ncave Surface (B8) |
| HYDROLO Wetland Hyde Primary India Surface High Wa X Saturation Water M Sedimer | GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) | | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F | y) (B11) vertebrate: Sulfide Ocon Water T | s (B13) dor (C1) able (C2) | | Second Sur Spa X Dra Oxi (C3) | ary Indi face So arsely V inage F dized F where t | icators (minimoli Cracks (B6/egetated CorPatterns (B10 Rhizospheres iilled) | num of two required)) ncave Surface (B8) |
| HYDROLO Wetland Hyde Primary India Surface High Wa X Saturatia Water Mater Mat | GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) | | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F | (B11) vertebrates Sulfide Oco on Water T Rhizospher not tilled) | s (B13) dor (C1) able (C2) res on Livi | ing Roots | Second Sur Spa X Dra Oxi (C3) Cra | ary Indi face So arsely V inage F dized F where t | icators (minimolil Cracks (B6 /egetated Corent (B10 Rhizospheres iilled) | uum of two required)) ncave Surface (B8)) on Living Roots (C3 |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturatia Water M Sedimer Drift Dep Algal Ma | GY drology Indicators: eators (minimum of | | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where | (B11) vertebrate: Sulfide Ocon Water T Rhizosphei not tilled) of Reduce | s (B13) dor (C1) able (C2) res on Livi | ing Roots | Second Sur Spa X Dra Oxi (C3) (v Sat | ary Indi face So arsely V iinage F dized F where t vyfish B uration | icators (minimoli) Cracks (B6 /egetated Corestilled) urrows (C8) Visible on Ae | num of two required)) ncave Surface (B8)) on Living Roots (C3 |
| HYDROLO Wetland Hyde Primary Indice High Wat X Saturatice Water M Sedimer Drift Dep Algal Mater Dep | GY drology Indicators: cators (minimum of or Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) | ne require | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck | (B11) vertebrates Sulfide Ocon Water T Rhizospher not tilled) of Reduce | s (B13) dor (C1) able (C2) res on Livi d Iron (C4 | ing Roots | Second Sur Spa X Dra Oxi (C3) Cra Sat X Ge | ary Indi face So arsely V inage F dized F where t lyfish B uration pmorph | icators (minimolicators (minimolicators (B6)/egetated Corelatterns (B10) (Rhizospheres iilled) (Urrows (C8)) (Visible on Aedic Position (D | num of two required)) ncave Surface (B8)) on Living Roots (C3 |
| HYDROLO Wetland Hyde Primary India Surface High Wa X Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio | GY drology Indicators: cators (minimum of or Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial I | ne require | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck | (B11) vertebrate: Sulfide Ocon Water T Rhizosphei not tilled) of Reduce | s (B13) dor (C1) able (C2) res on Livi d Iron (C4 | ing Roots | Second Sur Spa X Dra Oxi (C3) Cra Sat X Gee FAC | ary Indi face So arsely V inage F dized F where t byfish B uration comorph C-Neutr | icators (minimolicators (minimolicators (B10 Cracks (B6 Vegetated Corelaterns (B10 Chizospheres iilled) currows (C8) Visible on Aedic Position (Doral Test (D5) | num of two required)) ncave Surface (B8)) on Living Roots (C3 rial Imagery (C9) 2) |
| HYDROLO Wetland Hyde Primary India Surface High Wa X Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio | GY drology Indicators: cators (minimum of | ne require | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck | (B11) vertebrates Sulfide Ocon Water T Rhizospher not tilled) of Reduce | s (B13) dor (C1) able (C2) res on Livi d Iron (C4 | ing Roots | Second Sur Spa X Dra Oxi (C3) Cra Sat X Gee FAC | ary Indi face So arsely V inage F dized F where t byfish B uration comorph C-Neutr | icators (minimolicators (minimolicators (B10 Cracks (B6 Vegetated Corelaterns (B10 Chizospheres iilled) currows (C8) Visible on Aedic Position (Doral Test (D5) | num of two required)) ncave Surface (B8)) on Living Roots (C3 |
| HYDROLO Wetland Hyde Primary India Surface High Wa X Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S | GY drology Indicators: cators (minimum of | ne require | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck 7) Other (Exp | (B11) vertebrate: Sulfide Oco on Water T Rhizospher not tilled) of Reduce c Surface (contains in Red | s (B13) dor (C1) fable (C2) res on Livi d Iron (C4 C7) marks) | ing Roots | Second Sur Spa X Dra Oxi (C3) Cra Sat X Gee FAC | ary Indi face So arsely V inage F dized F where t byfish B uration comorph C-Neutr | icators (minimolicators (minimolicators (B10 Cracks (B6 Vegetated Corelaterns (B10 Chizospheres iilled) currows (C8) Visible on Aedic Position (Doral Test (D5) | num of two required)) ncave Surface (B8)) on Living Roots (C3 rial Imagery (C9) 2) |
| HYDROLO Wetland Hyde Primary Indice High Water Mand Mander Mater-S Field Obsertion | GY drology Indicators: cators (minimum of | ne require | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck 7) Other (Exp | (B11) vertebrates Sulfide Ocon Water T Rhizospher not tilled) of Reduce s Surface (i plain in Re | s (B13) dor (C1) able (C2) res on Livi d Iron (C4 C7) marks) | ing Roots | Second Sur Spa X Dra Oxi (C3) Cra Sat X Gee FAC | ary Indi face So arsely V inage F dized F where t byfish B uration comorph C-Neutr | icators (minimolicators (minimolicators (B10 Cracks (B6 Vegetated Corelaterns (B10 Chizospheres iilled) currows (C8) Visible on Aedic Position (Doral Test (D5) | num of two required)) ncave Surface (B8)) on Living Roots (C3 rial Imagery (C9) 2) |
| HYDROLO Wetland Hyde Primary India Surface High Water Maged Maged Maged Maged Maged Maged Maged Maged Maged Mater-S Field Obser Surface Water Table Saturation P | GY drology Indicators: cators (minimum of or Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial I drained Leaves (B9) vations: er Present? Present? Y | magery (B | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck 7) Other (Exp | (B11) vertebrates Sulfide Ocon Water T Rhizospher not tilled) of Reduce c Surface (color in Reduce) ches): | s (B13) dor (C1) able (C2) res on Livi d Iron (C4 C7) marks) | ing Roots | Second Sur Spa X Dra Oxi (C3) Cra Sat X Gee FAC | ary Indi face So arsely V iinage F dized F where t iyfish B uration omorph C-Neutr st-Heav | icators (minimolicators (minimolicators (minimolicators (B6)/egetated Corporaterns (B10)/equipmolicators (C8)/equipmolicators (C8)/equipmolicators (D5)/equipmolicators (D5)/equi | num of two required)) ncave Surface (B8)) on Living Roots (C3 rial Imagery (C9) 2) s (D7) (LRR F) |
| HYDROLO Wetland Hyden Primary India Surface High Water Management Sedimer Drift Dep Algal Management Iron Dep Inundation Water-S Field Obser Surface Water Saturation P (includes cap | GY drology Indicators: cators (minimum of or Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial I drained Leaves (B9) vations: er Present? Present? Y | magery (B | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck 7) Other (Exp | (B11) vertebrates Sulfide Ocon Water T Rhizospher not tilled) of Reduce s Surface (i plain in Recense): ches): ches): | s (B13) dor (C1) lable (C2) res on Livi d Iron (C4 C7) marks) | ing Roots | Second Sur Spa X Dra Oxi (C3) (v Sat X Gee FAC Fro | ary Indi face So arsely V iinage F dized F where t iyfish B uration omorph C-Neutr st-Heav | icators (minimolicators (minimolicators (minimolicators (B6)/egetated Corporaterns (B10)/equipmolicators (C8)/equipmolicators (C8)/equipmolicators (D5)/equipmolicators (D5)/equi | num of two required)) ncave Surface (B8)) on Living Roots (C3 rial Imagery (C9) 2) s (D7) (LRR F) |
| HYDROLO Wetland Hyden Primary India Surface High Water Management Sedimer Drift Dep Algal Management Iron Dep Inundation Water-S Field Obser Surface Water Saturation P (includes cap | GY drology Indicators: cators (minimum of or Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial I tained Leaves (B9) vations: er Present? Present? Y resent? Y resent? Y | magery (B | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck 7) Other (Exp | (B11) vertebrates Sulfide Ocon Water T Rhizospher not tilled) of Reduce s Surface (i plain in Recense): ches): ches): | s (B13) dor (C1) lable (C2) res on Livi d Iron (C4 C7) marks) | ing Roots | Second Sur Spa X Dra Oxi (C3) (v Sat X Gee FAC Fro | ary Indi face So arsely V iinage F dized F where t iyfish B uration omorph C-Neutr st-Heav | icators (minimolicators (minimolicators (minimolicators (B6)/egetated Corporaterns (B10)/equipmolicators (C8)/equipmolicators (C8)/equipmolicators (D5)/equipmolicators (D5)/equi | num of two required)) ncave Surface (B8)) on Living Roots (C3) rial Imagery (C9) 2) s (D7) (LRR F) |
| HYDROLO Wetland Hyden Primary India Surface High Water Management Sedimer Drift Dep Algal Management Iron Dep Inundation Water-S Field Obser Surface Water Saturation P (includes cap | GY drology Indicators: cators (minimum of or Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial I tained Leaves (B9) vations: er Present? Present? Y resent? Y resent? Y | magery (B | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck 7) Other (Exp | (B11) vertebrates Sulfide Ocon Water T Rhizospher not tilled) of Reduce s Surface (i plain in Recense): ches): ches): | s (B13) dor (C1) lable (C2) res on Livi d Iron (C4 C7) marks) | ing Roots | Second Sur Spa X Dra Oxi (C3) (v Sat X Gee FAC Fro | ary Indi face So arsely V iinage F dized F where t iyfish B uration omorph C-Neutr st-Heav | icators (minimolicators (minimolicators (minimolicators (B6)/egetated Corporaterns (B10)/equipmolicators (C8)/equipmolicators (C8)/equipmolicators (D5)/equipmolicators (D5)/equi | num of two required)) ncave Surface (B8)) on Living Roots (C3) rial Imagery (C9) 2) s (D7) (LRR F) |
| Primary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati Water-S Field Obser Surface Water Table Saturation P (includes cap Describe Rei | GY drology Indicators: cators (minimum of or Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial I tained Leaves (B9) vations: er Present? Present? Y resent? Y resent? Y | magery (B | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck 7) Other (Exp | (B11) vertebrates Sulfide Ocon Water T Rhizospher not tilled) of Reduce s Surface (i plain in Recense): ches): ches): | s (B13) dor (C1) lable (C2) res on Livi d Iron (C4 C7) marks) | ing Roots | Second Sur Spa X Dra Oxi (C3) (v Sat X Gee FAC Fro | ary Indi face So arsely V iinage F dized F where t iyfish B uration omorph C-Neutr st-Heav | icators (minimolicators (minimolicators (minimolicators (B6)/egetated Corporaterns (B10)/equipmolicators (C8)/equipmolicators (C8)/equipmolicators (D5)/equipmolicators (D5)/equi | num of two required)) ncave Surface (B8)) on Living Roots (C3 rial Imagery (C9) 2) s (D7) (LRR F) |

| Project/Site: Judge Orr Wetland Mitigation Bank | | City/C | ounty: | El Paso C | ounty | Sampling | Date: 6/04/2 | 21 |
|--|---------------|--------|---|------------|--------------------------------------|-------------|----------------------------|-----------|
| Applicant/Owner: Pete Lien & Sons | | - | | | State: CO | Sampling | Point: SP-1 | 2 |
| | | | | | nge: 34, T12S R64W | | | |
| 5 · · · · — | | | | | convex, none): Convex | | Slope (% | ή. 1-2 |
| Subregion (LRR): G | | | | | | | | |
| Soil Map Unit Name: Fluvaquentic Haplaquolls, nearly leve | Lat | | | | _ Long | aatian. No | Datum ne | |
| | | | | | NWI classifi | | | |
| Are climatic / hydrologic conditions on the site typical for the | | | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | | 'Normal Circumstances" | | | No |
| Are Vegetation, Soil, or Hydrology | naturally pro | blema | itic? | (If ne | eeded, explain any answe | ers in Rema | arks.) | |
| SUMMARY OF FINDINGS - Attach site map | showing | sam | pling | point l | ocations, transects | s, impor | tant featur | es, etc. |
| Hydrophytic Vegetation Present? Yes | No X | | le the | Sampled | Aroa | | | |
| Hydric Soil Present? Yes X | No | | | n a Wetlar | | No | Χ | |
| Wetland Hydrology Present? Yes X | No | | *************************************** | Tu TTOLIUI | 100 | | | |
| Remarks: | | | | | | | | |
| Annual precipitation was below average | | | | | ne region. Precip | oitation | from Jan | 2021 |
| to survey date has been at or above a | verage fo | or th | e re | gion. | | | | |
| VEGETATION – Use scientific names of pla | nte | | | | | | | |
| VEGETATION GGG GGIGHTHIO HUMOG OF PIU | Absolute | Dom | inant | Indicator | Dominance Test wor | kehoot: | | |
| Tree Stratum (Plot size: 100 sq.m. | % Cover | | | | Number of Dominant S | | | |
| 1 | | | | | That Are OBL, FACW, | | 0 | |
| 2 | | | | | (excluding FAC-): | | 0 | _ (A) |
| 3 | | | | | Total Number of Domi | nant | | |
| 4 | | | | | Species Across All Stra | ata: | 2 | (B) |
| 100 eg m | 0 | = Tota | al Cove | er | Percent of Dominant S | | | |
| Sapling/Shrub Stratum (Plot size: 100 sq.m. | | | | | That Are OBL, FACW, | or FAC: | 0 | _ (A/B) |
| 1 | | | | | Prevalence Index wo | rksheet: | | |
| 2 | | | | | Total % Cover of: | | Multiply by: | |
| 3 | | | | | OBL species 0 | x 1 | | |
| 4 | | - | · | | FACW species 10 | x 2 | 2 = 20 | |
| 5 | 0 | - Tota | al Cove | | FAC species 0 | x 3 | 3 = 0 | |
| Herb Stratum (Plot size: 100 sq.m. | | - 100 | ai Cove | 51 | FACU species 31 | | | |
| 1. Pascopyrum smithii | 5 | | | FACU | UPL species 28 | x 5 | 5 = 140 | |
| 2. Elymus lanceolatus spp. lanceolatus | 25 | Χ | | FACU | Column Totals: 69 | (A) | 284 | (B) |
| 3. Lithospermum incisum | 5 | | | UPL | Prevalence Index | D/A - | 4 12 | |
| 4. Carex stenophylla | 15 | Х | | UPL | Hydrophytic Vegetati | | | |
| 5. Orobanche spp. | 1 | | | UPL | 1 - Rapid Test for | | | |
| 6. Juncus arcticus spp. littoralis | 10 | | | FACW | 2 - Dominance Te | | • | |
| 7. Elymus elymoides | _ 1 | | | UPL | 3 - Prevalence Ind | | | |
| 8. Bouteloua gracilis | _ 5 | | | UPL | 4 - Morphological | | | innorting |
| 9. Penstemon albidus | _ 1 | | | UPL | data in Remark | s or on a s | separate shee | et) |
| 10. Melilotus officinalis | _ 1 | | | FACU | Problematic Hydro | phytic Veç | getation ¹ (Exp | lain) |
| Woody Vine Stratum (Plot size: 100 sq.m. | 69 | = Tota | al Cove | er | ¹ Indicators of hydric so | il and wetl | and hydrology | v must |
| 1 | | | | | be present, unless dist | | | y mast |
| 2 | | | | | Hydrophytic | | | |
| | _ | = Tota | al Cove | er | Vegetation | | V | |
| % Bare Ground in Herb Stratum 31 | | | _ | | Present? Ye | es | No X | <u> </u> |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 1 | | | | | | | | |

Sampling Point: SP-12

| Profile Desc | cription: (Describe | to the dep | th needed | to docum | ent the ir | ndicator | or confir | m the absence | of indicators.) |
|--|--|---|----------------------------|--|---|--|-------------------|---|---|
| Depth | Matrix | 0/ | 0-1 (- | | Features | | 12 | Taratana | Davisadia |
| (inches) | Color (moist) | <u>%</u> | Color (n | noist) | % | Type ¹ | Loc ² | | Remarks |
| 0-7 | 104R2/2 | 100 | | | | | | Sandy | Loam |
| 4-9 | 104R 2/2 | 98 | 7.5YR | 3/4 | 2 | C | m | Sandy | Loam |
| 9-14 | 104R2/2 | <u> </u> | 7.50 | 2361 | | | | · · · · · · · | Van Jana |
| | 10 YR 2/1 | 45 | 70 (1 | | <u> </u> | <u> </u> | | Sanay C | 104 main |
| Hydric Soil Histosol Histic E Black H Hydroge Stratifie 1 cm Mi Deplete Thick D Sandy M 2.5 cm Mi Festrictive Type: Depth (in Remarks: | pipedon (A2) listic (A3) en Sulfide (A4) d Layers (A5) (LRR F uck (A9) (LRR F, G, I d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Mucky Peat or Peat (Si ucky Peat or Peat (Si Layer (if present): Dark Surved Assumed | able to all H) e (A11) S2) (LRR (3) (LRR F) | LRRs, unle | Sandy G Sandy Ro Stripped Loamy M Loamy G Depleted Redox D Depleted Redox D High Plai | wise note leyed Mat edox (S5) Matrix (Si lucky Mine eleyed Ma Matrix (F ark Surfac Dark Surfac Dark Sur epression ins Depres | trix (S4) 6) eral (F1) trix (F2) (3) ce (F6) face (F7) ss (F8) ssions (F 3 of LRR | 16) H) | Indicators 1 cm M Coast Dark S High F (LF Reduct Red P Very S Other 3Indicators wetlan- unless | cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ : Muck (A9) (LRR I, J) Prairie Redox (A16) (LRR F, G, H) Surface (S7) (LRR G) Plains Depressions (F16) RR H outside of MLRA 72 & 73) ced Vertic (F18) arent Material (TF2) Shallow Dark Surface (TF12) (Explain in Remarks) of hydrophytic vegetation and d hydrology must be present, d disturbed or problematic. I Present? Yes X No Multiple Shima Hed In Multiple |
| HYDROLO Wetland Hy | drology Indicators: | | | | | | | | |
| _ | cators (minimum of o | ne required | d: check all | that apply |) | | | Seconda | ary Indicators (minimum of two required) |
| | · Water (A1) | | | alt Crust (| | | | | face Soil Cracks (B6) |
| | ater Table (A2) | | | quatic Inv | | (B13) | | | arsely Vegetated Concave Surface (B8) |
| X Saturati | | | | ydrogen S | | | | • | inage Patterns (B10) |
| | Marks (B1) | | | ry-Seasor | | | | • | dized Rhizospheres on Living Roots (C3) |
| | nt Deposits (B2) | | | xidized RI | | , , | na Poots | | where tilled) |
| | posits (B3) | | | (where n | | CS OII LIV | ng Roots | | yfish Burrows (C8) |
| DIIIL DE | | | | | | d Iron (C) | ` | | uration Visible on Aerial Imagery (C9) |
| Algol M | at 01 Clust (D4) | | | resence o | | | .) | | omorphic Position (D2) |
| Algal Ma | , , | | | IIII WIUCK | Surface (0 | JI) | | A Geo | omorphic Position (D2) |
| Iron Dep | posits (B5) | | | | -: : D | | | ΕΛ. | November Took (DC) |
| Iron Dep | posits (B5) ion Visible on Aerial I | magery (B | | ther (Expl | ain in Rer | marks) | | · | C-Neutral Test (D5) |
| Iron Dep Inundati Water-S | posits (B5) ion Visible on Aerial I Stained Leaves (B9) | magery (B | | | ain in Rer | marks) | T | · | C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F) |
| Iron Dep Inundati Water-S Field Obser | posits (B5) ion Visible on Aerial I Stained Leaves (B9) rvations: | | 7) 0 | ther (Expl | | · | | · | , <i>,</i> |
| Iron Dep Inundati Water-S Field Obser Surface Wat | posits (B5) ion Visible on Aerial I Stained Leaves (B9) rvations: ter Present? | es | 7) 0 | ther (Expl | hes): | | _ | · | , , |
| Iron Dep Inundati Water-S | posits (B5) ion Visible on Aerial I Stained Leaves (B9) rvations: ter Present? | es | 7) 0 | ther (Expl | hes): | | | · | , <i>,</i> |
| Iron Dep Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes ca | posits (B5) ion Visible on Aerial I Stained Leaves (B9) rvations: ter Present? Present? Y Present? Y Present? Y | es es | No X [No X] | Depth (inco | hes): hes): hes): | 10 | _ _ Wet | Fros | , <i>,</i> |
| Iron Dep Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes ca | posits (B5) ion Visible on Aerial I Stained Leaves (B9) rvations: ter Present? Present? Y Present? Y | es es | No X [No X] | Depth (inco | hes): hes): hes): | 10 | _ _ Wet | Fros | st-Heave Hummocks (D7) (LRR F) |
| Iron Dep Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes ca Describe Re | posits (B5) ion Visible on Aerial I Stained Leaves (B9) rvations: ter Present? Present? Y Present? Y Present? Y | es es | No X [No X] | Depth (inco | hes): hes): hes): | 10 | _ _ Wet | Fros | st-Heave Hummocks (D7) (LRR F) |
| Iron Dep Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes ca | posits (B5) ion Visible on Aerial I Stained Leaves (B9) rvations: ter Present? Present? Y Present? Y Present? Y | eses _ X | No X I | Depth (included) Depth (included) Depth (included) Depth (included) | hes): hes): hes): hotos, pre | JO evious ins | Wet | Iand Hydrolog | y Present? Yes X No |

| Project/Site: Judge Orr Wetland Mitigation Bank | | City/Co | ounty: | El Paso C | ounty | Sampling | Date: 6/04/2 | 1 |
|---|---------------------|---------|---------|--------------|--|---------------|--|-------------|
| Applicant/Owner: Pete Lien & Sons | _ | | | | State: CO | | | |
| | | | | | nge: 34, T12S R64W | | | |
| • , , | | | | | convex, none): Convex | | Slope (% |): 1-2 |
| Subregion (LRR): G | | | | | | | | |
| Soil Map Unit Name: Fluvaquentic Haplaquolls, nearly level | Lat | | | | LONGNWI alaga | ification: NO | Datum ne | |
| | | | | | | | | |
| Are climatic / hydrologic conditions on the site typical for th | | | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | | Normal Circumstances | | | No |
| Are Vegetation, Soil, or Hydrology | naturally pro | blema | itic? | (If ne | eded, explain any ansv | wers in Rema | arks.) | |
| SUMMARY OF FINDINGS - Attach site map | showing | sam | pling | g point l | ocations, transec | ts, impor | tant featur | es, etc. |
| Hydrophytic Vegetation Present? YesN | ло <u>х</u> | | le the | e Sampled | Aroa | | | |
| Hydric Soil Present? Yes N | No X | | | n a Wetlar | | No_ | Χ | |
| Wetland Hydrology Present? Yes N | Vo X | | WILLIII | ii a vvetiai | id: 165 | | | |
| Remarks: | | • | | | | | | |
| Annual precipitation was below averag | e from 2 | 2018 | -202 | 20 for th | ne region. Prec | ipitation | from Jan | 2021 |
| to survey date has been at or above av | verage fo | or th | e re | gion. | | | | |
| VEGETATION III and a significant section of the | .4. | | | | | | | |
| VEGETATION – Use scientific names of plan | | | | | | | | |
| Tree Stratum (Plot size: 100 sq.m. | Absolute % Cover | | | Indicator | Dominance Test wo | | | |
| | | | | | Number of Dominant That Are OBL, FACV | | | |
| 1 2 | | | | | (excluding FAC-): | 7, OI FAC | | _ (A) |
| 3. | | | | | Total Number of Den | oinant | | |
| 4. | | | | | Total Number of Don Species Across All S | | | (B) |
| T | 0 | | | er | | | | _ |
| Sapling/Shrub Stratum (Plot size: 100 sq.m. | | 1010 | ai 00V | OI. | Percent of Dominant That Are OBL, FACV | | | (A/B) |
| 1. Artemisia frigida | 8 | Х | | UPL | | | | |
| 2 | | | | | Prevalence Index w | | NA 101 1 1 | |
| 3 | | | | | Total % Cover of | | | |
| 4 | | | | | OBL species | | | |
| 5 | | | | | FACW species | | | |
| Hart Otratage (District 100 sq.m.) | 8 | = Tota | al Cov | er | FAC species | | | |
| Herb Stratum (Plot size: 100 sq.m.) Hetertheca villosa | 25 | Х | | UPL | UPL species | | | |
| 2 Dalea c.f. tenuifolia | 1 | | | UPL | Column Totals: | | | |
| 3. Carex stenophylla | 8 | X | - | UPL | Column Totals. | (^) | | (D) |
| A Pascopyrum smithii | 5 | | | FACU | Prevalence Ind | ex = B/A = | | |
| 5. Lithospermum incisum | 1 | | - | UPL | Hydrophytic Vegeta | tion Indicat | ors: | |
| 6. Penstemon albidus | 5 | | - | UPL | 1 - Rapid Test fo | r Hydrophyti | ic Vegetation | |
| 7. Bouteloua gracilis | 5 | | | UPL | 2 - Dominance T | est is >50% | | |
| 8 Aristida purpurea | 3 | | | UPL | 3 - Prevalence Ir | | | |
| 9 Senecio multilobatus | 1 | | | UPL | 4 - Morphologica | I Adaptation | s ¹ (Provide su separate sheet | pporting |
| 10. Elymus lanceolatus spp. lanceolatus | 8 | X | | FACU | Problematic Hyd | | | |
| | 62 | = Tota | al Cov | er | Problematic Hyu | ropriyuc veg | jetation (⊏xpi | alli) |
| Woody Vine Stratum (Plot size: 100 sq.m.) 1 | | | | | ¹ Indicators of hydric s be present, unless di | | | must |
| 2. | | | | | Hydrophytic | | | |
| | 0 | = Tota | al Cov | er | Vegetation | | | |
| % Bare Ground in Herb Stratum 38 | | . 0 | | • | Present? | res | No X | |
| Remarks: | | | | | • | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

SOIL Sampling Point: SP-13

| Profile Des | cription: (Describe | to the depth n | eeded to docu | ment the i | ndicator | or confirn | n the absence of in | dicators.) |
|--------------|------------------------------|------------------|-------------------|--------------|-------------------|------------------|---------------------|---|
| Depth | Matrix | | | ox Feature: | | . 2 | | |
| (inches) | Color (moist) | | Color (moist) | % | Type ¹ | Loc ² | <u>Texture</u> | Remarks |
| 0-14 | 10YR 3/3 | 100 | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| · | | | | | | | | |
| | | | | | - | | | |
| | | | | | | | | |
| | | | | | | | | |
| - | | | | | | | | |
| | | | | | | - | | |
| | | | | | | | | |
| | concentration, D=De | | | | | ed Sand G | | n: PL=Pore Lining, M=Matrix. |
| Hydric Soil | Indicators: (Applie | cable to all LRF | Rs, unless othe | rwise note | ed.) | | Indicators for F | Problematic Hydric Soils ³ : |
| Histoso | I (A1) | | Sandy | Gleyed Ma | ıtrix (S4) | | 1 cm Muck | (A9) (LRR I, J) |
| Histic E | pipedon (A2) | | Sandy | Redox (S5 |) | | Coast Prairi | ie Redox (A16) (LRR F, G, H) |
| Black H | listic (A3) | | Strippe | d Matrix (S | 66) | | Dark Surfac | ce (S7) (LRR G) |
| Hydrog | en Sulfide (A4) | | Loamy | Mucky Mir | neral (F1) | | High Plains | Depressions (F16) |
| Stratifie | d Layers (A5) (LRR | F) | Loamy | Gleyed Ma | atrix (F2) | | (LRR H | outside of MLRA 72 & 73) |
| | uck (A9) (LRR F, G , | | | ed Matrix (I | , | | Reduced Ve | , |
| | ed Below Dark Surfac | ce (A11) | | Dark Surfa | . , | | | Material (TF2) |
| | ark Surface (A12) | | | ed Dark Su | , , |) | _ · | w Dark Surface (TF12) |
| | Mucky Mineral (S1) | | | Depression | ` ' | | | ain in Remarks) |
| | Mucky Peat or Peat | | | ains Depre | ` | , | • | drophytic vegetation and |
| 5 cm M | ucky Peat or Peat (S | (LRR F) | (MI | RA 72 & 7 | 73 of LRR | (H) | - | Irology must be present, |
| Dandwinding | 1 (if | | | | | | unless distu | urbed or problematic. |
| | Layer (if present): | | | | | | | |
| | | | - | | | | | V |
| Depth (in | nches): | | _ | | | | Hydric Soil Pres | sent? Yes No X |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| HYDROLO |)GY | | | | | | | |
| | drology Indicators | | | | | | | |
| _ | | | | | | | 0 | |
| | cators (minimum of | one required; ch | | | | | | dicators (minimum of two required) |
| | Water (A1) | | Salt Crus | | | | _ | Soil Cracks (B6) |
| | ater Table (A2) | | | vertebrate | | | | Vegetated Concave Surface (B8) |
| | ion (A3) | | Hydrogen | Sulfide O | dor (C1) | | Drainage | Patterns (B10) |
| Water N | Лarks (В1) | | Dry-Seas | on Water T | able (C2) | | Oxidized | Rhizospheres on Living Roots (C3) |
| Sedime | nt Deposits (B2) | | Oxidized | Rhizosphe | res on Liv | ing Roots | (C3) (where | tilled) |
| Drift De | posits (B3) | | (where | not tilled) | | | Crayfish | Burrows (C8) |
| Algal M | at or Crust (B4) | | Presence | of Reduce | ed Iron (C4 | 1) | Saturatio | n Visible on Aerial Imagery (C9) |
| Iron De | posits (B5) | | Thin Muc | k Surface (| C7) | | Geomorp | phic Position (D2) |
| Inundat | ion Visible on Aerial | Imagery (B7) | Other (Ex | plain in Re | marks) | | FAC-Neu | ıtral Test (D5) |
| Water-S | Stained Leaves (B9) | | | | | | Frost-He | ave Hummocks (D7) (LRR F) |
| Field Obse | rvations: | | | | | | | . , , , , , , , , , , , , , , , , , , , |
| Surface Wa | ter Present? | Yes No _ | X Depth (ir | iches). | | | | |
| Water Table | | Yes No | | | | | | |
| | | | | | | | | esent? Yes No X |
| Saturation F | resent? pillary fringe) | Yes No _ | Depth (ir | iches): | | _ weti | and Hydrology Pre | esent? Yes No X |
| | ecorded Data (strear | n gauge, monito | ring well, aerial | photos, pr | evious ins | pections), | if available: | |
| | , | 5 5 , | , | . /1" | | . " | | |
| Remarks: | | | | | | | | |
| Nomalks. | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Project/Site: Judge Orr Wetland Mitigation Bank | | City/County: El Pa | aso County | Sampling Date: 6/04/21 |
|--|---------------|--------------------|---|--|
| Applicant/Owner: Pete Lien & Sons | | | State: CO | Sampling Point: SP-14 |
| Investigator(s): Gloria Sargent | | Section, Township | p, Range: <u>34,</u> T12S R64W | |
| | | | | Slope (%): <u>0-1</u> |
| Subregion (LRR): G | Lat: 38.9 | 9569 | Long: <u>-104.544174</u> | Datum: NAD83z13 |
| Soil Map Unit Name: Fluvaquentic Haplaquolls, nearly le | vel | | NWI classific | cation: PEM1 |
| Are climatic / hydrologic conditions on the site typical for | | | | |
| Are Vegetation, Soil, or Hydrology | | | | |
| Are Vegetation, Soil, or Hydrology | naturally pro | blematic? | (If needed, explain any answe | ers in Remarks.) |
| SUMMARY OF FINDINGS - Attach site ma | ap showing | sampling po | int locations, transects | s, important features, etc. |
| Hydrophytic Vegetation Present? Yes X | No | la tha Oass | | |
| Hydric Soil Present? Yes X | No | within a W | npled Area | No |
| Wetland Hydrology Present? Yes X | No | Within a vi | retiand: 1es | |
| Remarks: | | | | |
| Annual precipitation was below avera | - | | | oitation from Jan 2021 |
| to survey date has been at or above | average to | or the region | 1. | |
| VEGETATION - Use scientific names of pl | lants. | | | |
| 400 | Absolute | | | sheet: |
| Tree Stratum (Plot size: 100 sq.m. | | Species? Stat | Number of Dominant C | |
| 1 | | | That Are OBL, FACW, (excluding FAC-): | or FAC (A) |
| 2 | | | | |
| 3 | | | Total Number of Domir Species Across All Stra | |
| 4 | | = Total Cover | ' | |
| Sapling/Shrub Stratum (Plot size: 100 sq.m. | | - Total Govel | Percent of Dominant S That Are OBL, FACW, | |
| 1 | | | Prevalence Index wor | dro bo o ti |
| 2 | | | | Multiply by: |
| 3 | | | | x 1 = |
| 4 | | | | x 2 = |
| 5 | | | | x 3 = |
| Herb Stratum (Plot size: 100 sq.m. | <u> </u> | = Total Cover | FACU species | |
| 1. Carex praegracilis | 45 | X FAC | W UPL species | x 5 = |
| 2. Iris missouriensis | 1 | FAC' | W Column Totals: | (A) (B) |
| 3. Schoenoplectus pungens | 30 | X OBL | | - D/A - |
| 4 | | | Hydrophytic Vegetati | c = B/A = |
| 5 | | | | Hydrophytic Vegetation |
| 6 | | | 2 - Dominance Tes | |
| 7 | | | 3 - Prevalence Ind | |
| 8 | | | 4 - Morphological | Adaptations ¹ (Provide supporting |
| 9 | | | | s or on a separate sheet) |
| 10 | | = Total Cover | — Problematic Hydro | phytic Vegetation ¹ (Explain) |
| Woody Vine Stratum (Plot size: 100 sq.m.) 1 | | | ¹ Indicators of hydric so be present, unless dist | il and wetland hydrology must urbed or problematic. |
| 2. | | | Hydrophytic | |
| | | = Total Cover | Vegetation | - X |
| % Bare Ground in Herb Stratum 24 | | | Present? Ye | es <u>X</u> No |
| Remarks: | | | | |
| | | | | |
| | | | | |

| Profile Desc | cription: (De | escribe to | the dep | th needed | | | | or confirm | m the absence of indicators.) |
|------------------------------|-------------------------------|----------------|-------------------|--------------|-----------------|--------------------------|-------------------|------------------|--|
| Depth (inches) | Color (m | Matrix | % | Color (| | ox Features % | Type ¹ | Loc ² | Texture Remarks |
| 0-6 | 10YR3 | | 100 | 00101 (| moioty | | 1,000 | | Silty clay |
| | 10 12 | <u> </u> | <u> 700</u> | | | | | | 3.11700 |
| 6-13 | 2.5Y L | 1 ム | (¢O | 7 57 | 4/4 | 10 | | | 2:1h. class |
| <u>6 13</u> | 251 | 7 1 | <u>60</u> | 7.31 | 3/. | - 10 | | <u> </u> | Silty clay |
| | <u>651 (</u> | 9/1 | <u>な</u> | <u>104</u> R | . 9/1 | | | | |
| 1201 | 5Y 4/ | _ | 0> | 0 EV | 5% | 12 | | | |
| 13.21 | 217 | <u>u</u> _ | <u>80</u> | 2.5Y | 5/ ₁ | <u> 10</u> | <u> </u> | m | sandy day |
| | | | | <u>2.5 Y</u> | 3/ | | | | |
| <u> </u> | | | | | | | | | |
| | oncentration, | | | | | | | d Sand G | Grains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ : |
| Histosol | Indicators: | (Арриса | DIE IO AII | | | Gleyed Ma | | | 1 cm Muck (A9) (LRR I, J) |
| _ | pipedon (A2) | | | | _ | Redox (S5 | . , | | Coast Prairie Redox (A16) (LRR F, G, H) |
| | istic (A3) | | | | - | d Matrix (S | | | Dark Surface (S7) (LRR G) |
| · | en Sulfide (A | 4) | | _ | | Mucky Min | | | High Plains Depressions (F16) |
| Stratified | d Layers (A5 | (LRR F) | | - | Loamy | Gleyed Ma | atrix (F2) | | (LRR H outside of MLRA 72 & 73) |
| | uck (A9) (LRI | | | X | • | ed Matrix (F | | | Reduced Vertic (F18) |
| | d Below Dark | | (A11) | _ | | Dark Surfa | | | Red Parent Material (TF2) |
| · | ark Surface (| | | _ | | ed Dark Su | | | Very Shallow Dark Surface (TF12) |
| | /lucky Minera Mucky Peat c | | 2) /I PP / | G H) | | Depressior ains Depre | | 16) | Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and |
| | ucky Peat or | | | | - | RA 72 & 7 | | | wetland hydrology must be present, |
| | 20.19 | | (=:::: / | | (| | · · · - · · · | / | unless disturbed or problematic. |
| Restrictive | Layer (if pre | sent): | | | | | | | |
| Type: | | | | | | | | | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |
| Depth (in | ches): | | | | | | | | Hydric Soil Present? Yes X No |
| Remarks: | | | | | | | | | |
| 0. | سن: دنلور | d in | Tur | 207 | 7. 10 | عهاالان | + 50 | il d | epths 0-21" |
| , | , (13.15. | | •••• | | | | | | |
| HYDROLO | GY | | | | | | | | |
| Wetland Hy | drology Indi | icators: | | | | | | | |
| Primary Indi | | | e require | d; check al | I that appl | ly) | | | Secondary Indicators (minimum of two required) |
| X Surface | Water (A1) | | | ; | Salt Crust | (B11) | | | Surface Soil Cracks (B6) |
| | ater Table (A | 2) | | | Aquatic In | vertebrate | s (B13) | | Sparsely Vegetated Concave Surface (B8) |
| X Saturati | on (A3) | | | ! | Hydrogen | Sulfide Oc | dor (C1) | | X Drainage Patterns (B10) |
| Water M | 1arks (B1) | | | ! | Dry-Seaso | on Water T | able (C2) | | Oxidized Rhizospheres on Living Roots (C3) |
| Sedime | nt Deposits (I | B2) | | (| Oxidized F | Rhizosphei | res on Livi | ng Roots | (C3) (where tilled) |
| Drift De | posits (B3) | | | | (where | not tilled) | | | Crayfish Burrows (C8) |
| Algal Ma | at or Crust (B | 34) | | ا | Presence | of Reduce | d Iron (C4 | .) | X Saturation Visible on Aerial Imagery (C9) |
| Iron Dep | oosits (B5) | | | | Thin Muck | k Surface (| C7) | | X Geomorphic Position (D2) |
| Inundati | on Visible on | n Aerial Im | nagery (B | 7) | Other (Ex | plain in Re | marks) | | FAC-Neutral Test (D5) |
| Water-S | Stained Leave | es (B9) | | | | | | | Frost-Heave Hummocks (D7) (LRR F) |
| Field Obser | vations: | | 1 . | | | | • | | |
| Surface Wat | er Present? | | | | | iches): | | _ | |
| Water Table | Present? | | | | | iches): | | | •• |
| Saturation P | | | s X | No | Depth (in | iches): | 0 | Wetl | land Hydrology Present? Yes No |
| (includes cap Describe Re | corded Data | | gauge, m | onitoring w | ell, aerial | photos, pre | evious ins | pections), | , if available: |
| | | | | - | | | | | |
| Remarks: | | | | | | | | | |
| W | b surfa | ace w | oater | in J | une | 2022 | when | n So | oil profile was collected. |
| Satu | rateor | , D. | 4 644 | + 4 | - 1(0 | " in | Turk | ر ع | 7.7 |
| | , | 17.1 | - /- / | , . – • ; | | | JOY | | |

| Project/Site: Julye On Mitigation | Bunk City/County: EIP | so County | Sampling Date: 8]19/8 |
|--|--|---|--|
| Applicant/Owner: Tek Liter | | State: CO | Sampling Point: 50-15 |
| Investigator(s): Gloria Sargent | | _ | |
| Landform (hillslope, terrace, etc.): | Local relief (concave | convex none): | Slope (%): |
| Subregion (LRR): | Lat. 38 957944 | Long: -104. 54 | 3747 Datum: NA0837 |
| Sail Man Linit Name: Cale Maine: 0001111 | Schools lever 0-7% | Long NIA/I classifi | action: Alona |
| Soil Map Unit Name: Columbine gravely | 34V04 104V1 10-3 10 | NVVI classiii | cation |
| Are climatic / hydrologic conditions on the site typical for | | | |
| Are Vegetation, Soil, or Hydrology | | | · · · · · · · · · · · · · · · · · · · |
| Are Vegetation, Soil, or Hydrology | naturally problematic? (If r | needed, explain any answ | ers in Remarks.) |
| SUMMARY OF FINDINGS - Attach site ma | ap showing sampling point | locations, transects | s, important features, etc |
| Hydrophytic Vegetation Present? Yes | No V | | |
| Hydric Soil Present? Yes | is the Sample | | V |
| Wetland Hydrology Present? Yes | | and? Yes | No <u>X</u> |
| Remarks: | | | |
| Annual precipitation | n has been below | average six | مد 2019. |
| | | ی | |
| VEGETATION | | | |
| VEGETATION – Use scientific names of p | | T | |
| Tree Stratum (Plot size: 100m2) | Absolute Dominant Indicator % Cover Species? Status | | |
| 1 | | Number of Dominant S That Are OBL, FACW, | |
| 2. | | (excluding FAC-): | (A) |
| 3. | | Total Number of Domi | nant |
| 4. | | Species Across All Str | |
| | = Total Cover | Percent of Dominant S | Species |
| Sapling/Shrub Stratum (Plot size: 100m²) | | That Are OBL, FACW, | or FAC: (A/B) |
| 1. (ELA) SCAT | <u> </u> | Prevalence Index wo | rksheet: |
| 2. Art Frig | <u> OPL</u> | _ | Multiply by: |
| 3 | | | x 1 = |
| 4 | | · · | x 2 = |
| 5 | = Total Cover | FAC species | x 3 = |
| Herb Stratum (Plot size: 100m²) | • | FACU species | x 4 = |
| 1. Ely lan lan | <u> 25 X UPL</u> | UPL species | x 5 = |
| 2. Bro me | <u> 15 X UPL</u> | Column Totals: | (A) (B) |
| 3 141 VII | <u> </u> | - Dravalance Index | v - D/A - |
| 4. 14cs com | <u>゚゚</u> い <u>ト</u> ୮ | Hydrophytic Vegetati | x = B/A = |
| 5. Cast cimo | <u> 1 UPL</u> | | Hydrophytic Vegetation |
| 6. mil off | | 2 - Dominance Te | |
| 7. <u> [as sm;</u> | | 3 - Prevalence Inc | |
| 8. Cir Arv | <u> 3 </u> | 4 Morphological | Adaptations ¹ (Provide supporting |
| 9. Nos Vir | <u> </u> | - data in Remark | ks or on a separate sheet) |
| 10 | 59 = Total Cover | Problematic Hydro | ophytic Vegetation ¹ (Explain) |
| Woody Vine Stratum (Plot size:) | = Total Cover | ¹ Indicators of hydric so be present, unless dis | oil and wetland hydrology must |
| 1 | | - | |
| 2 | | _ Hydrophytic Vegetation | |
| % Bare Ground in Herb Stratum | _ = Total Cover | | es No <u>X</u> |
| Remarks: | | I | |
| | | | |
| | | | |
| | | | |

| Depth _ | Mat | trix | | | | ox Feature | | | | |
|--|--|---|--|--------------|--|--|---|------------------|--|---|
| (inches) | Color (mois | | % | Color | (moist) | % | Type ¹ | Loc ² | Texture | Remarks |
| <u>0-14 </u> | 104R 3 | <u>12.5</u> | 100 | | | | | | Luam | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |
| | tti D | Davidati | DM D | | NA-tric C | | | -1.01.0 | 21 - | |
| | centration, Date dicators: (A | | | | | | | a Sana Gr | | ocation: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ : |
| Histosol (A | | pplicab | ic to an Ei | | | Gleyed M | | | | Muck (A9) (LRR I, J) |
| _ Histosoi (A _ Histic Epip | , | | | | - | Redox (S | | | | t Prairie Redox (A16) (LRR F, G, H) |
| _ Histic Epip _ Black Histi | | | | | - | ed Matrix (| | | | Surface (S7) (LRR G) |
| Hydrogen | | | | _ | | | ineral (F1) | | | Plains Depressions (F16) |
| | ayers (A5) (L | RR F) | | _ | - | Gleyed M | | | _ | RR H outside of MLRA 72 & 73) |
| | (A9) (LRR F | | | _ | - | ed Matrix | | | Redu | ced Vertic (F18) |
| | Below Dark S | | A11) | _ | | Dark Surf | . , | | | Parent Material (TF2) |
| | Surface (A1 | | | _ | | | urface (F7) | | | Shallow Dark Surface (TF12) |
| | cky Mineral (| | \ | _ | _ | Depression | ` , | 40) | | (Explain in Remarks) |
| | icky Peat or F ky Peat or Pe | • | | H) _ | | | essions (F 73 of LRR | • | | s of hydrophytic vegetation and nd hydrology must be present, |
| _ 5 CIII WILLCH | ty real of re | ai (SS) (| (LKK F) | | (IVI | LKA 12 Q | 73 OI LKK | п) | | s disturbed or problematic. |
| estrictive La | yer (if prese | nt): | | | | | | | | o dictarbed of problematic. |
| | , (| | | | | | | | | |
| Type: | | | | | | | | | | _ |
| | | | | | | | | | Hvdric Soi | il Present? Yes No X |
| Depth (inch | es): | | | _ | | | | | Hydric Soi | il Present? Yes No _X |
| • • | | | | <u>-</u> | | | | | Hydric Soi | il Present? Yes No _X |
| Depth (inch | | | | | | | | | Hydric Soi | il Present? Yes No _X |
| Depth (inch | | | | _ | | | | | Hydric Soi | il Present? Yes No _X |
| Depth (inchemarks: | es): | | | _ | | | | | Hydric Soi | il Present? Yes No _X |
| Depth (inchemarks: | es):Y | | | | | | | | Hydric Soi | il Present? Yes No _X |
| Depth (inchemarks: | es):Y ology Indica | tors: | | _ | Ill that app | oly) | | | | Il Present? Yes NoX |
| Depth (inchemarks: DROLOG etland Hydre imary Indicate | Y ology Indica | tors: | | check a | | | | | Second | lary Indicators (minimum of two require |
| Depth (inchemarks: DROLOG etland Hydromary Indicat _ Surface W | Y ology Indica tors (minimun dater (A1) | tors: | | check a | Salt Crus | t (B11) | es (B13) | | Second Sur | lary Indicators (minimum of two require |
| Depth (inchemarks: DROLOG etland Hydre imary Indicat _ Surface W _ High Wate | Y ology Indica tors (minimun dater (A1) er Table (A2) | tors: | | check a | Salt Crus | it (B11) nvertebrat | | | Second Sui Spa | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (B |
| DROLOG etland Hydra mary Indicat Surface W High Wate Saturation | Y ology Indica tors (minimum dater (A1) Table (A2) (A3) | tors: | | check a | Salt Crus Aquatic II Hydroger | it (B11) nvertebrat n Sulfide C | dor (C1) | | Second Sui Spai Dra | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Ba ainage Patterns (B10) |
| DROLOG etland Hydromary Indicat Surface W High Wate Saturation Water Mar | ology Indicators (minimum dater (A1) er Table (A2) (A3) eks (B1) | itors: n of one | | check a | Salt Crus Aquatic I Hydroger Dry-Seas | ot (B11) nvertebrat n Sulfide C | odor (C1) Table (C2) | ing Roots (| Second Sui Spai Drai Oxi | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (|
| DROLOG etland Hydromary Indicat Surface W High Wate Saturation Water Mar Sediment | vology Indicators (minimum dater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) | itors: n of one | | check a | Salt Crus Aquatic I Hydroger Dry-Seas Oxidized | ot (B11) Invertebrat In Sulfide Coon Water Rhizospho | odor (C1) Table (C2) eres on Liv | ing Roots (| Second Sui Spa Dra Oxi (C3) | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) |
| Depth (inchemarks: DROLOG etland Hydro imary Indicat Surface W High Wate Saturation Water Mar Sediment Drift Depos | Y ology Indicators (minimum fater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) | itors: n of one | | check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where | nvertebrat n Sulfide C on Water Rhizosph not tilled | odor (C1) Table (C2) eres on Liv) | | Second Sui Spa Dra Oxi (C3) (V | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) |
| Depth (inchemarks: DROLOG etland Hydro imary Indicat Surface W High Wate Saturation Water Mar Sediment Drift Depos Algal Mat o | Y ology Indica tors (minimun dater (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) | itors: n of one | | check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where | t (B11) nvertebrat n Sulfide C son Water Rhizosphe not tilled | Odor (C1) Table (C2) eres on Liv) ed Iron (C4 | | Second Sur Spa Dra Oxi (C3) (v Cra Sat | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) |
| Depth (inchemarks: DROLOG etland Hydremary Indicate Surface Well High Wate Saturation Water Mar Sediment I Drift Depose Algal Mat of | Y ology Indica tors (minimun rater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) | itors: n of one | required; (| check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc | t (B11) nvertebrat n Sulfide C con Water Rhizosph not tilled e of Reduc | Odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) | | Second Sur Spa Dra Oxi (C3) (v Cra Sat Ge | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) |
| Depth (inchemarks: DROLOG etland Hydremary Indicate Surface W High Wate Saturation Water Mar Sediment Drift Depose Iron Depose Inundation | v cology Indicators (minimum (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3 | itors: m of one | required; (| check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc | t (B11) nvertebrat n Sulfide C son Water Rhizosphe not tilled | Odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) | | Second Sur Spa Dra Oxi (C3) (\(\) Cra Sat Ge FA | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) |
| Depth (inchemarks: DROLOG etland Hydremary Indicate Surface Welliam Water Maremare Sediment of Drift Deposed Inundation Water-Stail | ology Indicators (minimum (ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) a Visible on Adined Leaves (| itors: m of one | required; (| check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc | t (B11) nvertebrat n Sulfide C con Water Rhizosph not tilled e of Reduc | Odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) | | Second Sur Spa Dra Oxi (C3) (\(\) Cra Sat Ge FA | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) |
| Depth (inchemarks: DROLOG etland Hydromary Indicate Surface W High Wate Saturation Water Mar Sediment Drift Depose Algal Mate Iron Depose Inundation Water-Staie | y ology Indicators (minimum (ater (A1)) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) a Visible on Adined Leaves (ations: | tors: n of one) erial Ima (B9) | required; of | check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc Other (Ex | t (B11) nvertebrat n Sulfide C son Water Rhizosph not tilled e of Reduc k Surface xplain in R | odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) emarks) | · · | Second Sur Spa Dra Oxi (C3) (\(\) Cra Sat Ge FA | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) |
| Depth (inchemarks: "DROLOG" Tetland Hydromary Indicate Surface Water Mare Saturation Water Mare Sediment Inchemate Sediment Incomposed Incomp | Y ology Indicators (minimum rater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Addined Leaves (intions: Present? | tors: n of one) erial Ima (B9) | required; of agery (B7) | | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc Other (Ex | t (B11) nvertebrat n Sulfide C con Water Rhizosphe not tilled e of Reduce k Surface xplain in R | odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) emarks) | | Second Sur Spa Dra Oxi (C3) (\(\) Cra Sat Ge FA | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) |
| Depth (inchemarks: //DROLOG //etland Hydromary Indicate | y ology Indica tors (minimun dater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) or Visible on Ad ined Leaves (tions: Present? | itors: n of one erial Ima (B9) Yes Yes | required; of the second | check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc Other (Ex | t (B11) nvertebrat n Sulfide C son Water Rhizosph not tilled e of Reduc k Surface k plain in R nches): nches): | odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) emarks) | - | Second | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) ost-Heave Hummocks (D7) (LRR F) |
| Depth (inchemarks: //DROLOG //etland Hydrorimary Indicate | y ology Indica tors (minimun dater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) or Visible on Addined Leaves (tions: Present? resent? | itors: n of one erial Ima (B9) Yes Yes | required; of the second | check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc Other (Ex | t (B11) nvertebrat n Sulfide C son Water Rhizosph not tilled e of Reduc k Surface k plain in R nches): nches): | odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) emarks) | - | Second | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) |
| Depth (inchemarks: "DROLOG" Tetland Hydrorimary Indicated Surface Weather Mark Sediment Deposed Inundation Water-Stain Water Table Platuration Presenciated Capill | y ology Indica tors (minimun dater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) or Visible on Addined Leaves (tions: Present? resent? | erial Ima (B9) Yes Yes | required; of the second | check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc Other (Ex | t (B11) nvertebrat n Sulfide Con Water Rhizosph not tilled e of Reduc k Surface k plain in R nches): nches): nches): nches): | Odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) emarks) | - Wetla | Second Su Spa Dra Oxi (C3) (v Cra Sat Ge FA Fro | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) ost-Heave Hummocks (D7) (LRR F) |
| Depth (inchemarks: DROLOG Toronto Hydromary Indicated High Water Saturation Water Mare Sediment In Drift Deposed Inundation Water-Stain Hydromary Hydromar | y ology Indica tors (minimun dater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) visible on Adined Leaves (intions: Present? resent? sent? | erial Ima (B9) Yes Yes | required; of the second | check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc Other (Ex | t (B11) nvertebrat n Sulfide Con Water Rhizosph not tilled e of Reduc k Surface k plain in R nches): nches): nches): nches): | Odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) emarks) | - Wetla | Second Su Spa Dra Oxi (C3) (v Cra Sat Ge FA Fro | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) ost-Heave Hummocks (D7) (LRR F) |
| Depth (inchemarks: DROLOG etland Hydro imary Indicat Surface W High Wate Saturation Water Mar Sediment Drift Depos Algal Mato Iron Depos Inundation Water-State eld Observa urface Water ater Table Products capill escribe Reco | y ology Indica tors (minimun dater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) visible on Adined Leaves (intions: Present? resent? sent? | erial Ima (B9) Yes Yes | required; of the second | check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc Other (Ex | t (B11) nvertebrat n Sulfide Con Water Rhizosph not tilled e of Reduc k Surface k plain in R nches): nches): nches): nches): | Odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) emarks) | - Wetla | Second Su Spa Dra Oxi (C3) (v Cra Sat Ge FA Fro | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) ost-Heave Hummocks (D7) (LRR F) |
| Depth (inchemarks: DROLOG etland Hydra imary Indicat Surface W High Wate Saturation Water Mar Sediment Drift Depos Inundation Water-Stai eld Observa urface Water ater Table Presenciudes capill | y ology Indica tors (minimun dater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) visible on Adined Leaves (intions: Present? resent? sent? | erial Ima (B9) Yes Yes | required; of the second | check a | Salt Crus Aquatic II Hydroger Dry-Seas Oxidized (where Presence Thin Muc Other (Ex | t (B11) nvertebrat n Sulfide Con Water Rhizosph not tilled e of Reduc k Surface k plain in R nches): nches): nches): nches): | Odor (C1) Table (C2) eres on Liv) ed Iron (C4 (C7) emarks) | - Wetla | Second Su Spa Dra Oxi (C3) (v Cra Sat Ge FA Fro | lary Indicators (minimum of two require rface Soil Cracks (B6) arsely Vegetated Concave Surface (Bainage Patterns (B10) idized Rhizospheres on Living Roots (where tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) ost-Heave Hummocks (D7) (LRR F) |

| Project/Site: July On Milisation & | ank City/Coun | nty: El P | aso Co. | Sampling Date: | 119/2 |
|---|----------------------------|------------------|--|---------------------------------------|---|
| Applicant/Owner: Pels Lten + Jans | | | | | |
| Investigator(s): Gloria Sarunt | | | | | |
| Landform (hillslope, terrace, etc.): Charal | | | · · · · · · · · · · · · · · · · · · · | | 20: 2 90 |
| Subragion (LBD): | | iei (colicave, c | Long: -/AU 543 | Slope (| /о). <u>Се т с</u> У 1 <u>Д</u> 25 б |
| Subregion (LRR): | Lat. Sw. 12 | <u>ان د جر</u> | Long. The state of | Datum. | NADO |
| Soil Map Unit Name: The Volume of the Market Transfer | MERONS, P | CHANNY C | invvi ciassitio | cation: | |
| Are climatic / hydrologic conditions on the site typical for this | - | | | | |
| Are Vegetation, Soil, or Hydrology si | | | Normal Circumstances" ¡ | present? Yes | No |
| Are Vegetation, Soil, or Hydrologyn | aturally problematic? | ? (If ne | eded, explain any answe | ers in Remarks.) | |
| SUMMARY OF FINDINGS – Attach site map s | showing sampli | ing point lo | ocations, transects | , important featu | res, etc. |
| Hydrophytic Vegetation Present? Yes X |) | (b 0 l- d | A | | |
| | , '3 | the Sampled | | No | |
| |) WI | thin a Wetlan | ar res // | ио | |
| VEGETATION – Use scientific names of plant | | below | average 5i | nce 2019. | |
| _ | Absolute Domina | | Dominance Test work | sheet: | |
| Tree Stratum (Plot size: 100 m 2) | % Cover Species | ? Status | Number of Dominant S | | |
| 1 | | | That Are OBL, FACW, (excluding FAC-): | or FAC | (A) |
| 2 | | | , | | (' ') |
| 3 | | | Total Number of Domir Species Across All Stra | | (B) |
| Sapling/Shrub Stratum (Plot size: 100m²) | = Total C | Cover | Percent of Dominant S That Are OBL, FACW, | | (A/B) |
| 1 2 | · | | Prevalence Index wor | ksheet: | |
| 3 | | | Total % Cover of: | Multiply by: | <u>:</u> |
| 4. | | | OBL species | | |
| 5 | | | FACW species | | |
| Herb Stratum (Plot size: 100m²) | = Total C | Cover | FAC species | | |
| Herb Stratum (Plot size: 100m) 1. Tubha latifolia | 15 V | 201 | FACU species UPL species | | |
| 2-schoenoplectus tabernaemontani | 25 ♦ | - Opi | Column Totals: | | |
| 3 41 | 10 | _ <u>00</u> | Column Totals. | (//) | (5) |
| 4. Eleocharis pakistris | <u>~~</u> | 782 | | c = B/A = | |
| 5. Schnenesolectus cunsus | -5 | ORL | Hydrophytic Vegetati | | |
| 6. | | | 1 - Rapid Test for I | | 1 |
| 7 | | | 2 - Dominance Tes 3 - Prevalence Ind | | |
| 8 | | | | ex is ≤3.0 Adaptations¹ (Provide s | supporting |
| 9. | | | data in Remark | s or on a separate she | et) |
| 10 | <u> </u> | | Problematic Hydro | phytic Vegetation ¹ (Ex | plain) |
| Woody Vine Stratum (Plot size: / Www.) | = Total C | Cover | ¹ Indicators of hydric so | il and wetland hydrolog | av must |
| 1. | | | be present, unless dist | | ,, |
| 2. | | | Hydrophytic | | |
| 220 (| = Total C | Cover | Vegetation | . y | |
| % Bare Ground in Herb Stratum 20% (waker) | | | Present? Ye | esNo | _ |
| Remarks: | | | | | |
| | | | | | |
| | | | | | |

| | Matrix | | Pode | x Feature | c | | | |
|---|--|-------------------------------------|--|---|---|------------------|--|--|
| Depth (inches) | Color (moist) | % C | color (moist) | | | Loc ² | Texture | Remarks |
| | | | 0.0. (0.0.) | | .,,,,, | | | |
| | | | | - | . —— | | | |
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| | | | | | | | | |
| | <u> </u> | | | - | . —— | | | |
| | | | | _ | | | | |
| Type: C=C | Concentration, D=Depl | etion, RM=Red | uced Matrix, CS | S=Covere | d or Coate | d Sand Gr | ains. ² Locat | ion: PL=Pore Lining, M=Matrix. |
| | Indicators: (Applica | | | | | | | or Problematic Hydric Soils ³ : |
| _ Histoso | | | | Gleyed Ma | | | 1 cm Mu | ck (A9) (LRR I, J) |
| | pipedon (A2) | | | Redox (S5 | , , | | | airie Redox (A16) (LRR F, G, H) |
| | listic (A3) | | - | d Matrix (S | | | | face (S7) (LRR G) |
| | en Sulfide (A4) | | | Mucky Mir | | | | ins Depressions (F16) |
| | ed Layers (A5) (LRR F |) | Loamy | - | | | - | H outside of MLRA 72 & 73) |
| | luck (A9) (LRR F, G, H | • | Deplete | • | | | , | Vertic (F18) |
| | ed Below Dark Surface | | Redox I | • | , | | | ent Material (TF2) |
| | ark Surface (A12) | ` , | | | ırface (F7) | | | allow Dark Surface (TF12) |
| | Mucky Mineral (S1) | | Redox | | | | - | xplain in Remarks) |
| | Mucky Peat or Peat (S | S2) (LRR G, H) | | | essions (F | 16) | | hydrophytic vegetation and |
| | ucky Peat or Peat (S3 | | | | 73 of LRR | | | nydrology must be present, |
| | , | , , | ` | | | , | | sturbed or problematic. |
| estrictive | Layer (if present): | | | | | | | · |
| | , , , | | | | | | | |
| Type: | | | | | | | | |
| Type: | | | | | | | Hudria Cail D | |
| Depth (ir | nches): | | | | | | 1 - | resent? Yes X No |
| Depth (ir | nches): | vite c | olleeted | \; S | colon | ated | 1 - | |
| Depth (ir Remarks: | No Soil pr | viole c | olleeted | ۷; | afur | ated | 1 - | resent? Yes X No |
| Depth (ir | DGY | exple c | olleeted | ۷; s | afur | ated | 1 - | |
| Depth (in Remarks: | OGY vdrology Indicators: | | | | afur | ated | w/ 0b | I regetation. |
| Depth (in Remarks: YDROLO Vetland Hy | OGY vdrology Indicators: icators (minimum of or | | | | alur | ated | w/ 0b | Indicators (minimum of two required |
| Depth (in Depth | OGY vdrology Indicators: | | | y) | calus | ated | w/ 0b | I regetation. |
| Depth (in Depth | OGY vdrology Indicators: icators (minimum of or | | eck all that appl | y) (B11) | | atest | w/ 06 Secondary Surface | Indicators (minimum of two required |
| Depth (in emarks: /DROLO /etland Hyrimary Ind // Surface High W | OGY vdrology Indicators: icators (minimum of or | | eck all that appl | y) (B11) vertebrate | es (B13) | atesh | w/ 0b Secondary Surfac Spars | Indicators (minimum of two required the Soil Cracks (B6) |
| Depth (in Depth | OGY vdrology Indicators: icators (minimum of or water (A1) vater Table (A2) vion (A3) | | eck all that appl Salt Crust Aquatic In Hydrogen | y) (B11) vertebrate Sulfide O | es (B13) dor (C1) | atesh | Secondary Surface Sparse X Draina | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) |
| Depth (in temarks: DROLO Vetland Hyrimary Ind X Surface High W Saturat Water I | OGY vdrology Indicators: icators (minimum of or e Water (A1) rater Table (A2) ion (A3) Marks (B1) | | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso | y) (B11) vertebrate Sulfide O | es (B13) dor (C1) Fable (C2) | | Secondary Surface Sparse Draina Oxidiz | Indicators (minimum of two required the Soil Cracks (B6) allow Patterns (B10) and Rhizospheres on Living Roots (C |
| Depth (in temarks: OROLO Vetland Hyrimary Ind X Surface High W Saturat Water I Sedime | OGY vdrology Indicators: icators (minimum of or e Water (A1) rater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) | | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F | y) (B11) vertebrate Sulfide O on Water T Rhizosphe | es (B13) dor (C1) Fable (C2) eres on Liv | | Secondary Surface Sparse Draina Oxidiz (C3) | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Core tilled) |
| Depth (in Depth | OGY vdrology Indicators: icators (minimum of or e Water (A1) vlater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) | | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F | y) (B11) vertebrate Sulfide O on Water T Rhizosphe not tilled) | es (B13) dor (C1) Fable (C2) res on Liv | ing Roots (| Secondary Surface Sparse Draina Oxidiz (C3) Crayfice | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Care tilled) ash Burrows (C8) |
| Primary Ind Saturat Water I Sedime Algal M | OGY vdrology Indicators: icators (minimum of or e Water (A1) vater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) | | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where | y) (B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce | es (B13) dor (C1) Fable (C2) eres on Liv | ing Roots (| Secondary Surface Sparse Case Case Crayfic Satura | Indicators (minimum of two required be Soil Cracks (B6) gely Vegetated Concave Surface (B8) ge Patterns (B10) ged Rhizospheres on Living Roots (Cere tilled) sh Burrows (C8) ation Visible on Aerial Imagery (C9) |
| Primary Ind Surface High W Saturat Water I Sedime Drift De Algal W Iron De | OGY vdrology Indicators: icators (minimum of or water (A1) vater Table (A2) vion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) | ne required; che | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck | y) (B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce (Surface (| es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots (| Secondary Surface Sparse Ca) Cayfie Satura Geom | Indicators (minimum of two required be Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Care tilled) ash Burrows (C8) ation Visible on Aerial Imagery (C9) orphic Position (D2) |
| Primary Ind Water I Sedime Algal M Iron De Inundar | OGY vdrology Indicators: icators (minimum of or water (A1) vater Table (A2) vion (A3) Marks (B1) vart Deposits (B2) veposits (B3) lat or Crust (B4) veposits (B5) tion Visible on Aerial In | ne required; che | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where | y) (B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce (Surface (| es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots (| Secondary Surface Sparse Draina Oxidiz (C3) Crayfice Satura Geom | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Cere tilled) ash Burrows (C8) atton Visible on Aerial Imagery (C9) orphic Position (D2) seutral Test (D5) |
| Primary Ind X Surface High W X Saturat Water I Sedime Algal M Iron De Inundat Water- | OGY vdrology Indicators: icators (minimum of or e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial In Stained Leaves (B9) | ne required; che | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck | y) (B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce (Surface (| es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots (| Secondary Surface Sparse Draina Oxidiz (C3) Crayfice Satura Geom | Indicators (minimum of two required be Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Care tilled) ash Burrows (C8) ation Visible on Aerial Imagery (C9) orphic Position (D2) |
| Primary Ind X Surface High W Saturat Water I Sedime Algal M Iron De Inundar Water-Sield Obse | OGY vdrology Indicators: icators (minimum of or e Water (A1) rater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial In Stained Leaves (B9) rvations: | ne required; che | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck | y) (B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce a Surface (plain in Re | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots (| Secondary Surface Sparse Draina Oxidiz (C3) Crayfice Satura Geom | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Cere tilled) as Burrows (C8) atton Visible on Aerial Imagery (C9) orphic Position (D2) seutral Test (D5) |
| Primary Ind X Surface High W Saturat Water I Sedime Algal M Iron De Inundar Water-Geld Obse | OGY vdrology Indicators: icators (minimum of or e Water (A1) dater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial In Stained Leaves (B9) rvations: iter Present? | ne required; che | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck Other (Exp | y) (B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce Surface (colain in Re | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots (| Secondary Surface Sparse Draina Oxidiz (C3) Crayfice Satura Geom | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Cere tilled) as Burrows (C8) atton Visible on Aerial Imagery (C9) orphic Position (D2) seutral Test (D5) |
| Primary Ind X Surface High W Saturat Water I Sedime Algal M Iron De Inundar Water-Geld Obse | OGY vdrology Indicators: icators (minimum of or e Water (A1) dater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial In Stained Leaves (B9) rvations: iter Present? | ne required; che | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck | y) (B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce Surface (colain in Re | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots (| Secondary Surface Sparse Draina Oxidiz (C3) Crayfice Satura Geom | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Cere tilled) ash Burrows (C8) atton Visible on Aerial Imagery (C9) orphic Position (D2) seutral Test (D5) |
| Primary Ind X Surface High W Saturat X Water I Sedime Algal W Iron De Inundat X Water-s Field Obse | OGY vdrology Indicators: icators (minimum of or water (A1) vater Table (A2) vion (A3) Marks (B1) vater Deposits (B2) veposits (B3) lat or Crust (B4) veposits (B5) tion Visible on Aerial In Stained Leaves (B9) rvations: vertical resent? vertical resents (P6) vertical resents (P7) verti | nagery (B7) | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where Presence Thin Muck Other (Exp | y) (B11) vertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce (Surface (blain in Re ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots (| Secondary Surface Sparse Draina Oxidiz (C3) Crayfie Satura Satura FAC-N Frost- | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Cere tilled) ash Burrows (C8) attion Visible on Aerial Imagery (C9) orphic Position (D2) alleutral Test (D5) Heave Hummocks (D7) (LRR F) |
| Depth (in Remarks: YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Algal W Iron De Inundar Water-Sield Obse Surface Wa Vater Table Saturation Fincludes ca | OGY vdrology Indicators: icators (minimum of or water (A1) vater Table (A2) vion (A3) Marks (B1) vater Deposits (B2) veposits (B3) lat or Crust (B4) veposits (B5) tion Visible on Aerial In Stained Leaves (B9) rvations: ver Present? ver veresent? ver | nagery (B7) es No _ es No _ es No _ | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck Other (Exp | y) (B11) vertebrate Sulfide Or on Water 1 Rhizosphe not tilled) of Reduce (Surface (blain in Re ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots (| Secondary Surface Sparse Draina Oxidiz (Whe Satura Satura FAC-N Frost- | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Cere tilled) as Burrows (C8) attion Visible on Aerial Imagery (C9) orphic Position (D2) alleutral Test (D5) Heave Hummocks (D7) (LRR F) |
| Depth (in Remarks: YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Algal W Iron De Inundar Water-Sield Obse Surface Wa Vater Table Saturation Fincludes ca | OGY vdrology Indicators: icators (minimum of or e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial In Stained Leaves (B9) rvations: ter Present? Present? Ye Present? Ye Present? | nagery (B7) es No _ es No _ es No _ | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck Other (Exp | y) (B11) vertebrate Sulfide Or on Water 1 Rhizosphe not tilled) of Reduce (Surface (blain in Re ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots (| Secondary Surface Sparse Draina Oxidiz (Whe Satura Satura FAC-N Frost- | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Cere tilled) as Burrows (C8) attion Visible on Aerial Imagery (C9) orphic Position (D2) alleutral Test (D5) Heave Hummocks (D7) (LRR F) |
| Depth (in Remarks: YDROLO Vetland Hy Primary Ind Surface High W Saturat Water I Sedime Algal W Iron De Inundar Water-Sield Obse Surface Wa Vater Table Saturation Fincludes ca | OGY vdrology Indicators: icators (minimum of or water (A1) vater Table (A2) vion (A3) Marks (B1) vater Deposits (B2) veposits (B3) lat or Crust (B4) veposits (B5) tion Visible on Aerial In Stained Leaves (B9) rvations: ver Present? ver veresent? ver | nagery (B7) es No _ es No _ es No _ | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck Other (Exp | y) (B11) vertebrate Sulfide Or on Water 1 Rhizosphe not tilled) of Reduce (Surface (blain in Re ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots (| Secondary Surface Sparse Draina Oxidiz (Whe Satura Satura FAC-N Frost- | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Cere tilled) as Burrows (C8) attion Visible on Aerial Imagery (C9) orphic Position (D2) alleutral Test (D5) Heave Hummocks (D7) (LRR F) |
| Depth (in Depth (in Remarks: YDROLO Vetland Hy Primary Ind X Surface High W Saturat Water I Sedime Algal M Iron Delinundar Water-sield Obse Surface Water Table Saturation Fincludes capescribe Reference | OGY vdrology Indicators: icators (minimum of or water (A1) vater Table (A2) vion (A3) Marks (B1) vater Deposits (B2) veposits (B3) lat or Crust (B4) veposits (B5) tion Visible on Aerial In Stained Leaves (B9) rvations: ver Present? ver veresent? ver | nagery (B7) es No _ es No _ es No _ | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck Other (Exp | y) (B11) vertebrate Sulfide Or on Water 1 Rhizosphe not tilled) of Reduce (Surface (blain in Re ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots (| Secondary Surface Sparse Draina Oxidiz (Whe Satura Satura FAC-N Frost- | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Cere tilled) ash Burrows (C8) attion Visible on Aerial Imagery (C9) orphic Position (D2) alleutral Test (D5) Heave Hummocks (D7) (LRR F) |
| Depth (in Permarks: YDROLO Yetland Hy Primary Ind Surface High W Saturat Water I Sedime Algal W Iron De Inundat Water-S ield Obse Surface Water Table Saturation Includes ca | OGY vdrology Indicators: icators (minimum of or water (A1) vater Table (A2) vion (A3) Marks (B1) vater Deposits (B2) veposits (B3) lat or Crust (B4) veposits (B5) tion Visible on Aerial In Stained Leaves (B9) rvations: ver Present? ver veresent? ver | nagery (B7) es No _ es No _ es No _ | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where Presence Thin Muck Other (Exp | y) (B11) vertebrate Sulfide Or on Water 1 Rhizosphe not tilled) of Reduce (Surface (blain in Re ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots (| Secondary Surface Sparse Draina Oxidiz (Whe Satura Satura FAC-N Frost- | Indicators (minimum of two required the Soil Cracks (B6) ally Vegetated Concave Surface (B8) age Patterns (B10) and Rhizospheres on Living Roots (Cere tilled) ash Burrows (C8) attion Visible on Aerial Imagery (C9) orphic Position (D2) alleutral Test (D5) Heave Hummocks (D7) (LRR F) |

| Project/Site: Julge Orr Mitigation B | ank City/C | County: | Paso Ce |). Sam | npling Date: | 8/19/2 |
|--|------------------|--|---------------------------|------------------------------------|----------------|---------------------|
| Applicant/Owner: Peic Lien + Sons | | | | | | |
| Investigator(s): Gloria Saryunt | Section | on Townshin Ra | ande. 34 | Tizs | RGHW | *** |
| Landform (hillslone terrace etc.): \$1200 Acres | Loca | I relief (concave | convex none). | Contan | Slon | 19.3 |
| Landform (hillslope, terrace, etc.): Flood plane Subregion (LRR): 4 Soil Map Unit Name: Flood plane Subregio | | 757749 | Long: -10 | H 5471 | Sa 2 Dotum | a. A!ACS E |
| Sablegion (LRK). | Lat | nearly ! | Long. | / alassification | Datum | 1. <u>1973 bi C</u> |
| Soil Map Unit Name: 4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1 | -gull 11 a | The state of the s | V | n classification | : <u> </u> | 4 12 |
| Are climatic / hydrologic conditions on the site typical for this | | | • | | | |
| Are Vegetation, Soil, or Hydrology sig | | | "Normal Circums | stances" prese | nt? Yes | No |
| Are Vegetation, Soil, or Hydrology na | turally problema | atic? (If no | eeded, explain a | ny answers in | Remarks.) | |
| SUMMARY OF FINDINGS - Attach site map s | howing san | npling point l | ocations, tra | nsects, im | portant fea | atures, etc. |
| Livelength die Verseteting Property Vers V | | | | | | |
| 1 | | Is the Sample | d Area | V | | |
| | | within a Wetla | nd? | Yes X | No | |
| Remarks: | | | | | | |
| | • | ٠. | | | 0 | |
| Annual precipitation h | as been | n below | average | since | 2014. | |
| • | | | | | | |
| VEGETATION – Use scientific names of plants | | | _ | | | |
| L 400 7 | | ninant Indicator cies? Status | | est workshee | | |
| 1 | 70 CC 101 CPC | otatao | | minant Specie , FACW, or FA | | |
| 2. | | | (excluding FA | | | (A) |
| 3. | | | Total Number | of Dominant | | |
| 4 | | | Species Acros | ss All Strata: | | (B) |
| 1/21/02 | = Tot | tal Cover | | minant Specie | | |
| Sapling/Shrub Stratum (Plot size: 100m²) | | | That Are OBL | , FACW, or FA | ·C: | (A/B) |
| 1 | | | Prevalence Ir | ndex workshe | et: | |
| 2 | | | Total % C | Cover of: | Multiply | by: |
| 3 | | | OBL species | | x 1 = | |
| 5. | | | | s | | |
| 1,02, 2- | = Tot | tal Cover | | | | |
| Herb Stratum (Plot size: 100m2) | 11/2 5 | <i>.</i> | | S | | |
| 1. Carex praegracilis | <u>40</u> > | | - | | | |
| 2. Schoenoplectus purgens | 70 × | $-\infty$ | Column Totals | s: | _ (A) | (B) |
| 4. Carx mismacensis | <u> </u> | | Prevaler | nce Index = B/ | 'A = | |
| 5. Juneus arcticus lifforalls | 70 | EARL | Hydrophytic | Vegetation In | dicators: | |
| 6. Taraxacum Officinale | | | · · | Test for Hydro | | ition |
| 7 | | ,,,,,,,,,, | | ance Test is > | | |
| 8. | | | | lence Index is | | |
| 9. | | | 4 - Morph | ological Adapt Remarks or o | ations' (Provi | de supporting |
| 10 | <u> </u> | | | tic Hydrophytic | | |
| 10000 | 96 = Tot | tal Cover | 1. | | • | , |
| Woody Vine Stratum (Plot size: 100m²) | | | | hydric soil and nless disturbed | | |
| 1 | | | | | <u> </u> | |
| 2 | = Tot | tal Cavar | Hydrophytic Vegetation | | | |
| % Bare Ground in Herb Stratum 475 | = 10 | lai CUVEI | Present? | Yes 💃 | <u>(</u> No | |
| Remarks: | | | 1 | | | |
| | | | | | | |
| | | | | | | |

Sampling Point: **SP-17**

| Profile Desc | cription: (Describe | to the dep | th needed to docur | nent the | indicator | or commi | m the absence | | alui 5.) | |
|---|--|-----------------------|---|---|---|------------------|---|--|--|-----------|
| Depth | Matrix | · | | x Feature | | | | | , | |
| (inches) | Color (moist) | % | Color (moist) | | | Loc ² | Texture | | Remarks | |
| 0-3 | 104R 2/1.5 | 100 | | | | | clear L | am | | |
| 2 - Q | 10 42 3/1 | 63 | 7.54R 4/6 | | | - MA | Silly o | 1 | | |
| <u> </u> | | 25 | 101K 70 | | | | | 0 | | |
| | 10 48 3/1 | 72 | - | | | | _ Sandy | clay | | |
| 8-50 | 5 YR 2/1 | 100 | | | | | _ Sandy | Loan | | |
| 20-30 | 2.5Y 6/1 | 45 | 2.54 8/1 | 5 | \mathcal{D} | W | Luanz | San | .1 | |
| | 2.5 Y 5/1 | 20 | | | | 7. | 7777 | | y. | |
| | 251 -71 | 40_ | | | · —— | | | | | _ |
| | - | | | | · —— | | | | | |
| | - | | | | | | | | | |
| | oncentration, D=Dep | | | | | d Sand G | | | L=Pore Lining, M=Matrix. | |
| _ | Indicators: (Applic | able to all | | | | | | | olematic Hydric Soils ³ : | |
| Histosol | , , | | | Gleyed Ma | | | | |) (LRR I, J) | |
| | pipedon (A2) | | - | Redox (S5 | | | | | edox (A16) (LRR F, G, H) | |
| | istic (A3) | | | d Matrix (S | | | | | S7) (LRR G) | |
| | en Sulfide (A4) | =\ | | - | neral (F1) | | | | pressions (F16) | |
| | d Layers (A5) (LRR F uck (A9) (LRR F, G, I | | · | Gleyed Matrix (| | | , | ced Vertic | side of MLRA 72 & 73) | |
| · | d Below Dark Surfac | • | Redox I | , | , | | _ | | terial (TF2) | |
| | ark Surface (A12) | C (A11) | · | | urface (F7) | | | | ark Surface (TF12) | |
| | Mucky Mineral (S1) | | | Depressio | | | | | in Remarks) | |
| | Mucky Peat or Peat (| S2) (LRR (| | | essions (F | 16) | | | phytic vegetation and | |
| | ucky Peat or Peat (S | | | | 73 of LRR | | | • | gy must be present, | |
| | ` | , , | • | | | ŕ | | - | d or problematic. | |
| Restrictive | Layer (if present): | | | | | | | | | |
| Type: | | | | | | | | | • | |
| Depth (in | ches): | | | | | | | | 0 V V | |
| | | | | | | | Hydric Soi | l Present | :? Yes <u>X</u> No | |
| Remarks: | • | | | | | | | | | _ |
| Remarks: | • | arker | Man card |) L2 | -/\ | | | | | |
| Remarks: | • | in Tu | then card | y 75 | -/1 lect | دمنا | | | | <u>-</u> |
| Remarks: | 8-20" is d Re-visited | varKer in Ju | then care |) L2 | -/1 lect | soil | | | | _ |
| Remarks: | 3-20" is d Re-visited | arker in Ju | than card |) L2 to wl | -/1 lect | 50:1 | | | | _ |
| HYDROLO | 3-20" is d Re-visited | arker in Ju | than card | } ∠2 }o col | -/1 lect | soil | | | | _ |
| HYDROLO Wetland Hy | 8-20";5 d Re-visited GY drology Indicators: | | | | -/1 lect | 50:1 | depths | 14-3 | | <u></u> |
| HYDROLO Wetland Hy Primary India | B-20"; 5 d Re-visiked GY drology Indicators: cators (minimum of o | | d; check all that appl | y) | -/1 lect | soil | depths |)니~; | 30 ' l | <u></u> |
| HYDROLO Wetland Hy Primary India Surface | Re-visiked OGY drology Indicators: cators (minimum of o | | d; check all that appl | y) (B11) | | soil | depths Second Su | 기식~ : ary Indica face Soil | ators (minimum of two require | |
| HYDROLO Wetland Hy Primary India Surface High Wa | Re-visited GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) | | d; check all that appl Salt Crust Aquatic In | y) (B11) vertebrate | es (B13) | soil | Second Sur Spr | ary Indica | ators (minimum of two required Cracks (B6) getated Concave Surface (B8) | |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturatia | Re-visited GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) | | d; check all that appl Salt Crust Aquatic In Hydrogen | y) (B11) vertebrate Sulfide O | es (B13) dor (C1) | | Second Sur Spr X Dra | ary Indica face Soil arsely Veninage Pa | ators (minimum of two require Cracks (B6) getated Concave Surface (B8 tterns (B10) | 8) |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturatia Water M | Re-visiked GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) | | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso | y) (B11) vertebrate Sulfide O on Water ¹ | es (B13) dor (C1) Fable (C2) | | Second Second Spi Spi X Dra Ox | ary Indicated Face Soil arsely Veguinage Pa | ators (minimum of two require Cracks (B6) getated Concave Surface (B8 tterns (B10) izospheres on Living Roots (G | 8) |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturatia Water N Sedimen | Re-visiked GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) | | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc | y) (B11) vertebrate Sulfide O on Water ¹ Rhizosphe | es (B13) dor (C1) Fable (C2) res on Liv | | Second Sum Spi X Dra Ox s (C3) | ary Indica face Soil arsely Veg inage Pa dized Rhi where till | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) izospheres on Living Roots (Ced) | 8) |
| HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift De | Re-visikal GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) | | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F | y) (B11) vertebrate Sulfide O on Water ¹ Rhizosphe not tilled) | es (B13) dor (C1) Fable (C2) res on Liv | ing Roots | Second Sur Spr A Dra Ox s (C3) Cra | ary Indica face Soil arsely Veg inage Pa dized Rhi where till nyfish Bur | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) izospheres on Living Roots (Ced) rows (C8) | 8) C3) |
| HYDROLO Wetland Hy Primary Indie Surface High Wa X Saturatie Water M Sedimer Drift Der Algal Ma | GY drology Indicators: cators (minimum of or Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) | | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce | es (B13) dor (C1) Fable (C2) eres on Liv | ing Roots | Second Sur Spr X Dra Cra S (C3) Cra S (Sat | ary Indicated face Soil arsely Veginage Padized Rhiwhere till ayfish Bururation V | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (Ced) rows (C8) isible on Aerial Imagery (C9) | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturatia Water M Sedimer Drift Der Algal Ma Iron Der | Re-visiked Re-vis | ne required | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where i | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots | Second Sur Spr X Dra Cra S(C3) Cra X Sai X Ge | ary Indicated Face Soil Parsely Veninage Pardized Rhiphere till Payfish Burduration Vomorphic | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (Ced) rows (C8) isible on Aerial Imagery (C9) Position (D2) | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturati Water M Sedimer Drift Der Algal Ma Iron Der Inundati | Re-visiked GY Idrology Indicators: cators (minimum of of of the cators (minimum of of the cators (minimum of of of of the cators (minimum of | ne required | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where i | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots | Second Second Spi X Dra Ox S (C3) Cra X Sal X Ge X FA | ary Indicated Soil arsely Ventinage Particular Rhipsel Soil arsely Ventinage Particular Rhipsel Soil arsely Ventinage Rhipsel Soil are the soil are th | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) (zospheres on Living Roots (Ced) (Ce | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatia Water-S | Re-visiked GY Idrology Indicators: cators (minimum of of of the cators (minimum of of of the cators) Water (A1) ater Table (A2) on (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) | ne required | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where i | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots | Second Second Spi X Dra Ox S (C3) Cra X Sal X Ge X FA | ary Indicated Soil arsely Ventinage Particular Rhipsel Soil arsely Ventinage Particular Rhipsel Soil arsely Ventinage Rhipsel Soil are the soil are th | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (Ced) rows (C8) isible on Aerial Imagery (C9) Position (D2) | 8) C3) |
| HYDROLO Wetland Hy Primary Indid Surface High Wa Saturatid Sediment Sediment Iron Dep Inundatid Water-S Field Obser | Re-visikal GY drology Indicators: cators (minimum of of of water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) evations: | ne required | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where I Presence Thin Muck 7) Other (Exp | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce Surface o | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots | Second Second Spi X Dra Ox S (C3) Cra X Sal X Ge X FA | ary Indicated Soil arsely Ventinage Particular Rhipsel Soil arsely Ventinage Particular Rhipsel Soil arsely Ventinage Rhipsel Soil are the soil are th | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) (zospheres on Living Roots (Ced) (Ce | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturati Water M Sedimer Drift Der Algal Ma Iron Der Inundati Water-S Field Obser Surface Wat | Re-visikal GY drology Indicators: cators (minimum of of of water (A1)) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) rvations: ter Present? | ne required magery (B | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce Surface o blain in Re | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots | Second Second Spi X Dra Ox S (C3) Cra X Sal X Ge X FA | ary Indicated Soil arsely Ventinage Particular Rhipsel Soil arsely Ventinage Particular Rhipsel Soil arsely Ventinage Rhipsel Soil are the soil are th | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) (zospheres on Living Roots (Ced) (Ce | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturatia Water M Sedimen Iron Dep Inundati Water-S Field Obser Surface Water Table | Re-visiked GY Idrology Indicators: cators (minimum of or | ne required magery (B | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck T) No X Depth (in No X Depth (in | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce Surface (colain in Re ches): ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots | Second Sur Spa X Dra Cra X Sal X Ge X FA Fro | ary Indicated Face Soil arsely Verinage Particular Market Illustration Volumeration Volumeration Volumeration C-Neutral st-Heave | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) izospheres on Living Roots (Ced) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) Hummocks (D7) (LRR F) | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Iron Dep Inundati Water-S Field Obser Surface Water Water Table Saturation P | Re-visikal GY Idrology Indicators: cators (minimum of of of water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) reactions: ter Present? Present? Y | ne required magery (B | d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce Surface (colain in Re ches): ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots | Second Sur Spa X Dra Cra X Sal X Ge X FA Fro | ary Indicated Face Soil arsely Verinage Particular Market Illustration Volumeration Volumeration Volumeration C-Neutral st-Heave | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) (zospheres on Living Roots (Ced) (Ce | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturati Water M Sedimer Drift Der Algal Ma Iron Der Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes car | Re-visiked GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) vations: ter Present? Present? Y | magery (B | d; check all that appl Salt Crust Aquatic In: Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce Surface (clain in Re ches): ches): ches): | es (B13) dor (C1) Table (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots | Second Sum Spo X Dra Cra X Sat X Ge X FA Fro tland Hydrolog | ary Indicated Face Soil arsely Verinage Particular Market Illustration Volumeration Volumeration Volumeration C-Neutral st-Heave | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) izospheres on Living Roots (Ced) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) Hummocks (D7) (LRR F) | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturati Water M Sedimer Drift Der Algal Ma Iron Der Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes car | Re-visikal GY Idrology Indicators: cators (minimum of of of water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) reactions: ter Present? Present? Y | magery (B | d; check all that appl Salt Crust Aquatic In: Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce s Surface (clain in Re ches): ches): ches): | es (B13) dor (C1) Table (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots | Second Sum Spo X Dra Cra X Sat X Ge X FA Fro tland Hydrolog | ary Indicated Face Soil arsely Verinage Particular Market Illustration Volumeration Volumeration Volumeration C-Neutral st-Heave | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) izospheres on Living Roots (Ced) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) Hummocks (D7) (LRR F) | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Algal Ma Iron Dep Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes car Describe Re | Re-visiked GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) vations: ter Present? Present? Y | magery (B | d; check all that appl Salt Crust Aquatic In: Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce s Surface (clain in Re ches): ches): ches): | es (B13) dor (C1) Table (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots | Second Sum Spo X Dra Cra X Sat X Ge X FA Fro tland Hydrolog | ary Indicated Face Soil arsely Verinage Particular Market Illustration Volumeration Volumeration Volumeration C-Neutral st-Heave | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) izospheres on Living Roots (Ced) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) Hummocks (D7) (LRR F) | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa X Saturati Water M Sedimer Drift Der Algal Ma Iron Der Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes car | Re-visiked GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) vations: ter Present? Present? Y | magery (B | d; check all that appl Salt Crust Aquatic In: Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce s Surface (clain in Re ches): ches): ches): | es (B13) dor (C1) Table (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots | Second Sum Spo X Dra Cra X Sat X Ge X FA Fro tland Hydrolog | ary Indicated Face Soil arsely Verinage Particular Market Illustration Volumeration Volumeration Volumeration C-Neutral st-Heave | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) izospheres on Living Roots (Ced) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) Hummocks (D7) (LRR F) | 8) C3) |
| HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Algal Ma Iron Dep Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes car Describe Re | Re-visiked GY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9) vations: ter Present? Present? Y | magery (B | d; check all that appl Salt Crust Aquatic In: Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp | y) (B11) vertebrate Sulfide O on Water Rhizosphe not tilled) of Reduce s Surface (clain in Re ches): ches): ches): | es (B13) dor (C1) Table (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots | Second Sum Spo X Dra Cra X Sat X Ge X FA Fro tland Hydrolog | ary Indicated Face Soil arsely Verinage Particular Market Illustration Volumeration Volumeration Volumeration C-Neutral st-Heave | ators (minimum of two requires Cracks (B6) getated Concave Surface (B8 tterns (B10) izospheres on Living Roots (Ced) rows (C8) isible on Aerial Imagery (C9) Position (D2) Test (D5) Hummocks (D7) (LRR F) | 8) C3) |

| Project/Site: Julya Orr Mitigation | Bunk City/Co | ounty: E F | aso co. | Sampling Da | ate: 8)19 | 1/2 |
|--|--|---------------------|--|--|-------------------------------|------------|
| Applicant/Owner: Pelc Ltm | | , | State: CC | Sampling Po | oint: SA- | <u> 78</u> |
| Investigator(s): Glorin Surgent | | | | | | , • |
| Landform (hillslope, terrace, etc.): | Local | relief (concave, co | onvex, none): | ivex | Slope (%): | 5% |
| Subregion (LRR): | Lat: 38.9 | 57794 | Long: 704.5 | 4209 | Datum: X 3 | 408 |
| Soil Map Unit Name: Flyvaguentic Ha | nlagraniis. | nancha le | NWI class | sification: | MAD. | |
| Are climatic / hydrologic conditions on the site typical for | this time of year? V | s ML No | (If no explain i | n Pemarke) | | |
| Are Vegetation, Soil, or Hydrology | | • | | | s 🗸 No | |
| Are Vegetation, Soil, or Hydrology | | | eded, explain any ans | | - | - |
| | | | | | · | |
| SUMMARY OF FINDINGS – Attach site ma | p showing sam | pling point lo | cations, transed | ts, importar | it features | , etc. |
| Hydrophytic Vegetation Present? Yes | No 🐪 | In the Commission | • | | | |
| Hydric Soil Present? Yes | Na X | Is the Sampled A | d? Yes_ | No | Y | |
| Wetland Hydrology Present? Yes | No X | within a wettane | | \\\ | \ | |
| Remarks: | | | | | | |
| Annual precipitation | has been | below a | veroce six | Le 2019 | | |
| printed pro- | | , | <u> </u> | | | |
| VEGETATION – Use scientific names of pl | ants. | | | | | |
| Tree Stratum (Plot size: (190m²) | Absolute Domi | | Dominance Test w | orksheet: | | |
| | <u>% Cover Spec</u> | eles? Status | Number of Dominan | | | |
| 1 2 | | | That Are OBL, FAC' (excluding FAC-): | N, OF FAC | <u>O</u> | (A) |
| 3 | | | Total Number of Do | minant | a | |
| 4. | | | Species Across All S | | - | (B) |
| | = Tota | Il Cover | Percent of Dominan | t Species | 4.0 | |
| Sapling/Shrub Stratum (Plot size: 100m²) | | | That Are OBL, FAC | | | (A/B) |
| 1 | | | Prevalence Index v | vorksheet: | | |
| 2 | | | Total % Cover of | | ultiply by: | _ |
| 3 | | | OBL species | | | |
| 5. | | | FACW species | 5 x 2 = | | - |
| | = Tota | al Cover | FAC species | | | = |
| Herb Stratum (Plot size:) | 15 | | FACU species | <i>v</i> ∅ | 250 | = |
| 1. Artemisica Frisida | | <u>UPL</u> | UPL species | x5= | 330 | - |
| 2 <u>Elymns lancestatus lan</u> | _ <u>20 </u> | <u> </u> | Column Totals: | 75_ (A) | <u> 3103</u> | _ (B) |
| 3 houteland aruchis | _ | $-\frac{OPL}{OPL}$ | Prevalence Inc | dex = B/A = | 4.8 | _ |
| 5. January archeus literali | _ 2 _ | 5461 | Hydrophytic Veget | ation Indicators | | |
| o Juneus archicus pitolali | <u> </u> | TAK-LA | 1 - Rapid Test f | or Hydrophytic V | egetation | |
| 7 | | | 2 - Dominance | Test is >50% | | |
| 8 | | | 3 - Prevalence | | | |
| 9. | | | 4 - Morphologic | al Adaptations' (arks or on a sepa | Provide suppo arate sheet) | orting |
| 10. | | | Problematic Hy | • | , | 1) |
| 1472 | = Tota | l Cover | | . , | , , | |
| Woody Vine Stratum (Plot size: 100m) | | | ¹ Indicators of hydric be present, unless of | | | ust |
| 12. | | | Usalna mbastia | | | |
| 2. | = Tota | al Cover | Hydrophytic Vegetation | | v | |
| % Bare Ground in Herb Stratum 25 | | | Present? | Yes N | lo <u> </u> | |
| Remarks: | | | | | | |
| | | | | | | |
| | | | | | | |

| inches) | Color | (moist) | % | Redo Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks | | | |
|--|--|--|-----------------------------|---|---|--|------------------|--|---|--|--|--|
| 0-14 | IOYR | | 100 | | | | | | | | | |
| | 1011 | 16 | <u> 100</u> | | | | | Sandy | <u> </u> | | | |
| | | | | | _ | | | · - | | | | |
| | | | | | | | | · - | | | | |
| | | | | | | | | <u> </u> | | | | |
| | | | | | | | | | | | | |
| | | | | | | - | | · · | | | | |
| | - | | | | | | | · - | | | | |
| | | | | | | | | · · | | | | |
| | | | | | _ | | | · | | | | |
| ype: C=Cc | oncentratio | n, D=Depl | etion, RM=F | Reduced Matrix, C | S=Covered | d or Coate | d Sand G | rains. ² Loc | ation: PL=Pore Lining, M=Matrix. | | | |
| dric Soil I | Indicators | : (Applica | able to all L | RRs, unless othe | rwise note | ed.) | | Indicators | for Problematic Hydric Soils ³ : | | | |
| Histosol | | | | Sandy | Gleyed Ma | ıtrix (S4) | | 1 cm M | uck (A9) (LRR I, J) | | | |
| _ Histic Ep | oipedon (A | 2) | | Sandy | Redox (S5 |) | | Coast I | Prairie Redox (A16) (LRR F, G, H) | | | |
| Black His | | | | | d Matrix (S | • | | | urface (S7) (LRR G) | | | |
| Hydroge | | | | · | Mucky Mir | | | _ | ains Depressions (F16) | | | |
| Stratified | - | | | Loamy | - | | | | R H outside of MLRA 72 & 73) | | | |
| _ 1 cm Mu | | | | | ed Matrix (I | | | | ed Vertic (F18) rent Material (TF2) | | | |
| _ Depleted _ Thick Da | d Below Da | | (A11) | Redox | ed Dark Suna | | | | nallow Dark Surface (TF12) | | | |
| Sandy M | | . , | | Redox | | | | | Explain in Remarks) | | | |
| - | - | | S2) (LRR G , | | | | 16) | | of hydrophytic vegetation and | | | |
| | icky Peat c | | | | RA 72 & 7 | | | wetland hydrology must be present, | | | | |
| | • | | | | | | | | disturbed or problematic. | | | |
| estrictive L | _ayer (if p | resent): | | | | | | | | | | |
| Type: | | | | <u></u> | | | | | _ | | | |
| Depth (inc | ches): | | | | | | | Hydric Soil | Present? Yes No 🗶 | | | |
| emarks: | | | | | | | | I . | | | | |
| | | | | | | | | | | | | |
| DROLO | GY | | | | | | | | | | | |
| | | dicators: | | | | | | | | | | |
| etland Hyd | drology In | | ne required; | check all that app | ly) | | | Seconda | ry Indicators (minimum of two require | | | |
| etland Hyd imary Indic | drology In cators (min | imum of or | ne required; | | | | | | • | | | |
| etland Hyd imary Indic Surface | drology In cators (min Water (A1 | imum of or) | ne required; | Salt Crust | (B11) | s (B13) | | Surfa | ace Soil Cracks (B6) | | | |
| etland Hyd imary Indic Surface ' High Wa | drology In cators (min Water (A1 ater Table (| imum of or) | ne required; | Salt Crust | (B11) vertebrate | | | Surfa Spar | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 | | | |
| etland Hyd imary Indic _ Surface ' _ High Wa _ Saturatio | drology In cators (min Water (A1 ster Table (on (A3) | imum of or) | ne required; | Salt Crust Aquatic In Hydrogen | (B11) vertebrate Sulfide Od | dor (C1) | | Surfa Spar Draii | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) | | | |
| etland Hyd imary Indic Surface ' High Wa Saturatic Water M | cators (min Water (A1) Iter Table (on (A3) larks (B1) | imum of or) (A2) | ne required; | Salt Crust Aquatic In Hydrogen Dry-Seaso | (B11) vertebrate Sulfide Od on Water T | dor (C1) able (C2) | | Surfa Spar Draii Oxid | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) ized Rhizospheres on Living Roots (0 | | | |
| etland Hyd imary Indic Surface ' High Wa Saturatic Water M Sedimen | cators (min Water (A1 ter Table (on (A3) arks (B1) | imum of or) (A2) s (B2) | ne required; | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized | (B11) vertebrate Sulfide Od on Water T Rhizosphe | dor (C1) able (C2) | | Surfa Spar Drain Oxid (C3) (w | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) ized Rhizospheres on Living Roots (Chere tilled) | | | |
| etland Hyd imary Indic Surface ' High Wa Saturatic Water M Sedimen Drift Dep | cators (min Water (A1) ter Table (on (A3) larks (B1) obt Deposits posits (B3) | imum of or) (A2) (s (B2) | ne required; | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized I | (B11) vertebrate Sulfide Od on Water T Rhizosphe not tilled) | dor (C1) able (C2) res on Liv | ing Roots | Surfa Span Drain Oxid (C3) (w Cray | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) ized Rhizospheres on Living Roots (6 here tilled) fish Burrows (C8) | | | |
| etland Hyd imary Indic Surface ' High Wa Saturatio Water M Sedimen Drift Dep | cators (min Water (A1) ter Table (on (A3) larks (B1) obt Deposits posits (B3) | imum of or) (A2) (s (B2) | ne required; | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized | (B11) vertebrate Sulfide Oco on Water T Rhizosphe not tilled) of Reduce | dor (C1) Table (C2) res on Liv | ing Roots | Surfa Spar Drain Oxid (C3) (w Cray Satu | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) ized Rhizospheres on Living Roots (Chere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) | | | |
| etland Hydimary Indice Surface | cators (min Water (A1 ter Table (on (A3) arks (B1) at Deposits posits (B3) at or Crust posits (B5) | imum of or) (A2) (B2) (B4) | | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl | vertebrate Sulfide Ocon Water T Rhizosphe not tilled) of Reduce c Surface (| dor (C1) Table (C2) res on Liv and Iron (C4 C7) | ing Roots | Surfa Spar Drain Oxid (C3) | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) ized Rhizospheres on Living Roots (C here tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) | | | |
| etland Hydimary Indio Surface | cators (min Water (A1 ter Table (on (A3) arks (B1) at Deposits posits (B3) at or Crust posits (B5) | imum of or) (A2) (B2) (B4) on Aerial Ir | ne required; | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl | vertebrate Sulfide Ocon Water T Rhizosphe not tilled) of Reduce c Surface (| dor (C1) Table (C2) res on Liv and Iron (C4 C7) | ing Roots | Surfa Spar Drain Oxid (C3) (w Cray Satu Geol | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) ized Rhizospheres on Living Roots (C here tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) | | | |
| etland Hydimary Indio Surface | cators (min Water (A1 ter Table (on (A3) larks (B1) at Deposits posits (B3) at or Crust posits (B5) on Visible of tained Lea | imum of or) (A2) (B2) (B4) on Aerial Ir | | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized (where Presence Thin Mucl | vertebrate Sulfide Ocon Water T Rhizosphe not tilled) of Reduce c Surface (| dor (C1) Table (C2) res on Liv and Iron (C4 C7) | ing Roots | Surfa Spar Drain Oxid (C3) (w Cray Satu Geol | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) ized Rhizospheres on Living Roots (C here tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) | | | |
| etland Hydrimary Indice Surface ' High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water-St | cators (min Water (A1) ther Table (on (A3) larks (B1) at Deposits (B3) at or Crust posits (B5) on Visible of tained Lear | imum of or) (A2) (B2) (B4) on Aerial Ir ves (B9) | magery (B7) | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized I (where Presence Thin Mucl Other (Ex | (B11) vertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce c Surface (plain in Re | dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks) | ing Roots | Surfa Spar Drain Oxid (C3) (w Cray Satu Geol | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) ized Rhizospheres on Living Roots (C here tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) | | | |
| Tetland Hydrimary Indices Surface Surf | cators (min Water (A1, ter Table (on (A3) darks (B1) at Deposits posits (B3) at or Crust posits (B5) on Visible of tained Lea vations: | imum of or) A2) (B2) (B4) on Aerial Ir ves (B9) ? | magery (B7) es N | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized I (where Presence Thin Mucl Other (Ex | (B11) vertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce c Surface (plain in Re | dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks) | ing Roots | Surfa Spar Drain Oxid (C3) (w Cray Satu Geol | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) ized Rhizospheres on Living Roots (C here tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) | | | |
| Surface ' High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water-Si ield Observ | cators (min Water (A1 ter Table (on (A3) darks (B1) at Deposits posits (B3) at or Crust posits (B5) on Visible of tained Lea vations: er Present? | imum of or) (A2) (B2) (B4) on Aerial Ir ves (B9) ? Ye | magery (B7) es N es N | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized (where Presence Thin Much Other (Ex | (B11) vertebrate Sulfide Ocon Water T Rhizosphe not tilled) of Reduce c Surface (plain in Re | dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks) | ing Roots | Surfa Spar Drain Oxid (C3) (w Cray Satu Geo FAC Fros | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) ized Rhizospheres on Living Roots (Ca) here tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) t-Heave Hummocks (D7) (LRR F) | | | |
| etland Hydimary Indice Surface ' High Wa Saturatice Water M Sediment Drift Dep Algal Ma Iron Dep Inundatice Water-Sield Observarface Water | drology In cators (min Water (A1 ter Table (on (A3) darks (B1) at Deposits cosits (B3) at or Crust cosits (B5) on Visible of tained Lea vations: er Present? resent? | imum of or) (A2) (B2) (B4) on Aerial Ir ves (B9) ? Ye | magery (B7) es N es N | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized I (where Presence Thin Mucl Other (Ex | (B11) vertebrate Sulfide Ocon Water T Rhizosphe not tilled) of Reduce c Surface (plain in Re | dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks) | ing Roots | Surfa Spar Drain Oxid (C3) (w Cray Satu Geo FAC Fros | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) ized Rhizospheres on Living Roots (C here tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) t-Heave Hummocks (D7) (LRR F) | | | |
| etland Hydimary Indice Surface ' High Wa Saturatice Water M Sediment Drift Dep Algal Ma Iron Dep Inundatice Water-Sield Observators ater Table | drology In eators (min Water (A1, ter Table (on (A3) darks (B1) at Deposits posits (B3) at or Crust dosits (B5) on Visible (tained Lea vations: er Present' Present? | imum of or) (A2) (B2) (B4) on Aerial Ir ves (B9) ? Ye Ye e) | magery (B7) es N es N | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized (where Presence Thin Much Other (Ex | (B11) vertebrate Sulfide Ocon Water T Rhizosphe not tilled) of Reduce c Surface (plain in Re uches): uches): | dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks) | ing Roots | Surfa Spar Drain Oxid (C3) | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8 nage Patterns (B10) ized Rhizospheres on Living Roots (C here tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) t-Heave Hummocks (D7) (LRR F) | | | |
| etland Hydimary Indice Surface ' High Wa Saturatice Water M Sediment Drift Dep Algal Ma Iron Dep Inundatice Water-Sield Observators ater Table | drology In eators (min Water (A1, ter Table (on (A3) darks (B1) at Deposits posits (B3) at or Crust dosits (B5) on Visible (tained Lea vations: er Present' Present? | imum of or) (A2) (B2) (B4) on Aerial Ir ves (B9) ? Ye Ye e) | magery (B7) es N es N | Salt Crust Aquatic In Hydrogen Dry-Sease Oxidized I (where Presence Thin Mucl Other (Ex | (B11) vertebrate Sulfide Ocon Water T Rhizosphe not tilled) of Reduce c Surface (plain in Re uches): uches): | dor (C1) Table (C2) res on Liv d Iron (C4 C7) marks) | ing Roots | Surfa Spar Drain Oxid (C3) | ace Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) ized Rhizospheres on Living Roots (Ca) here tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) -Neutral Test (D5) t-Heave Hummocks (D7) (LRR F) | | | |

| Project/Site: Judge Or Mitigation Bank City/County: El | Paso Co Sampling Date: 8/19/2 |
|--|--|
| | State: CO Sampling Point: 50-/9 |
| Investigator(s): Gloria Saturt Section, Township, | |
| Landform (hillslope, terrace, etc.): | |
| Subregion (LRR): G | Long: -104.541737 Datum: 41408 |
| Subregion (LRR): G Lat: 39.955466 Soil Map Unit Name: Fluvaguentic Haplaguolis, reachy | NIMI classification: A MAIS |
| Associated the desire association and the site to reind for this time of season. Very | V ((for experies in Remarks) |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes N | \ A |
| | re "Normal Circumstances" present? Yes X No |
| Are Vegetation, Soil, or Hydrology naturally problematic? (I | f needed, explain any answers in Remarks.) |
| SUMMARY OF FINDINGS - Attach site map showing sampling point | nt locations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes No No Is the Samp | |
| | . • • |
| Hydric Soil Present? Yes No within a We Wetland Hydrology Present? Yes No within a We | tland? Yes No X |
| Remarks: | |
| Annual precipitation has been below | averence since 2019 |
| Minimal processors was process | ar 500 5.11. |
| VEGETATION – Use scientific names of plants. | |
| Absolute Dominant Indicate | or Dominance Test worksheet: |
| Tree Stratum (Plot size: 120m²) Absolute Dominant Indicate McOver Species? Status | |
| 1 | That Are OBL, FACW, or FAC |
| 2 | (excluding FAC-): (A) |
| 3 | Total Number of Dominant |
| 4 | Species Across All Strata: (B) |
| Sapling/Shrub Stratum (Plot size: 102 = Total Cover | Percent of Dominant Species |
| 1 | That Are OBL, FACW, or FAC: (A/B) |
| 2. | Prevalence Index worksheet: |
| 3. | Total % Cover of: Multiply by: |
| 4 | OBL species x 1 = FACW species x 2 = |
| 5 | |
| Herb Stratum (Plot size: = Total Cover | FACUlancian x 4 = |
| Herb Stratum (Plot size: 120M) | FACU species x 4 = UPL species |
| Hesperostion compter in 1991 | Column Totals: (A) 312 (B) |
| 3 Spunta Dolyacantha 1 UP |), |
| 4. Helerotreco VIIIOSCA 5 UPI | Prevalence Index = B/A = 4.952 |
| 5. Calamagrostis Stricter 1 FAC | Hydrophytic Vegetation Indicators: |
| 6. Yucca glanca 1 UP | 1 - Rapid Test for Hydrophytic Vegetation |
| 7. Artemisia frigida 5 UPL | 2 - Dominance Test is >50% |
| 8 | 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting |
| 9 | data in Remarks or on a separate sheet) |
| 10 | Problematic Hydrophytic Vegetation ¹ (Explain) |
| Woody Vine Stratum (Plot size: 100m²) | ¹ Indicators of hydric soil and wetland hydrology must |
| 1 | be present, unless disturbed or problematic. |
| 2. | Hydrophytic |
| = Total Cover | Vegetation |
| % Bare Ground in Herb Stratum | Present? Yes No |
| Remarks: | |
| | |
| | |

SOIL Sampling Point: <u>5P-19</u>

| Profile Desc Depth | cription: (Describe Matrix | to the depth r | needed to document the indicato Redox Features | | tne absence | e or indicators.) |
|-----------------------|--|-------------------------|---|------------------|-------------------|---|
| (inches) | Color (moist) | % | Color (moist) % Type ¹ | Loc ² | Texture | Remarks |
| 0-14 | 1048 2/2 | <u> </u> | | | Sandy | Loam |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Type: C=Co | oncentration, D=Dep | oletion, RM=Re | educed Matrix, CS=Covered or Coa | ted Sand Gra | | ocation: PL=Pore Lining, M=Matrix. |
| - | | able to all LR | Rs, unless otherwise noted.) | | | s for Problematic Hydric Soils ³ : |
| Histosol | | | Sandy Gleyed Matrix (S4) | | | Muck (A9) (LRR I, J) |
| Histic Ep Black Hi | oipedon (A2) | | Sandy Redox (S5)Stripped Matrix (S6) | | | t Prairie Redox (A16) (LRR F, G, H) Surface (S7) (LRR G) |
| ' | en Sulfide (A4) | | Loamy Mucky Mineral (F1 |) | | Plains Depressions (F16) |
| | d Layers (A5) (LRR | F) | Loamy Gleyed Matrix (F2 | | _ | RR H outside of MLRA 72 & 73) |
| | ick (A9) (LRR F, G , | | Depleted Matrix (F3) | | | ced Vertic (F18) |
| | d Below Dark Surfac ark Surface (A12) | ce (A11) | Redox Dark Surface (F6)Depleted Dark Surface (F | 7) | _ | Parent Material (TF2) Shallow Dark Surface (TF12) |
| | fucky Mineral (S1) | | Redox Depressions (F8) | <i>(</i>) | - | (Explain in Remarks) |
| - | Aucky Peat or Peat | (S2) (LRR G , H | | F16) | | s of hydrophytic vegetation and |
| 5 cm Mu | icky Peat or Peat (S | 3) (LRR F) | (MLRA 72 & 73 of LR | R H) | | nd hydrology must be present, |
| | | | | | unles | s disturbed or problematic. |
| | Layer (if present): | | | | | |
| Type: | -1 V. | | _ | | United a Cont | il Present? Yes X No |
| Depth (inc | | | - | | nyuric Soi | ii Present? Tes 71 NO |
| SP-20 | . Assum | ed hy | dric soil based o | on 207 | 100 pro 22 Res | ofile Similar to ults t Location. |
| YDROLO | GY | V | | | | |
| Wetland Hyd | drology Indicators: | : | | | | |
| Primary Indic | cators (minimum of o | one required; cl | | | Second | lary Indicators (minimum of two required |
| | Water (A1) | | Salt Crust (B11) | | | rface Soil Cracks (B6) |
| | iter Table (A2) | | Aquatic Invertebrates (B13) | | | arsely Vegetated Concave Surface (B8) |
| Saturatio | | | Hydrogen Sulfide Odor (C1) | 2) | | ainage Patterns (B10) |
| | larks (B1) nt Deposits (B2) | | Dry-Season Water Table (C: Oxidized Rhizospheres on L | | | idized Rhizospheres on Living Roots (C3 where tilled) |
| | posits (B3) | | (where not tilled) | iving roots (| , , | ayfish Burrows (C8) |
| | at or Crust (B4) | | Presence of Reduced Iron (| C4) | | turation Visible on Aerial Imagery (C9) |
| | oosits (B5) | | Thin Muck Surface (C7) | , | • • | omorphic Position (D2) |
| Inundation | on Visible on Aerial | Imagery (B7) | Other (Explain in Remarks) | | FA | C-Neutral Test (D5) |
| Water-S | tained Leaves (B9) | | | | Fro | ost-Heave Hummocks (D7) (LRR F) |
| ield Obser | vations: | | | | | |
| Surface Water | | 'es No | | | | |
| Nater Table | | 'es No | | | | \ |
| Saturation Pi | | 'es No | Depth (inches): | Wetla | nd Hydrolog | gy Present? Yes No X |
| | | n gauge, monito | oring well, aerial photos, previous in | nspections), if | f available: | |
| | | | | | | |
| Remarks: | | | | | | |
| | | | | | | |
| λ | lo sontur | aften | to obscure Redo | x Frat | ures. C |)-14" |

| Project/Site: Julye Orr Mitigation Benk City/County: El P | なら Co. Sampling Date: 8月9/23 |
|--|---|
| Applicant/Owner: Pelc Lten | State: Sampling Point: 5P-20 |
| Investigator(s): Gloria Sarunt Section, Township, Rar | |
| | convex, none): 1000 Slope (%): 070 |
| Subregion (LRR): | Long: ~104.542143 Datum: 44-08 |
| Soil Map Unit Name: Fluvanuentic haplaquolls, nearly (| NWI classification: \(\hat{\lambda}\) \(\hat{\lambda}\) |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes No | X (If no, explain in Remarks.) |
| • | Normal Circumstances" present? Yes X No |
| | eded, explain any answers in Remarks.) |
| | , , |
| SUMMARY OF FINDINGS – Attach site map showing sampling point to | ocations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes No Is the Sampled | Area |
| Hydric Soil Present? Yes No within a Wetlan | |
| Wetland Hydrology Present? YesX No | |
| Remarks: | - 12 |
| Annual precipitation has been below a | reraye since 2019. |
| • | <u> </u> |
| VEGETATION – Use scientific names of plants. | |
| Absolute Dominant Indicator | Dominance Test worksheet: |
| Tree Stratum (Plot size: 100m 2) % Cover Species? Status | Number of Dominant Species |
| 1 | That Are OBL, FACW, or FAC (excluding FAC-): (A) |
| 2 | Total Number of Dominant |
| 4. | Species Across All Strata: (B) |
| = Total Cover | Percent of Dominant Species |
| Sapling/Shrub Stratum (Plot size: 100 m²) | That Are OBL, FACW, or FAC: (A/B) |
| 1 | Prevalence Index worksheet: |
| 2 | Total % Cover of: Multiply by: |
| 3 | OBL species x 1 = |
| 5. | FACW species x 2 = |
| 72 | FAC species x 3 = |
| Herb Stratum (Plot size: (COM) | FACU species X 4 = X 4 = |
| 1. Elymnis lance lance 40 X UTL | UPL species x 5 = |
| 2 Junius arcificus 11/10/12/15 20 X 1/1CW | Column Totals: 94 (A) 402 (B) |
| 3. Symphysotrichum ascendens 5 FACO | Prevalence Index = B/A = 4.277 |
| 5. Tenasacum Officinale 2 FAW | Hydrophytic Vegetation Indicators: |
| 6. Transproper dubies | 1 - Rapid Test for Hydrophytic Vegetation |
| 7. Ambrosa estostachya / FACU | 2 - Dominance Test is >50% |
| 8. Carex duriuscula 15 UPL | 3 - Prevalence Index is ≤3.0 ¹ |
| 9 | 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| 10 | Problematic Hydrophytic Vegetation ¹ (Explain) |
| Wesday/ing Statum (Blateing 17) 2 Total Cover | |
| Woody Vine Stratum (Plot size: 100) | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1 | Hydrophytic |
| = Total Cover | Vegetation |
| % Bare Ground in Herb Stratum | Present? Yes No |
| Remarks: | |
| | |
| | |

| Profile Desc | ription: (Describe | to the de | pth needed to docum | ent the i | ndicator | or confir | m the absence | of indicators.) |
|---------------|------------------------------|-------------------|--|---------------|--------------------------|------------------|-------------------------|---|
| Depth | Matrix | 0/ | | Features | 1 | 12 | | Develop |
| (inches) | Color (moist) | _ <u>%</u> | Color (moist) | | Type' | Loc ² | Texture | Remarks |
| 0~0 | 104R3/2 | 98 | 754R 4/4 | | <u> </u> | M | Loam | |
| 8-22 | 10YR 3/1 | 85 | 1048 8/1 | 10 | $\overline{\mathcal{L}}$ | ~ | c.\cus. Lo | |
| | 2.5Y 4/3 | <u>5</u> | | | | | - | |
| 12-26 | 2.5Y 4/L | 0_ | 10YR 3/6 | 15 | | 100 | 4114 | |
| 20 20 | <u> </u> | <u> 50</u> | 101R 8/1 | <u> 5</u> | $\frac{D}{C}$ | m | SITY C | |
| | | | | | | | | |
| | | | M=Reduced Matrix, CS I LRRs, unless other | | | ed Sand C | | for Problematic Hydric Soils ³ : |
| Histosol | | | Sandy G | | | | | fuck (A9) (LRR I, J) |
| _ | oipedon (A2) | | Sandy R | - | | | | Prairie Redox (A16) (LRR F, G, H) |
| Black Hi | | | | Matrix (S | | | | urface (S7) (LRR G) |
| _ | n Sulfide (A4) | | | lucky Mir | | | | lains Depressions (F16) |
| - | Layers (A5) (LRR | F) | | Bleyed Ma | | | _ | R H outside of MLRA 72 & 73) |
| | ick (A9) (LRR F, G , | | | d Matrix (F | | | • | ed Vertic (F18) |
| | d Below Dark Surfac | • | | ark Surfa | | | | arent Material (TF2) |
| | ark Surface (A12) | ` , | X Depleted | | |) | · | hallow Dark Surface (TF12) |
| | lucky Mineral (S1) | | • | epression | | | - | Explain in Remarks) |
| 2.5 cm N | lucky Peat or Peat (| (S2) (LRR | G, H) High Pla | ins Depre | essions (F | 16) | ³ Indicators | of hydrophytic vegetation and |
| 5 cm Mu | icky Peat or Peat (S | 3) (LRR F | (MLF | RA 72 & 7 | 73 of LRR | H) | | d hydrology must be present, |
| | | | | | | | unless | disturbed or problematic. |
| Restrictive I | _ayer (if present): | | | | | | | |
| Type: | | | | | | | | |
| Depth (inc | ches): | | | | | | Hvdric Soil | Present? Yes X No No |
| Remarks: | , | | | | | | | |
| | Re-visited | in Jo | are 2022 } | ای م | lect | soil | depths | 14-26" |
| | | | | | | | • | |
| HYDROLO | | | | | | | | |
| - | drology Indicators: | | | | | | | |
| Primary Indic | cators (minimum of c | one require | ed; check all that apply | | | | | ry Indicators (minimum of two required) |
| Surface | Water (A1) | | Salt Crust (| (B11) | | | Surf | ace Soil Cracks (B6) |
| High Wa | iter Table (A2) | | Aquatic Inv | ertebrate | s (B13) | | Spar | rsely Vegetated Concave Surface (B8) |
| X Saturation | on (A3) | | Hydrogen S | Sulfide Od | dor (C1) | | Drai | nage Patterns (B10) |
| Water M | arks (B1) | | Dry-Seasor | n Water T | able (C2) | | Oxid | lized Rhizospheres on Living Roots (C3) |
| Sedimer | nt Deposits (B2) | | Oxidized R | hizosphe | res on Liv | ing Roots | s (C3) (w | here tilled) |
| | posits (B3) | | (where n | | | · · | | rfish Burrows (C8) |
| | at or Crust (B4) | | Presence o | | | 1) | - | ration Visible on Aerial Imagery (C9) |
| _ | oosits (B5) | | Thin Muck | | | -, | | morphic Position (D2) |
| | on Visible on Aerial | lmagery (F | | | | | | -Neutral Test (D5) |
| | tained Leaves (B9) | iiiagciy (L | Office (Exp | iaiii iii ike | marks) | | | t-Heave Hummocks (D7) (LRR F) |
| | | | | | | 1 | 1105 | t-Heave Huminocks (D1) (LKK F) |
| Field Observ | | / | No. V . Double (1) | .h\· | | | | |
| Surface Water | | | No Depth (inc | | | - | | |
| Water Table | | ′es | ' ' ' | | / 4 4 | _ | | V |
| Saturation Pr | | ′es _X _ | No Depth (inc | :hes): | <u> 14</u> | Wet | tland Hydrology | y Present? Yes X No No |
| (includes cap | | 2 001100 ~ | nonitoring well, aerial p | hotos pr | ovious iss | noctions | if available: | |
| Describe Rec | Lorded Data (Stream | ı yauye, II | iomiomig well, aerial p | notos, pro | evious ins | pecilons) | ı, ıı avallable. | |
| | | | | | | | | |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Project/Site: Julge On Miligation (| Sunk City/C | County: E P | 250 CD | Sampling Date: |
|---|--------------------|--------------------------------|--|---|
| Applicant/Owner: Peic Lien | | | State: | _ Sampling Point: 5P-21 |
| Investigator(s): Gloria Sarunt | Secti | on, Township, Rai | nge: 34, 712 | S RGHW |
| Landform (hillslope, terrace, etc.): | | | | |
| Subregion (LRR): | 36. 9 | 155901 | Long - 104.5 | 43677 Datum: NAD 8 |
| Soil Map Unit Name: Flavoquentic Hapl | _ | | | |
| | | | | |
| Are climatic / hydrologic conditions on the site typical for this | | res No _ | (If no, explain in | Remarks.) |
| Are Vegetation, Soil, or Hydrologys | | | | " present? Yes X No |
| Are Vegetation, Soil, or Hydrologyn | aturally problema | atic? (If ne | eded, explain any ansv | vers in Remarks.) |
| SUMMARY OF FINDINGS – Attach site map | showing san | npling point le | ocations, transec | ts, important features, etc. |
| Hydrophytic Vegetation Present? Yes N | 。 'X | lo the Compled | Araa | |
| • | 0 | Is the Sampled within a Wetlan | | No <u>X</u> |
| Wetland Hydrology Present? Yes N | o | within a wetian | iu: 165 | |
| Remarks: | | | | |
| Annual precipitation has | bren be | dow aver | roke since | 2019. |
| 7 Millorett Pro- 1 | | | J | |
| VEGETATION – Use scientific names of plan | ts. | | | |
| 5n 2 | | ninant Indicator | Dominance Test wo | rksheet: |
| Tree Stratum (Plot size: (OOm 7) | % Cover Spe | cies? Status | Number of Dominant | |
| 1 | - — — | | That Are OBL, FACW (excluding FAC-): | /, or FAC (A) |
| 2 | | | , , | • |
| 3 | | | Total Number of Dom Species Across All St | , |
| 4. | = Tot | tal Cover | | • |
| Sapling/Shrub Stratum (Plot size: | | lai Covei | Percent of Dominant That Are OBL, FACW | |
| 1 | | | Prevalence Index we | orksheet: |
| 2 | | | Total % Cover of | Multiply by: |
| 3 | | | OBL species | 5 x 1 = <u>5</u> |
| 5. | | | FACW species | 5 x 2 = 10 |
| 179a 7 | = Tot | tal Cover | FAC species | x 3 = |
| Herb Stratum (Plot size: | المسامل | ¢ | FACU species | x 4 = 64 |
| 1/45copyrum Smithis | <u>40)</u> | <u>्र</u> | Of E openies | 70 x5= 350 |
| 2. Symphyotrichym astendar | <u>ে । ত</u> | FACU | Column Totals: | (A) <u>429</u> (B) |
| 3 Taraxacum Otticinale | - | FACU | Prevalence Inde | ex = B/A = <u>4.469</u> |
| 4 AM Proside psilostach so | 5 | - FACU | Hydrophytic Vegeta | • |
| 5 ELLOCKOP S Dally STris | - 7 0 — | | | r Hydrophytic Vegetation |
| 6. Descurainia pinnata | · <u>/U</u> — | 72/1 | 2 - Dominance T | |
| Care X free greatilis | · -3 -\ | 7 10 1 | 3 - Prevalence In | idex is ≤3.0¹ |
| 8. E. Gras Tancolatus Jane | · <u> </u> | UPL | | I Adaptations ¹ (Provide supporting |
| 10. | . <u></u> | | | rks or on a separate sheet) |
| 10. | 4/0 = Tot | tal Cover | Problematic Hyd | rophytic Vegetation ¹ (Explain) |
| Woody Vine Stratum (Plot size: 1000) | 100 | al cover | | soil and wetland hydrology must sturbed or problematic. |
| | | | | |
| 11 | = Tot | tal Cover | Hydrophytic Vegetation | 1, |
| % Bare Ground in Herb Stratum | <u> </u> | ai Covei | | /es No |
| Remarks: | | | • | |
| | | | | |
| | | | | |

SOIL

Sampling Point: SP-21

| | Color (m | ioist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks | |
|---|---|---|-----------------------|---|--|--|---------------------|---|---|--|
| <u>0-3</u> | <u>10 YR</u> | 3 <u>n</u> | 98 | 10 YR 4/6 | 2 | <u></u> | <u>m</u> | Sandy | Loum | |
| 3-14 | 10 YR | 3/1 | 100 | | | | | Clay La | pam | |
| | | | · | | | | | | | |
| | | | | Reduced Matrix, CS | | | d Sand G | | ocation: PL=Pore Lining, M=Matrix. | |
| - | | (Аррпса | DIE TO AII I | RRs, unless other | | | | | s for Problematic Hydric Soils ³ : | |
| Histosol | (AT) pipedon (A2) | | | Sandy (Sandy F | | | | | Muck (A9) (LRR I, J) t Prairie Redox (A16) (LRR F, G, H) | |
| | | | | Stripped | | | | | Surface (S7) (LRR G) | |
| Black Histic (A3) Hydrogen Sulfide (A4) | | | | Mucky Mir | • | | | Plains Depressions (F16) | | |
| | | |) | Loamy | | | | (LI | RR H outside of MLRA 72 & 73) | |
| Stratified Layers (A5) (LRR F)1 cm Muck (A9) (LRR F, G, H) | | | | | d Matrix (| | | | ced Vertic (F18) | |
| | d Below Dark | | (A11) | X Redox [| | | | | Parent Material (TF2) | |
| | ark Surface (⁄ucky Minera | | | | o Dark Su Depressio | ırface (F7) ns (F8) | | | Shallow Dark Surface (TF12) (Explain in Remarks) | |
| | Mucky Peat o | | 2) (LRR G | | | essions (F | 16) | | s of hydrophytic vegetation and | |
| | ucky Peat or | | | | | 73 of LRR | | wetland hydrology must be present, unless disturbed or problematic. | | |
| | l aa. /!£ .aa | | | | | | | | | |
| estrictive | ∟ayer (ır pre | sent): | | | | | | | | |
| estrictive Type: | Layer (IT pre | sent): | | | | | | | •• | |
| Type: Depth (in | ches): | - | face. | - likely h | ydric | . soil | but | | il Present? Yes X No No No Incler estimated in | |
| Type: | ches): | - | face. | likely h zdric base | ydric ed on | soil | but 4 20 | | Uncler estimated in Sults & location. | |
| Depth (in Remarks: | ches): Dark O22. | sur | face. | likely h ydric base | ydric ed on | soil Jun | but 4 20 | | | |
| Type: Depth (in Remarks: TAN 2 TOROLO Vetland Hy | Dark Dark GY drology Indi | Suci Assum | | | | soil Jun | but 4 20 | Reclox (| Under estimated in sults & location. | |
| Type: | ches): | Suci Assum | | ; check all that appl | y) | soil | but 4 20 | Reclox (| Uncler estimated in sults & location. | |
| Type: | Dark Dark GY drology Indi | Sura Assum cators: | | | y) (B11) | | but 4 20 | Reclox (| Uniter estimated in sults & locution. Sults & locution. Sults & locution. Sults & locution. | |
| Type: | ches): Darl OZZ. GY drology Indicators (minim Water (A1) ater Table (A | Sura Assum cators: | | ; check all that appl | y) (B11) vertebrate | es (B13) | but 4 20 | Reclox (P22 Re Second Sun Spa | Uncler estimated in sults & location. | |
| Type: Depth (in emarks: | ches): Dark GY drology Indicators (minim Water (A1) ater Table (A on (A3) | Sura Assum cators: | | ; check all that appl Salt Crust Aquatic In | y) (B11) vertebrate Sulfide O | s (B13) dor (C1) | | Reclox (PR Re Second Sur Spr Dra | Uniter estimated in Sults & locution. Salts & locution. Sary Indicators (minimum of two required frace Soil Cracks (B6) arsely Vegetated Concave Surface (B8) | |
| Type: | ches): Dark GY drology Indicators (minim Water (A1) ater Table (A on (A3) | Such Assum cators: num of on | | ; check all that appl Salt Crust Aquatic Indigen | y) (B11) vertebrate Sulfide Oo on Water 1 | s (B13) dor (C1) Fable (C2) | | Second Sum Spa Dra Oxi | Uniter estimated in Sults & locution. Sults & locution. Sary Indicators (minimum of two required face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) | |
| Type: | ches): | Such Assum cators: num of on | | check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F | y) (B11) vertebrate Sulfide Oo on Water 1 | s (B13) dor (C1) Table (C2) res on Liv | | Second Second Sur Spr Oxi (C3) Cre Cre | Lary Indicators (minimum of two required face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) idized Rhizospheres on Living Roots (Cowhere tilled) ayfish Burrows (C8) | |
| Type: Depth (in emarks: TOROLO Tetland Hy rimary India Surface High Wa Saturati Water M Sedimel Drift De Algal Ma | ches): Darl Darl GY drology Indicators (minim Water (A1) ater Table (A on (A3) farks (B1) ant Deposits (B3) at or Crust (B | Cators: num of on | | ; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where i | y) (B11) vertebrate Sulfide Or on Water 1 Rhizosphe not tilled) of Reduce | es (B13) dor (C1) Fable (C2) res on Liv | ing Roots | Second Second Sui Spa Dra Oxi (C3) Cra X Sat | Lary Indicators (minimum of two required frace Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) idized Rhizospheres on Living Roots (Combere tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) | |
| Type: Depth (in emarks: 10 2 10 2 10 R 10 10 R 1 | ches): Darl OZZ. GY drology Indicators (minim Water (A1) ater Table (A on (A3) Arks (B1) ant Deposits (B3) at or Crust (B posits (B5) | Cators: num of on 2) B2) | e required | check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where i | y) (B11) vertebrate Sulfide Oo on Water 1 Rhizosphe not tilled) of Reduce | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 | ing Roots | Second Second Spa Dra Cra X Sat X Ge | Included in Sulfs & Location. Identify Indicators (minimum of two required race Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) idized Rhizospheres on Living Roots (Combere tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) | |
| Type: | ches): Dark OZZ. GY drology Indicators (minim Water (A1) ater Table (A on (A3) Marks (B1) nt Deposits (B) at or Crust (B posits (B5) on Visible or | Cators: num of on 2) B2) Aerial In | e required | check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where i | y) (B11) vertebrate Sulfide Oo on Water 1 Rhizosphe not tilled) of Reduce | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 | ing Roots | Second Second Su Spa Dra Oxi (C3) (C3) FA | Included in Sulfs of Jocution. Identify Indicators (minimum of two required race Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) idized Rhizospheres on Living Roots (Combere tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) | |
| Type: | ches): CO22. COY drology Indicators (minim Water (A1) ater Table (A on (A3) Marks (B1) nt Deposits (B3) at or Crust (B cosits (B5) on Visible or stained Leave | Cators: num of on 2) B2) Aerial In | e required | check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where i | y) (B11) vertebrate Sulfide Oo on Water 1 Rhizosphe not tilled) of Reduce | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 | ing Roots | Second Second Su Spa Dra Oxi (C3) (C3) FA | Included in Sulfs & Location. Identify Indicators (minimum of two required race Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) idized Rhizospheres on Living Roots (Combere tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) | |
| Type: | ches): Dark OZZ. GY drology Indicators (minimal operators) Mater (A1) ater Table (Alon (A3) Marks (B1) at Deposits (B3) at or Crust (B3) at or Crust (B3) on Visible or operators stained Leave vations: | cators: num of on 2) B2) Aerial Imes (B9) | e required | ; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where i Presence Thin Muck) Other (Exp | y) (B11) vertebrate Sulfide Or on Water 1 Rhizosphe not tilled) of Reduce Surface (blain in Re | es (B13) dor (C1) Fable (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots | Second Second Su Spa Dra Oxi (C3) (C3) FA | Included in Sulfs of Jocution. Identify Indicators (minimum of two required race Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) idized Rhizospheres on Living Roots (Combere tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) | |
| Type: Depth (in Remarks: TOROLO Vetland Hy Inimary India Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Inundati Water-S ield Obser surface Wat | ches): Dark Dark GY drology Indicators (minim Water (A1) ater Table (A on (A3) Arks (B1) ant Deposits (B3) at or Crust (B posits (B5) on Visible or stained Leave evations: are Present? | Cators: num of on 2) B2) A Aerial Imes (B9) | e required | ; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where i Presence Thin Muck) Other (Exp | y) (B11) vertebrate Sulfide Oo on Water 1 Rhizosphe not tilled) of Reduce Surface (blain in Re | es (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots | Second Second Su Spa Dra Oxi (C3) (C3) FA | Included in Sulfs of Jocution. Identify Indicators (minimum of two required race Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) idized Rhizospheres on Living Roots (Combere tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) | |
| Type: Depth (in Remarks: YOR 2 YOROLO Vetland Hy Primary India Surface High Wa Saturati Water M Sedime Drift De Inundati Water-S Gield Obser Gurface Wat Vater Table Raturation P | ches): Dark GY drology Indicators (minim Water (A1) ater Table (A on (A3) Marks (B1) at or Crust (B posits (B5) on Visible or stained Leave vations: er Present? Present? | cators: num of on 2) B2) Aerial Imes (B9) Ye Ye | e required | check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck) Other (Exp | y) (B11) vertebrate Sulfide Oo on Water 1 Rhizosphe not tilled) of Reduce Surface (plain in Re | s (B13) dor (C1) Fable (C2) res on Liv ed Iron (C4 (C7) emarks) | ing Roots | Second Sui Spa Oxi (C3) (C3) FAI Fro | Included in Sulfs of Jocution. Identify Indicators (minimum of two required race Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) idized Rhizospheres on Living Roots (Combere tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5) | |
| Type: | ches): Dark OZZ. GY drology Indicators (minim Water (A1) ater Table (A on (A3) Arks (B1) at Deposits (B3) at or Crust (B posits (B5) on Visible or stained Leave vations: are Present? Present? pillary fringe) | Cators: num of on 2) B2) A Aerial Impes (B9) Ye Ye Ye | e required nagery (B7 | check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck) Other (Exp | y) (B11) vertebrate Sulfide Oo on Water T Rhizosphe not tilled) of Reduce Surface (plain in Re ches): ches): ches): | es (B13) dor (C1) Fable (C2) res on Liv ed Iron (C4 (C7) emarks) | ing Roots i) Wetl | Second Second Sum Spa Dra Cra X Sal X Ge FAI Fro | Indicators (minimum of two required frace Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) aidized Rhizospheres on Living Roots (Combere tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) comorphic Position (D2) C-Neutral Test (D5) ast-Heave Hummocks (D7) (LRR F) | |
| Type: Depth (in Temarks: | ches): Dark OZZ. GY drology Indicators (minim Water (A1) ater Table (A on (A3) Arks (B1) at Deposits (B3) at or Crust (B posits (B5) on Visible or stained Leave vations: are Present? Present? pillary fringe) | Cators: num of on 2) B2) A Aerial Impes (B9) Ye Ye Ye | e required nagery (B7 | check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck Other (Exp | y) (B11) vertebrate Sulfide Oo on Water T Rhizosphe not tilled) of Reduce Surface (plain in Re ches): ches): ches): | es (B13) dor (C1) Fable (C2) res on Liv ed Iron (C4 (C7) emarks) | ing Roots i) Wetl | Second Second Sum Spa Dra Cra X Sal X Ge FAI Fro | Indicators (minimum of two required frace Soil Cracks (B6) arsely Vegetated Concave Surface (B8) ainage Patterns (B10) aidized Rhizospheres on Living Roots (Combere tilled) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) comorphic Position (D2) C-Neutral Test (D5) ast-Heave Hummocks (D7) (LRR F) | |

| Project/Site: Julyc Or Mitigation Ba | n K City/Cc | ounty: E1 | aso Co. | Sampling Da | ate: 8/19/2 |
|--|----------------------------|--------------------|------------------------------------|---|----------------------------------|
| Applicant/Owner: Tele Liter | | , <u> </u> | State: C | Sampling Po | oint: 52-22 |
| Investigator(s): Gloria Saryunt | Section | n Townshin Rar | 74. Ti | 25 Righ | iu) |
| Landform (hillslope, terrace, etc.): | Local | relief (concave, o | convex none): | ncer | Slope (%): |
| Subregion (LRR): | | 55429 | Long - indice | LIZURS | Detum: # 14 D.S |
| Subjection (LRR). | al. <u>2001</u> | and l | Long. // | 7-13-100 D | Eim i 0 |
| Soil Map Unit Name: Fluvaruentic Hapla | # WORLS | FORCE IN C | NVVI clas | ssification: | E4.1 [72 |
| Are climatic / hydrologic conditions on the site typical for this tin | | - | | | . |
| Are Vegetation, Soil, or Hydrology signi | | | Normal Circumstance | | · |
| Are Vegetation, Soil, or Hydrology natu | rally problemat | ic? (If ne | eded, explain any ar | swers in Remarks | s.) |
| SUMMARY OF FINDINGS - Attach site map sho | owing sam | pling point lo | ocations, transe | cts, importar | nt features, etc. |
| Hydrophytic Vegetation Present? Yes X No | | | | | |
| | | Is the Sampled | Area | V | |
| Wetland Hydrology Present? Yes X No | | within a Wetlan | d? Yes_ | <u>X</u> No | |
| Remarks: | | | | | |
| مرد مرد المراجع المراج | 1. | ام د داده | . 44.000 (4) | 2019 | |
| Annual precipitation has | , pren | beron a | verouse six | 10 DIT | • |
| VECETATION Line coientific names of plants | | | | | |
| VEGETATION – Use scientific names of plants. | | nant Indicator | Deminance Took | ventrale act. | |
| | bsolute Domi Cover Spec | | Dominance Test v Number of Domina | | |
| 1 | | | That Are OBL, FAC | | |
| 2 | | | (excluding FAC-): | _ | (A) |
| 3 | | | Total Number of Do | ominant | |
| 4 | | | Species Across All | Strata: | (B) |
| Sapling/Shrub Stratum (Plot size: 100m²) | = Tota | l Cover | Percent of Domina | | |
| Saping/Siliub Stratum (Flot Size | | | That Are OBL, FAC | CW, or FAC: | (A/B) |
| 2 | | | Prevalence Index | worksheet: | |
| 3. | | | Total % Cover | of: M | ultiply by: |
| 4. | | | OBL species | | |
| 5 | | | FACW species | | |
| Herb Stratum (Plot size: | = Tota | l Cover | FAC species | | |
| | SA V | ~ ~ 2) | FACU species | | |
| 1 Carex represensis | <u> </u> | | UPL species Column Totals: | | |
| 2. Funcus arcticus littoralis | /3 — | _ OBL | Column Totals. | (A) | (Б) |
| 3 | | | Prevalence Ir | ndex = B/A = | |
| 5 | | | Hydrophytic Vege | | |
| 6 | | | 1 - Rapid Test | | egetation |
| 7 | | | 2 - Dominance | | |
| 8 | | | 3 - Prevalence | | |
| 9 | | | 4 - Morphologi data in Ren | ical Adaptations" (narks or on a sepa | (Provide supporting arate sheet) |
| 10 | | | Problematic H | • | • |
| Woody Vine Stratum (Plot size: 196m²) | 75 = Tota | l Cover | ¹ Indicators of hydri | a sail and watland | L bydrology must |
| 1 | | | be present, unless | | |
| 2 | | | Hydrophytic | | |
| | = Tota | l Cover | Vegetation | \ <u> </u> | |
| % Bare Ground in Herb Stratum | 13ta | . 50101 | Present? | Yes X N | lo |
| Remarks: | | | | | |
| | | | | | |
| | | | | | |

| Depleted Book Part (A) Depleted Book Parts (A) Depleted Book Par | Profile Desc | cription: (Describe | to the dep | th needed to docum | ent the in | dicator | or confirm | n the absence of indicators.) |
|--|-----------------------|-------------------------|----------------------|---------------------------|------------|-------------------|------------------|--|
| 2.5Y 2.5/1 98 IDYR 4/Le 2 C PL SiTHY Clary Type: C=Concentration, D=Depletion, RM=Reduced Metrix, CS=Covered or Coated Sand Grains. **Location: PL=Pore Lining, M=Metrix, Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*: Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*: Indicators for Micros (Fig. Hydric Hydric Fig. Hydric Soil Fresent)* Indicators for Micros (Fig. Hydric Hydric Fig. Hydric Soil Present)* Indicators for Micros (Fig. Hydric Soil Present)* Indicators for Micros (Fig. Hydric Hydric Hydric Fig. Hydric Hydric Hydric Fig. Hydric Hydric Hydric Hydric Hydric Fig. Hydric Hydri | Depth | Matrix | | Redox | Features | | | |
| Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion (RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion (RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion (RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion (RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion (RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion (RM=Reduced Matrix, CS) Type: C=Concentration, D=Depletion (| (inches) | | % | | % | Type ¹ | Loc ² | Texture Remarks |
| Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered Matrix, CS=Covered or Coated Surface (FT) Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Surface (FT) Type: C=Concentration, D=Depletion Rm=Reduced Matrix, CS=Covered or Coated Rm=Reduced Matrix, CS=Covered Matrix, CS=Covered or CR=Coated Matrix, CS=Covered or CR=Coated Matrix, CS=Covered or CR=Coated Matrix, CS=Covered or CR=Coated Matrix, CS=Coated Matrix, | 0-5 | 2.5Y 25/1 | 90 | 2.5Y 6/2 | 10 | D | m | Clar Loam |
| Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Tocation: Applicable to all LRRs, unless otherwise noted, Indicators for Problematic Hydric Solis*: Hydric Soli Indicators: (Applicable to all LRRs, unless otherwise noted, Indicators for Problematic Hydric Solis*: Hydric Soli Red (A) | | | | | • • | | | 0 |
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| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc (A1) Histoc (A2) Black Histic (A3) Sandy Redox (S5) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) To Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) To Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Loamy Gleyed Matrix (F3) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Redox Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Redox Dark Surface (F1) Redox Dark Surface (F1) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Remarks: Restrictive Layer (if present): Type: Depth (inches): Surface Water (A1) Surface Water (A1) Surface Water (A1) Surface Water (A1) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated | <u> </u> | <u> </u> | | 10 112 70 | | <u> </u> | <u> </u> | 31178 0.009 |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc (A1) Histoc (A2) Black Histic (A3) Sandy Redox (S5) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) To Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) To Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Loamy Gleyed Matrix (F3) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Redox Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Redox Dark Surface (F1) Redox Dark Surface (F1) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Remarks: Restrictive Layer (if present): Type: Depth (inches): Surface Water (A1) Surface Water (A1) Surface Water (A1) Surface Water (A1) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated | | | | | | | | |
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| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc (A1) Histoc (A2) Black Histic (A3) Sandy Redox (S5) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) To Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) To Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Loamy Gleyed Matrix (F3) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Redox Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Redox Dark Surface (F1) Redox Dark Surface (F1) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Remarks: Restrictive Layer (if present): Type: Depth (inches): Surface Water (A1) Surface Water (A1) Surface Water (A1) Surface Water (A1) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated | | | | | | | | |
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoc (A1) Histoc (A2) Black Histic (A3) Sandy Redox (S5) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) To Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) To Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Loamy Gleyed Matrix (F3) Redox Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Redox Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Redox Dark Surface (F6) Redox Dark Surface (F1) Redox Dark Surface (F1) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Remarks: Restrictive Layer (if present): Type: Depth (inches): Surface Water (A1) Surface Water (A1) Surface Water (A1) Surface Water (A1) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated | | - | | | | | | |
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| Histosol (A1) Histo Epipedon (A2) Histo Epipedon (A2) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Coast Prairie Redox (A6) (LRR I, J) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Depleted Surfide (A4) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A7) Thick Dark Surface (A7) Sandy Mucky Mineral (S1) Stratified Layers (A5) (LRR F, G, H) Depleted Matrix (F2) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sediment Depleted Matrix (F3) Redox Dark Surface (F6) Redox Dark Surface (F7) Reduced Vertic (F18) Reduced Vertic (F19) Outer (Explain in Remarks) "Indicators (F7) (Inclaed Inclaed Inclae | | | | | | | ed Sand Gr | |
| Histic Epipedon (A2) | Hydric Soil | Indicators: (Applic | able to all | LRRs, unless otherv | vise note | d.) | | Indicators for Problematic Hydric Soils ³ : |
| Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) | Histosol | (A1) | | Sandy G | leyed Mat | rix (S4) | | 1 cm Muck (A9) (LRR I, J) |
| Hydrogen Sulfide (A4) | Histic E _l | pipedon (A2) | | Sandy Re | edox (S5) | | | Coast Prairie Redox (A16) (LRR F, G, H) |
| Statified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) (LRR H outside of MLRA 72 & 73) | | , , | | | | | | |
| 1 cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Peat or Peat (S2) (LRR G, H) So mucky Peat or Peat (S2) (LRR G, H) So mucky Peat or Peat (S2) (LRR F) So m Mucky Peat or Peat (S2) (LRR F) So m Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F8) High Plains Depressions (F8) Sandy Mucky Peat or Peat (S2) (LRR G, H) So m Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F8) High Plains Depressions (F8) Sandy Mucky Peat or Peat (S3) (LRR F) High Plains Depressions (F8) Mark 72 & 73 of LRR H) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: | | | | - | - | | | |
| Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) Mucky Peat or Peat (S3) (LRR F) Sommucky Peat or Peat (S3) (LRR F) MIGHARA 72 & 73 of LRR H) MIRA 72 & 73 of LRR H) Wetland Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Remarks: Re-vi siked in Ture 2072 bo where soil depths 50il depths 144-25" Hydric Soil Present? Yes X No Remarks: Remarks: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Surface Water (A2) Saturation (A3) Saturation (A3) Saturation (A3) Algal Mat or Crust (B4) Dry-Season Water Table (C2) Mater Deposits (B5) In Inductions (B5) In Muck Surface (A11) Mater Present? Water Table Present? Water Table Present? Yes No Depth (inches): Water Marks (B9) Surface Water (B4) Depth (inches): Saturation Visible on Aerial Imagery (C9) Water Table Present? Yes No Depth (inches): Water Marky (B7) Depth (inches): Water Marky (B7) Water Table Present? Yes No Depth (inches): Water Marky (B7) Depth (inches): Water Marky (B7) Depth (inches): Water Table Present? Yes No Depth (inches): Water Marky (B7) Depth (inches): Water Table Present? Yes No Depth (inches): Water Marky (B7) Depth (inches): Water Marky (B7) Water Table Present? Yes No Depth (inches): Water Marky (B7) Depth (inches): | | | | - | - | | | , |
| Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Some Mucky Peat or Peat (S2) (LRR G, H) Some Mucky Peat or Peat (S2) (LRR G, H) Some Mucky Peat or Peat (S3) (LRR F) For Mucky Peat or Peat (S3) (LRR F) MINERA 72 & 73 of LRR H) MINERA 72 & 73 of LRR H) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: Depth (inches): Depth (inches): Depth (inches): Depth (inches): Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply) Surface Water (A1) Saturation (A3) Saturation (A3) Surface Water (A1) Saturation (A3) Sediment Deposits (B1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B3) Algal Mat or Crust (B4) Incologing Algal Mater Season (B7) Water-Stained Leaves (B9) Telefoloservations: Surface Water Present? Ves No Depth (inches): Depth (inches): Surface Vater Present? Ves No Depth (inches): Surface Vater Present? Ves No Wetland Hydrology Present? Ves No Wetland Hydrology Indicators (Tri2) August Algal Present? Ves No Wetland Hydrology Indicators (Minimum of two required) Secondary Indicators (Minimum of | | | , | | • | , | | |
| Sandy Mucky Mineral (S1) | | | e (A11) | | | | | |
| 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | | | | | | | | |
| 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: | | • , | (S2) (I RR (| | | | 16) | |
| Restrictive Layer (if present): Type: | · | - | | · · · — • | • | • | | |
| Restrictive Layer (if present): Type: | 0 0 111 1110 | acity i cat of i cat (c | o, (= :::: , | (| | o o | , | |
| Type: | Restrictive | Laver (if present): | | | | | | |
| Remarks: Remarks: Remarks: Rec-visited in Ture 2022 to collect 50il depths 14-25" | | | | | | | | |
| Remarks: Re-visited in Ture 2072 to collect soil depths 14-25" Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Induction Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water (Present? Water Table (Present? Wetland Hydrology Indicators: Wetland Hydrology Indicators: Wetland Hydrology Indicators: Winimum of two required) Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Where not tilled (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Xegeomorphic Position (D2) Xegeomorphic Position (D2) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Inches): Wetland Hydrology Present? Yes No Inches Inch | · · · · | | | | | | | Hydric Soil Present? Yes Y |
| HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Sulf Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Sediment Deposits (B1) Dry-Season Water Table (C2) Drift Deposits (B3) Algal Mat or Crust (B4) Inon Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water (A1) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Geomorphic Position (D2) Thin Muck Surface (C7) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Surface Valer Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Socondary Indicators (minimum of two required) Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Socondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B1) Surface Soil Cracks (B1) Surface Soil Cracks (B1) Surface | | Crico). | | | | | | Trydric con i resent: Tes No |
| Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water (A1) Satic Crust (B11) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Xaturation Visible on Aerial Imagery (C9) Xater-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No No No No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | Remarks. | | | | | | | |
| Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water (A1) Satic Crust (B11) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Xaturation Visible on Aerial Imagery (C9) Xater-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No No No No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | المرمد وزيده | in To | ave 2077 | ام ددا | best | soil | deaths 14-25" |
| Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Sparsely Vegetated Concave Surface (B8) Sediment Deposits (B1) Driy-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Inon Deposits (B5) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Fost-Heave Hummocks (D7) (LRR F) Field Observations: No | | 100 0131110 | | | | | | |
| Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Sulf Crust (B11) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Setimation Visible on Becorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Crayfish Burrows (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) X FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No No Depth (inches): Wetland Hydrology Present? Yes No No No No No No No No No N | HYDROLO | GY | | | | | | |
| Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Sulf Crust (B11) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Setimation Visible on Becorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Secondary Indicators (minimum of two required) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Crayfish Burrows (C8) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) X FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No No Depth (inches): Wetland Hydrology Present? Yes No No No No No No No No No N | Wetland Hv | drology Indicators: | <u> </u> | | | | | |
| Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Saturation (Previous inspections), if available: Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Toxinage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Saturation Visible on Aerial Imagery (C9) X Geomorphic Position (D2) X FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Wetland Hydrology Present? Yes No | _ | | | t check all that anniv | ١ | | | Secondary Indicators (minimum of two required) |
| High Water Table (A2) | | • | one required | | | | | |
| | | , , | | | | (D12) | | |
| Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Crayfish Burrows (C8) Crayfish Burrows (C8) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) | _ | | | | | | | |
| Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Drift Deposits (B3) | | | | | | | | • |
| Drift Deposits (B3) | | | | | | | | |
| Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Security (D2) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | | es on Liv | ing Roots | |
| Iron Deposits (B5) Thin Muck Surface (C7) | | | | | | | | |
| Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) X FAC-Neutral Test (D5) Yater-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes NoX Depth (inches): Yes NoX Depth (inches): Yes NoX Depth (inches): Yes NoX Depth (inches): Yes No Yes Yes Yes Yes No Yes | _ | | | | | | 1) | |
| | | ` , | | | | | | · · · · · · · · · · · · · · · · · · · |
| Field Observations: Surface Water Present? Yes No _X Depth (inches): Water Table Present? Yes No _X Depth (inches): Saturation Present? Yes No _X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | Imagery (B | 7) Other (Expl | ain in Rer | narks) | | - |
| Surface Water Present? Yes No _X Depth (inches): Water Table Present? Yes No _X Depth (inches): Saturation Present? Yes No _X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | | | | Frost-Heave Hummocks (D7) (LRR F) |
| Water Table Present? Yes No _X Depth (inches): Saturation Present? Yes No _X Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Beta depth (inches): | | | | v | | | | |
| Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | | | | |
| (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | Water Table | | | | | | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | Saturation P | resent? | 'es | No X Depth (incl | nes): | | Wetl | land Hydrology Present? Yes X_ No |
| | | pillary fringe) | | | | | | if everilebles |
| Remarks: | Describe Re | corded Data (stream | n gauge, mo | onitoring well, aerial pl | notos, pre | vious ins | pections), | ır avalladle: |
| Remarks: | | | | | | | | |
| | Remarks: | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Project/Site: Judge Orr Mitigation | . Bunk City/C | County: El Pa | 50 Co. | Sampling Date: 8/19/ | 2 |
|---|-----------------------|-------------------------------------|---|--|---------------|
| Applicant/Owner: Pelc Lten | · | , <u>-</u> | State: CO | Sampling Point: SP - 2 | <u>ر</u> د |
| Investigator(s): Gibria Sarynt | Secti | on, Township, Range | 34. TIZS | 5 RGHW | |
| Landform (hillslope terrace etc.): The straight and | Loca | I relief (concave con | vex none). W | ← Slope (%): ♂ | 172 |
| Subregion (LRR): G Soil Map Unit Name: Fluvaguentic H | Lat: 38. | 955942 1 | ona: -104.54] | 3429 Datum: XJAP | <u>8</u> 2 |
| Soil Man Unit Name: Flyvaguentic | adaqualls | nearly les | NWI classific | ation: X labe | |
| Are climatic / hydrologic conditions on the site typical fo | ur this time of year? | Ves XX No X | (If no explain in P | emarke) | |
| Are Vegetation, Soil, or Hydrology | | • • | = | present? Yes X No | |
| | | | | | |
| Are Vegetation, Soil, or Hydrology | | | ed, explain any answe | | |
| SUMMARY OF FINDINGS – Attach site m | ap showing san | npling point loc | ations, transects | , important features, e | tc. |
| Hydrophytic Vegetation Present? Yes | No 🗙 | le the Commission Ame | | | |
| Hydric Soil Present? Yes | No X | Is the Sampled Ar within a Wetland? | | No X | |
| Wetland Hydrology Present? Yes | | within a wettand: | 165 | NO <u> </u> | |
| Remarks: | | | | | |
| Annual precipitation | has been | a ladous as | revenee. eine | 2019 | |
| Military Pros less. | 1200 | 7. poloco = | 3,11 | J. 1. | |
| VEGETATION – Use scientific names of p | lants. | | | | |
| 100 2 | Absolute Dor | minant Indicator D | Oominance Test work | sheet: | |
| Tree Stratum (Plot size: (XXXX) | % Cover Spe | | lumber of Dominant Sp | | |
| 1 | | | hat Are OBL, FACW, (excluding FAC-): | or FAC (A) | ١ |
| 2 | | \ \ ` | | | , |
| 3 | | | otal Number of Domin species Across All Stra | | |
| 4. | = Tot | | • | , , , | |
| Sapling/Shrub Stratum (Plot size: | | | Percent of Dominant Sp That Are OBL, FACW, o | | B) |
| 1 | | | | | |
| 2 | | | revalence Index worl | Multiply by: | |
| 3 | | | | x 1 = | |
| 4 | | _F | ACW species | x 2 = | |
| 5. | = Tot | tal Causa | AC species | x 3 = | |
| Herb Stratum (Plot size: | = 101 | tai Cover F | ACU species | x 4 = 188 | |
| 1 boutelous ductyloides | <u> </u> | A 40° | IPL species 2 | x5= <u>/25</u> | |
| 2 tymus lanceolatus lane | u 15 x | (NOT C | Column Totals: | 2_ (A) <u>3/3</u> (B | 3) |
| 3 Soutelana greatiles | _5_ | UPL | Prevalence Index | = B/A = 4.347 | |
| 4 Risconyrum Smithin | <u> </u> | <u>()</u> - | lydrophytic Vegetation | | |
| 5. Melilotus officinalis | | APP PET 1 1 | | Hydrophytic Vegetation | |
| 6 | | | 2 - Dominance Tes | | |
| 7 | | | 3 - Prevalence Inde | | |
| 8 | | | 4 - Morphological A | Adaptations ¹ (Provide supporti | ng |
| 9 10. | | | | s or on a separate sheet) | |
| | 72 = Tot | tal Cover | _ Problematic Hydrop | ohytic Vegetation ¹ (Explain) | |
| Woody Vine Stratum (Plot size: 100m) | <u> </u> | ¹ I | | l and wetland hydrology must | |
| 1 | | D | e present, unless distu | irbed or problematic. | |
| 2 | — - 2r — | | lydrophytic | . • | |
| % Bare Ground in Herb Stratum 2 8 | = Tot | tal Cover V | egetation resent? Yes | s No | |
| Remarks: | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SOIL

Sampling Point: <u>SP 23</u>

| | Matrix r (moist) | % Co | Redox Features olor (moist) % Type ¹ Lo | oc ² Texture Remarks |
|---|--|--|---|--|
| <u> </u> | 1271 | | bioi (moist) % Type Lo | _ |
| | <u>IK 71</u> | 100 | | Clay Isam |
| 4-14 2.5 | 7 2.5/1 | 100 | | Clay Loan Clay Loan |
| | | | | 0 |
| | | | | |
| | | | | · |
| | | | | |
| | | | | |
| Funo: C=Concentrat | tion D-Donk | | uced Matrix, CS=Covered or Coated Sar | nd Grains. ² Location: PL=Pore Lining, M=Matrix. |
| | | | s, unless otherwise noted.) | Indicators for Problematic Hydric Soils ³ : |
| _ Histosol (A1) | | | Sandy Gleyed Matrix (S4) | 1 cm Muck (A9) (LRR I, J) |
| Histic Epipedon (| A2) | | Sandy Redox (S5) | Coast Prairie Redox (A16) (LRR F, G, H) |
| Black Histic (A3) | | | Stripped Matrix (S6) | Dark Surface (S7) (LRR G) |
| Hydrogen Sulfide | | | Loamy Mucky Mineral (F1) | High Plains Depressions (F16) |
| Stratified Layers | | | Loamy Gleyed Matrix (F2) | (LRR H outside of MLRA 72 & 73) |
| 1 cm Muck (A9) (Depleted Below I | | | Depleted Matrix (F3) | Reduced Vertic (F18) Red Parent Material (TF2) |
| Depleted Below I Thick Dark Surfa | | (ATT) | Redox Dark Surface (F6)Depleted Dark Surface (F7) | Red Parent Material (TP2) Very Shallow Dark Surface (TF12) |
| Sandy Mucky Mir | | | Redox Depressions (F8) | Other (Explain in Remarks) |
| 2.5 cm Mucky Pe | | (LRR G. H) | High Plains Depressions (F16) | ³ Indicators of hydrophytic vegetation and |
| 5 cm Mucky Pea | | | (MLRA 72 & 73 of LRR H) | wetland hydrology must be present, |
| | | · , | , | unless disturbed or problematic. |
| estrictive Layer (if | - | | | |
| Type: | | | | , , , , , , , , , , , , , , , , , , , |
| Depth (inches): | | | | Hydric Soil Present? Yes No |
| Remarks: | | | | |
| | | | | |
| | | | | |
| /DROLOGY | | | | |
| etland Hydrology | | | | |
| rimary Indicators (m | | e required; che | | Secondary Indicators (minimum of two required |
| Curfoco Motor (A | .1) | | Salt Crust (B11) | Surface Soil Cracks (B6) |
| _ Surface Water (P | (A2) | | Aquatic Invertebrates (B13) | Sparsely Vegetated Concave Surface (B8) |
| Surface Water (A High Water Table | | | | |
| | | | Hydrogen Sulfide Odor (C1) | Drainage Patterns (B10) |
| High Water Table |) | | Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) | |
| High Water Table Saturation (A3) | • | | | Oxidized Rhizospheres on Living Roots (C |
| High Water TableSaturation (A3)Water Marks (B1 | its (B2) | | Dry-Season Water Table (C2) | Oxidized Rhizospheres on Living Roots (C |
| High Water TableSaturation (A3)Water Marks (B1Sediment Deposit | its (B2) 3) | | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R | Oxidized Rhizospheres on Living Roots (Coots (C3) (where tilled) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crust Iron Deposits (B3 | its (B2) 3) st (B4) | | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) | Oxidized Rhizospheres on Living Roots (C Roots (C3) (where tilled) Crayfish Burrows (C8) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B3 Algal Mat or Crus | its (B2) 3) st (B4) | nagery (B7) | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) | Oxidized Rhizospheres on Living Roots (Controls (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crust Iron Deposits (B3 | its (B2) 3) st (B4) 5) e on Aerial Im | nagery (B7) | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) | Oxidized Rhizospheres on Living Roots (C where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B8 Inundation Visible Water-Stained Le | tts (B2) 3) st (B4) 5) e on Aerial Imeaves (B9) | | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) | Oxidized Rhizospheres on Living Roots (CRoots (C3) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible | otts (B2) B) St (B4) S) e on Aerial Impaaves (B9) The control of t | es No | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) | Oxidized Rhizospheres on Living Roots (CRoots (C3) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Lefield Observations: | otts (B2) B) St (B4) S) e on Aerial Impaaves (B9) The control of t | | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) | Oxidized Rhizospheres on Living Roots (Citoots (C3) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Leftield Observations: Surface Water Present/Saturation Present? | ofts (B2) St (B4) of on Aerial Impacts (B9) of the entry of the ent | es No _ | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): | Oxidized Rhizospheres on Living Roots (Citoots (C3) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Lefield Observations: Surface Water Present Saturation Present? Sincludes capillary frir | ofts (B2) st (B4) st (B4) so on Aerial Impaves (B9) ont? Ye Ye ye gge) | es No es No | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): | Oxidized Rhizospheres on Living Roots (Citots (C3) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Lefield Observations: Surface Water Present Saturation Present? Sincludes capillary frir | ofts (B2) st (B4) st (B4) so on Aerial Impaves (B9) ont? Ye Ye ye gge) | es No es No | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): | Oxidized Rhizospheres on Living Roots (Citoots (C3) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Deposit Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le Gurface Water Present Saturation Present? Includes capillary frir | ofts (B2) st (B4) st (B4) so on Aerial Impaves (B9) ont? Ye Ye ye gge) | es No es No | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): | Oxidized Rhizospheres on Living Roots (Citots (C3) |
| High Water Table Saturation (A3) Water Marks (B1 Sediment Deposits Drift Deposits (B3 Algal Mat or Crus Iron Deposits (B5 Inundation Visible Water-Stained Le Gield Observations: Surface Water Present Saturation Present? Includes capillary frind Describe Recorded Describes Remarks: | ofts (B2) st (B4) st (B4) e on Aerial Impaves (B9) oft? Ye Ye Ye Ye ata (stream of | es No es No es No gauge, monitori | Dry-Season Water Table (C2) Oxidized Rhizospheres on Living R (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches): Depth (inches): | Oxidized Rhizospheres on Living Roots (Coots (C3) |

| Project/Site: Judge Or Mitiscation Bank City/ | County: El Paso Co. Sampling Date: 8/19/2 |
|---|--|
| Applicant/Owner: Pek. Ltc. | State: CO Sampling Point: SP-24 |
| Investigator(s): Gloria Sargent Section | on, Township, Range: 34: 7725 RGHW |
| Landform (hillslone terrace etc.): | I relief (concave convex none): |
| Subregion (LRR): G Soil Map Unit Name: Finvaguentic haping noils | 956743 Long: -104.544054 Datum: NADE |
| Soil Map Unit Name: Flyvaguentic Haplan noil | reach level NWI classification: None |
| Are climatic / hydrologic conditions on the site typical for this time of year? | Yes No X (If no explain in Remarks) |
| Are Vegetation, Soil, or Hydrology significantly distu | 4. 4 |
| Are Vegetation, Soil, or Hydrology naturally problem | |
| | |
| SUMMARY OF FINDINGS – Attach site map showing sar | ipling point locations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes No | Is the Sampled Area |
| Hydric Soil Present? Yes No | within a Wetland? Yes No |
| Wetland Hydrology Present? Yes No | |
| Remarks: | |
| Annual precipitation has been | ladous average since 2019 |
| Minimal Prosipires 1 2003 12001 | Maiora di 11050 sitta 1511. |
| VEGETATION – Use scientific names of plants. | |
| Absolute Do | ninant Indicator Dominance Test worksheet: |
| Tree Stratum (Plot size: 600 m ²) % Cover Spe | Number of Dominant Species |
| 1 | That Are OBL, FACW, or FAC (excluding FAC-): |
| 2 | Total Number of Dominant |
| 4. | Species Across All Strata: (B) |
| | tal Cover Percent of Dominant Species |
| Sapling/Shrub Stratum (Plot size: 100 2) | That Are OBL, FACW, or FAC: (A/B) |
| 1 | Prevalence Index worksheet: |
| 2 | |
| 3 | OBL species x 1 = |
| 5. | FACW species x 2 = |
| | FAC species x 3 = |
| Herb Stratum (Plot size: 100m2) | racu species x 4 = tag |
| 1 Carex processousilis 10 | $\frac{1}{2} \frac{1}{2} \frac{1}{2} $ UPL species $\frac{1}{2} \frac{1}{2} \frac{1}{$ |
| 2. Schizachyrium suparium 30 3 | Column Totals:(A) |
| 13. Action 50 50 5 | Prevalence Index = B/A = 37.81 |
| 5. Elymnis lanceolatus lance 15 | Hydrophytic Vegetation Indicators: |
| 6 Astracalus su 2 | 1 - Rapid Test for Hydrophytic Vegetation |
| 7. Cirsuyn Arvense Z | 2 - Dominance Test is >50% |
| 8. Fromus normis 2 | 3 - Prevalence Index is ≤3.0¹ |
| 9. Gutter-exic sarothrae 5 | 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) |
| 10. Iris missouriensis 2 | Problematic Hydrophytic Vegetation¹ (Explain) |
| Woody Vine Stratum (Plot size:) | tal Cover Indicators of hydric soil and wetland hydrology must |
| 1 | be present, unless disturbed or problematic. |
| 2. | Hydrophytic |
| | val Cover Vegetation |
| % Bare Ground in Herb Stratum | Present? Yes No |
| Remarks: | |
| | |
| | |

Sampling Point: 49-24

| (inchee) | Matrix Color (moist) | % | Color (m | | <u>Feature</u> % | S Type ¹ | Loc ² | Text | ure | Remarks |
|--|--|--------------------|--|---|--|---|--|--|--|--|
| (inches) 0 - 14 | 10 YR 2/1 | | Color (III | OISt) | | туре | LOC | | | |
| - ' (| 10 (2 7) | 100 | - | | | | | <u>ue</u> | , Loan | 1 |
| 4-26 | 2.5Y 6h | (gO | IOYR | 6/2 | | | ·^^ | <u>د: الم</u> | x clay | , |
| 7 20 | | 20 | 10 14 | <i>'L</i> | | <u> </u> | AAI | 3117 | y Cung | |
| | 2.5Y 7/1 | 20 | | | | | | | am_ | |
| | 2.54 5h | 14 | | | | | | - | | |
| | 5Y 5/3 | 5 | | | | | | | | |
| | | | | | | | | | | |
| | anaantration D-Dan | letion DM- | -Dodused M | latrix CC | | | | | 21 continu | v. DI -Doro Lining M-Matrix |
| | oncentration, D=Dep Indicators: (Applic | | | | | | a Sana e | | | n: PL=Pore Lining, M=Matrix. Problematic Hydric Soils ³ : |
| _ Histosol | (A1) | | | Sandy G | Sleyed Ma | atrix (S4) | | | 1 cm Muck | (A9) (LRR I, J) |
| _ Histic E | pipedon (A2) | | | Sandy R | edox (S5 | 5) | | | | ie Redox (A16) (LRR F, G, H) |
| | istic (A3) | | | Stripped | | | | | | ce (S7) (LRR G) |
| | en Sulfide (A4) | | | | - | neral (F1) | | | • | Depressions (F16) |
| | d Layers (A5) (LRR I | | | - | - | atrix (F2) | | | | outside of MLRA 72 & 73) |
| | uck (A9) (LRR F, G, I | , | | Depleted | | | | | Reduced V | ` ' |
| | d Below Dark Surfac ark Surface (A12) | e (ATT) | | Redox D | | urface (F7) | ١ | | | Material (TF2) w Dark Surface (TF12) |
| | Mucky Mineral (S1) | | | Redox D | | | , | | | ain in Remarks) |
| | Mucky Peat or Peat (| S2) (LRR (| | | | essions (F | 16) | | | drophytic vegetation and |
| | ucky Peat or Peat (S | | , , <u>—</u> | _ | | 73 of LRR | | | - | Irology must be present, |
| | | | | | | | | | unless distu | irbed or problematic. |
| estrictive | Layer (if present): | | | | | | | | | |
| | | | | | | | | | | |
| Туре: | | | | | | | | | | |
| | ches): | | | | | | | Hydri | ic Soil Pres | sent? Yes X No |
| Depth (in | ches): | | | | | | | L | | |
| Depth (in | ches): | | | 207 | 2. ło | ديالور |) } <c< th=""><th>L</th><th></th><th></th></c<> | L | | |
| Depth (in | ches): | | | 202 | 2 10 | دی) لود | A so | L | | sent? Yes <u>X</u> No |
| Depth (independent) | Re-visit | | | 202 | Z 10 | ديدالود | A 50 | L | | |
| Depth (increase of the control of th | Re-visit | ed in | | २०२ | 2 10 | ددا لود | A 50 | L | | |
| Depth (increments: | Re-visit | ed in | June | | | دي الود | A 50 | oil d | lepths | |
| Depth (included in the control of th | Rc-viらト GY drology Indicators: | ed in | Jure | | <i>'</i>) | ددا لود | A 50 | oil d | econdary In | 14ー26 ¹ |
| Depth (included in the control of th | GY drology Indicators: cators (minimum of co | ed in | Jure d; check all t | hat apply | (B11) | | A 50 | sil d | econdary In Surface S | 14-26" dicators (minimum of two require Soil Cracks (B6) |
| Depth (included in the content of th | GY drology Indicators: cators (minimum of co | ed in | Jure d; check all t | hat apply alt Crust (quatic Inv | v) (B11) vertebrate | es (B13) | A 50 | sil d | econdary In Surface S Sparsely | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Ba |
| Depth (included in the control of th | GY drology Indicators: cators (minimum of company (Mater (A1)) ater Table (A2) on (A3) | ed in | Jure d; check all t | hat apply alt Crust (quatic Inv ydrogen S | (B11) rertebrate Sulfide O | es (B13) dor (C1) | | sil d | econdary In Surface S Sparsely Drainage | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Bit Patterns (B10) |
| Depth (included in the content of th | GY drology Indicators: eators (minimum of compater (A1) ater Table (A2) on (A3) larks (B1) | ed in | Jure d; check all t Sa Ac Hy | hat apply alt Crust (quatic Inv ydrogen S y-Season | r) (B11) rertebrate Sulfide Or n Water T | es (B13) dor (C1) Fable (C2) | | sil d | econdary In Surface S Sparsely Drainage Oxidized | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (B6) Patterns (B10) Rhizospheres on Living Roots (|
| Depth (inclements: POROLO Vetland Hyerimary India Surface High Wa Saturatia Water M Sediment | GY drology Indicators: cators (minimum of comparts) Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) | ed in | Jured; check all t | hat apply alt Crust (quatic Inv ydrogen S ry-Season kidized R | v) (B11) vertebrate Sulfide O n Water ⊺ hizosphe | es (B13) dor (C1) Fable (C2) res on Liv | | sil d | econdary In Surface S Sparsely Drainage Oxidized (where | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (B6) Patterns (B10) Rhizospheres on Living Roots (etilled) |
| Primary India Surface High Water M Sedimer Drift Dep | GY drology Indicators: cators (minimum of comparts) Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) | ed in | Jure d; check all t Sa Ac Hy Or | hat apply alt Crust (quatic Inv ydrogen S ry-Seasor xidized R (where n | (B11) rertebrate Sulfide On n Water Thizosphe not tilled) | es (B13) dor (C1) Fable (C2) res on Liv | ing Roots | sil d | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (B6) Patterns (B10) Rhizospheres on Living Roots (etilled) Burrows (C8) |
| Primary India Surface High Water M Sedimer Drift Dep Algal Ma | GY drology Indicators: cators (minimum of company) water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) | ed in | d; check all t | hat apply alt Crust (quatic Inv ydrogen S ry-Season xidized R (where n esence c | (B11) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce | es (B13) dor (C1) Fable (C2) eres on Liv | ing Roots | Si d | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish Saturatio | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Baterns (B10) Rhizospheres on Living Roots (a tilled) Burrows (C8) In Visible on Aerial Imagery (C9) |
| Primary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep | GY drology Indicators: cators (minimum of of the cators (Minimum of of | ed in | Jure d; check all t Sa Ac Hy Or Pr Tr | hat apply alt Crust (quatic Inv /drogen S ry-Season xidized R (where n esence conin Muck | (B11) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce Surface (| es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots | Si d | econdary In Surface Sparsely Drainage Oxidized (where Crayfish Saturation | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Bit Patterns (B10) Rhizospheres on Living Roots (etilled) Burrows (C8) In Visible on Aerial Imagery (C9) Shic Position (D2) |
| Primary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati | GY drology Indicators: eators (minimum of of the control of the co | ed in | Jure d; check all t Sa Ac Hy Or Pr Tr | hat apply alt Crust (quatic Inv ydrogen S ry-Season xidized R (where n esence c | (B11) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce Surface (| es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots | Si d | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish Saturation Geomory FAC-Net | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Base Patterns (B10) Rhizospheres on Living Roots (extilled) Burrows (C8) In Visible on Aerial Imagery (C9) Othic Position (D2) Intral Test (D5) |
| Depth (increments) YDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati Water-S | GY drology Indicators: eators (minimum of or Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial I stained Leaves (B9) | ed in | Jure d; check all t Sa Ac Hy Or Pr Tr | hat apply alt Crust (quatic Inv /drogen S ry-Season xidized R (where n esence conin Muck | (B11) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce Surface (| es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 | ing Roots | Si d | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish Saturation Geomory FAC-Net | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Bit Patterns (B10) Rhizospheres on Living Roots (etilled) Burrows (C8) In Visible on Aerial Imagery (C9) Shic Position (D2) |
| Depth (increments) YDROLO Wetland Hyder Surface High Water Manager Manager Mater | drology Indicators: Cators (minimum of of of other) Water (A1) After Table (A2) On (A3) Arks (B1) Ant Deposits (B2) Oosits (B3) After Or Crust (B4) Oosits (B5) On Visible on Aerial Instance Leaves (B9) Vations: | one required | June Sa | hat apply alt Crust (quatic Inv ydrogen \$ ry-Season xidized R (where n resence conin Muck ther (Exp | (B11) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce Surface (lain in Re | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots | Si d | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish Saturation Geomory FAC-Net | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Base Patterns (B10) Rhizospheres on Living Roots (extilled) Burrows (C8) In Visible on Aerial Imagery (C9) Othic Position (D2) Intral Test (D5) |
| Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Inundati Water-S Field Obser Surface Wat | drology Indicators: cators (minimum of of other) water (A1) ater Table (A2) on (A3) darks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial I stained Leaves (B9) vations: er Present? | magery (B | Jure Sa | hat apply alt Crust (quatic Inv ydrogen S ry-Season xidized R (where n resence conin Muck ther (Exp | (B11) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce Surface (lain in Re | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots | Si d | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish Saturation Geomory FAC-Net | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Base Patterns (B10) Rhizospheres on Living Roots (extilled) Burrows (C8) In Visible on Aerial Imagery (C9) Othic Position (D2) Intral Test (D5) |
| Depth (increments) YDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatia Water-S Field Obser Surface Wat Water Table | GY drology Indicators: cators (minimum of or Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial I stained Leaves (B9) vations: er Present? Y | magery (Bares | Jure | hat apply alt Crust (quatic Inv ydrogen S ry-Season xidized R (where n resence on hin Muck ther (Exp | r) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce Surface (lain in Re | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots | Si d | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish Saturation Geomory FAC-Neu Frost-He | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Base Patterns (B10) Rhizospheres on Living Roots (Extilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Intral Test (D5) In Visible (D7) (LRR F) |
| Depth (increments) YDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-S Field Obser Surface Wat Water Table Saturation P | GY drology Indicators: cators (minimum of of other) water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial I otalined Leaves (B9) vations: er Present? Present? Y resent? Y | magery (Bares | Jure Sa | hat apply alt Crust (quatic Inv ydrogen S ry-Season xidized R (where n resence on hin Muck ther (Exp | r) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce Surface (lain in Re | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots | Si d | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish Saturation Geomory FAC-Neu Frost-He | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Base Patterns (B10) Rhizospheres on Living Roots (extilled) Burrows (C8) In Visible on Aerial Imagery (C9) Othic Position (D2) Intral Test (D5) |
| Depth (increments) Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Inundati Water-S Field Obser Surface Water Table Saturation Perincludes cap | GY drology Indicators: cators (minimum of or Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial I stained Leaves (B9) vations: er Present? Y | magery (B | Jure Sa | hat apply alt Crust (quatic Inv /drogen S ry-Seasor xidized R (where n resence on Muck ther (Exp | (B11) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce Surface (lain in Re ches): ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots 4) Wet | Si S | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish Saturation Geomorp FAC-Neu Frost-He | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Base Patterns (B10) Rhizospheres on Living Roots (Extilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Intral Test (D5) In Visible (D7) (LRR F) |
| Primary India Surface High Water M Sedimer Drift Dep Inundati Water-S Field Obser Surface Water Table Saturation Princludes cap | drology Indicators: cators (minimum of of other) water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial I datined Leaves (B9) vations: er Present? Present? Y resent? Y resent? Y | magery (B | Jure Sa | hat apply alt Crust (quatic Inv /drogen S ry-Seasor xidized R (where n resence on Muck ther (Exp | (B11) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce Surface (lain in Re ches): ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots 4) Wet | Si S | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish Saturation Geomorp FAC-Neu Frost-He | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Base Patterns (B10) Rhizospheres on Living Roots (extilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Intral Test (D5) In Visible (D7) (LRR F) |
| Primary India Surface High Water M Sedimer Drift Dep Inundati Water-S Field Obser Surface Water Table Saturation Princludes cap | drology Indicators: cators (minimum of of other) water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial I datined Leaves (B9) vations: er Present? Present? Y resent? Y resent? Y | magery (B | Jure Sa | hat apply alt Crust (quatic Inv /drogen S ry-Seasor xidized R (where n resence on Muck ther (Exp | (B11) rertebrate Sulfide Or n Water Thizosphe not tilled) of Reduce Surface (lain in Re ches): ches): | es (B13) dor (C1) Fable (C2) eres on Liv ed Iron (C4 (C7) emarks) | ing Roots 4) Wet | Si S | econdary In Surface S Sparsely Drainage Oxidized (where Crayfish Saturation Geomorp FAC-Neu Frost-He | dicators (minimum of two requires Soil Cracks (B6) Vegetated Concave Surface (Base Patterns (B10) Rhizospheres on Living Roots (extilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Intral Test (D5) In Visible (D7) (LRR F) |

| Project/Site: Trulge Or Mitigation (| Sunk City/County: El | Paso Co. Sampling Date: 8/19/2: |
|---|---|--|
| Applicant/Owner: Tek Like | | State: CO Sampling Point: SA 25 |
| Investigator(s): Gloria Sarunt | Section, Township, Ra | nge:34, T125 R64W |
| Landform (hillslope, terrace, etc.): h:11 sloae | | convex, none): wrate Slope (%): 370 |
| Subregion (LRR): | lat 38.956919 | Long: -104.54342 Datum: ALADS |
| Soil Map Unit Name: Fluvaguentic haple | smuoils, nearly la | NWI classification: |
| Are climatic / hydrologic conditions on the site typical for this | | |
| Are Vegetation, Soil, or Hydrologys | | "Normal Circumstances" present? Yes X No |
| | | |
| Are Vegetation, Soil, or Hydrology n | | eeded, explain any answers in Remarks.) |
| SUMMARY OF FINDINGS – Attach site map | showing sampling point I | ocations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes N | | |
| Hydric Soil Present? Yes N | is the Sampled | nd? YesNo_X |
| Wetland Hydrology Present? Yes N | o within a wetiai | 1d? |
| Remarks: | | 0 |
| Annual precipitation h | as been below o | werege since 2019. |
| , | | 3 |
| VEGETATION – Use scientific names of plan | ts. | |
| | Absolute Dominant Indicator | Dominance Test worksheet: |
| Tree Stratum (Plot size: 100) | % Cover Species? Status | Number of Dominant Species |
| 1 | | That Are OBL, FACW, or FAC (excluding FAC-): (A) |
| 2 | | (excluding FAC-): (A) |
| 3 | | Total Number of Dominant Species Across All Strata: (B) |
| 4 | = Total Cover | |
| Sapling/Shrub Stratum (Plot size: 100m2) | = Total Cover | Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) |
| 1 | | |
| 2 | · —— —— —— | Prevalence Index worksheet: |
| 3 | · —— —— —— | |
| 4 | · —— —— —— | FACW species |
| 5 | | |
| Herb Stratum (Plot size: 100m) | = Total Cover | FAC species x 3 = x 4 = 4b |
| 1. Artemissa misida | <u>5</u> <u>UPL</u> | UPL species 5 7 x 5 = 2.85 |
| 2 Sphaerale ca Coccinea | <u> 7 </u> | Column Totals: (A) 329 (B) |
| 3 Hekrothera villose | 15 X UPL | Prevalence Index = B/A = 4.768 |
| 4. Pascopynum smithi | <u> </u> | Hydrophytic Vegetation Indicators: |
| 5. Elymnis lancatertus lanca | 15 X UPL | 1 - Rapid Test for Hydrophytic Vegetation |
| 6. HOSperash par commuter | 3 (1) L | 2 - Dominance Test is >50% |
| 7. Schizachierium scoparium | 7 10 1700 | 3 - Prevalence Index is ≤3.0 ¹ |
| 0 Sida 60 | - <u> </u> | 4 - Morphological Adaptations ¹ (Provide supporting |
| 10. | /∪ | data in Remarks or on a separate sheet) |
| 100 7 | = Total Cover | Problematic Hydrophytic Vegetation ¹ (Explain) |
| Woody Vine Stratum (Plot size: 100m) | | Indicators of hydric soil and wetland hydrology must |
| 1 | | be present, unless disturbed or problematic. |
| 2 | · ———— | Hydrophytic Vegetation |
| % Bare Ground in Herb Stratum | = Total Cover | Present? Yes No |
| Remarks: | | |
| | | |
| | | |
| | | |

SOIL Sampling Point: <u>SP-25</u>

| Depth | Matrix | | Redo | x Features | <u>s</u> | | | |
|--|--|-----------------|---|--|--|------------------|---|--|
| (inches) | Color (moist) | % (| Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks |
| 0-14 | 10 YR 3/1.2 | 100 | | | | | Loum | |
| | | | | | | | | |
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| | | | | | | | | |
| | | tion DM Do | lean and Mandridge Of | | 0 | 1010 | 21 41 | DI Dave I believe M. Metale |
| • | ncentration, D=Deple | | | | | u Sanu Gr | | Problematic Hydric Soils ³ : |
| Histosol | | DIC to all Livi | Sandy (| | | | 1 cm Muck | • |
| | ipedon (A2) | | | Redox (S5 | | | | ie Redox (A16) (LRR F, G, H) |
| Black His | | | | d Matrix (S | | | | ce (S7) (LRR G) |
| | n Sulfide (A4) | | | Mucky Mir | , | | | Depressions (F16) |
| | Layers (A5) (LRR F) | | | Gleyed Ma | | | | outside of MLRA 72 & 73) |
| | ck (A9) (LRR F, G, H) | | Deplete | d Matrix (F | F3) | | Reduced V | ertic (F18) |
| | Below Dark Surface | (A11) | | Dark Surfa | ` , | | | Material (TF2) |
| | rk Surface (A12) | | | d Dark Su | | | | w Dark Surface (TF12) |
| - | ucky Mineral (S1) | 0) /LDD 6 LL | | Depression | | 10\ | | ain in Remarks) |
| | lucky Peat or Peat (S cky Peat or Peat (S3) | | _ | .RA 72 & 7 | | | | drophytic vegetation and rology must be present, |
| 5 0111 10101 | cky rear or rear (33) | (LIXIX I) | (IVIL | NA 12 & 1 | J OI LININ | ••• | | irbed or problematic. |
| Restrictive L | ayer (if present): | | | | | | | |
| | | | | | | | | |
| Type: | | | _ | | | | | |
| · - | hes): | | | | | | Hydric Soil Pres | sent? Yes No_X_ |
| | | | | | | | Hydric Soil Pres | sent? Yes NoX |
| Depth (inc | | | | | | | Hydric Soil Pres | sent? Yes No _X |
| Depth (inc | | | | | | | Hydric Soil Pres | sent? Yes NoX |
| Depth (inc | hes): | | | | | | Hydric Soil Pres | sent? Yes No X |
| Depth (inc | hes): | | | | | | Hydric Soil Pres | sent? Yes No X |
| Depth (inc | hes): | | | | | | Hydric Soil Pres | sent? Yes No _X |
| Depth (included) | hes): | | - | y) | | | | dicators (minimum of two required |
| Depth (incomments: PROLOGIEM (Petland Hydrimary Indicate) | GY Irology Indicators: | | - | | | | Secondary In | |
| Depth (incomments: OROLOG Vetland Hydrimary Indicomments Surface \ | GY Irology Indicators: ators (minimum of on | | eck all that appl | (B11) | s (B13) | | Secondary In | dicators (minimum of two required |
| Depth (incomments: /DROLOG /etland Hyderimary Indicomments Surface \ High Wat | GY Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) | | eck all that appl | (B11) vertebrate | ` ' | | Secondary In Surface S Sparsely | dicators (minimum of two required Soil Cracks (B6) |
| Depth (incomments: /DROLOG /etland Hyderimary Indicomments Surface \ High Wat | GY Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) | | eck all that appl Salt Crust Aquatic In | (B11) vertebrate Sulfide Od | dor (C1) | | Secondary In Surface S Sparsely Drainage | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) |
| Pepth (inconstruction of the construction of t | GY Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) | | eck all that appl Salt Crust Aquatic In Hydrogen | (B11) vertebrate Sulfide Oo on Water T | dor (C1) able (C2) | ng Roots | Secondary In Surface Sparsely Drainage Oxidized | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C |
| Depth (inconstruction | GY Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) | | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso | (B11) vertebrate Sulfide Oo on Water T | dor (C1) able (C2) res on Livi | ng Roots | Secondary In Surface S Sparsely Drainage Oxidized (C3) (where | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C |
| Depth (inconserved) Primary Indiconserved Surface Volume High Water Mater Mate | GY Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) | | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso | (B11) vertebrate Sulfide Ocon Water T Rhizosphe not tilled) | dor (C1) able (C2) res on Livi | | Secondary In Surface | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C |
| Depth (inconserved) Primary Indiconserved Surface Note that the second water Market | Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) | | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F | (B11) vertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce | dor (C1) Table (C2) res on Livi | | Secondary In Surface S Sparsely Drainage Oxidized (C3) (where Crayfish Saturation | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cotilled) Burrows (C8) |
| Depth (incontroller) Primary Indicontroller Surface Note: Saturation Water May Sedimen Drift Depter May Iron Depter Depter Sedimen Drift Drift Depter Sedimen Drift Drift Depter Sedimen Drift Dr | Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) | e required; ch | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where is Presence | (B11) vertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce s Surface (| dor (C1) Table (C2) Tes on Livied Iron (C4) C7) | | Secondary In Surface S Sparsely Drainage Oxidized (C3) (where Crayfish Saturation Geomory | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cotilled) Burrows (C8) n Visible on Aerial Imagery (C9) |
| Depth (inconservation) Primary Indiconservation Surface Note that the second water Mary Sedimen Drift Depton Algal Mary Inundation | GY Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) | e required; ch | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where in Presence Thin Muck | (B11) vertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce s Surface (| dor (C1) Table (C2) Tes on Livied Iron (C4) C7) | | Secondary In Surface : Sparsely Drainage Oxidized (C3) (where Crayfish Saturation Geomory FAC-Net | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) Shic Position (D2) |
| Depth (incontention of the property of the pro | Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) in Visible on Aerial Imained Leaves (B9) vations: | e required; ch | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where in Presence Thin Muck | (B11) vertebrate Sulfide Oc on Water T Rhizospher not tilled) of Reduce s Surface (blain in Re | dor (C1) Table (C2) res on Livi and Iron (C4 C7) amarks) |) | Secondary In Surface : Sparsely Drainage Oxidized (C3) (where Crayfish Saturation Geomory FAC-Net | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C tilled) Burrows (C8) n Visible on Aerial Imagery (C9) phic Position (D2) |
| Depth (incontention of the contention of the con | Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) artions: er Present? | e required; ch | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F | (B11) vertebrate Sulfide Oc on Water T Rhizosphei not tilled) of Reduce : Surface (blain in Re | dor (C1) Table (C2) res on Livi ed Iron (C4 C7) emarks) | _ | Secondary In Surface : Sparsely Drainage Oxidized (C3) (where Crayfish Saturation Geomory FAC-Net | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C tilled) Burrows (C8) n Visible on Aerial Imagery (C9) phic Position (D2) |
| Depth (incontention of the contention of the con | Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) artions: er Present? | e required; ch | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where in Presence Thin Muck | (B11) vertebrate Sulfide Oc on Water T Rhizosphei not tilled) of Reduce : Surface (blain in Re | dor (C1) Table (C2) res on Livi ed Iron (C4 C7) emarks) | _ | Secondary In Surface : Sparsely Drainage Oxidized (C3) (where Crayfish Saturation Geomory FAC-Net | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Cetilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Itral Test (D5) In Position (D7) (LRR F) |
| Depth (income property of the | GY Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) rations: er Present? Yesesent? Yesesent? Yesesent? | e required; ch | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where in Presence Thin Muck Other (Exp | (B11) vertebrate Sulfide Oco on Water T Rhizosphei not tilled) of Reduce c Surface (blain in Re ches): ches): ches): | dor (C1) Table (C2) res on Livi ed Iron (C4 C7) emarks) |) | Secondary In Surface | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Contilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Itral Test (D5) In Aerial Test (D5) In Visible Mummocks (D7) (LRR F) |
| Depth (income property control of the control of th | Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) rations: er Present? Yesesent? Yesesent? | e required; ch | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where in Presence Thin Muck Other (Exp | (B11) vertebrate Sulfide Oco on Water T Rhizosphei not tilled) of Reduce c Surface (blain in Re ches): ches): ches): | dor (C1) Table (C2) res on Livi ed Iron (C4 C7) emarks) |) | Secondary In Surface | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Contilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Intral Test (D5) Intral T |
| Depth (income property control of the control of th | GY Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) rations: er Present? Yesesent? Yesesent? Yesesent? | e required; ch | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where in Presence Thin Muck Other (Exp | (B11) vertebrate Sulfide Oco on Water T Rhizosphei not tilled) of Reduce c Surface (blain in Re ches): ches): ches): | dor (C1) Table (C2) res on Livi ed Iron (C4 C7) emarks) |) | Secondary In Surface | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Catilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Itral Test (D5) In Visible (D5) In Vi |
| Depth (income property) Property Indicated High Water May Saturation Water May Indicated Drift Depth Algal May Iron Depth Inundation Water-Strield Observiourface Water Table Instruction Property Income Secribe Recome R | GY Irology Indicators: ators (minimum of on Water (A1) ter Table (A2) in (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial Imained Leaves (B9) rations: er Present? Yesesent? Yesesent? Yesesent? | e required; ch | eck all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where in Presence Thin Muck Other (Exp | (B11) vertebrate Sulfide Oco on Water T Rhizospher not tilled) of Reduce s Surface (blain in Re ches): ches): photos, pro | dor (C1) Table (C2) res on Livi ed Iron (C4 C7) emarks) evious ins | Wetl: | Secondary In Surface | dicators (minimum of two required Soil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (Contilled) Burrows (C8) In Visible on Aerial Imagery (C9) In Position (D2) Intral Test (D5) Intral T |

| Project/Site: Julye Or Mitisation | Bunk City/C | County: Ei | Paso Co. | Sampling Date: | 8/19/2 |
|--|---|--------------------|--------------------------------------|----------------------------------|-----------------|
| Applicant/Owner: Pelc Lien | | | State: CC | Sampling Point: | SP-26 |
| Investigator(s): Chorin Saryent | Secti | on. Township. Ra | inge: 34, 712 | 5 RGHW |) * |
| Landform (hillslope, terrace, etc.): | Loca | al relief (concave | convex none): (| CANA SIO | ne (%): 3% |
| Subregion (LRR): | Lat: 3B. | 957591 | Long: = ROU S | 160739 Datu | m ALAD 9 |
| Soil Map Unit Name: Columbine gravell | | | | | |
| | | | • . | | 210 |
| Are climatic / hydrologic conditions on the site typical for the | | | • • | | |
| Are Vegetation, Soil, or Hydrology | | | "Normal Circumstances | | NO |
| Are Vegetation, Soil, or Hydrology | naturally problem | atic? (If ne | eeded, explain any ansv | wers in Remarks.) | |
| SUMMARY OF FINDINGS – Attach site map | showing san | npling point l | ocations, transec | ts, important fe | atures, etc. |
| Hydrophytic Vegetation Present? Yes X | No | Is the Sampled | l Area | | |
| | No | within a Wetla | | X No | |
| Wetland Hydrology Present? Yes | No | Within a Wotla | 100 <u>7</u> | | |
| Remarks: | | | | | |
| Annual precipitation | has be | en below | average s: | nce 2019. | • |
| VEGETATION – Use scientific names of pla | | | | | |
| | | minant Indicator | Dominance Test wo | arkshoot: | |
| Tree Stratum (Plot size: 40 m²) | % Cover Spe | | Number of Dominant | | |
| 1. | | | That Are OBL, FACV | | |
| 2 | | | (excluding FAC-): | | (A) |
| 3 | | | Total Number of Dom | | (5) |
| 4 | _ - - - - - - - - - - | | Species Across All S | trata: | (B) |
| Sapling/Shrub Stratum (Plot size: 40m²) | = To | tal Cover | Percent of Dominant | | (A/D) |
| 1. Sa)ix exigua | 20 | X FACW | That Are OBL, FACV | V, 01 FAC | (A/B) |
| \ _ | | | Prevalence Index w | | |
| 3 | | | | <u>f:</u> <u>Multipl</u> | - |
| 4 | | | OBL species | | |
| 5 | | | FACW species FAC species | | |
| Herb Stratum (Plot size: 40 m²) | 20 = To | tal Cover | FACU species | | |
| 1. Salix exigue | loD x | " SALLS | UPL species | | |
| 2 Cicsium anvense | 70 7 | EAVIN | Column Totals: | | |
| 3. Carex prosegracillis | 15 | FALL | | | |
| 4 Carex nebrascensis | | - ORI | | ex = B/A = | |
| 5. Junes arcticus littorais | <u>s 8 _</u> | - FACU | Hydrophytic Vegeta | | |
| 6. | | | 1 - Rapid Test fo 2 - Dominance T | | ation |
| 7 | | | 3 - Prevalence Ir | | |
| 8 | | | 4 - Morphologica | | vide supporting |
| 9 | | | | irks or on a separate | |
| 10. | <u> </u> | | Problematic Hyd | rophytic Vegetation ¹ | (Explain) |
| Woody Vine Stratum (Plot size: 40m2) | <u>98</u> = To | tal Cover | ¹ Indicators of hydric s | soil and wetland hyd | rology must |
| 1. | | | be present, unless di | | |
| 2. | | | Hydrophytic | | |
| | = To | tal Cover | Vegetation | Yes X No _ | |
| % Bare Ground in Herb Stratum | | | Present? | Yes No _ | |
| Remarks: | | | | | |
| | | | | | |
| | | | | | |

| Profile Desc | ription: (Describe | to the dep | th needed to docum | ent the i | ndicator | or confirr | m the absence of indicators.) |
|---------------|--|--------------------|--------------------------|-------------|------------------------|------------------|---|
| Depth | Matrix | | | Features | | . 2 | |
| (inches) | Color (moist) | <u> </u> | Color (moist) | | Type ¹ | Loc ² | Texture Remarks |
| 0-3 | 7.5 YR 2.5/ | 100 | | | | | Clay Loam |
| | | | | | | | O |
| 3-16 | 2.54 2.5/1 | 97 | 54R 4/6 | | | 100 | Clare I dono |
| <u> </u> | 231 7 | | | | | | Clay Loam |
| l | | | 7548 416 | <u>L</u> | <u>し</u> | <u></u> | |
| | | | | | | | |
| 16-26 | 2.5Y 5/3 | 100 | | | | | Loamy Surch |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | =Reduced Matrix, CS | | | d Sand G | |
| Hydric Soil | Indicators: (Applic | able to all | LRRs, unless other | wise note | ed.) | | Indicators for Problematic Hydric Soils ³ : |
| Histosol | • • | | Sandy G | | | | 1 cm Muck (A9) (LRR I, J) |
| - | oipedon (A2) | | Sandy R | | | | Coast Prairie Redox (A16) (LRR F, G, H) |
| Black Hi | | | Stripped | | | | Dark Surface (S7) (LRR G) |
| | en Sulfide (A4) | | | lucky Min | . , | | High Plains Depressions (F16) |
| | d Layers (A5) (LRR | | Loamy G | - | | | (LRR H outside of MLRA 72 & 73) |
| | ick (A9) (LRR F, G, | | | l Matrix (F | , | | Reduced Vertic (F18) |
| | d Below Dark Surfac | e (A11) | Redox D | | | | Red Parent Material (TF2) |
| | ark Surface (A12) | | | | rface (F7) | | Very Shallow Dark Surface (TF12) |
| - | Mucky Mineral (S1) | (CO) /I DD / | | epression | . , | 16\ | Other (Explain in Remarks) |
| | Mucky Peat or Peat (icky Peat or Peat (S | | | | ssions (F '3 of LRR | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, |
| 5 cm with | icky real of real (3 | 3) (LKK F) | (IVIL) | \A 12 0.1 | 3 OI LKK | П) | unless disturbed or problematic. |
| Postrictive I | Layer (if present): | | | | | | unless disturbed of problematic. |
| | | | | | | | |
| | | | | | | | V |
| Depth (inc | ches): | | | | | | Hydric Soil Present? Yes X No |
| Remarks: | | | | | | | |
| _ | الممانين | . 7 | . 2027 h | بالدم | ء کے | . انم | depths 14-26" |
| K | 2-VISIRO | M Jai | | به این و | | | ocpins in the |
| HYDROLO | GV | | | | | | |
| | | | | | | | |
| - | drology Indicators: | | | | | | |
| Primary India | cators (minimum of c | ne require | d; check all that apply | ') | | | Secondary Indicators (minimum of two required) |
| Surface | Water (A1) | | Salt Crust (| B11) | | | Surface Soil Cracks (B6) |
| High Wa | iter Table (A2) | | Aquatic Inv | ertebrate | s (B13) | | Sparsely Vegetated Concave Surface (B8) |
| X Saturation | on (A3) | | Hydrogen S | Sulfide Oc | dor (C1) | | Drainage Patterns (B10) |
| Water M | larks (B1) | | Dry-Seasor | n Water T | able (C2) | | Oxidized Rhizospheres on Living Roots (C3) |
| Sedimer | nt Deposits (B2) | | Oxidized R | hizosphei | res on Livi | ing Roots | (C3) (where tilled) |
| Drift Der | posits (B3) | | (where n | | | | Crayfish Burrows (C8) |
| - | at or Crust (B4) | | Presence o | | d Iron (C4 | !) | X Saturation Visible on Aerial Imagery (C9) |
| _ | oosits (B5) | | Thin Muck | | , | , | X Geomorphic Position (D2) |
| - | on Visible on Aerial | lmagery (R | | • | , | | X FAC-Neutral Test (D5) |
| | tained Leaves (B9) | iagory (D | ., Outer (Expi | | ainoj | | Frost-Heave Hummocks (D7) (LRR F) |
| _ | , , | | | | | | 1 lost-fleave fluminocks (D1) (ERRT) |
| Field Observ | | ' 00 | No. Y Dente / | hog\: | | | |
| Surface Water | | | No X Depth (inc | | | - | |
| Water Table | | 'es | | | | _ | V |
| Saturation P | | ′es _X _ | No Depth (inc | hes): | 10 | Wet | land Hydrology Present? Yes No |
| (includes cap | | naugo m | onitoring well periol s | hotos pr | avious inc | nections) | if available: |
| Describe Ke | corucu Dala (Sileali | ı yauye, m | onitoring well, aerial p | notos, pre | evious IIIS | peclions), | , ii available. |
| | | | | | | | |
| Remarks: | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| Project/Site: Julye Or Mitigation Bunk City/Count | :y: El Paso Co Sampling Date: 8/19/23 |
|---|--|
| Applicant/Owner: Pek Like | State: Sampling Point: SP - 2 T |
| Investigator(s): Gloria Sary Section, T | |
| Landform (hillslope, terrace, etc.): Local reli | |
| Subregion (LRR): 4 Lat: 39.95 | 7434 Long: -104.5464 45 Datum: NAD8 |
| Soil Map Unit Name: Columbine grandly sondy loa: | A |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes _ | |
| | |
| Are Vegetation, Soil, or Hydrology significantly disturbed? | |
| Are Vegetation, Soil, or Hydrology naturally problematic? | (If needed, explain any answers in Remarks.) |
| SUMMARY OF FINDINGS – Attach site map showing sampli | ng point locations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes No | |
| Hydric Soil Present? Yes Y No | the Sampled Area |
| Wetland Hydrology Present? Yes No | hin a Wetland? Yes No |
| Remarks: | |
| ا با محدا ماده در ۱ | |
| Annual precipitation has been l | pelow average since 2017. |
| VEGETATION – Use scientific names of plants. | |
| Absolute Dominar | nt Indicator Dominance Test worksheet: |
| Tree Stratum (Plot size: 100000) Absolute Borninary Species' Species' | |
| 1 | That Are OBL, FACW, or FAC |
| 2 | (excluding FAC-): |
| 3 | Total Number of Dominant |
| 4 | Species Across All Strata: (B) |
| Sapling/Shrub Stratum (Plot size:) = Total Co | 1 Growing of Bolliniant openios |
| 1 | That Are OBL, FACW, or FAC: (A/B) |
| 2. | Prevalence Index worksheet: |
| 3. | Total % Cover of: Multiply by: |
| 4. | OBL species x 1 = |
| 5 | FACW species x 2 = |
| = Total C | FACIl angeles x 3 = |
| Herb Stratum (Plot size: [D] = Total C | FACU species |
| 1. Elymns Kencellikus lenece. 75 X | Column Totals: 74 (A) 345 (B) |
| 3. Junear arcticus littoralis 5 | |
| 4. Girsham gruense 10 V | Prevalence Index = B/A = 4.062 |
| 5. Verbascum thaosus 2 | Hydrophytic Vegetation Indicators: |
| 6 toleralla sp. 2 | 1 - Rapid Test for Hydrophytic Vegetation |
| 7. Artemisa Frisica 5 | 2 - Dominance Test is >50% |
| 8 Boutelana gracillis 10 X | 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting |
| 9 Bouteloua dactuloicles 5 | data in Remarks or on a separate sheet) |
| 10 | Problematic Hydrophytic Vegetation¹ (Explain) |
| Woody Vine Stratum (Plot size: 100) = Total Co | over Indicators of hydric soil and wetland hydrology must |
| 1. | be present, unless disturbed or problematic. |
| 2. | Hydrophytic |
| = Total C | over Vegetation |
| % Bare Ground in Herb Stratum | Present? Yes No |
| Remarks: | |
| | |
| | |

| | | | the dep | | | | or confirm | n the absence of indicators.) |
|----------------------------|---------------------------------------|----------|---------------|--------------------------|-------------------------|------------------|-----------------|--|
| Depth (inches) | Depth Matrix Sinches) Color (moist) % | | Color (moist) | x Feature % | es Type ¹ | Loc ² | Texture Remarks | |
| 0-14 | 10 YR 7 | | | 1.5YR 4/6 | | | PL | |
| <u> </u> | 101K | -7.L | 14 | 101K 76 | | | 1 | <u>clay Loam</u> |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | - | | | | | | | |
| | - | | | | - | | | |
| | | | | | | | | |
| | | | | Reduced Matrix, CS | | | ed Sand G | |
| - | | Applica | ble to all | LRRs, unless other | | | | Indicators for Problematic Hydric Soils ³ : |
| Histosol | ` ' | | | Sandy G | - | | | 1 cm Muck (A9) (LRR I, J) |
| | pipedon (A2) istic (A3) | | | Sandy R Stripped | | | | Coast Prairie Redox (A16) (LRR F, G, H) Dark Surface (S7) (LRR G) |
| | en Sulfide (A4) | 1 | | | , | ineral (F1) | | Dark Surface (57) (LRR G) High Plains Depressions (F16) |
| | d Layers (A5) | |) | Loamy (| - | . , | | (LRR H outside of MLRA 72 & 73) |
| | uck (A9) (LRR | | | Depleted | - | | | Reduced Vertic (F18) |
| | d Below Dark | | (A11) | Redox D | | | | Red Parent Material (TF2) |
| | ark Surface (A | | | | | urface (F7) |) | Very Shallow Dark Surface (TF12) |
| | Mucky Mineral | ` ' | 0) // == = | Redox D | | | 40) | Other (Explain in Remarks) |
| | Mucky Peat or | | , , | · · · — | | ressions (F | | ³ Indicators of hydrophytic vegetation and |
| 5 CITI IVIL | ucky Peat or P | eat (SS) | (LKK F) | (IVIL) | KA 12 & | 73 of LRR | . п) | wetland hydrology must be present, unless disturbed or problematic. |
| Restrictive | Layer (if pres | ent): | | | | | | unicas distarbed of problematic. |
| | .,. () | | | | | | | |
| | ches): | | | | | | | Hydric Soil Present? Yes X No |
| Remarks: | , | | | | | | | |
| · tomanto | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| HYDROLO | | | | | | | | |
| _ | drology Indic | | | | | | | |
| Primary India | cators (minimu | ım of on | e required | d; check all that apply | | | | Secondary Indicators (minimum of two required) |
| <u> </u> | Water (A1) | | | Salt Crust | | | | Surface Soil Cracks (B6) |
| _ | ater Table (A2) |) | | Aquatic Inv | | | | Sparsely Vegetated Concave Surface (B8) |
| Saturati | | | | Hydrogen | | | | Drainage Patterns (B10) |
| | Marks (B1) | | | Dry-Seaso | | | | Oxidized Rhizospheres on Living Roots (C3) |
| _ | nt Deposits (B | 2) | | Oxidized R | | | ing Roots | |
| | posits (B3) | , | | (where r | | • | 4. | Crayfish Burrows (C8) |
| _ | at or Crust (B4 | ·) | | Presence of | | • | 1) | Saturation Visible on Aerial Imagery (C9) |
| | posits (B5) | مالمانية | | Thin Muck | | | | Geomorphic Position (D2) |
| · | ion Visible on A | | nagery (B | 7) Other (Exp | olain in R | emarks) | | FAC-Neutral Test (D5) |
| Field Obser | Stained Leaves | (B9) | | | | | 1 | Frost-Heave Hummocks (D7) (LRR F) |
| | | Va | | No. Y Donth (inc | abaa). | | | |
| Surface Wat | | | | No X Depth (ind | | | | |
| Water Table | | | | No Depth (inc | | | | land Unidealania Brassissa Visa |
| Saturation P (includes car | resent? pillary fringe) | Ye | sl | No X _ Depth (inc | cnes): | | _ Wetl | land Hydrology Present? Yes No |
| | | stream (| gauge, mo | onitoring well, aerial p | ohotos, p | revious ins | pections), | , if available: |
| | | | | | | | | |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Project/Site: Judge Orr Mitigation | Sank City/C | county: E) | Paso Co. | Sampling | g Date: 8/19/2 |
|---|--------------------------|--------------------|--------------------------------------|--|---|
| Applicant/Owner: Pek htm | | , | | | g Point: SP-28 |
| Investigator(s): Choria Sargent | Section | on, Township, Rai | | | |
| Landform (hillslope, terrace, etc.): | Loca | I relief (concave. | convex. none): | nne | Slope (%): 276 |
| Subregion (LRR): | Lat: 303. | 956158 | Tough - NA | 54646° | Patum: NAD |
| Soil Map Unit Name: Columbine gravell | | | | | |
| Are climatic / hydrologic conditions on the site typical for this | | | | | NON-X |
| | | | Normal Circumstan | | V V N- |
| Are Vegetation, Soil, or Hydrologys | - | | | | |
| Are Vegetation, Soil, or Hydrologyn | aturally problema | atic? (If ne | eded, explain any a | inswers in Rema | arks.) |
| SUMMARY OF FINDINGS – Attach site map | showing sam | npling point le | ocations, trans | ects, impor | tant features, etc. |
| Hydrophytic Vegetation Present? Yes N | 。 火 | Is the Sampled | A | | |
| Hydric Soil Present? Yes N | | within a Wetlan | | No | Y |
| Wetland Hydrology Present? Yes N | · <u>X</u> | within a wetian | iu: res | | |
| Annual precipitation 1 | | n below (| svereye s | ince 2s | . PK |
| VEGETATION – Use scientific names of plan | | | T | | |
| Tree Stratum (Plot size: 100 2) | Absolute Don % Cover Spe | | Dominance Test | | |
| 1. | <u></u> | | Number of Domin | • | CX |
| 2. | | | (excluding FAC-) | : | (A) |
| 3 | | | Total Number of [| Dominant | 2 |
| 4 | - | | Species Across A | ll Strata: | (B) |
| Sapling/Shrub Stratum (Plot size: 100m²) | = Tot | al Cover | Percent of Domin That Are OBL, FA | | (A/B) |
| 1 | | | Prevalence Inde | x worksheet: | |
| 2 | · | | Total % Cove | er of: | Multiply by: |
| 34. | | | OBL species _ | x ´ | 1 = |
| 5. | - | | FACW species _ | | |
| | = Tot | al Cover | FAC species _ | <u>\$</u> x3 | 3 = <u>15</u> |
| Herb Stratum (Plot size: 100m²) | | | FACU species _ | 00 | 4 = |
| 1 Flynne lunceublus lance. | | K OPL | UPL species _ | 7 | 5 = <u>%&O</u> |
| 2 tanicum Virgatum | - — | | Column Totals: _ | 47 (A) | |
| 3. Circum arvense | | - 1700 | Prevalence | Index = B/A = | 4.4189 |
| 5 Present trapsus | 10 3 | (UA | Hydrophytic Veg | | |
| 6 Juneus accticus littoralis | 7. | SA/W | 1 - Rapid Tes | | |
| 7. | | | | ce Test is >50% | |
| 8. | | | 3 - Prevalenc | | |
| 9 | | | 4 - Morpholog | gical Adaptation emarks or on a s | ns ¹ (Provide supporting separate sheet) |
| 10 | | | | | getation ¹ (Explain) |
| | = Tot | al Cover | | | |
| Woody Vine Stratum (Plot size: 100 m 5) | · | | be present, unles | ric soil and wetla s disturbed or p | and hydrology must roblematic. |
| 1 | | | | | |
| | X - Tal | al Cover | Hydrophytic Vegetation | | . / |
| % Bare Ground in Herb Stratum | = 100 | ai Guvel | Present? | Yes | No <u>2</u> |
| Remarks: | | | 1 | | |
| | | | | | |
| | | | | | |

SOIL Sampling Point: <u>SP- 28</u>

| Profile Description: (Des | cribe to the depth ne | eeded to docume | ent the indicator | or confirm | n the absence of indicators.) |
|---|-----------------------|----------------------|--------------------------------------|--|---|
| | trix | | Features Trans 1 | 12 | Technic |
| (inches) Color (moi | | Color (moist) | % Type ¹ | | Texture Remarks |
| | 75 | | | | <u>Clay Loam</u> |
| 10 YR - | <u> 25 5 </u> | | | | |
| | _ | | | | |
| 2-14 104R3 | 25 100 | | | | Cla Loan |
| | | | | | 0 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| ¹ Type: C=Concentration, D | | | | ed Sand Gi | |
| Hydric Soil Indicators: (A | pplicable to all LRR | | | | Indicators for Problematic Hydric Soils ³ : |
| Histosol (A1) | | | eyed Matrix (S4) | | 1 cm Muck (A9) (LRR I, J) |
| Histic Epipedon (A2) Black Histic (A3) | | Sandy Re | | | Coast Prairie Redox (A16) (LRR F, G, H) Dark Surface (S7) (LRR G) |
| Hydrogen Sulfide (A4) | | | ucky Mineral (F1) | 1 | High Plains Depressions (F16) |
| Stratified Layers (A5) (| LRR F) | | leyed Matrix (F2) | | (LRR H outside of MLRA 72 & 73) |
| 1 cm Muck (A9) (LRR I | • | | Matrix (F3) | | Reduced Vertic (F18) |
| Depleted Below Dark S | Surface (A11) | | ark Surface (F6) | | Red Parent Material (TF2) |
| Thick Dark Surface (A1 | | | Dark Surface (F7 | ') | Very Shallow Dark Surface (TF12) |
| Sandy Mucky Mineral (| | | epressions (F8) | -10\ | Other (Explain in Remarks) |
| 2.5 cm Mucky Peat or I 5 cm Mucky Peat or Pe | | _ | ns Depressions (I | | ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, |
| 5 cm Mucky Feat of Fe | at (33) (LKK F) | (IVILK | A 12 & 13 01 LK | х п) | unless disturbed or problematic. |
| Restrictive Layer (if prese | ent): | | | | unicos distarbed of problematic. |
| Type: | | | | | |
| Depth (inches): | | | | | Hydric Soil Present? Yes No |
| Remarks: | | | | | |
| | | | | | |
| | | | | | |
| HYDROLOGY | | | | | |
| | | | | | |
| Wetland Hydrology Indica | | | | | |
| Primary Indicators (minimus | n of one requirea; cn | | | | Secondary Indicators (minimum of two required) |
| Surface Water (A1) | | Salt Crust (E | | | Surface Soil Cracks (B6) |
| High Water Table (A2) | | | ertebrates (B13) | | Sparsely Vegetated Concave Surface (B8) |
| Saturation (A3) | | | ulfide Odor (C1) | 1 | Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) |
| Water Marks (B1) Sediment Deposits (B2 |) | - | Water Table (C2 iizospheres on Li | | |
| Drift Deposits (B3) | 1 | (where no | | ************************************** | Crayfish Burrows (C8) |
| Algal Mat or Crust (B4) | | • | Reduced Iron (C | (4) | Saturation Visible on Aerial Imagery (C9) |
| Iron Deposits (B5) | | Thin Muck S | • | • • • | Geomorphic Position (D2) |
| Inundation Visible on A | erial Imagery (B7) | Other (Expla | | | FAC-Neutral Test (D5) |
| Water-Stained Leaves | | | , | | Frost-Heave Hummocks (D7) (LRR F) |
| Field Observations: | . , | | | | |
| Surface Water Present? | Yes No | Depth (inch | nes): | | |
| Water Table Present? | | Depth (inch | | | |
| Saturation Present? | | X Depth (inch | | | and Hydrology Present? Yes No |
| (includes capillary fringe) | | • | | | |
| Describe Recorded Data (s | tream gauge, monito | ring well, aerial ph | notos, previous in | spections), | ıt available: |
| Demontos | | | | | |
| Remarks: | _ | Â | | _ | 1 |
| No Sa | luration | to obsc | un Red | OX Fee | atrives. |
| _ | | | | | |

| Project/Site: July Orr Mitigation Bank City | County: El Paso Co. Sampling Date: 8119/2 |
|--|--|
| Applicant/Owner: Tele Liter | State: Sampling Point: Sp-29 |
| Investigator(s): Glaria Saryunt Sec | stion, Township, Range: <u>34、772</u> S R64W |
| | cal relief (concave, convex, none): Slope (%): |
| Subregion (LRR): Lat: 28. | 95551 Long: -104.545679 Datum: NADE |
| Soil Map Unit Name: Columbine gravely sandy | MVI classification: Now 1 |
| Are climatic / hydrologic conditions on the site typical for this time of year? | |
| | |
| Are Vegetation, Soil, or Hydrology significantly dist | |
| Are Vegetation, Soil, or Hydrology naturally proble | matic? (If needed, explain any answers in Remarks.) |
| SUMMARY OF FINDINGS – Attach site map showing sa | impling point locations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes No Yes No | Is the Sampled Area within a Wetland? Yes No |
| Annual precipitation has bee | n below average since 2019. |
| VEGETATION – Use scientific names of plants. | |
| 1.0.4 | ominant Indicator Dominance Test worksheet: |
| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Decies? Status Number of Dominant Species That Are OBL, FACW, or FAC |
| 2 | (excluding FAC-): (A) |
| 3 | Total Number of Dominant |
| 4. | Species Across All Strata: (B) |
| Sapling/Shrub Stratum (Plot size: 100m²) | Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) |
| 1 | Prevalence Index worksheet: |
| 2 | Total % Cover of: Multiply by: |
| 3 | OBL species x 1 = |
| 5. | FACW species x 2 = |
| | FAC species x 3 = |
| Herh Stratum (Plot size: 1 (A) (A) | FACU species x 4 = |
| 1. Juncus arctions littoralis 20 | UPL species <u>45</u> x 5 = <u>225</u> |
| Sundan so. | Column Totals: _82 (A) _313 (B) |
| 4. Schrocherium scoparium 30 | Prevalence Index = B/A = 3.817 |
| 5. Achillea mikefolium "Z | Hydrophytic Vegetation Indicators: |
| 6. Cirsium arverse 5 | 1 - Rapid Test for Hydrophytic Vegetation |
| 7. Baseloua gracilis 5 | 2 - Dominance Test is >50% |
| 8. Volentilla 30. | 3 - Prevalence Index is ≤3.0 ¹ |
| 9. | 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) |
| 10 | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 100 2 B2 = T | otal Cover |
| Woody Vine Stratum (Plot size: 122m) | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1 | |
| - T | Hydrophytic otal Cover Vegetation |
| % Bare Ground in Herb Stratum = T | Present? Yes No |
| Remarks: | 4 |
| | |
| | |

SOIL

Sampling Point: SP-29

| Profile Desc | cription: (Describe | to the dep | th needed to docun | nent the i | ndicator | or confirn | n the absence | of indicators.) | | |
|---|--|-----------------------|-------------------------|------------------------|------------------------|------------------|--|--|--|--|
| Depth (inches) | Matrix Color (moist) | % | Color (moist) | k Features % | s Type ¹ | Loc ² | Texture | Remarks | | |
| 0-2 | 104R 4/1 | | 10 Ye 5/6 | 70 | Type | <u> </u> | | | | |
| | | | 101474 | | | <u> </u> | Loam | \ | | |
| | 1048 3/2 | 20 | | | | | | | | |
| | 1202 21 | -0() | 1.10 11/1 | | | | | | | |
| 2-11 | 109R 3/2 | 78 | 104R 4/6 | _2 | | _W_ | Sandy | Loam | | |
| | | | | | | | | | | |
| 11-18 | 1048 3/2 | 90 | 7.5YR 4/6 | 10 | <u>し</u> | M | Sundy | Loan | | |
| | | | | | | | | | | |
| 19-26 | 2.5Y 5/2 | | | | | | Loams | Sand | | |
| | | letion, RM | =Reduced Matrix, CS | =Covered | or Coate | ed Sand G | (1 | cation: PL=Pore Lining, M=Matrix. | | |
| | | | LRRs, unless other | | | | | for Problematic Hydric Soils ³ : | | |
| Histosol | (A1) | | Sandy G | Sleyed Ma | ıtrix (S4) | | 1 cm l | Muck (A9) (LRR I, J) | | |
| Histic Epipedon (A2) Sandy Redox (S5) | | | | | | | | Prairie Redox (A16) (LRR F, G, H) | | |
| | istic (A3) | | Stripped | | | | · | Surface (S7) (LRR G) | | |
| | en Sulfide (A4) d Layers (A5) (LRR F | =) | | Mucky Mir Gleyed Ma | | | _ | Plains Depressions (F16) RR H outside of MLRA 72 & 73) | | |
| | uck (A9) (LRR F, G, I | | X Depleted | | | | • | ced Vertic (F18) | | |
| | d Below Dark Surface | | Redox E | | | | | Parent Material (TF2) | | |
| | ark Surface (A12) | | | d Dark Su | , , |) | - | Shallow Dark Surface (TF12) | | |
| - | Mucky Mineral (S1) | 00) // DD / | Redox D | | | 40) | | (Explain in Remarks) | | |
| | Mucky Peat or Peat (Saucky Peat or Peat (Saucky Peat or Peat (Saucky Peat or Peat (Saucky Peat (| | | iins Depre | | | | of hydrophytic vegetation and | | |
| 5 6111 1010 | acky real or real (or |) (L IXIX I) | (INIE) | \A 12 \ 1 | J OI LIKI | . 11) | wetland hydrology must be present, unless disturbed or problematic. | | | |
| Restrictive | Layer (if present): | | | | | | | · | | |
| Type: | | | | | | | | | | |
| Depth (in | ches): | | | | | | Hydric Soi | Present? Yes X No No | | |
| Remarks: | | ٠ | | • | ./ \ | . • 1 | 1 1 14 | . 11-21-11 | | |
| _ | Re-visited | in. | June 2022 | 10 CC | الورخ | 501 | depros | 5 17-26 | | |
| £6: | combined | 2-11 | + 11-18 h | LCCI IN | se to | res. he | an the | same Matrix + Texture. | | |
| HYDROLO | GY | | | | • | | • | | | |
| | drology Indicators: | | | | | | | | | |
| - | | | d; check all that apply | /) | | | Second | ary Indicators (minimum of two required) | | |
| | Water (A1) | | Salt Crust | | | | | face Soil Cracks (B6) | | |
| | ater Table (A2) | | Aquatic Inv | | s (B13) | | Surface Soil Clacks (Bb) Sparsely Vegetated Concave Surface (B8) | | | |
| Saturation | | | Hydrogen | Sulfide Od | dor (C1) | | Dra | inage Patterns (B10) | | |
| Water M | larks (B1) | | Dry-Seaso | n Water T | able (C2) | | Oxi | dized Rhizospheres on Living Roots (C3) | | |
| | nt Deposits (B2) | | Oxidized R | hizosphe | res on Liv | ing Roots | (C3) (v | vhere tilled) | | |
| Drift Dep | . , , | | (where n | | | | | yfish Burrows (C8) | | |
| _ | at or Crust (B4) | | Presence of | | • | 4) | · | uration Visible on Aerial Imagery (C9) | | |
| Iron Dep | | (D | Thin Muck | | | | • | omorphic Position (D2) | | |
| | ion Visible on Aerial I Stained Leaves (B9) | magery (B | 7) Other (Exp | iain in Re | marks) | | | C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F) | | |
| \Matar C | stailleu Leaves (D9) | | | | | | FIO | st-neave nullillocks (D7) (LKK F) | | |
| | | | | | | | | | | |
| Field Obser | vations: | es | No. X Depth (inc | thes). | | | | | | |
| Field Obser Surface Wat | rvations: ter Present? | | No X Depth (inc | | | _ | | | | |
| Field Obser Surface Wat Water Table | rvations: ter Present? Present? Y | es | No Depth (inc | ches): | | | and Hydrolog | ıv Present? Yes X No | | |
| Field Obser Surface Wat Water Table Saturation P (includes cap | revations: ter Present? Present? Y Present? Y pillary fringe) | es es | No Depth (inc | ches): ches): | | Wetl | | y Present? Yes X_ No | | |
| Field Obser Surface Wat Water Table Saturation P (includes cap | revations: ter Present? Present? Y Present? Y pillary fringe) | es es | No Depth (inc | ches): ches): | | Wetl | | y Present? Yes X No | | |
| Field Obser Surface Wat Water Table Saturation P (includes cap Describe Re | revations: ter Present? Present? Y Present? Y pillary fringe) | es es | No Depth (inc | ches): ches): | | Wetl | | y Present? Yes X No | | |
| Field Obser Surface Wat Water Table Saturation P (includes cap | revations: ter Present? Present? Y Present? Y pillary fringe) | es es | No Depth (inc | ches): ches): | | Wetl | | y Present? Yes X No | | |
| Field Obser Surface Wat Water Table Saturation P (includes cap Describe Re | revations: ter Present? Present? Y Present? Y pillary fringe) | es es | No Depth (inc | ches): ches): | | Wetl | | y Present? Yes X No | | |

| Project/Site: Julye Or Mitigation B | unk City/C | County: | Duso Co. | Sampling Date: 8/19/2 |
|---|--|--------------------------------|--|--|
| Applicant/Owner: Pele Liven | | | State: CO | Sampling Point: SP - 30 |
| Investigator(s): Clorin. Samm't | Secti | on, Township, Rai | nge: 34, 7/25 | ROHW |
| Landform (hillslope, terrace, etc.): | | | | |
| Subregion (LRR): | Lat: 38. | 955495 | Long: -104.54 | 581 Datum: NAD |
| Soil Map Unit Name: Columbine gravely | Sandu ! | gavn . 5-1 | 3 % NWI classific | cation: XXXX |
| Are climatic / hydrologic conditions on the site typical for this | | | | |
| Are Vegetation, Soil, or Hydrology sig | | | • | present? Yes 🔽 No |
| Are Vegetation, Soil, or Hydrology na | | | eded, explain any answe | |
| SUMMARY OF FINDINGS – Attach site map s | | | | , |
| Account of The Private Account the map of | | | Journal of the state of the sta | |
| Hydrophytic Vegetation Present? Yes No | | Is the Sampled | Area | |
| Hydric Soil Present? Yes No | | within a Wetlan | nd? Yes | No <u>X</u> |
| Wetland Hydrology Present? Yes No Remarks: | <u> </u> | | | |
| Nemans. | | | | |
| Annual precipitation | . has b | ven belon | w average s | ince 2019. |
| <u>'</u> | | | | |
| VEGETATION – Use scientific names of plants | S | | | |
| 1 / WA '/_ | | minant Indicator ecies? Status | Dominance Test work | |
| 1. | <u>70 00101 </u> | oloo. Olalao | Number of Dominant S That Are OBL, FACW, | |
| 2. | | | (excluding FAC-): | (A) |
| 3 | | | Total Number of Domir | nant ' て |
| 4 | | | Species Across All Stra | ata: (B) |
| Sapling/Shrub Stratum (Plot size: 100m2) | = To | tal Cover | Percent of Dominant S | |
| 1. | | | That Are OBL, FACW, | or FAC: (A/B) |
| 2. | | | Prevalence Index wor | |
| 3 | | | | Multiply by: |
| 4 | | | OBL species | $\frac{x}{5}$ $x^{2} = \frac{30}{30}$ |
| 5 | | | · · | |
| Herb_Stratum (Plot size: // / / / / / / / / / / / / / / / / / | = To | tal Cover | FAC species FACU species | ×3- ×4= 40 |
| 1. Elymus lancedatus lances. | 10 | / 100 | UPL species | $\frac{1}{2}$ $\frac{1}$ |
| 2 Juneus archeus littoralis | 15 V | YAU) | Column Totals: | 2 (A) 355 (B) |
| 3. Quitierrezia Sarothrae | 5 | <u> 192</u> | | U 779 |
| 4 Heterotheca villosa | _5 | UPL | Prevalence Index | |
| 5. Artomisia frigida | 10_ | UPL | Hydrophytic Vegetati | on Indicators: Hydrophytic Vegetation |
| 6. Soli do go so. | | <u> </u> | 2 - Dominance Tes | |
| 7 Karteloua graciis | 15 | UPL | 3 - Prevalence Ind | |
| 8 Schizachyfium Scharium | <i></i> | FACU | | Adaptations ¹ (Provide supporting |
| 9 | | | | s or on a separate sheet) |
| 10 | Q1 | tal Cover | Problematic Hydro | pphytic Vegetation ¹ (Explain) |
| Woody Vine Stratum (Plot size: 100 w2) | = 10 | lai Covei | | il and wetland hydrology must |
| 1 | | | be present, unless dist | urbed or problematic. |
| 2 | | | Hydrophytic | 4 |
| % Bare Ground in Herb Stratum | = To | tal Cover | Vegetation Present? Ye | es No |
| Remarks: | | | 1 | |
| | | | | |
| | | | | |
| | | | | |

SOIL Sampling Point: <u>SP-30</u>

| Profile Desc | ription: (Describe | to the depth r | needed to docu | ment the i | ndicator | or confirn | n the absence of indic | ators.) |
|-----------------------------------|--|-----------------------|--------------------|---------------------------|--------------------|------------------|-------------------------------|--------------------------------------|
| Depth | Matrix | | | x Feature: | s | | | |
| (inches) | Color (moist) | <u> </u> | Color (moist) | % | _Type ¹ | Loc ² | <u>Texture</u> | Remarks |
| 0-14 | 104R 3/2 | 100 | | | | | Loam | |
| | | | | | | | | |
| - | | | | | | | | _ |
| | | | | | | | | - |
| | | | | | | | | |
| | | | | | | | | |
| | | | | - ' | | | | |
| - | | | | | | | | _ |
| - | | | | | | | | - |
| | | | | | | | | |
| ¹ Type: C=Co | oncentration, D=Dep | letion, RM=Re | educed Matrix, C | S=Covered | d or Coate | d Sand G | | PL=Pore Lining, M=Matrix. |
| Hydric Soil I | Indicators: (Applic | able to all LR | Rs, unless othe | rwise note | ed.) | | Indicators for Pro | blematic Hydric Soils ³ : |
| Histosol | (A1) | | Sandy | Gleyed Ma | ıtrix (S4) | | 1 cm Muck (A9 |) (LRR I, J) |
| Histic Ep | pipedon (A2) | | | Redox (S5 | | | Coast Prairie F | Redox (A16) (LRR F, G, H) |
| Black Hi | ` ' | | | d Matrix (S | | | Dark Surface (| |
| | n Sulfide (A4) | _, | - | Mucky Mir | | | - | pressions (F16) |
| | Layers (A5) (LRR | , | - | Gleyed Ma | | | • | side of MLRA 72 & 73) |
| | ick (A9) (LRR F, G, d Below Dark Surfac | • | | d Matrix (I Dark Surfa | | | Reduced Vertion Red Parent Ma | |
| - | ark Surface (A12) | e (ATT) | | ed Dark Suna | , , | | | Dark Surface (TF12) |
| | fucky Mineral (S1) | | | Depressio | | | Other (Explain | |
| - | /lucky Peat or Peat (| S2) (LRR G. H | | ains Depre | | 16) | | phytic vegetation and |
| | icky Peat or Peat (S | | | RA 72 & 7 | | | | ogy must be present, |
| | , | , , | , | | | , | - | ed or problematic. |
| Restrictive I | _ayer (if present): | | | | | | | |
| Type: | | | _ | | | | | |
| Depth (ind | ches): | | <u></u> | | | | Hydric Soil Presen | t? Yes No_ X |
| Remarks: | | | | | | | <u> </u> | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| HYDROLO | GY | | | | | | | |
| Wetland Hyd | drology Indicators: | | | | | | | |
| Primary Indic | cators (minimum of o | ne required; c | heck all that appl | y) | | | Secondary Indic | ators (minimum of two required) |
| | Water (A1) | | Salt Crust | | | | Surface Soil | Cracks (B6) |
| | iter Table (A2) | | Aquatic In | | s (B13) | | | getated Concave Surface (B8) |
| Saturation | , , | | Hydrogen | | | | Drainage Pa | |
| | arks (B1) | | Dry-Seaso | | | | = | izospheres on Living Roots (C3) |
| | nt Deposits (B2) | | Oxidized I | | | | | |
| | posits (B3) | | · | not tilled) | | 9 | Crayfish Bu | |
| | at or Crust (B4) | | Presence | , | | 1) | _ ′ | isible on Aerial Imagery (C9) |
| Iron Dep | ` ' | | Thin Muck | | • | , | | Position (D2) |
| l | on Visible on Aerial | lmagery (B7) | Other (Ex | | | | FAC-Neutra | |
| | tained Leaves (B9) | | | | , | | | Hummocks (D7) (LRR F) |
| Field Observ | | | | | | | | , , , , , |
| Surface Water | | es No | X Depth (in | ches). | | | | |
| Water Table | | | Depth (in | | | | | |
| | | | . 3 | | | | and Hydrology Proce | nt? Yes No_X |
| Saturation Proceed (includes cape | | C5 INO | Depth (in | G168) | | _ vveti | and nyurology Prese | III: 169 NO / |
| | corded Data (stream | gauge, monito | oring well, aerial | photos, pr | evious ins | pections), | if available: | |
| | | | | | | | | |
| Remarks: | | | | | | | | |
| | Ales Cal | معل يرم مما | ام بال مع | | . / | 1 | Features | |
| | ואכ טען | | ~ 40 OI | ,su, | r Ke | CLOX | natures | |
| | | | | | | | | |

| Project/Site: Tulge On Milication | Sink City/C | County: EIP | aso Co. | Samplin | g Date: 8/19/2 |
|---|-------------|-------------------|---|-------------------|---|
| Applicant/Owner: Reke Liter | | | State: <u> </u> |) Sampline | g Point: 5P-3 1 |
| Investigator(s): Cloria Sagent | Secti | on, Township, Rar | | | |
| Landfama (hillalana tamana ata). | 1 | 1 1:- f / | | MA | 01(0/): 19. |
| Subregion (LRR): | Lat: 38 0 | 155589 | Long: ~104. | 544954 | Datum: NAD8 |
| Soil Map Unit Name: Fluvaguentic mol | manolls. | nearly le | NWI cl | assification: | None |
| Are climatic / hydrologic conditions on the site typical for this | | - W | | | • |
| Are Vegetation, Soil, or Hydrologys | | | Normal Circumstan | | . 1 |
| Are Vegetation, Soil, or Hydrology n | | | eded, explain any a | | • |
| SUMMARY OF FINDINGS – Attach site map | | | | | |
| | , | | Joanons, trans | | tant reatures, etc. |
| | °_X_ | Is the Sampled | | | • |
| · | o o | within a Wetlan | d? Yes | No | _X_ |
| Remarks: | <u> </u> | | | | |
| Annual precipitation has | | elow aven | roye since | 2019. | |
| VEGETATION – Use scientific names of plan | | ninant Indicator | Dominance Test | aukobaati | |
| Tree Stratum (Plot size: | % Cover Spe | | Number of Domin | | |
| 1 | <u> </u> | | That Are OBL, FA | ACW, or FAC | 2 |
| 2 | | | (excluding FAC-) | : | (A) |
| 3 | · | | Total Number of I Species Across A | | <u></u> (B) |
| Sapling/Shrub Stratum (Plot size: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | = Tot | tal Cover | Percent of Domin That Are OBL, FA | | _ 5 0_ (A/B) |
| 1 | | | Prevalence Inde | x worksheet: | |
| 2 | | | Total % Cove | er of: | Multiply by: |
| 4 | | | OBL species _ | x | 1 = |
| 5. | · | | FACW species _ | | |
| Link a Z | = Tot | tal Cover | FAC species _ | <u>~~</u> x: | 3 = |
| Herb Stratum (Plot size: 100m²) 1 Schrach Gum Scofai ium | 1827 | 8A/:1 | FACU species _ | 3-1 A | 4 = <u>W</u> |
| 2. Hisparostipa comater | · — — | THE U | UPL species _ | 2 3-4 | 5 = <u>{</u> |
| 3 Helerotheca villasa | · <u> </u> | VIEL I | Column Totals: _ | (A) |) <u>"[[Do</u> (B) |
| 4 Sparobolus airaides | | — VIII | Prevalence | Index = B/A = | <u>5.470</u> |
| 5 Routelove arricilis | 15 | X TIPE | Hydrophytic Veg | | |
| 6 Carrex Droedincillis | 10 | X FALU) | | st for Hydrophyt | |
| 7. Solidaro SO. | 5 | UPL | _ | ce Test is >50% | |
| 8. Junais arctions literalis | 10_ | X_FACU | \ | ce Index is ≤3.01 | |
| 9. Artenista Frisida | | UPL | | | ns ¹ (Provide supporting separate sheet) |
| 10. | | | | | getation¹ (Explain) |
| Woody Vine Stratum (Plot size:) | = Tot | tal Cover | ¹ Indicators of hyd be present, unles | | and hydrology must problematic. |
| 2 | | | Hydrophytic | | |
| 27 | = To | tal Cover | Vegetation | | ~ |
| % Bare Ground in Herb Stratum | | | Present? | Yes | No |
| Remarks: | | | | | |
| | | | | | |
| | | | | | |

SOIL

Sampling Point: 5P-31

| 1 Tollic Bess | | | | | | o. oo | m the absence of indicators.) |
|--|---|-------------|--|---|--|-------------|--|
| Depth (inches) | Matrix | 0/ | | ox Feature | 1 | Loc² | Touture |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | <u> </u> | Type' | | Texture Remarks |
| 0-12 | 104R 3/2 | 95 | 10 YR 4/6 | | <u> </u> | m | Sandy Loan |
| 10 10 | 1:: 11a Pl | | | | | | |
| 12-18 | 10 YR 5/3 | 100 | | | | | Sandy Loam |
| .0. 10 | a = U (a/a | | - FV0 510 | | | | |
| 18-78 | 2.54 42 | | 7.5YR 5/8 | <u>2</u> | <u> </u> | <u>_M</u> _ | Loany sand |
| | | | 109R 7/0 | <u> 2 </u> | <u>し</u> | <u>m</u> | · |
| | | | | | | | |
| | | | | | | | |
| | oncentration, D=Depl | | | | | d Sand G | |
| Hydric Soil I | ndicators: (Applica | able to all | LRRs, unless other | rwise not | ed.) | | Indicators for Problematic Hydric Soils ³ : |
| Histosol | ` ' | | Sandy | Gleyed Ma Redox (S5 | . , | | 1 cm Muck (A9) (LRR I, J) |
| - | pipedon (A2) | | | Coast Prairie Redox (A16) (LRR F, G, H) | | | |
| Black His | ` ' | | | d Matrix (S | | | Dark Surface (S7) (LRR G) |
| | n Sulfide (A4) | • | - | Mucky Mir | | | High Plains Depressions (F16) |
| | Layers (A5) (LRR F | | - | Gleyed Ma | | | (LRR H outside of MLRA 72 & 73) |
| | ck (A9) (LRR F, G, F | | | ed Matrix (I | , | | Reduced Vertic (F18) |
| | d Below Dark Surface ark Surface (A12) | (ATT) | X Redox | Dark Surfa ed Dark Su | | | Red Parent Material (TF2)Very Shallow Dark Surface (TF12) |
| | lucky Mineral (S1) | | | Depression | | | Other (Explain in Remarks) |
| | lucky Nillierar (৪৭) lucky Peat or Peat (১ | S2) (I RR (| | lains Depre | | 16) | ³ Indicators of hydrophytic vegetation and |
| | cky Peat or Peat (S3 | | · · · · · · · · · · · · · · · · · · · | -RA 72 & 7 | | | wetland hydrology must be present, |
| | , | , (=:::: , | (| | | , , | unless disturbed or problematic. |
| Restrictive L | ayer (if present): | | | | | | |
| Type: | | | | | | | |
| Depth (inc | ches): | | | | | | |
| | | | | | | | Hydric Soil Present? Yes No |
| Remarks: | A | • | <u> </u> | \ | 1/2. \ | ا نیم | Hydric Soil Present? Yes X No No |
| Remarks: | Re-visited | in J | ure 2022 | to co | ollect | soil | Hydric Soil Present? Yes 1 No No No |
| Remarks: | Re-visited | in J | ure 2022 | to co | ollect | soil | |
| | | in J | jure 2022 | to co | ollect | 50i l | |
| HYDROLO | GY | in J | ure 2022 | to cu | ollect | soil | |
| HYDROLOG | GY drology Indicators: | | | | ollect | soil | depths 14-28" |
| HYDROLOG Wetland Hyd Primary Indic | GY drology Indicators: ators (minimum of o | | d; check all that app | ıly) | ollect | soil | Secondary Indicators (minimum of two required) |
| HYDROLO Wetland Hyo Primary Indic Surface | GY drology Indicators: eators (minimum of or Water (A1) | | d; check all that app | l <u>y)</u> t (B11) | | soil | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) |
| HYDROLOG Wetland Hyd Primary Indic Surface of High Wa | GY drology Indicators: eators (minimum of or Water (A1) ter Table (A2) | | d; check all that app Salt Crus Aquatic Ir | ly) t (B11) nvertebrate | s (B13) | 501 | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) |
| HYDROLOG Wetland Hyd Primary Indic Surface V High Wa X Saturatio | GY drology Indicators: eators (minimum of or Water (A1) tter Table (A2) on (A3) | | d; check all that app Salt Crus Aquatic Ir Hydroger | ly) t (B11) nvertebrate Sulfide Od | s (B13) dor (C1) | | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) |
| HYDROLOG Wetland Hyd Primary Indic Surface V High Wa X Saturation Water Ma | GY drology Indicators: cators (minimum of or Water (A1) tter Table (A2) on (A3) arks (B1) | | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas | ly) t (B11) nvertebrate s Sulfide Oo on Water T | s (B13) dor (C1) Table (C2) | | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) |
| HYDROLOG Wetland Hyd Primary Indic Surface V High Wa X Saturation Water Ma | GY drology Indicators: eators (minimum of or Water (A1) tter Table (A2) on (A3) | | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas | ly) t (B11) nvertebrate Sulfide Od | s (B13) dor (C1) Table (C2) | | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) |
| HYDROLOG Wetland Hyd Primary Indic Surface High Wa X Saturatio Water Ma Sedimen Drift Dep | GY drology Indicators: eators (minimum of or Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) | | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized | ly) t (B11) nvertebrate s Sulfide Oo on Water T | s (B13) dor (C1) Table (C2) res on Liv | | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) |
| HYDROLOG Wetland Hyd Primary Indic Surface High Wa X Saturatio Water Ma Sedimen Drift Dep | GY drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) | | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized | ly) t (B11) nvertebrate Sulfide Or on Water T Rhizosphe not tilled) | s (B13) dor (C1) able (C2) res on Liv | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) |
| HYDROLOG Wetland Hyd Primary Indic Surface High Wa X Saturatio Water Ma Sedimen Drift Dep | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) | | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where | ly) t (B11) nvertebrate sulfide Or on Water T Rhizosphe not tilled) of Reduce | s (B13) dor (C1) Table (C2) res on Liv | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) |
| HYDROLOG Wetland Hyd Primary Indic Surface V High Wa X Saturatio Water Mater M | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) | ne required | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence | ly) t (B11) nvertebrate sulfide Or on Water T Rhizosphe not tilled) of Reduce | s (B13) dor (C1) Fable (C2) res on Liv ed Iron (C4 C7) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) |
| HYDROLOG Wetland Hyd Primary Indic Surface V High Wa X Saturatio Water Mark Sediment Drift Dep Algal Mark Iron Dep Inundation | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) | ne required | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence | t (B11) Invertebrate Sulfide Oo on Water T Rhizosphe not tilled) of Reduce k Surface (| s (B13) dor (C1) Fable (C2) res on Liv ed Iron (C4 C7) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) |
| HYDROLOG Wetland Hyd Primary Indic Surface V High Wa X Saturatio Water Mark Sediment Drift Dep Algal Mark Iron Dep Inundation | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial In tained Leaves (B9) | ne required | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence | t (B11) Invertebrate Sulfide Oo on Water T Rhizosphe not tilled) of Reduce k Surface (| s (B13) dor (C1) Fable (C2) res on Liv ed Iron (C4 C7) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) X Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| HYDROLOG Wetland Hyd Primary Indic Surface V High Wa X Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water-St | GY drology Indicators: cators (minimum of or Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial In tained Leaves (B9) vations: er Present? | ne required | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence Thin Muc 7) Other (Ex | ly) t (B11) nvertebrate Sulfide Oc on Water T Rhizosphe not tilled) of Reduce k Surface (plain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) X Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| HYDROLOG Wetland Hyde Primary Indice Surface of High Warter Marcon Sediment Drift Dep Algal Marcon Dep Inundation Water-St Field Observ | GY drology Indicators: cators (minimum of or Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial In tained Leaves (B9) vations: er Present? Ye Present? | magery (B | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence Thin Muc 7) Other (Ex | ly) t (B11) nvertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce k Surface (plain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) X Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| HYDROLOG Wetland Hyd Primary Indic Surface V High Wa X Saturatio Water Manage of the second of | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial Intained Leaves (B9) vations: er Present? Present? Ye | magery (B | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence Thin Muc 7) Other (Ex | ly) t (B11) nvertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce k Surface (plain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) X Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| HYDROLOG Wetland Hyde Primary Indice Surface Manager High Wa Saturation Sediment Drift Dep Algal Mater Algal Mater Algal Mater Sediment Water String Water String Field Observed Surface Water Table of Saturation Preserved | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial In tained Leaves (B9) vations: er Present? Present? Ye resent? Ye resent? Ye resent? | magery (B | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence Thin Muc 7) Other (Ex | t (B11) nvertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce k Surface (plain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) X Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) |
| HYDROLOG Wetland Hyde Primary Indice Surface Manager High Wa Saturation Sediment Drift Dep Algal Mater Algal Mater Algal Mater Sediment Water String Water String Field Observed Surface Water Table of Saturation Preserved | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial Intained Leaves (B9) vations: er Present? Present? Ye | magery (B | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence Thin Muc 7) Other (Ex | t (B11) nvertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce k Surface (plain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) X Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) |
| HYDROLOG Wetland Hyd Primary Indic Surface High Wa X Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water-St Field Observ Surface Water Vater Table Saturation Pr (includes cap Describe Rec | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial In tained Leaves (B9) vations: er Present? Present? Ye resent? Ye resent? Ye resent? | magery (B | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence Thin Muc 7) Other (Ex | t (B11) nvertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce k Surface (plain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) X Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) |
| HYDROLOG Wetland Hyde Primary Indice Surface Manager High Wa Saturation Sediment Drift Dep Algal Mater Algal Mater Algal Mater Sediment Water String Water String Field Observed Surface Water Table of Saturation Preserved | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial In tained Leaves (B9) vations: er Present? Present? Ye resent? Ye resent? Ye resent? | magery (B | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence Thin Muc 7) Other (Ex | t (B11) nvertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce k Surface (plain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) X Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) |
| HYDROLOG Wetland Hyd Primary Indic Surface High Wa X Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatio Water-St Field Observ Surface Water Vater Table Saturation Pr (includes cap Describe Rec | drology Indicators: cators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Visible on Aerial In tained Leaves (B9) vations: er Present? Present? Ye resent? Ye resent? Ye resent? | magery (B | d; check all that app Salt Crus Aquatic Ir Hydroger Dry-Seas Oxidized (where Presence Thin Muc 7) Other (Ex | t (B11) nvertebrate Sulfide Or on Water T Rhizosphe not tilled) of Reduce k Surface (plain in Re | s (B13) dor (C1) Table (C2) res on Liv ed Iron (C4 C7) emarks) | ing Roots | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (Where tilled) Crayfish Burrows (C8) X Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) |

| Project/Site: Julye Orr Mitigation | Bunk City/C | County: | Paso Co | Sampling | g Date: 8] | 19/2 |
|--|--|----------------------------------|--|------------------------------------|------------------------------|----------|
| Applicant/Owner: Pek. Lien | | | State: CC | Sampling | a Point: 🎒 | |
| Investigator(s): Gloria Saryunt | Section | on, Township, Rar | nge: 34, Trz | is Ru | HW | • |
| Landform (hillslope, terrace, etc.): | Loca | I relief (concave, o | convex, none): | مه دهند | Slope (% |): 4 % |
| Subregion (LRR): G | | | | | | |
| Soil Map Unit Name: Columbine and Wil | | | | | | |
| Are climatic / hydrologic conditions on the site typical for the | | | | | , | |
| Are Vegetation, Soil, or Hydrology | | | Normal Circumstance | | Vec 🗴 | No |
| | | | | | • | |
| Are Vegetation, Soil, or Hydrology | | | eded, explain any ar | | | |
| SUMMARY OF FINDINGS – Attach site map | showing san | npling point lo | ocations, transe | cts, impor | tant featur | es, etc. |
| Hydrophytic Vegetation Present? Yes X | No | Is the Sampled | Δrea | | | |
| | No | within a Wetlan | | X No | | |
| , | No | | | | | |
| Annual precipitation | | en below | averege | since i | 2019. | |
| VEGETATION – Use scientific names of pla | | ninant Indiantar | Deminance Took | ve ulcob e et : | | |
| Tree Stratum (Plot size: 100m²) | % Cover Spe | ninant Indicator cies? Status | Dominance Test v Number of Domina | | | |
| 1 | | | That Are OBL, FAC | | 3 | |
| 2 | | | (excluding FAC-): | | | _ (A) |
| 3 | | | Total Number of Do | | 11 | |
| 4. | | | Species Across All | Strata: | | _ (B) |
| Sapling/Shrub Stratum (Plot size:) | = To | tal Cover | Percent of Domina That Are OBL, FAC | | 75 | _ (A/B) |
| 1. Salix exig | | * LMCM | Prevalence Index | worksheet: | | |
| 3. | | | Total % Cover | of: | Multiply by: | |
| 4. | | | OBL species | x ′ | 1 = | |
| 5. | | | FACW species | | | |
| 10m. 2 | = Tot | tal Cover | FAC species | | | |
| Herb Stratum (Plot size: | 1.5 | 60 i | FACU species | | | |
| 1. Typha latitolia 2. Schoenoplectus tabernae | 10 | OBL | - | x 5 | | |
| 3 Juneus arcticus lithoral | | | Column Totals: | (A) |) | (B) |
| 4 Eleocharis Palustris | '' | X ORI | Prevalence Ir | ndex = B/A = | | |
| 5 Hordeum Jubatum | _ | EAC (3) | Hydrophytic Vege | tation Indicat | tors: | |
| 6. Solidoso SO. | 15 | X UPL | 1 - Rapid Test | | - | |
| 7. Panicum virsatum | | FAC. | 2 - Dominance | | | |
| 8 Stellarja calycantha | -10- | FACW | 3 - Prevalence | | | |
| 9 | | | 4 - Morphologi data in Ren | cai Adaptation narks or on a s | | |
| 10 | | | Problematic H | ydrophytic Veç | getation ¹ (Exp | lain) |
| Woody Vine Stratum (Plot size: LOOM) 1. | <u> </u> | tal Cover | ¹ Indicators of hydribe present, unless | c soil and wetli disturbed or p | and hydrology roblematic. | / must |
| 2. | | | Hydrophytic | | | - |
| . 0 | = Tot | tal Cover | Vegetation | Y | | |
| % Bare Ground in Herb Stratum | | | Present? | Yes | No | |
| Remarks: | | | | | | |
| | | | | | | |
| | | | | | | |

SOIL Sampling Point: <u>\$P-32</u>

| | cription: (Describe t | o the dept | h needed to | | | | or confirm | m the absence of indicators.) | |
|-------------------|--|--------------|----------------|------------|------------|------------------------|------------------|---|------------|
| Depth (inches) | Matrix Color (moist) | % | Color (mo | | Feature % | s Type ¹ | Loc ² | Texture Remarks | |
| (inches) | 1000 HA | | COIOI (IIII | <u> </u> | | Type | LUC | | |
| 0, 2 | 10412 1/6 | 100 | | | | | | Sandy Loam | |
| 2-14 | 10 40 5/1 < | 85 | 7.5 Ye | 4/10 | 15 | | \\\\ | Sandy Loam Clay Loam | |
| 211 | 10 11 71.3 | | 1-5 17 | 74 | | | | State Porter | |
| | | | | | | · | | | |
| | | | | | | · | | | |
| | | | | | - | | | | |
| | | | | | | · | | | |
| 1 | | | | | | | | 2 | |
| | oncentration, D=Depl Indicators: (Applica | | | | | | d Sand G | Grains. ² Location: PL=Pore Lining, M=Mat Indicators for Problematic Hydric Soils | |
| Histosol | | ibic to un i | | | | atrix (S4) | | 1 cm Muck (A9) (LRR I, J) | • |
| | pipedon (A2) | | | - | edox (S5 | . , | | Coast Prairie Redox (A16) (LRR F, G | i. H) |
| | istic (A3) | | | - | Matrix (S | | | Dark Surface (S7) (LRR G) | , , |
| _ | en Sulfide (A4) | | | | • | neral (F1) | | High Plains Depressions (F16) | |
| | d Layers (A5) (LRR F |) | | Loamy G | Sleyed M | atrix (F2) | | (LRR H outside of MLRA 72 & 73 | 3) |
| 1 cm Mu | uck (A9) (LRR F, G, F | i) | X | Depleted | l Matrix (| F3) | | Reduced Vertic (F18) | |
| Depleted | d Below Dark Surface | e (A11) | | Redox D | ark Surfa | ace (F6) | | Red Parent Material (TF2) | |
| | ark Surface (A12) | | | • | | ırface (F7) | | Very Shallow Dark Surface (TF12) | |
| | Mucky Mineral (S1) | | | | epressio | | | Other (Explain in Remarks) | |
| | Mucky Peat or Peat (S | | i, H) | - | | essions (F | | ³ Indicators of hydrophytic vegetation and | |
| 5 cm Mi | ucky Peat or Peat (S3 | (LRR F) | | (MLF | KA /2 & | 73 of LRR | H) | wetland hydrology must be present, | |
| Postrictivo | Layer (if present): | | | | | | | unless disturbed or problematic. | |
| | | | | | | | | | |
| , <u> </u> | -1 | | | | | | | Hydric Soil Present? Yes X No | |
| | ches): | | | | | | | Hydric Soil Present? Yes No | <u>'——</u> |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| HYDROLO | GY | | | | | | | | |
| Wetland Hy | drology Indicators: | | | | | | | | |
| Primary India | cators (minimum of or | ne required | ; check all th | nat apply | ') | | | Secondary Indicators (minimum of two | required) |
| Surface | Water (A1) | | Sa | It Crust (| B11) | | | Surface Soil Cracks (B6) | |
| High Wa | ater Table (A2) | | | | ertebrate | es (B13) | | Sparsely Vegetated Concave Surfa | ace (B8) |
| X Saturation | | | | | Sulfide O | | | Drainage Patterns (B10) | |
| Water M | larks (B1) | | Dr | y-Seasor | n Water | Γable (C2) | | Oxidized Rhizospheres on Living R | Roots (C3) |
| Sedimer | nt Deposits (B2) | | | | | res on Livi | ng Roots | | |
| | posits (B3) | | | | ot tilled) | | | Crayfish Burrows (C8) | |
| | at or Crust (B4) | | , | | | ed Iron (C4 | .) | $\overline{\boldsymbol{X}}$ Saturation Visible on Aerial Imager | v (C9) |
| _ | oosits (B5) | | | | Surface | • | , | X Geomorphic Position (D2) | , , |
| | on Visible on Aerial Ir | magery (B7 | | | lain in Re | | | FAC-Neutral Test (D5) | |
| • | tained Leaves (B9) | - 3 - 7 (| / | - (| | , | | Frost-Heave Hummocks (D7) (LRI | R F) |
| Field Obser | | | | | | | | | |
| Surface Wat | | es N | No X D | epth (inc | hes): | | | | |
| Water Table | | | No X D | | | | _ | | |
| Saturation P | | | No D | | | 9 | - Wet | land Hydrology Present? Yes X | 0 |
| (includes cap | | .5 1 | | cpui (iiic | | • | _ ''' | iana riyarology r resent. Tes ra | <i></i> |
| Describe Re | corded Data (stream | gauge, mo | nitoring well | , aerial p | hotos, pr | evious ins | pections), | , if available: | |
| | | | | | | | | | |
| Remarks: | | | | \ . | • • • | | | | |
| Star | nding water | carou | nned c | utto | L115. | ~45 | it. Fre | om soil pit. | |
| | U | | | | | | | • | |

| Project/Site: Julye Or Mitigation Be | ank City/ | County: | Paso Co. | Sampling Date: 8/19/2 |
|---|---------------------------------------|---------------------|--|--|
| Applicant/Owner: Telc Lien Investigator(s): Clorica Sarsunt Landform (hillelppe torrace etc.): As I and | | | State: CO | Sampling Point: 59-33 |
| Investigator(s): Coloria Sarcunt | Secti | on, Township, Ra | inge: 34, 7725 | RGHW - |
| Landform (hillslope, terrace, etc.): | Loca | al relief (concave. | convex. none): CON C | ia v Slope (%): 4 % |
| Subregion (LRR): | Lat: 38. | 955448 | Long: -104.55 | Datum: VADE |
| Soil Map Unit Name: Columbine amuli | | | A | |
| Are climatic / hydrologic conditions on the site typical for this t | | | | |
| Are Vegetation, Soil, or Hydrology sig | | | | resent? Yes X No |
| Are Vegetation, Soil, or Hydrology nat | | | | |
| | | | eeded, explain any answer | |
| SUMMARY OF FINDINGS – Attach site map sl | nowing san | npling point l | ocations, transects | , important features, etc. |
| Hydrophytic Vegetation Present? Yes No _ | X_ | Is the Sampled | A Aroa | |
| Hydric Soil Present? Yes No | <u>X</u> | - | nd? Yes | No. X |
| Wetland Hydrology Present? Yes No | <u>X</u> | Within a Wotla | | |
| Remarks: | | | | |
| Annual precipitation | has be | en lactor | averace. ch | nce 2019 |
| Minister Pro-less | · · · · · · · · · · · · · · · · · · · | er polou | 3 40 00 50 | |
| VEGETATION – Use scientific names of plants | . | | | |
| 1.8.4. 7 | | minant Indicator | Dominance Test works | sheet: |
| | % Cover Spe | ecies? Status | Number of Dominant Sp | |
| 1 | | | That Are OBL, FACW, of (excluding FAC-): | (A) |
| 3 | | | Total Number of Domina | ant 7 |
| 4. | | | Species Across All Strat | . 7 |
| 7 | = To | tal Cover | Percent of Dominant Sp | necies 🔥 |
| Sapling/Shrub Stratum (Plot size:(OUm²_) | | | That Are OBL, FACW, o | |
| 1 | | | Prevalence Index work | ksheet: |
| 2 | | | | Multiply by: |
| 3 | | | | x 1 = |
| 4 | | | FACW species | x 2 = |
| J | = To | tal Cover | FAC species | x3= x4= S |
| Herb Stratum (Plot size: (COm) | | | ندر و زی | x 4 = |
| 1. Heterothera villosa | <u> </u> | UPL | UPL species | x5= <u>/85</u> |
| 2 Boutelous docty) vides | <u> 10 X</u> | <u>+460</u> | Column Totals: | (A) <u>24</u> (B) |
| 3. Kontektua greenss | | | Prevalence Index | = B/A = 4.725 |
| 4. Ambrosia psilostadata. 5. Malionas Officinalis | <u></u> | - 170 0 | Hydrophytic Vegetation | on Indicators: |
| 6 Ukin Annual Forin | - \$ - | V JOE | 1 - Rapid Test for H | Hydrophytic Vegetation |
| 7. Pascopyrum smithii | <u>~</u> | DAL | 2 - Dominance Test | t is >50% |
| 8. Flames langoiches lance | 5 | UPL | 3 - Prevalence Inde | |
| 9. Schizachurium Swarium | 2 | FACL | | Adaptations ¹ (Provide supporting s or on a separate sheet) |
| 10. <u>Solidaço</u> 30. | 10 2 | X UPL | | phytic Vegetation ¹ (Explain) |
| (100.3) | <u> 5 </u> = To | tal Cover | | , |
| Woody Vine Stratum (Plot size: 100mc) | | | be present, unless distu | I and wetland hydrology must urbed or problematic. |
| 1 | | | Hydrophytic | _ |
| 110 | / = To | tal Cover | Vegetation | V |
| % Bare Ground in Herb Stratum | <u> </u> | | | s No |
| Remarks: | | | | |
| | | | | |
| | | | | |

SOIL Sampling Point: SP-33

| | cription: (Describe | to the dep | th neede | | | | or confire | m the absen | nce of indicators.) |
|----------------------------|--|-----------------------|---------------|---------------|----------------|--------------------------|------------------|-----------------|--|
| Depth (inches) | Matrix Color (moist) | % | Color | (moist) | x Feature % | | Loc ² | Texture | Remarks |
| 0-10 | | | | | | | | | |
| | 10 12 | 100 | | | | | | <u> </u> | polin |
| 10-14 | 104R 4/2 | 85 | 254 | 7/1.5 | 15 | $\overline{\mathcal{D}}$ | m | Sandy Sandy | Loam |
| • | | | | | | | | 0 | |
| | | | | | | | | | |
| | | | | | | | | _ | |
| ¹ Type: C=C | oncentration, D=Dep | oletion RM | =Reduced | d Matrix CS | S=Covere | d or Coate | ed Sand G | Grains 2 | CLocation: PL=Pore Lining, M=Matrix. |
| | Indicators: (Applic | | | | | | ou ound o | | ors for Problematic Hydric Soils ³ : |
| Histosol | | | _ | | Gleyed Ma | | | 1 cr | m Muck (A9) (LRR I, J) |
| Histic E | oipedon (A2) | | _ | Sandy I | Redox (S | 5) | | | ast Prairie Redox (A16) (LRR F, G, H) |
| Black H | stic (A3) | | _ | Stripped | d Matrix (| S6) | | Dar | rk Surface (S7) (LRR G) |
| Hydroge | en Sulfide (A4) | | _ | | - | neral (F1) | | Hig | h Plains Depressions (F16) |
| | d Layers (A5) (LRR I | | _ | Loamy | - | | | | (LRR H outside of MLRA 72 & 73) |
| | ıck (A9) (LRR F, G , | | _ | | d Matrix (| , | | _ | duced Vertic (F18) |
| | d Below Dark Surfac | e (A11) | - | | Dark Surfa | , , | | | d Parent Material (TF2) |
| | ark Surface (A12) | | _ | | | urface (F7) |) | | ry Shallow Dark Surface (TF12) |
| - | Mucky Mineral (S1) Mucky Peat or Peat (| (C2) (LDD (| с п/ _ | | Depressio | ons (F8) essions (F | 16) | | ner (Explain in Remarks) ors of hydrophytic vegetation and |
| | ucky Peat or Peat (S | | | - | | 73 of LRR | | | land hydrology must be present, |
| 5 0111 1010 | icky i eat of i eat (S | 5) (LIXIX I) | | (IVIL | .IXA 12 Q | 75 OI LIKI | 11) | | ess disturbed or problematic. |
| Restrictive | Layer (if present): | | | | | | | | occ dictarged or problematic. |
| | | | | | | | | | |
| | | | | | | | | Liveinia C | Soil Present? Yes No X |
| Remarks: | ches): | | | | | | | Hydric S | Soil Present? Yes NoX |
| | | | | | | | | | |
| IYDROLO | | | | | | | | | |
| - | drology Indicators: | | | | | | | _ | |
| Primary Indi | cators (minimum of o | one require | d; check a | all that appl | у) | | | | ndary Indicators (minimum of two required) |
| Surface | Water (A1) | | | Salt Crust | | | | 8 | Surface Soil Cracks (B6) |
| High Wa | ater Table (A2) | | | Aquatic In | | | | 8 | Sparsely Vegetated Concave Surface (B8) |
| Saturati | on (A3) | | | Hydrogen | Sulfide O | dor (C1) | | [| Orainage Patterns (B10) |
| Water M | larks (B1) | | | Dry-Seaso | on Water | Table (C2) | | (| Oxidized Rhizospheres on Living Roots (C3) |
| Sedime | nt Deposits (B2) | | | Oxidized F | Rhizosphe | eres on Liv | ing Roots | (C3) | (where tilled) |
| Drift De | posits (B3) | | | (where | not tilled) |) | | (| Crayfish Burrows (C8) |
| Algal Ma | at or Crust (B4) | | | Presence | of Reduce | ed Iron (C | 4) | 8 | Saturation Visible on Aerial Imagery (C9) |
| Iron Dep | oosits (B5) | | | Thin Muck | Surface | (C7) | | (| Geomorphic Position (D2) |
| Inundati | on Visible on Aerial | lmagery (B | 7) | Other (Exp | olain in Re | emarks) | | F | FAC-Neutral Test (D5) |
| Water-S | tained Leaves (B9) | | | | | | | F | Frost-Heave Hummocks (D7) (LRR F) |
| Field Obser | vations: | | | | | | | | |
| Surface Wat | er Present? Y | 'es | No X | Depth (in | ches): | | | | |
| Water Table | Present? Y | es | No _ X | Depth (in | ches): _ | | | | |
| Saturation P (includes cap | resent? Yoillary fringe) | 'es | No X | _ Depth (in | ches): | | Wet | | logy Present? Yes No |
| | corded Data (stream | gauge, mo | onitoring v | well, aerial | photos, pi | revious ins | pections) | , if available: | |
| | | | | | | | | | |
| Remarks: | | | | | | | | | |
| | 11 1 | ١. | | | • | . ^ | 1. | C. 1 | |
| | No satu | raft | on : | les of | scu | n R | Ldex | Featen | res. |

| Project/Site: Judy or Wetland Mitigatio | nBank City/(| County: El Pas | so Coun | Sampli | ng Date: 6/3 | 29/2 |
|---|---------------------|--------------------------------|---------------------------|--|--|-------------|
| Applicant/Owner: Pete Lien + Sons | | | State: | <u>CO</u> Sampli | ng Point: SP | -34 |
| Investigator(s): Gibriu Sargent | Secti | on, Township, Rai | nge: 34 . | 7125 R | .64W | • |
| Landform (hillslope, terrace, etc.): | Loca | al relief (concave, o | convex, none): | Concare | Slope (%): | : <u>08</u> |
| Subregion (LRR): | | | | | | |
| Soil Map Unit Name: Fluraquentic Haplage | | | | | | |
| Are climatic / hydrologic conditions on the site typical for th | | • | | | | |
| Are Vegetation, Soil, or Hydrology | | | • • | stances" present? | | lo |
| Are Vegetation, Soil, or Hydrology | | | | ny answers in Rei | • | |
| SUMMARY OF FINDINGS – Attach site map | showing sar | nplina point l | ocations, tra | ansects. impo | rtant feature | s. etc. |
| | | | | | | |
| | No | Is the Sampled | Area | V | | |
| Hydric Soil Present? Wetland Hydrology Present? Yes X Yes X Yes X | No No | within a Wetlan | nd? | Yes X No | o | |
| Remarks: | | | | | | |
| Below average Recipitation | | 2019 | | | | |
| Bem average mechineme | w snoc | ω 14, | | | | |
| | | | | | | |
| VEGETATION – Use scientific names of plan | | | | | | |
| Tree Stratum (Plot size: 100m²) | | minant Indicator ecies? Status | | Test worksheet: | | |
| 1 | <u>70 00001 0pc</u> | oloo. Otatao | | minant Species , FACW, or FAC | | |
| 2. | | | (excluding FA | | | (A) |
| 3. | | | Total Number | of Dominant | | |
| 4 | | | Species Acros | ss All Strata: | | (B) |
| 122.2 | &_ = To | tal Cover | | minant Species | C ~ | |
| Sapling/Shrub Stratum (Plot size: 100 m²) | | | That Are OBL | , FACW, or FAC: | 50 | (A/B) |
| 2 | | | Prevalence II | ndex worksheet: | | |
| 3 | | | Total % C | Cover of: | Multiply by: | _ |
| 4. | | | OBL species | | < 1 = O | _ |
| 5 | | | | s <u>60</u> > | • • | _ |
| 10m 7 | = To | tal Cover | | | (3 = <u>O</u> | _ |
| Herb Stratum (Plot size: | ~ | Then | FACU species | | (4 = <u>20</u> | _ |
| 1. <u>Cirsium arvense</u> | - | 1 14(1) | UPL species | ~ ~ ~ | (5 = <u>110</u> A) 250 | — (D) |
| 2 Juncus arcticus ssp. littorali 3. Grange coccinece | <u> </u> | (FACCO | Column Total | \ | , | (B) |
| 4. Calamovilfa longitolia | 20 7 | V UPL | Prevale | nce Index = B/A = | · <u>~87</u> | _ |
| 5. | | <u> </u> | Hydrophytic | Vegetation Indic | ators: | |
| 6 | | | | Test for Hydrophy | - | |
| 7. | | | | nance Test is >50° | | |
| 8. | | | | lence Index is ≤3. | | |
| 9 | | | 4 - Morpr data ir | nological Adaptation Remarks or on a | ons" (Provide sup i separate sheet) | porting |
| 10 | | | | atic Hydrophytic V | . , | |
| West-Vise Obstance (Distriction 1/92-2 | 87 = To | tal Cover | | | | ŕ |
| Woody Vine Stratum (Plot size: (U), | | | | hydric soil and we nless disturbed or | | must |
| 1 2. | | | Uvdronhutia | | | |
| A - | = To | tal Cover | Hydrophytic Vegetation | | | |
| % Bare Ground in Herb Stratum | | 00101 | Present? | Yes | No | |
| Remarks: | | | • | | | |
| | | | | | | |
| | | | | | | |

SOIL Sampling Point: SP-34

| Depth | Matrix | | Redox | x Features | ; | | m the absence | |
|--|--|---------------------|---|--|---|-------------------|---|--|
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | _Loc ² | Texture | Remarks |
| 3-16 | 104R 2/1 | 100 | 104R 4/6 | 1_ | | m | Sandy | g Clay Loam |
| | | | 10 YR 5/8 | Ì | C | PL | C | g Clay Loam |
| 6-30 | 10483/1 | 85 | 10 YR 5/6 | ~ | | m | | |
| <u> </u> | 2544/2 | 10 | | | | | 34,77,7 | Clay Luam |
| 211-25 | 25172 | | 12404/ | 10 | | | - 16 | 1 |
| <u>30-35</u> | <u>2.5 1 9/3</u> | <u>28</u> | 104R4/6 | 10 | <u></u> | <u> </u> | <u> 51174 (</u> | <u>lay</u> |
| | <u> 57 % </u> | <u>(ပ</u> | 2.57 4/2 | <u> </u> | \overline{n} | m | | |
| | | | | | | | <u> </u> | |
| | | | | | | d Sand G | | cation: PL=Pore Lining, M=Matrix. |
| ydric Soil I | ndicators: (Applic | able to all | LRRs, unless other | wise note | ed.) | | | for Problematic Hydric Soils ³ : |
| _ Histosol | | | | Sleyed Mat | | | | Muck (A9) (LRR I, J) |
| | ipedon (A2) | | - | Redox (S5) | | | | Prairie Redox (A16) (LRR F, G, H) |
| _ Black His | | | | Matrix (S | | | | Surface (S7) (LRR G) |
| | n Sulfide (A4) | Ε/ | - | Mucky Min | | | | lains Depressions (F16) |
| | Layers (A5) (LRR l ck (A9) (LRR F, G, | | | Gleyed Ma d Matrix (F | | | | R H outside of MLRA 72 & 73) ed Vertic (F18) |
| | Below Dark Surfac | | Redox D | | | | | arent Material (TF2) |
| Thick Da | rk Surface (A12) | (, | | d Dark Sur | | | | hallow Dark Surface (TF12) |
| | ucky Mineral (S1) | | | Depression | | | - | (Explain in Remarks) |
| 2.5 cm M | lucky Peat or Peat (| S2) (LRR (| G, H) High Pla | ins Depre | ssions (F | 16) | ³ Indicators | of hydrophytic vegetation and |
| 5 cm Mu | cky Peat or Peat (S | 3) (LRR F) | (MLI | RA 72 & 7 | 3 of LRR | H) | wetlan | d hydrology must be present, |
| | | | | | | | unless | disturbed or problematic. |
| estrictive L | ayer (if present): | | | | | | | |
| | | | | | | | | |
| Туре: | | | | | | | | J |
| | hes): | | | | | | Hydric Soil | Present? Yes X No |
| | hes): | | <u> </u> | | | | Hydric Soil | Present? Yes X No |
| Depth (inc | hes): | | _ | | | | Hydric Soil | Present? Yes X No |
| Depth (inc | hes): | | | | | | Hydric Soil | Present? Yes X No |
| Depth (inc | | | | | | | Hydric Soil | Present? Yes X No |
| Depth (incomers) Depth (incomers) | | | | | | | Hydric Soil | Present? Yes X No |
| Depth (inconstruction | GY Irology Indicators: | | d; check all that apply | <i>(</i>) | | | | Present? Yes X No |
| Depth (inconstruction | GY Irology Indicators: | | d; check all that apply | | | | Seconda | |
| Depth (incoments: POROLOGY Vetland Hydrimary Indicoments Surface N | GY Irology Indicators: ators (minimum of c | | | (B11) | s (B13) | | Seconda Surf | ary Indicators (minimum of two requi |
| Depth (incoments: POROLOGY Vetland Hydrimary Indicoments Surface N | GY Irology Indicators: ators (minimum of c Water (A1) ter Table (A2) | | Salt Crust | (B11) vertebrates | . , | | Seconda Surl Spa | ary Indicators (minimum of two requir face Soil Cracks (B6) |
| Depth (inconstruction | GY Irology Indicators: ators (minimum of control of the control of | | Salt Crust | (B11) vertebrates Sulfide Od | lor (C1) | | Seconda Surl Spa Drai | ary Indicators (minimum of two requir ace Soil Cracks (B6) rsely Vegetated Concave Surface (E nage Patterns (B10) |
| Primary Indic Surface V High Wat Saturatio Water Ma | GY Irology Indicators: ators (minimum of control of the control of | | Salt Crust Aquatic Inv Hydrogen | (B11) vertebrates Sulfide Od n Water Ta | lor (C1) able (C2) | ing Roots | Seconda Surl Spa Drai | ary Indicators (minimum of two requir ace Soil Cracks (B6) rsely Vegetated Concave Surface (E |
| Depth (incontroller) YDROLOG Yetland Hyde Primary Indic Surface Note that the controller is a second to the controller is | Irology Indicators: ators (minimum of control Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) | | Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R | (B11) vertebrates Sulfide Od n Water Ta | lor (C1) able (C2) | ing Roots | Seconda Surl Spa Drai V Oxio | ary Indicators (minimum of two requinates Soil Cracks (B6) rsely Vegetated Concave Surface (Bnage Patterns (B10) dized Rhizospheres on Living Roots |
| Depth (inc Remarks: YDROLOG Vetland Hyd Primary Indic Surface \ High Wat Saturatio Water Ma Sedimen Drift Dep | Irology Indicators: ators (minimum of control Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) | | Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) | lor (C1) able (C2) res on Liv | | Seconda Surfa Spa Drai V Oxio (W Cray | ary Indicators (minimum of two requir face Soil Cracks (B6) rsely Vegetated Concave Surface (E nage Patterns (B10) dized Rhizospheres on Living Roots where tilled) yfish Burrows (C8) |
| Depth (inconserved) Primary Indiconserved Surface Volume High Water Mater Mater Mater Mater Mater Mater Mater Drift Dep | Irology Indicators: ators (minimum of control of the control of th | | Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced | lor (C1) able (C2) res on Liv | | Seconda Surf Spa Drai Y Oxio (w Crai Satu | ary Indicators (minimum of two requinates Soil Cracks (B6) rsely Vegetated Concave Surface (Enage Patterns (B10) dized Rhizospheres on Living Roots where tilled) |
| Primary Indic Surface N High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep | Irology Indicators: ators (minimum of control of the control of th | one required | Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where n Presence of | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced Surface (C | lor (C1) able (C2) res on Liv d Iron (C4 | | Seconda Surd Spa Drai Crai Crai Seconda Spa Crai Crai Crai Crai Crai Crai Crai Crai Crai | ary Indicators (minimum of two required face Soil Cracks (B6) rsely Vegetated Concave Surface (Bounage Patterns (B10) dized Rhizospheres on Living Roots where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) office Position (D2) |
| Depth (incontroller) Primary Indicontroller Surface Note: High Water Mater | Irology Indicators: ators (minimum of control of the control of th | one required | Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where n Presence of | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced Surface (C | lor (C1) able (C2) res on Liv d Iron (C4 | | Seconda Surd Spa Drai Condo Sc (C3) Seconda Crai Spa Crai Seconda Spa Crai Seconda Spa Crai Seconda | ary Indicators (minimum of two requirence Soil Cracks (B6) rsely Vegetated Concave Surface (Enage Patterns (B10) dized Rhizospheres on Living Roots rhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9 morphic Position (D2) C-Neutral Test (D5) |
| Primary Indic Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Inundatio Water-St | Irology Indicators: ators (minimum of o Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) en Visible on Aerial ained Leaves (B9) | one required | Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where n Presence of | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced Surface (C | lor (C1) able (C2) res on Liv d Iron (C4 | | Seconda Surd Spa Drai Condo Sc (C3) Seconda Crai Spa Crai Seconda Spa Crai Seconda Spa Crai Seconda | ary Indicators (minimum of two required face Soil Cracks (B6) rsely Vegetated Concave Surface (Bounage Patterns (B10) dized Rhizospheres on Living Roots where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) office Position (D2) |
| Primary Indic Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depo Inundatic Water-St | Irology Indicators: ators (minimum of o Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial ained Leaves (B9) | ne required | Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced Surface (Calain in Rer | lor (C1) able (C2) res on Liv d Iron (C4 C7) marks) | · · | Seconda Surd Spa Drai Condo Sc (C3) Seconda Crai Spa Crai Seconda Spa Crai Seconda Spa Crai Seconda | ary Indicators (minimum of two requirence Soil Cracks (B6) rsely Vegetated Concave Surface (Enage Patterns (B10) dized Rhizospheres on Living Roots rhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9 morphic Position (D2) C-Neutral Test (D5) |
| Depth (incontention of the contention of the con | Irology Indicators: ators (minimum of control of contro | magery (B | Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where n Presence c Thin Muck Other (Exp | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced Surface (Colain in Rer | lor (C1) able (C2) es on Liv d Iron (C ² C7) marks) | | Seconda Surd Spa Drai Condo Sc (C3) Seconda Crai Spa Crai Seconda Spa Crai Seconda Spa Crai Seconda | ary Indicators (minimum of two requirence Soil Cracks (B6) rsely Vegetated Concave Surface (Enage Patterns (B10) dized Rhizospheres on Living Roots rhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9 morphic Position (D2) C-Neutral Test (D5) |
| Depth (incongress) YDROLOG Wetland Hyde Primary Indicongress Surface Naturationg Water May Sedimeng Drift Deptongress Algal May Iron Deptongress Iron Deptongress Water-St Field Observ Surface Water Water Table I | Irology Indicators: ators (minimum of control of the control of th | Imagery (B | Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R Presence c Thin Muck Other (Exp No Depth (income Depth (income | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced Surface (Colain in Rer ches): | lor (C1) able (C2) es on Liv d Iron (C ² C7) marks) | - | Seconda Surd Spa Drai Cray Satu Seconda Spa Cray Spa Cray Satu Faco Fros | ary Indicators (minimum of two required face Soil Cracks (B6) rsely Vegetated Concave Surface (Bounage Patterns (B10) dized Rhizospheres on Living Roots where tilled) offish Burrows (C8) furation Visible on Aerial Imagery (C9) comorphic Position (D2) concentral Test (D5) st-Heave Hummocks (D7) (LRR F) |
| Depth (incontention of the contention of the con | Irology Indicators: ators (minimum of o Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial ained Leaves (B9) rations: er Present? Present? Y esent? | Imagery (B | Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where n Presence c Thin Muck Other (Exp | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced Surface (Colain in Rer ches): | lor (C1) able (C2) es on Liv d Iron (C ² C7) marks) | - | Seconda Surd Spa Drai Cray Satu Seconda Spa Cray Spa Cray Satu Faco Fros | ary Indicators (minimum of two requirence Soil Cracks (B6) rsely Vegetated Concave Surface (Enage Patterns (B10) dized Rhizospheres on Living Roots rhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9 morphic Position (D2) C-Neutral Test (D5) |
| Depth (incontention of the composition of the compo | Irology Indicators: ators (minimum of control of the control of th | Imagery (B' 'es 'es | Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R Presence c Thin Muck Other (Exp No Depth (income Depth (income | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced Surface (Colain in Rer ches): ches): | lor (C1) able (C2) es on Liv d Iron (C4 C7) marks) | | Seconda Surd Spa Drai Crai Satu S Gec FAC Fros | ary Indicators (minimum of two required face Soil Cracks (B6) rsely Vegetated Concave Surface (Bounage Patterns (B10) dized Rhizospheres on Living Roots where tilled) offish Burrows (C8) furation Visible on Aerial Imagery (C9) comorphic Position (D2) concentral Test (D5) st-Heave Hummocks (D7) (LRR F) |
| Depth (incontention of the composition of the compo | Irology Indicators: ators (minimum of control of the control of th | Imagery (B' 'es 'es | Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where n Presence c Thin Muck Other (Exp No X Depth (inc | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced Surface (Colain in Rer ches): ches): | lor (C1) able (C2) es on Liv d Iron (C4 C7) marks) | | Seconda Surd Spa Drai Crai Satu S Gec FAC Fros | ary Indicators (minimum of two required face Soil Cracks (B6) rsely Vegetated Concave Surface (Bounage Patterns (B10) dized Rhizospheres on Living Roots where tilled) offish Burrows (C8) furation Visible on Aerial Imagery (C9) comorphic Position (D2) concentral Test (D5) st-Heave Hummocks (D7) (LRR F) |
| Depth (incontention of the composition of the compo | Irology Indicators: ators (minimum of control of the control of th | Imagery (B' 'es 'es | Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where n Presence c Thin Muck Other (Exp No X Depth (inc | (B11) vertebrates Sulfide Od n Water Ta thizospher not tilled) of Reduced Surface (Colain in Rer ches): ches): | lor (C1) able (C2) es on Liv d Iron (C4 C7) marks) | | Seconda Surd Spa Drai Crai Satu S Gec FAC Fros | ary Indicators (minimum of two required face Soil Cracks (B6) rsely Vegetated Concave Surface (Bounage Patterns (B10) dized Rhizospheres on Living Roots where tilled) offish Burrows (C8) furation Visible on Aerial Imagery (C9) comorphic Position (D2) concentral Test (D5) st-Heave Hummocks (D7) (LRR F) |

| Project/Site: Judas or Wetland Mitigation | nBank City/County: El P | Paso County Sampling Date: 6/29/2 |
|---|--------------------------------|---|
| Applicant/Owner: Pete Lien + Sons | | State: CO Sampling Point: SP-35 |
| Investigator(s): Gramu Sagent | Section, Township, I | Range: 34. 7125 RG4W |
| Landform (hillslope, terrace, etc.): | Local relief (concav | e, convex, none): (Oucave Slope (%): (|
| Subregion (LRR): | Lat: 38.955628 | Long: -104.542823 Datum: NAD83z |
| Soil Map Unit Name: Fluraquentic Haplag | | |
| Are climatic / hydrologic conditions on the site typical for th | | ~ • |
| Are Vegetation, Soil, or Hydrology | | re "Normal Circumstances" present? Yes No |
| Are Vegetation, Soil, or Hydrology | | needed, explain any answers in Remarks.) |
| | | |
| SUMMARY OF FINDINGS – Attach site map | snowing sampling point | t locations, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes N | No X Is the Sampl | ed Area |
| Hydric Soil Present? Yes N | No within a Wet | |
| Wetland Hydrology Present? Yes N | 40 <u>X</u> | |
| Remarks: | | |
| Below average Recipitation | n Snu 2019. | |
| | | |
| VEGETATION – Use scientific names of plan | nts. | |
| Tue Obstance (District 100m2) | Absolute Dominant Indicato | |
| Tree Stratum (Plot size: 100m²) | % Cover Species? Status | - Number of Dominant Species |
| 1 | | That Are OBL, FACW, or FAC (excluding FAC-): (A) |
| 2 | | - |
| 4 | | Total Number of Dominant Species Across All Strata: (B) |
| | = Total Cover | Percent of Dominant Species |
| Sapling/Shrub Stratum (Plot size: 100 m²) | | That Are OBL, FACW, or FAC: (A/B) |
| 1 | | Prevalence Index worksheet: |
| 2. | | Total % Cover of: Multiply by: |
| 3. | | OBL species x 1 = |
| 4 | | FACW species x 2 = |
| 5 | = Total Cover | FAC species x 3 = |
| Herb Stratum (Plot size: 100m ²) | = Total Cover | FACU species x 4 = |
| 1 Bouteloua gracilis | _ <u> </u> | UPL species x 5 = |
| 2 Pascopyrum Smithin | <u>8 X UPL</u> | Column Totals: (A) (B) |
| 3. Boule lona ducty loides | X_FACC | Prevalence Index = B/A = |
| 4. Hetero theca vittosa | - <u>2</u> <u>09</u> 5 1191 | Hydrophytic Vegetation Indicators: |
| 5. Grança coccinea | - 3 - UPI | 1 - Rapid Test for Hydrophytic Vegetation |
| 6. Artemisa Frigida | | 2 - Dominance Test is >50% |
| 7 8 | | 3 - Prevalence Index is ≤3.0 ¹ |
| 9. | | 4 - Morphological Adaptations (Provide supporting |
| 10. | | data in Remarks or on a separate sheet) |
| | 33 = Total Cover | Problematic Hydrophytic Vegetation ¹ (Explain) |
| Woody Vine Stratum (Plot size: | | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1 | | - |
| 2 | - | Hydrophytic Vegetation |
| % Bare Ground in Herb Stratum 67 | = Total Cover | Present? Yes NoX |
| Remarks: | | |
| | | , |
| | | , |
| <u> </u> | | |

SOIL Sampling Point: SP-35

| Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Valor (S) Sandy Redox (SS) Sandy Redox (SS) Sandy Redox (SS) Coast Prairie Redox Dark Surface (S7) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Redox Depressions (F8) Thick Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) (MRR 72 & 73 of LRR H) Well Cype Sandy Mucky Mineral (S1) Cher (Explain in Rema Sind Mineral (S1) Sandy Mucky Mineral (S1) Redox Depressions (F8) Well Cype Sandy Mucky Mineral (S1) Well Cype Sandy Mucky Mineral (S1) Redox Depressions (F8) Well Cype Sandy Mucky Mineral (F1) Well Cype Sandy Mucky | |
|--|------------------------|
| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A2) Black Histic (A3) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Straffied Layers (A5) (LRR F) 1 cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (F1) Loamy Blued Matrix (F2) Sandy Mucky Mineral (F1) Loamy Gleyed Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Som Mucky Peat or Peat (S2) (LRR G, H) Som Mucky Peat or Peat (S3) (LRR F) Wetland Hydrology Indicators: Pepth (inches): Depletin (inches): Depletin (A3) Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of Applications (Matrix (B1)) High Water Table (A2) Aquatic Invertebrates (B13) Surface Water (A13) Hydrogen Sulfide Odor (C1) High Plains Depression (F3) Surface Water (A11) Surface Soil Cracks (Matrix (B1)) Secondary Indicators (minimum of Applicators (Matrix (B1)) Secondary Indicators (minimum of Applications (Matrix (B1)) Secondary Indicators (Matrix (B1) | Remarks |
| Artic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Hydrogen Sulfide (A4) Howrigen Sulfide (A4) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Loamy Gleyed Matrix (F3) Red Darix Gleyer Gle | |
| Artic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Histosol (A1) Bandy Gleyed Matrix (S4) Black Histic (A3) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Stripped Matrix (S6) Black Histic (A3) Stripped Matrix (F2) Cloamy Mucky Mineral (F1) Loamy Mucky Mineral (F1) High Plains Depression Clr Red Parent Material (T1) Clr Charles (A2) Sandy Redox (A4) High Plains Depression Clr Red Parent Material (T1) Clr Charles (A2) Sandy Mucky Mineral (F3) Send Parent Material (T1) Send Parent Material (T1) Send Parent Material (T1) Clr Charles (A2) Sandy Mucky Mineral (S1) Send Mucky Peat or Peat (S2) (LRR G, H) Send Mucky Peat or Peat (S3) (LRR F) Mucky Peat or Peat (S3) (LRR F) Depleted Dark Surface (F6) Send Mucky Peat or Peat (S3) (LRR F) Mucky Peat or Peat (S2) (LRR G, H) Mucky Peat or Peat (S2) Muck | |
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| Water Marks (B1) | , |
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| ncludes capillary fringe) | es No X |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | |
| | |
| | - |
| emarks: | |
| | |

Appendix D

Functional Assessment of Colorado Wetlands Determination Forms

ADMINISTRATIVE CHARACTERIZATION

| General Informati | ion | | | Date of Evaluation: | 12/8/2020 | | |
|---|--------------------|--------------------------|---|---|---------------------------------|----------------|-----------------|
| Site Name or ID: | Wetland 1,2, | | erived Features | Project Name: | Judge Or | r Mitigation | Bank |
| 404 or Other Permit Application #: | | | | Applicant Name: | Pete Lien | | |
| Evaluator Name(s): | Thomas McIn | tyre & Jesse | C Evaluator's pro | ofessional position and organization: | Biologist, | , Ecologist/0 | Owner |
| Location Informa | tion: | | | | | | |
| Site Coordinates (Decimal Degrees, e.g., 38.85, -104.96): | | 956908, -104. | 545131 | Geographic Datum Used (NAD 83): | NAD 83 z13N | | |
| , | | | | Elevation | | 6760 ft | |
| Location Information: | Bordered by . | Judge Orr Rd | I to the South, S | Stapleton Rd to th | ne West, a | nd Elbert Ro | d to the East |
| Associated stream/wa | iter body name | | | | Stream Or | rder: | |
| USGS Quadrangle Map: | Falcon Quadr | angle | | Map Scale: (Circle one) | | 1:24,000 Other | 1:100,000 1: |
| Sub basin Name (8 digit HUC): | Chico (110200 | 004) | | Wetland Ownership: | Private: Pete Lien & Sons, Inc. | | |
| Project Information | on: | | | Potentially Impa | cted Wetla | ands | |
| This evaluation is being performed at: (Check applicable box) | Project We | | Purpose of Evaluation (check all applicable): | Mitigation; Pre-of- Mitigation; Post- Monitoring Other (Describe) | construction -constructio | n | |
| Intent of Project: (Chec | ck all applicable) | | Restoration | _ | hancement | | Creation |
| Total Size of Wetland (Record Area, Check and D Measurement Method Used | Describe | 16.7 ac. | X Measured with Estimated | n GIS area calculat | tor | | |
| Assessment Area (AA Area, check appropriate box. A | , | | X Measured | ac. | ac. | ac. | ac. |
| are used to record acreage who AA is included in a single asset | en more than one | 48.4 ac. - | Estimated | ac. | ac. | ac. | ac. |
| Characteristics or Met AA boundary determir | | Jurisdiction: | al wetland boud | dary | | | |
| Notes: | | | | | | | |

ECOLOGICAL DESCRIPTION 1

| Spe | Special Concerns Chec | | Check all that apply | | | | | |
|------|--|--|---|---------|---|--------------------------------------|---|-------------------------------------|
| | | s including Histosols or e AA (i.e., AA includes | | Х | • | atened or endar to occur in the A | | cies are |
| П | Project will directly impact organic soil portions of the AA | | | | While IPAC io | lentifies federa | Ilv threate | ned species in the |
| _ | | including areas possessing either Histosol soils or histic | | | area (mention | | _ | y to occur in this |
| П | | s are known to occur ar | nwhere within the | П | habitat | ncern according | to the Cold | orado Natural |
| ш | | vetland of which the AA | | | | HP) are known to | | |
| | The wetland urbanized la | is a habitat oasis in an ndscape? | otherwise dry or | | | | | servation area or mined by CNHP? |
| | Federally threatened or endangered species are KNOWN to occur in the AA? List Below. | | | X | No known spe threatened sp Piping plover, | p in region: Eas Whooping cran | n AA, but po tern black r ie, Greenba | ossible federally |
| | | | HYDROGEOM | ORF | PHIC SETT | TING | | |
| X | AA wetland | maintains its fundame | ntal natural hydrogeomo | | | | | |
| | AA wetland | has been subject to ch | nange in HGM classes a | as a re | esult of anthrop | oogenic modific | | |
| _ | | • | scribe the original wetla | nd ty | pe if discernab | le using the tab | le below. | |
| Ш | AA wetland | was created from an เ | | | | | | |
| Cui | rent Co | nditions | Describe the hydrogeol | morpi | hic setting of th | e wetland by ci | rcling all co | onditions that apply. |
| | | Water source | Surface flow | | Groundwater | > Precipitation | n | Unknown |
| | | Hydrodynamics | Unidirectional | | Vertical | Bi-direction | al | |
| | | Wetland Gradient | | - 2% | 2-4% | 4-10% | >10% | |
| | | # Surface Inlets | Over-ba | nk | 0 1 | 2 | 3 | >3 |
| HGM | # Surface Outlets Geomorphic Setting (Narrative Description. Include approx. stream order for riverine) | | Grassland plains | | 0 1 | 2 | 3 | >3 |
| | | HGM class | Riverine | | Slope | Depression | al | Lacustrine |
| Hist | orical Co | nditions | | | | | | |
| | | Water source | Surface flow | C | Groundwater | > Precipitation | n | Unknown |
| | | Hydrodynamics | Unidirectional | | Vertical | | | |
| | Previous Geomorphic vetland typology Setting (Narrative | | Groundwater fed mesic wetland on a slight slope within a grassland drainage | | | | | |
| | | Description) Previous HGM Class | Riverine | < | Slope | Depression | al | Lacustrine |
| Note | s (include inf | | HGM subclass and region | onal s | ubclass): G | roundwater fe | d, outflow | fans out through s |
| | | | | | | | | |

ECOLOGICAL DESCRIPTION 2

| System | Subsysten | Class | | Subclass | | Wate | r Reg | ime | Oth | ner M | 1odifie | ers | % A | ۱A |
|-------------------------|--|--|------------------------------|---|------------|---|----------|--|--|----------------------|----------------------|--------------|--------|-----|
| Palustrine | Palustrine | | nt Ro | oted vascu | lar | | B/C | | | | | | 34. | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | Littoral; | | | | | | | | | lvnersa | aline(7) · | | | |
| acustrine | Limnoral Palustrine | Rock Bot. (RI Uncon Bottom(Aquatic Bed(A | (UB) \AB) | Floating vascular; Rooted vascular; Algal; Persistent; | | Tempora Sat Seasona | urated(B |); ed(C); | Hypersaline(7); Eusaline(8); Mixosaline(9); Fresh(0); Acid(a); Circumneutral(c); | | | h(0);); | | |
| iverine | Lower perennial; Upper perennial; Intermittent | Rocky Shore(F Uncon Shore(I Emergent(EN Shrub-scrub(S | US) Broa M) Need | Non-Persistent; Broad-leaved deciduous; Needle-leaved evergreen; Cobble - gravel; Sand; Mud; Organic | | Seasflood./sat.(E); Semi-Perm. flooded(F); Intermittently exposed(G); Artificially flooded(K); Sat./semiperm./Seas. (Y); Int. exposed/permenant(Z) | | Alkaline/calcareous(i); Organic(g); Mineral(n); Beaver(b); Partially Drained/ditched(d); Farmed(f); Diked/impounded(h); Artificial Substrate(r); | | l(n); lly | | | | |
| | | Forested (FC | 0) | | | | | | Artif | icial Su | • | (r); | | |
| - | Dra | Forested (FC | of the site i | Organic | nt portion | Int. expose | ed/perme | enant(Z) | Artif Spoi | icial Su I(s); Ex | ubstrate ccavated | (r); d(x) | lasses | S, |
| - | Dra | nw a sketch map | of the site i | Organic | nt portion | Int. expose | ed/perme | enant(Z) | Artif Spoi | icial Su I(s); Ex | ubstrate ccavated | (r); d(x) | lasses | 5, |
| _ | Dra | aw a sketch map d other significan | of the site in the features. | Organic | | ns of the w | ed/perme | enant(Z) | Artif Spoi | icial Su I(s); Ex | ubstrate ccavated | (r); d(x) | lasses | 5, |
| _ | Dra | nw a sketch map | of the site in the features. | Organic | | ns of the w | ed/perme | enant(Z) | Artif Spoi | icial Su I(s); Ex | ubstrate ccavated | (r); d(x) | lasses | 55, |
| - | Dra | aw a sketch map d other significan | of the site in the features. | Organic | | ns of the w | ed/perme | enant(Z) | Artif Spoi | icial Su I(s); Ex | ubstrate ccavated | (r); d(x) | lasses | 55, |
| _ | Dra | aw a sketch map d other significan | of the site in the features. | Organic | | ns of the w | ed/perme | enant(Z) | Artif Spoi | icial Su I(s); Ex | ubstrate ccavated | (r); d(x) | lasses | 55, |
| _ | Dra | aw a sketch map d other significan | of the site in the features. | Organic | | ns of the w | ed/perme | enant(Z) | Artif Spoi | icial Su I(s); Ex | ubstrate ccavated | (r); d(x) | lasses | 55, |
| Site Map cale: 1 sq. = | Dra | aw a sketch map d other significan | of the site in the features. | Organic | | ns of the w | ed/perme | enant(Z) | Artif Spoi | icial Su I(s); Ex | ubstrate ccavated | (r); d(x) | lasses | 55, |

Variable 1: Habitat Connectivity

The Habitat Connectivity Variable is described by two sub-variables – Neighboring Wetland and Riparian Habitat Loss and Barriers to Migration and Dispersal. These sub-variables were treated as independent variables in FACWet Version 2.0. The merging of these variables makes their structure more consistent with that of other composite variables in FACWet. The new variable configuration also makes this landscape variable more accurately reflect the interactions amongst aquatic habitats in Colorado's agricultural and urbanized landscapes, which have a naturally low density of wetlands. The two Habitat Connectivity Sub-variables are scored in exactly the same manner as their FACWet 2.0 counterparts, as described below. The Habitat Connectivity Variable score is simply the arithmetic average of the two sub-variable scores which is entered on the second page of the Variable 1 data form. If there is little or no wetland or riparian habitat in the Habitat Connectivity Envelope (defined below), then Sub-variable 1.1 is not scored.

SV 1.1 - Neighboring Wetland and Riparian Habitat Loss

(Do not score if few or no wetlands naturally exist in the HCE)

This sub-variable is a measure of how isolated from other naturally-occurring wetlands or riparian habitat the AA has become as the result of habitat destruction. To score this sub-variable, estimate the percent of naturally-occurring wetland/riparian habitat that has been lost (by filling, draining, development, or whatever means) within the 500-meter-wide belt surrounding the AA. This zone is called the Habitat Connectivity Envelope (HCE). In most cases the evaluator must use best professional judgment to estimate the amount of natural wetland loss. Historical photographs, National Wetland Inventory (NWI) maps, hydric soil maps can be helpful in making these determinations. Floodplain maps are especially valuable in river-dominated regions, such as the Front Range urban corridor. Evaluation of landforms and habitat patterns in the context of perceivable land use change is used to steer estimates of the amount of wetland loss within the HCE.

Rules for Scoring:

- 1. On the aerial photo, create a 500 m perimeter around the AA.
- 2. The area within this perimeter is the **Habitat Connectivity Envelope (HCE)**.
- 3. Within the HCE, outline the current extent of naturally occurring wetland and riparian habitat. Do not include habitats such as excavated ponds or reservoir induced fringe wetlands.
- 4. Outline the historical extent of wetland and riparian habitats (i.e., existing natural wetlands plus those that have been destroyed).
- Use your knowledge of the history of the area and evident land use change to identify where habitat losses have occurred. Additional research can be utilized to increase the accuracy of this estimate including consideration of floodplain maps, historical aerial photographs, soil maps, etc.
- 5. Calculate the area of existing and historical wetlands. Divide the area of existing wetland by the total amount of existing and historical wetland and riparian habitat, and determine the variable score using the guidelines below. Enter sub-variable score at the bottom of p.2 of the Habitat Connectivity data form.

| Variable Score | Condition Grade | Scoring Guidelines |
|-------------------|-------------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Very little or no loss of wetlands in the HCEor negligible. |
| <0.9 - 0.8 | B Highly Functioning | More than 80% of historical wetland habitat area within the HCE is still present (less than 20% of habitat area lost). |
| <0.8 - 0.7 | C Functioning | 80 to 60% of historical wetland habitat area within the HCE is still present (20% to 40% of habitat area lost). |
| <0.7 - 0.6 | D Functioning Impaired | Less than 60 to 25% of historical wetland habitat area within the HCE is still present (more than 40 to 75% of habitat area lost). |
| <0.6 | F Non- functioning | Less than 25% of the historical wetland habitat area within the HCE still in existence (more than 70% of habitat lost). |

| <0.7 - 0.6 | D Functioning Impaired | Less than 60 to 25% of historical wetland habitat area within the HCE is still present (more than 40 to 75% of habitat area lost). |
|------------|-------------------------------------|--|
| <0.6 | F Non- functioning | Less than 25% of the historical wetland habitat area within the HCE still in existence (more than 70% of habitat lost). |
| | | |
| Notes: | | |

Variable 1: Habitat Connectivity p. 2

SV 1.2: Migration/Dispersal Barriers

This sub-variable is intended to rate the degree to which the AA has become isolated from existing neighboring wetland and riparian habitat by artificial barriers that inhibit migration or dispersal of organisms. On the aerial photograph, identify the manmade barriers within the HCE that intercede between the AA and surrounding wetlands and riparian areas, and identify them by type on the stressor list. Score this variable based on the barriers' impermeability to migration and dispersal and the amount of surrounding wetland/riparian habitat they affect.

Rules for Scoring:

- 1. On the aerial photo, outline **all** existing wetland and riparian habitat areas within the HCE. This includes naturally occurring habitats, as well as those purposefully created or induced by land use change.
- 2. Identify artificial barriers to dispersal and migration of organisms within the HCE that intercede between the AA and surrounding habitats. Mark the stressors present with a check in the first column and describe the general nature, severity and extent of each. List additional stressors in empty rows at the bottom of the table and explain.
- 3. Considering the composite effect of all of identified barriers to migration and dispersal (i.e., stressors), assign an overall variable score using the scoring guidelines.

| | ✓ | Stressors | Comments/description |
|------------|----------|---------------------------|---|
| | | Major Highway | |
| barriers | Х | Secondary Highway | 2 lane Rd - Judge Orr Rd. |
| arri | | Tertiary Roadway | |
| | | Railroad | |
| cia | | Bike Path | |
| artificial | | Urban Development | |
| = a | | Agricultural Development | |
| | Х | Artificial Water Body | Earthen dams causing artificial ponds |
| Stressors | Х | Fence | Fencing surrounding Pete Lien property and |
| es | Х | Ditch or Aqueduct | Ditch runs along Judge Orr Rd |
| Stı | Х | Aquatic Organism Barriers | Earthen dams break up water flow of adjacent wetlands |
| | | | |
| | | | |

| Variable Score | Condition Grade | Scoring Guidelines |
|-------------------|----------------------------------|---|
| 1.0 - 0.9 | A Reference Standard | No appreciable barriers exist between the AA and other wetland and riparian habitats in the HCE; or there are no other wetland and riparian areas in the HCE. |
| <0.9 - 0.8 | B Highly Functioning | Barriers impeding migration/dispersal between the AA and up to 33% of surrounding wetland/riparian habitat highly permeable and easily passed by most organisms. Examples could include gravel roads, minor levees, ditches or barbed-wire fences. More significant barriers (see "functioning category below) could affect migration to up to 10% of surrounding wetland/riparian habitat. |
| <0.8 - 0.7 | C Functioning | Barriers to migration and dispersal retard the ability of many organisms/propagules to pass between the AA and up to 66% of wetland/riparian habitat. Passage of organisms and propagules through such barriers is still possible, but it may be constrained to certain times of day, be slow, dangerous or require additional travel. Busy two-lane roads, culverted areas, small to medium artificial water bodies or small earthen dams would commonly rate a score in this range. More significant barriers (see "functioning impaired" category below) could affect migration to up to 10% of surrounding wetland/riparian |
| <0.7 - 0.6 | D Functioning Impaired | Barriers to migration and dispersal preclude the passage of some types of organisms/propagules between the AA and up to 66% of surrounding wetland/riparian habitat. Travel of those animals which can potential negotiate the barrier are strongly restricted and may include a high chance of mortality. Up to 33% of surrounding wetland/riparian habitat could be functionally isolated from the AA. |
| <0.6 | F Non-functioning | AA is essentially isolated from surrounding wetland/riparian habitat by impermeable migration and dispersal barriers. An interstate highway or concrete-lined water conveyance canal are examples of barriers which would generally create functional isolation between the AA and wetland/riparian habitat in the HCE. |

| SV 1.1 Score | 0.89 |
|--------------|------|
| SV 1.2 Score | 0.75 |

Add SV 1.1 and 1.2 scores and divide by two to calculate variable score

Variable 1 Score

0.82

Variable 2: Contributing Area

The AA's Contributing Area is defined as the 250-meter-wide zone surrounding the perimeter of the AA. This variable is a measure of the capacity of that area to support characteristic functions of high quality wetland habitat. Depending on its condition, the contributing area can help maintain wetland condition or it can degrade it. Contributing Area condition is evaluated by considering the AA's Buffer and its Surrounding Land Use. Buffers are strips or patches of more-or-less natural upland and/or wetland habitat more than 5m wide. Buffers are contiguous with the AA boundary and they intercede between it and more intensively used lands. The AA Buffer is characterized with three sub-variables: Buffer Condition, Buffer Extent, and Average Buffer Width. The Surrounding Land Use Sub-variable considers changes within the Contributing Area that limit its capacity to support characteristic wetland functions. Many of the acute, on-site effects of land use change in the Contributing Area are specifically captured by Variables 3 - 8.

Rules for Scoring:

- 1. Delimit the Contributing Area on an aerial photograph as the zone within 250 meters of the outer boundary of the AA.
- 2. Evaluate and then rate the Buffer Condition sub-variable using the scoring guidelines. Record the score in the cell provided on the datasheet.
- 3. Indicate on the aerial photograph zones surrounding the AA which have ≥5m of buffer vegetation and those which do
- 4. Calculate the percentage of the AA which has a Buffer and record the value where indicated on the data sheet.
- 5. Rate the Buffer Extent Sub-variable using the scoring guidelines.
- 6.Determine the average Buffer width by drawing a line perpendicularly from the AA boundary to the outer extent of the buffer habitat. Measure line length and record its value on the data sheet. Repeat this process until a total of 8 lines have been sampled.
- 7. Calculate the average buffer width and record value on the data form. Then determine the sub-variable score using the scoring quidelines.
- 8.Score the Surrounding Land Use sub-variable by recording land use changes on the stressor list that affect the capacity of the landscape to support characteristic wetland functioning.
- 9. Enter the lowest of the three Buffer sub-variable scores along with the Surrounding Land Use Sub-variable score in the Contributing Area Variable scoring formula at the bottom of p. 2 of the data form. The Contributing Area Variable is the average of the two sub-variable scores

SV 2.1 - Buffer Condition

0.86 SV 2.1 - Buffer Condition Score

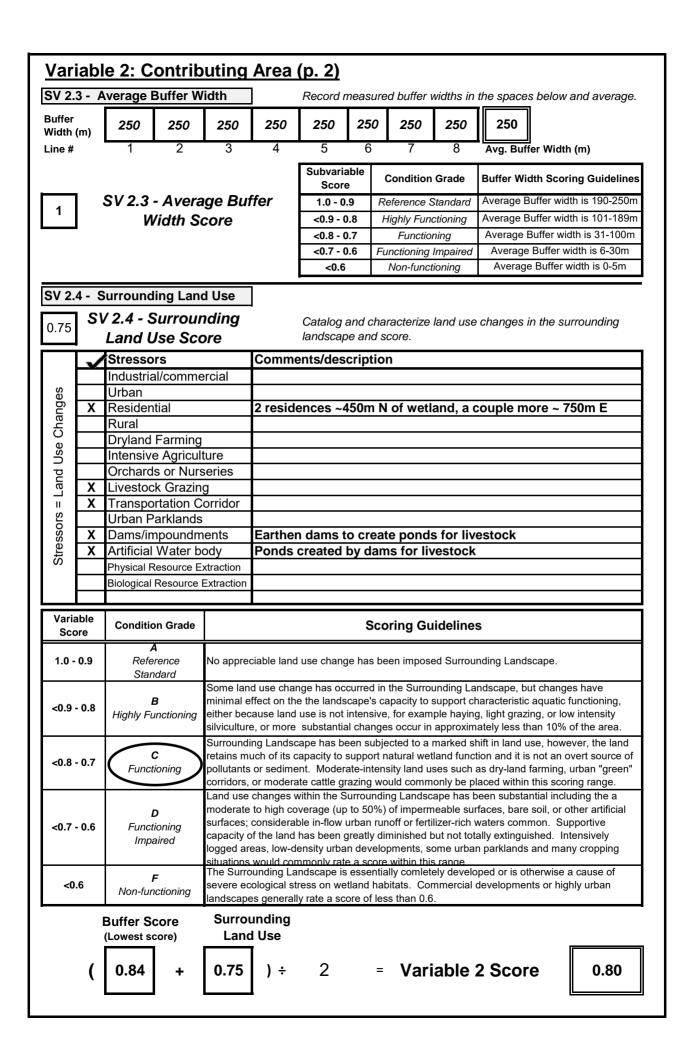
| Subvariable Score | Condition Grade | Buffer Condition Scoring Guidelines |
|----------------------|-----------------------|---|
| 1.0 - 0.9 | Reference Standard | Buffer vegetation is predominately native vegetation, human-caused disturbance of the substrate is not evident, and human visitation is minimal. Common examples: Wilderness areas, undeveloped forest and range lands. |
| <0.9 - 0.8 | Functioning | Buffer vegetation may have a mixed native-nonnative composition, but characteristic structure and complexity remain. Soils are mostly undisturbed or have recovered from past human disturbance. Little or only low-impact human visitation. Buffers with higher levels of substrate disturbance may be included here if the buffer is still able to maintain predominately native vegetation. Common examples: Dispursed camping areas in national forests, common in wildland parks (e.g. State Parks) and open spaces. |
| <0.8 - 0.7 | Functioning | Buffer vegetation is substantially composed of non-native species. Vegetation structure may be somewhat altered, such as by brush clearing. Moderate substrate distrbance and compaction occurs, and small pockets of greater disturbance may exist. Common examples: City natural areas, mountain hay meadows. |
| <0.7 - 0.6 | Impaired | Buffer vegetation is substantially composed of non-native species and vegetation structure has been strongly altered by the complete removal of one or more strata. Soil disturbance and the intensity of human visitation are generally high. Common examples: Open lands around resource extraction sites (e.g., gravel mines), clear cut logging areas, ski slopes. |
| <0.6 | Non-functioning | Buffer is nearly or entirely absent. |

SV 2.2 - Buffer Extent

0.78 Percent of AA with Buffer

0.84 SV 2.2 - Buffer Extent

| Subvariable Score | Condition Class | % Buffer Scoring Guidelines |
|----------------------|----------------------|-----------------------------|
| 1.0 - 0.9 | Reference Standard | 90 - 100% of AA with Buffer |
| <0.9 - 0.8 | Highly Functioning | 70-90% of AA with Buffer |
| <0.8 - 0.7 | Functioning | 51-69% of AA with Buffer |
| <0.7 - 0.6 | Functioning Impaired | 26-50% of AA with Buffer |
| <0.6 | Non-functioning | 0-25% of AA with Buffer |



Variable 3: Water Source

This variable is concerned with **up-gradient** hydrologic connectivity. It is a measure of impacts to the AA's water source, including the quantity and timing of water delivery, and the ability of source water to perform work such as sediment transport, erosion, soil pore flushing, etc. To score this variable, identify stressors that alter the source of water to the AA, and record their presence on the stressor list. Stressors can impact water source by depletion, augmentation, or alteration of inflow timing or hydrodynamics. This variable is designed to assess water quantity, power and timing, not water quality. Water quality will be evaluated in Variable 7.

Scoring rules:

- 1. Use the stressor list and knowledge of the watershed to catalog type-specific impairments of the AA's water source. Mark the stressors present with a check in the first column and describe the general nature, severity and extent of each. List additional stressors in empty rows at the bottom of the table and explain.
- 2. Considering the composite effect of stressors on the water source, rate the condition of this variable with the aid of the scoring guidelines.

| / | Stressors | Comments/description |
|----------|---------------------------------|---|
| | Ditches or Drains (tile, etc.) | |
| × | Dams | |
| | Diversions | |
| × | Groundwater pumping | Several residential wells, several commercial irrigation wells |
| | Draw-downs | |
| × | Culverts or Constrictions | Source water crosses US 24 |
| | Point Source (urban, ind., ag.) | |
| | Non-point Source | |
| | Increased Drainage Area | |
| × | Storm Drain/Urban Runoff | Large housing development near headwaters for adjacent wetland |
| × | Impermeable Surface Runoff | Roads, parking lots, driveways at headwaters |
| × | Irrigation Return Flows | Grounds around neighborhood at headwaters uses irrigation (base |
| | Mining/Natural Gas Extraction | |
| | Transbasin Diversion | |
| | Actively Managed Hydrology | |
| | | |
| | | |

| Variable Score | Condition Grade | Depletion | Augmentation |
|-------------------|-------------------------------------|---|---|
| 1.0 - 0.9 | A Reference Standard | Unnatural drawdown events minor, rare or non- existent, very slight uniform depletion, or trivial alteration of hydrodynamics. | Unnatural high-water events minor, rare or non- existent, slight uniform increase in amount of inflow, or trivial alteration of hydrodynamics. |
| <0.9 - 0.8 | | Unnatural drawdown events occasional, short duration and/or mild; or uniform depletion up to 20%; or mild to moderate reduction of peak flows or capacity of water to perform work. | Occasional unnatural high-water events, short in duration and/or mild in intensity; or uniform augmentation up to 20%; or mild to moderate increase of peak flows or capacity of water to perform work. |
| <0.8 - 0.7 | C Functioning | Unnatural drawdown events common and of mild to moderate intensity and/or duration; or uniform depletion up to 50%; or moderate to substantial reduction of peak flows or capacity of water to perform work. | Common occurrence of unnatural high-water events, of a mild to moderate intensity and/or duration; or uniform augmentation up to 50%; or moderate to substantial increase of peak flows or capacity of water to perform work. |
| <0.7 - 0.6 | D Functioning Impaired | Unnatural drawdown events occur frequently with a moderate to high intensity and/or duration; or uniform depletion up to 75%; or substantial reduction of peak flows or capacity of water to perform work. Wetlands with actively managed or wholly artificial hydrology will usually score in this range or lower. | Common occurrence of unnatural high-water events, some of which may be severe in nature or exist for a substantial portion of the growing season; or uniform augmentation more than 50% or capacity of water to perform work. Wetlands with actively managed or wholly artificial hydrology will usually score in this range or |
| <0.6 | F Non- functioning | Water source diminished enough to threaten or extinguish wetland hydrology in the AA. | Frequency, duration or magnitude of unnaturally high-water great enough to change the fundamental characteristics of the wetland. |

Variable 4: Water Distribution

This variable is concerned with hydrologic connectivity **within** the AA. It is a measure of alteration to the spatial distribution of surface and groundwater within the AA. These alterations are manifested as local changes to the hydrograph and generally result from geomorphic modifications within the AA. To score this variable, identify stressors within the AA that alter flow patterns and impact the hydrograph of the AA, including localized increases or decreases to the depth or duration of the water table or surface water.

Because the wetland's ability to distribute water in a characteristic fashion is fundamentally dependent on the condition of its water source, in most cases the Water Source variable score will define the upper limit Water Distribution score. For example, if the Water Source variable is rated at 0.85, the Water Distribution score will usually have the potential to attain a maximum score of 0.85. Additional stressors within or outside the lower end of the AA effecting water distribution (e.g., ditches and levees) will reduce the score from the maximum value.

Scoring rules:

- 1. Identify impacts to the natural distribution of water throughout the AA and catalog them in the stressor table.
- 2. Considering all of the stressors identified, assign an overall variable score using the scoring guidelines. In most cases, the Water Source variable score will set the upper limit for the Water Distribution score.

| / | Stressors | Comments/description |
|----------|-------------------------------|--|
| × | Alteration of Water Source | Housing development at source; source water funneled through culvert under road; res |
| | Ditches | |
| | Ponding/Impoundment | |
| | Culverts | |
| | Road Grades | |
| | Channel Incision/Entrenchment | |
| | Hardened/Engineered Channel | |
| | Enlarged Channel | |
| | Artificial Banks/Shoreline | |
| | Weirs | |
| | Dikes/Levees/Berms | |
| | Diversions | |
| | Sediment/Fill Accumulation | |
| | | |

| Variable Score | Condition Grade | Non-riverine | Riverine |
|-------------------|----------------------------------|---|--|
| 1.0 - 0.9 | A Reference Standard | Little or no alteration has been made to the way in which water is distributed throughout the wetland. AA maintains a natural hydrologic regime. | Natural active floodplain areas flood on a normal recurrence interval. No evidence of alteration of flooding and subirrigation duration and intensity. |
| <0.9 - 0.8 | B Highly Functioning | Less than 10% of the AA is affected by <i>in situ</i> hydrologic alteration; or more widespread impacts result in less than a 2 in. (5 cm) change in mean growing season water table elevation. | Channel-adjacent areas have occasional unnatural periods of drying or flooding; or uniform shift in the hydrograph less than typical root depth. |
| <0.8 - 0.7 | C Functioning | Between 10 and 33% of the AA is affected by in situ hydrologic alteration; or more widespread impacts result in a 4 in. (5 cm) or less change in mean growing season water table elevation. | In channel-adjacent area, periods of drying or flooding are common; or uniform shift in the hydrograph near root depth. |
| <0.7 - 0.6 | D Functioning Impaired | 33 to 66% of the AA is affected by <i>in situ</i> hydrologic alteration; or more widespread impacts result in a 6 in. (15 cm) or less change in mean growing season water table elevation. Water table behavior must still meet jurisdictional criteria to merit this rating. | Adjacent to the channel, unnatural periods of drying or flooding are the norm; or uniform shift in the hydrograph greater than root depth. |
| <0.6 | F Non-functioning | More than 66% of the AA is affected by hydrologic alteration which changes the fundamental functioning of the wetland system, generally exhibited as a conversion to upland or deep water habitat. | Historical active floodplain areas are almost never wetted from overbank flooding, and/or groundwater infiltration is effectively cut off. |

Variable 4 Score

0.82

Variable 5: Water Outflow

This variable is concerned with **down-gradient** hydrologic connectivity and the flow of water and water-borne materials and energy out of the AA. In particular it illustrates the degree to which the AA can support the functioning of down-gradient habitats. It is a measure of impacts that affect the hydrologic outflow of water including the passage of water through its normal low- and high-flow surface outlets, infiltration/groundwater recharge, and the energetic characteristics of water delivered to dependent habitats. In some cases, alteration of evapotranspiration rates may be significant enough of a factor to consider in scoring. Score this variable by identifying stressors that impact the means by which water is exported from the AA. To evaluate this variable focus on how water, energy and associated materials are exported out of the AA and their ability it support down-gradient habitats in a manner consistent with their HGM (regional) subclass.

Because the wetland's ability to export water and materials in a characteristic fashion is to a very large degree dependent the condition of its water source, as with the Water Distribution variable, in most cases the Water Source variable score will define the upper limit Water Outflow score.

Scoring rules:

- 1. Identify impacts to the natural outflow of water from the AA and catalog them in the stressor table.
- 2.Considering all of the stressors identified, assign an overall variable score using the scoring guidelines. Take in to account the cumulative effect of stressors on the wetland's ability to export water and water-borne materials. In most cases the Water Source variable will set the upper limit for the Water Outflow score.

| / | Stressors | Comments/description |
|----------|-------------------------------|--|
| | Alteration of Water Source | |
| × | Ditches | Roadside ditch on south side of AA redirects water east. |
| × | Dikes/Levees | Earthen dams downstream pool surface runoff. |
| × | Road Grades | Judge Orr Rd borders AA to the S. |
| | Culverts | |
| | Diversions | |
| | Constrictions | |
| | Channel Incision/Entrenchment | |
| | Hardened/Engineered Channel | |
| | Artificial Stream Banks | |
| | Weirs | |
| | Confined Bridge Openings | |
| | | |

| Variable Score | Condition Grade | Scoring Guidelines |
|-------------------|--------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Stressors have little to no effect on the magnitude, timing or hydrodynamics of the AA water outflow regime. |
| <0.9 - 0.8 | B Highly Functioning | High- or low-water outflows are mildly to moderately affected, but at intermediate ("normal") levels flow continues essentially unaltered in quantity or character. |
| <0.8 - 0.7 | C Functioning | High- or low-water outflows are moderately affected, mild alteration of intermediate level outflow occurs; or hydrodynamics moderately affected. |
| <0.7 - 0.6 | D Functioning Impaired | Outflow at all stages is moderately to highly impaired resulting in persistent flooding of portions of the AA or unnatural drainage; or outflow hydrodynamics severely disrupted. |
| <0.6 | F Non-functioning | The natural outflow regime is profoundly impaired. Down-gradient hydrologic connection severed or nearly so. Alterations may cause widespread unnatural persistent flooding or dewatering of the wetland system. |

Variable 5 Score

0.69

Variable 6: Geomorphology

This variable is a measure of the degree to which the geomorphic setting has been altered within the AA. Changes to the surface configuration and natural topography constitute stressors. Such stressors may be observed in the form of fill, excavation, dikes, sedimentation due to absence of flushing floods, etc. In riverine systems, geomorphic changes to the stream channel should be considered if the channel is within the AA (i.e, small is size). Alterations may involve the bed and bank (substrate embeddedness or morphological changes), stream instability, and stream channel reconfiguration. Geomorphic changes are usually ultimately manifested as changes to wetland surface hydrology and water relations with vegetation. Geomorphic alterations can also directly affect soil properties, such as near-surface texture, and the wetland chemical environment such as the redox state or nutrient composition in the rooting zone. In rating this variable, do not include these resultant effects of geomorphic change; rather focus on the physical impacts within the footprint of the alteration within the AA – For example, the width and depth of a ditch or the size of a levee within the AA would describe the extent of the stressors. The secondary effects of geomorphic change are addressed by other variables. All alterations to geomorphology should be evaluated including small-scale impacts such as pugging, hoof sheer, and sedimentation which can be significant but not immediately obvious.

Scoring Rules:

- 1. Identify impacts to geomorphological setting and topography within the AA and record them on the stressor checklist.
- 2. Considering all of the stressors identified, assign an overall variable score using the scoring guidelines.

| / | | Stressors | Comments |
|---|------|---|---|
| | | Dredging/Excavation/Mining | |
| × | | Fill, including dikes, road grades, etc | Small section of AA has fill placed as part of the dam. |
| | | Grading | |
| | al | Compaction | |
| | e | Plowing/Disking | |
| | en | Excessive Sedimentation | |
| | Ō | Dumping | |
| | | Hoof Shear/Pugging | |
| | | Aggregate or Mineral Mining | |
| | | Sand Accumulation | |
| | | Channel Instability/Over Widening | |
| | nly | Excessive Bank Erosion | |
| | On | Channelization | |
| | els | Reconfigured Stream Channels | |
| | nne | Artificial Banks/Shoreline | |
| | Char | Beaver Dam Removal | |
| | C | Substrate Embeddedness | |
| | | Lack or Excess of Woody Debris | |
| | | | |

| Variable Score | Condition Grade | Scoring Guidelines |
|-------------------|-----------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Topography essentially unaltered from the natural state, or alterations appear to have a minimal effect on wetland functioning and condition. Patch or microtopographic complexity may be slightly altered, but native plant communities are still supported. |
| <0.9 - 0.8 | B Highly Functioning | Alterations to topography result in small but detectable changes to habitat conditions in some or all of the AA; or more severe impacts exist but affect less than 10% of the AA. |
| <0.8 - 0.7 | Functioning | Changes to AA topography may be pervasive but generally mild to moderate in severity. May include patches of more significant habitat alteration; or more severe alterations affect up to 20 % of the AA. |
| <0.7 - 0.6 | Impaired | At least one important surface type or landform has been eliminated or created; microtopography has been strongly impacted throughout most or all of the AA; or more severe alterations affect up to 50% of the AA. Evidence that widespread diminishment or alteration of native plant community exist due to physical habitat alterations. Most incidentally created wetland habitat such as that created by roadside ditches and the like would score in this range or lower. |
| <0.6 | F Non- functioning | Pervasive geomorphic alterations have caused a fundamental change in site character and functioning, commonly resulting in a conversion to upland or deepwater habitat. |

Variable 6 Score

Variable 7: Water and Soil Chemical Environment

This variable concerns the chemical environment of the soil and water media within the AA, including pollutants, water and soil characteristics. The origin of pollutants may be within or outside the AA. Score this variable by listing indicators of chemical stress in the AA. Consider point source and non-point sources of pollution, as well as mechanical or hydrologic changes that alter the chemical environment. Because water quality frequently cannot be inferred directly, the presence of stressors is often identified by the presence of indirect indicators. Five sub-variables are used to describe the Water and Soil Chemical Environment: Nutrient Enrichment/Eutrophication/Oxygen; Sedimentation/Turbidity; Toxic Contamination/pH; Temperature; and Soil Chemistry and Redox Potential. Utilization of web-based data mining tools is highly recommended to help inform and support variable scores.

Scoring rules:

- 1. Stressors are grouped into sub-variables which have a similar signature or set of causes.
- 2. Use the indicator list to identify each stressor impacting the chemical environment of the AA.
- 3. For each sub-variable, determine its score using the scoring guideline table provided on the second page of the scoring sheet. Scoring sub-variables is carried out in exactly the same way as normal variable scoring.
- -If the AA is part of a water body that is recognized as impaired or recommended for TMDL development for one of the factors, then score that sub-variable 0.65 or lower.
- 4. Transcribe sub-variable scores to the following variable scoring page and compute the sum.
- 5. The lowest sub-variable score sets the letter grade range. The composite of sub-variables influences the score within that range.

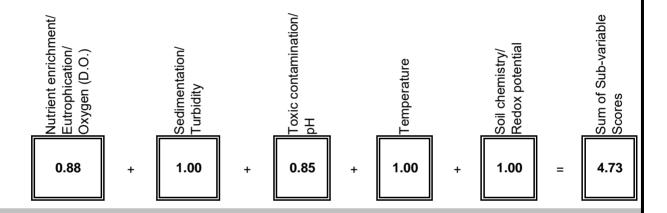
| Sub-variable | Stressor Indicator | √ | Comments | Ī | Sub- |
|----------------------|-----------------------------------|----------|---------------------------------|----------------|----------|
| | Livestock | Х | previous years AA had livestoo | | variable |
| SV 7.1 | Agricultural Runoff | | | | Score |
| Nutrient Enrichment/ | Septic/Sewage | | | | 0.88 |
| Eutrophication/ | Excessive Algae or Aquatic Veg. | | | | 0.00 |
| Oxygen (D.O.) | Cumulative Watershed NPS | | | / | |
| Oxygon (B.O.) | CDPHE Impairment/TMDL List | | | | |
| | | | | | |
| | Excessive Erosion | | | | |
| | Excessive Deposition | | | | |
| SV 7.2 | Fine Sediment Plumes | | | │ | |
| | Agricultural Runoff | | | | 1.00 |
| Sedimentation/ | Excessive Turbidity | | | <u> </u> | |
| Turbidity | Nearby Construction Site | | | / | |
| | Cumulative Watershed NPS | | | / | |
| | CDPHE Impairment/TMDL List | | | / | |
| | Decemb Champing Chille | | | | |
| | Recent Chemical Spills | | | \ | |
| | Nearby Industrial Sites | V | | \ | |
| | Road Drainage/Runoff | X | several roads in surrounding a | ١\ | |
| | Livestock | Х | No active livestock on property | \ | |
| 0) / 7 0 | Agricultural Runoff | | | \ | 1 |
| SV 7.3 | Storm Water Runoff | | | | 0.85 |
| Toxic contamination/ | Fish/Wildlife Impacts | | | <u> </u> | |
| рН | Vegetation Impacts | | | / | |
| | Cumulative Watershed NPS | | | / | |
| | Acid Mine Drainage | | | | |
| | Point Source Discharge | | | / | |
| | CDPHE Impairment/TMDL List | | | / | |
| | Metal staining on rocks and veg. | | | | |
| | Excessive Temperature Regime | | | | |
| | Lack of Shading | | | \ | |
| SV 7.4 | Reservoir/Power Plant Discharge | | | | 1.00 |
| Temperature | Industrial Discharge | | | <u> </u> | 1.55 |
| | Cumulative Watershed NPS | | | I / | |
| | CDPHE Impairment/TMDL List | | | / | |
| | Unnatural Saturation/Desaturation | | | | |
| SV 7.5 | Mechanical Soil Disturbance | | | | |
| Soil chemistry/ | Dumping/introduced Soil | | | | 1.00 |
| Redox potential | CDPHE Impairment/TMDL List | | | ▎ | |
| riodox potorida | ODI TIE IMPARMENT HVIDE LIST | | | | |
| | | <u> </u> | | <u> </u> | |

Variable 7: Water and Soil Chemical Environment p.2

Sub-variable Scoring Guidelines

| Variable Score | Condition Class | Scoring Guidelines |
|----------------|--------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Stress indicators not present or trivial. |
| <0.9 - 0.8 | B Highly Functioning | Stress indicators scarcely present and mild, or otherwise not occurring in more than 10% of the AA. |
| <0.8 - 0.7 | C Functioning | Stress indicators present at mild to moderate levels, or otherwise not occurring in more than 33% of the AA. |
| <0.7 - 0.6 | D Functioning Impaired | Stress indicators present at moderate to high levels, or otherwise not occurring in more than 66% of the AA |
| <0.6 | F Non-functioning | Stress indicators strongly evident throughout the AA at levels which apparently alter the fundamental chemical environment of the wetland system |

Input each sub-variable score from p. 1 of the V7 data form and calculate the sum.



Use the table to score the Chemical Environment Variable circling the applicable scoring rules.

| Variable Score | Condition Grade | Scoring Rules | | | | |
|-------------------|--------------------------------------|--|--------------------------------------|--|--|--|
| 00010 | Orace | Single Factor | Composite Score | | | |
| 1.0 - 0.9 | A Reference Standard | No single factor scores < 0.9 | The factor scores sum > 4.5 | | | |
| <0.9 - 0.8 | B Highly C Functioning | Any single factor scores ≥ 0.8 but < 0.9 | The factor scores sum >4.0 but ≤4.5 | | | |
| <0.8 - 0.7 | C Functioning | Any single factor scores ≥ 7.0 but < 0.8 | The factor scores sum >3.5 but ≤ 4.0 | | | |
| <0.7 - 0.6 | D Functioning Impaired | Any single factor scores ≥ 0.6 but <0.7 | The factor scores sum >3.0 but ≤3.5 | | | |
| < 0.6 | F Non- functioning | Any single factor scores < 0.6 | The factor scores sum < 3.0 | | | |

Variable 7 Score

Variable 8: Vegetation Structure and Complexity

This variable is a measure of the condition of the wetland's vegetation relative to its native state. It particularly focuses on the wetland's ability to perform higher-order functions such as support of wildlife populations, and influence primary functions such as flood-flow attenuation, channel stabilization and sediment retention. Score this variable by listing stressors that have affected the structure, diversity, composition and cover of each vegetation stratum that would normally be present in the HGM (regional) subclass being assessed. For this variable, stressor severity is a measure of how much each vegetation stratum differs functionally from its natural condition or from the natural range of variability exhibited the HGM subclass or regional subclass. This variable has four sub-variables, each corresponding to a stratum of vegetation: Tree Canopy; Shrub Layer; Herbaceous Layer; and Aquatics.

Rules for Scoring:

- 1. Determine the number and types of vegetation layers present within the AA. Make a judgment as to whether additional layers were historically present using direct evidence such as stumps, root wads or historical photographs. Indirect evidence such as local knowledge and expert opinion can also be used in this determination.
- 2. Do not score vegetation layers that would not normally be present in the wetland type being assessed.
- 3. Estimate and record the current coverage of each vegetation layer at the top of the table.
- 4. Record the Reference Standard or expected percent coverage of each vegetation layer to create the sub-variable weighting factor. The condition of predominant vegetation layers has a greater influence on the variable score than do minor components.
- 5. Enter the percent cover values as decimals in the row of the stressor table labeled "Reference/expected Percent Cover of Layer". Note, percentages will often sum to more than 100% (1.0).
- 6. Determine the severity of stressors acting on each individual canopy layers, indicating their presence with checks in the appropriate boxes of the stressor table. The difference between the expected and observed stratum coverages is one measure of stratum alteration.
- 7. Determine the sub-variable score for each valid vegetation layer using the scoring guidelines on the second page of the scoring sheet. Enter each sub-variable score in the appropriate cell of the row labeled "Veg. Layer Sub-variable Score". If a stratum has been wholly removed score it as 0.5.
- 8. Multiply each layer's *Reference Percent Cover of Layer* score by its Veg. Layer Sub-variable scores and enter the products in the labled cells. These are the weighted sub-variable scores. Individually sum the *Reference Percent Cover of Layer* and *Weighted Sub-variables scores*.
- 9. Divide the sum of "Veg. Layer Sub-variable Scores" by the total coverage of all layers scored. This product is the Variable 8 score. Enter this number in the labeled box at the bottom of this page.

| | | | | | <u> </u> |
|--|------|----------|----------|---------|---|
| | V | egetatio | n Layers | } | |
| Current % Coverage of | | | | | |
| Layer | | 1 | 100 | | |
| Stressor | Tree | Shrub | Herb | Aquatic | Comments |
| Noxious Weeds | | X | Х | | |
| Exotic/Invasive spp. | | X | Х | | |
| Tree Harvest | | | | | |
| Brush Cutting/Shrub Removal | | | | | |
| Livestock Grazing | | X | X | | Not this year (limited 2020 impact) |
| Excessive Herbivory | | | | | |
| Mowing/Haying | | | | | |
| Herbicide | | | | | |
| Loss of Zonation/Homogenization | | | | | |
| Dewatering | | | | | |
| Over Saturation | | | | | |
| DIFFERENCE BETWEEN CURRENT COVERAGE AND REFERENCE/EXPECTED | | 0 | 0 | | |
| Reference/Expected % Cover of Layer | + | 0.01 | | | = 1.01 |
| Veg. Layer Sub- variable Score | X | 0.78 | 0.78 | X II | See sub-variable scoring guidelines on following page |
| Weighted Sub-variable Score | + | 0.01 + | 0.78 + | | = 0.7878 |
| | | | | | Variable 8 Score 0.78 |

Variable 8: Vegetation Structure and Complexity p. 2

Sub-variable 8 Scoring Guidelines:

Based on the list of stressors identified above, rate the severity of their cumulative effect on vegetation structure and complexity for each vegetation layer.

| Variable Score | Condition Grade | Scoring Guidelines |
|----------------|-------------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Stressors not present or with an intensity low enough as to not detectably affect the structure, diversity or composition of the vegetation layer. |
| <0.9 - 0.8 | B Highly Functioning | Stressors present at intensity levels sufficient to cause detectable, but minor, changes in layer composition. Stress related change should generally be less than 10% for any given attribute (e.g., 10% cover of invasive, 10% reduction in richness or cover) if the stressor is evenly distributed throughout the wetland. Stress related change could be as high as 33% for a given attribute if stressors are confined to patches comprising less than 10% of the wetland. |
| <0.8 - 0.7 | C Functioning | Stressors present with enough intensity to cause significant changes in the character of vegetation, including alteration of layer coverage, structural complexity and species composition. The vegetation layer retains its essential character though. AA's with a high proportion of non-native grasses will commonly fall in this class. Stress related change should generally be less than 33% for any given attribute (e.g., 33% cover of invasive, 33% reduction in richness or cover) if the stressor is evenly distributed throughout the wetland. Stress related change could be as much as 66% for a given attribute if stressors are confined to patches comprising less than 25% of the wetland. |
| <0.7 - 0.6 | D Functioning Impaired | Stressor intensity severe enough to cause profound changes to the fundamental character of the vegetation layer. Stress-related change should generally be less than 66% for any given attribute (e.g., 66% cover of invasive, 66% reduction in richness or cover) if the stressor is evenly distributed throughout the wetland. Stress related change could be as much as 80% of a given attribute if stressors are confined to patches comprising less than 50% of the wetland. |
| <0.6 | F Non- functioning | Vegetation layer has been completely removed or altered to the extent that is no longer comparable to the natural structure, diversity and composition. |

FACWet Score Card

VARIABLE SCORE TABLE

Scoring Procedure:

- 1. Transcribe variable scores from each variable data sheet to the corresponding cell in the variable score table.
- 2. In each Functional Capacity Index (FCI) equation, enter the corresponding variable scores in the equation cells. Do not enter values in the crossed cells lacking labels.
- 3. Add the variable scores to calculate the total functional points achieved for each function.
- 4. Divide the total functional points achieved by the functional points possible. The typical number of total points possible is provided, however, if a variable is added or subtracted to FCI equation the total possible points must be adjusted
- 5. Calculate the Composite FCI, by adding the FCI scores and dividing by the total number of functions scored (usually 7).
- 6. If scoring is done directly in the Excel spreadsheet, all values will be transferred and calculated automatically.

| AVIVIV | DEL SCOKE | IABLE | | _ | | | | | |
|----------------------------------|----------------------------------|---|------------|------|--|--|--|--|--|
| er & ccape text | Variable 1: | Habitat Connectivity (Connect) | 0.82 | | | | | | |
| Buffer & Landscape Context | Variable 2: | ole 2: Contributing Area (CA) | | | | | | | |
| | Variable 3: | Water Source (Source) | 0.82 | | | | | | |
| Hydrology | Variable 4: | Water Distribution (Dist) | 0.82 | | | | | | |
| Η̈́ | Variable 5: | Water Outflow (Outflow) | 0.69 | | | | | | |
| nd oitat | Variable 6: | Geomorphology (Geom) | 0.89 | | | | | | |
| Abiotic and Biotic Habitat | Variable 7: | Chemical Environment (Chem) | 0.89 | | | | | | |
| Abi Bioti | Variable 8: | Vegetation Structure and Complexity (Veg) | 0.78 | | | | | | |
| Function | al Capacity | Indices | <u> </u> | Ш | | | | | |
| | . , | Total | | | | | | | |
| | | aracteristic Wildlife Habitat Functional | | FCI | | | | | |
| V1 _{connect} | | (2 x V8 _{veg}) | 1 | | | | | | |
| 0.82 | + 0.80 + | 1.56 + + + = 3.18 | ÷ 4 = | 0.79 | | | | | |
| Function 2 - | Support of Ch | aracteristic Fish/aquatic Habitat | | | | | | | |
| (3 x V3 _{source}) | + (2 x V4 _{dist}) + | $(2 \times V5_{\text{outflow}}) + V6_{\text{geom}} + V7_{\text{chem}}$ | | | | | | | |
| 2.46 | + 1.64 + | | ÷ 9 = | 0.81 | | | | | |
| Function 3 - | Flood Attenua | tion | | | | | | | |
| V2 _{CA} | | $(2 \times V4_{dist}) + (2 \times V5_{outflow}) + V6_{geom} + V8_{veg}$ | | | | | | | |
| 0.80 | + 1.64 + | | ÷ 9 = | 0.79 | | | | | |
| Function 4 | Short- and Lo | ng-term Water Storage | | | | | | | |
| V3 _{source} | + (2 x V4 _{dist}) + | <u> </u> | | | | | | | |
| | + 1.64 + | | ÷ 6 = | 0.79 | | | | | |
| | Nutrient/Toxic | | 1 . , | | | | | | |
| | | | | | | | | | |
| <u> </u> | + (2 x V4 _{dist}) + | | 1 _ ' | | | | | | |
| 1.59 | + 1.64 + | | ÷ 6 = | 0.84 | | | | | |
| | Sediment Rete | ention/Shoreline Stabilization | | | | | | | |
| V2 _{CA} | + (2 x V6 _{geom}) + | (2 x V8 _{veg}) | _ | | | | | | |
| 0.80 | + 1.78 + | 1.56 + + + + + = 4.14 | ÷ 5 = | 0.83 | | | | | |
| Function 7 - | Production Ex | port/Food Chain Support | | | | | | | |
| V1 _{connect} | + (2 x V5 _{outflow}) + | V6 _{geom} + V7 _{chem} + (2 x V8 _{veg}) | | | | | | | |
| 0.82 | + 1.38 + | | ÷ 7 = | 0.79 | | | | | |
| | | | <u>-</u> . | | | | | | |
| | | Sum of Individual FC | l Scores | 5.63 | | | | | |

Divide by the Number of Functions Scored ÷ 7

Composite FCI Score

ADMINISTRATIVE CHARACTERIZATION

| General Information | | | | | | Date o Evaluation | 42/0/202 | 0 | |
|--|--|-----------------------------|--------------------------|--|---|--|--------------|------------------|---------------|
| Site Name or ID: | : | Pond Area, ca | used by eart | then dam | | Project Name | e: Judge C | orr Mitigation | Bank |
| 404 or Other Per Application #: | rmit | | | | | Applicant Name | Pete Lie | n | |
| Evaluator Name(| I, | Thomas McIn Jesse Dillon | tyre | Evaluator's p | rofe | essional position ar organizatio | | | |
| Location Info | | tion: | | | | | | | |
| Site Coordinat (Decimal Degrees, 38.85, -104.96) | tes e.g., | · | 95715, -104.5 | 541853 | | Geographic Datum Used (NAD 83): | NAD 83 | | |
| , | | | | | | Elevation | | 6747 fee | |
| Location Informa | ation: | Bordered by . | Judge Orr Rd | I to the South, | St | apleton Rd to | the West, | and Elbert R | d to the East |
| Associated strea | ım/wat | ter body name | | | | | Stream C | Order: | |
| USGS Quadrang Map: | gle | Falcon Quadr | | | Map Scale: (Circle one) | | | 1:100,000 1: | |
| Sub basin Name |) (8 | Chico | | | Wetland Ownership: Private: Pete Lien & Son | | | Sons, Inc. | |
| Project Inforr | matic | on: | Potentially Impacted We | | | | pacted Wet | lands | |
| This evaluation is being performed (Check applicable | l at: | Project Wea | | Purpose of Evaluation (check all applicable): | X | Mitigation; Pre Mitigation; Pos Monitoring Other (Describ | st-construct | | |
| Intent of Project: | (Chec | :k all applicable) | | Restoration | | | nhancemen | t \square | Creation |
| Total Size of We (Record Area, Check Measurement Method | k and De | escribe | 0.4 ac. | X Measured Estimated | | | | | |
| | Assessment Area (AA) Size (Record Area, check appropriate box. Additional spaces | | | X Measured | | ac. | ac. | ac. | ac. |
| are used to record acreage when more than one AA is included in a single assessment) | | | 48.4 ac. – | Estimated | | ac. | ac. | ac. | ac. |
| Characteristics or Method used for AA boundary determination: | | | in the field w | ineation- boun with GPS. A sin e pond is inclu | ngl | e AA holding a | | | |
| MOIES. | | - | | to the wetlands | | | | erty line. It is | not a |

ECOLOGICAL DESCRIPTION 1

| Special Concerns Check all that apply | | | | | | | | | |
|---------------------------------------|---|---|--------|----------------------------------|--|---------------|-------------|---------------------------------|--|
| | s including Histosols or ne AA (i.e., AA includes | | | Federally thre | | or endange | ered specie | es are SUSPECTED to | |
| | directly impact organic s eas possessing either F | | | | | | | | |
| | ls are known to occur a wetland of which the AA | | | Species of co (CNHP) are k | | | | ado Natural Heritage | |
| The wetland urbanized la | d is a habitat oasis in an andscape? | otherwise dry or | | The site is loc occurrence be | | | | rvation area or element NHP? | |
| | Federally threatened or endangered species are KNOWN to occur in the AA? List Below. | | | | X Other special concerns (please describe) No known species occuring in AA, but possible federally threatened spp in region: Eastern black rail, Least tern, Piping plover, Whooping crane, Greenback cutthroat Trout, Pallid sturgeon, Ute ladies'-tresses, Western prairie finged orchid | | | | |
| | HYDROGEOMORPHIC SETTING | | | | | | | | |
| AA wetland | maintains its fundame | ntal natural hydrogeom | orphic | characteristic | s | | | | |
| X AA wetland | has been subject to cl | nange in HGM classes a escribe the original wetla | as a r | esult of anthro | pogenic | | | | |
| AA wetland | was created from an u | ıpland setting. | | | | | | | |
| Current Co | nditions | Describe the hydrogeo | morp | hic setting of th | he wetla | and by circli | ing all con | ditions that apply. | |
| Guironi Go | | | | | | | | | |
| | Water source | Surface flow | (| Groundwater | | ecipitation | | Unknown | |
| | Hydrodynamics | Unidirectional | | Vertical | | directional | > | ., | |
| | Wetland Gradient | | 0 - 2 | | $\overline{}$ | 4-10% | >10% | | |
| | # Surface Inlets | Over | -bank | | <u>(1)</u> | 2 | 3 | >3 | |
| HGM Setting | # Surface Outlets Geomorphic Setting (Narrative Description. Include approx. stream order for riverine) | 0 1 (2) 3 >3 Depressional wetland in a Grassland drainage. | | | | | | >3 | |
| | HGM class | Riverine | | Slope | Dep | oressional | > | Lacustrine | |
| Historical Co | nditions | | | | | | | | |
| | Water source | Surface flow | (| Groundwater | Pre | ecipitation | | Unknown | |
| | Hydrodynamics | Unidirectional | | Vertical | | • | | | |
| Previous wetland typology | Geomorphic Setting (Narrative Description) | Grassland drainage, | no si | gnificant pool | ing nat | urally occi | uring in s | urrounding area | |
| | Previous HGM Class | Riverine | | Slope | Dep | oressional | | Lacustrine | |
| • | formation on the AA's l | HGM subclass and regi | | ubclass): | | | | | |

ECOLOGICAL DESCRIPTION 2

| System | Subsystem | Class | Subclass | Water Regime | Other Modifiers | % AA |
|-----------|--|--|---|--|---|---------|
| Riverine | Perennial | Emergent | Rooted Vascular | К | h, x | 0.1% |
| | | | | | | |
| | | | | | | |
| acustrine | Littoral; Limnoral | | | Funnales | Hypersaline(7); Eusaline(8); | |
| alustrine | Palustrine Lower perennial; Upper perennial; Intermittent | Rock Bot. (RB) Uncon Bottom(UB) Aquatic Bed(AB) Rocky Shore(RS) Uncon Shore(US) Emergent(EM) Shrub-scrub(SS) Forested (FO) | Floating vascular; Rooted vascular; Algal; Persistent; Non-Persistent; Broad-leaved deciduous; Needle-leaved evergreen; Cobble - gravel; Sand; Mud; Organic | Examples Temporarily flooded(A); Saturated(B); Seasonally flooded(C); Seasflood./sat.(E); Semi-Perm. flooded(F); Intermittently exposed(G); Artificially flooded(K); Sat./semiperm./Seas. (Y); Int. exposed/permenant(Z) | Mixosaline(9); Fresh(0); Acid(a); Circumneutral(c); Alkaline/calcareous(i); Organic(g); Mineral(n); Beaver(b); Partially Drained/ditched(d); Farmed(f); Diked/impounded(h); Artificial Substrate(r); Spoil(s); Excavated(x) | |
| Site Map | | a sketch map of to other significant fea | | tions of the wetland, AA bound | dary, structures, habitat c | lasses, |
| | | | | | | |
| | | | | | | |
| | Pond | on Figu | re 11 | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Variable 1: Habitat Connectivity

The Habitat Connectivity Variable is described by two sub-variables – Neighboring Wetland and Riparian Habitat Loss and Barriers to Migration and Dispersal. These sub-variables were treated as independent variables in FACWet Version 2.0. The merging of these variables makes their structure more consistent with that of other composite variables in FACWet. The new variable configuration also makes this landscape variable more accurately reflect the interactions amongst aquatic habitats in Colorado's agricultural and urbanized landscapes, which have a naturally low density of wetlands. The two Habitat Connectivity Sub-variables are scored in exactly the same manner as their FACWet 2.0 counterparts, as described below. The Habitat Connectivity Variable score is simply the arithmetic average of the two sub-variable scores which is entered on the second page of the Variable 1 data form. If there is little or no wetland or riparian habitat in the Habitat Connectivity Envelope (defined below), then Sub-variable 1.1 is not scored.

SV 1.1 - Neighboring Wetland and Riparian Habitat Loss

(Do not score if few or no wetlands naturally exist in the HCE)

This sub-variable is a measure of how isolated from other naturally-occurring wetlands or riparian habitat the AA has become as the result of habitat destruction. To score this sub-variable, estimate the percent of naturally-occurring wetland/riparian habitat that has been lost (by filling, draining, development, or whatever means) within the 500-meter-wide belt surrounding the AA. This zone is called the Habitat Connectivity Envelope (HCE). In most cases the evaluator must use best professional judgment to estimate the amount of natural wetland loss. Historical photographs, National Wetland Inventory (NWI) maps, hydric soil maps can be helpful in making these determinations. Floodplain maps are especially valuable in river-dominated regions, such as the Front Range urban corridor. Evaluation of landforms and habitat patterns in the context of perceivable land use change is used to steer estimates of the amount of wetland loss within the HCE.

Rules for Scoring:

- 1. On the aerial photo, create a 500 m perimeter around the AA.
- 2. The area within this perimeter is the Habitat Connectivity Envelope (HCE).
- 3. Within the HCE, outline the current extent of naturally occurring wetland and riparian habitat. Do not include habitats such as excavated ponds or reservoir induced fringe wetlands.
- 4. Outline the historical extent of wetland and riparian habitats (i.e., existing natural wetlands plus those that have been destroyed).
- Use your knowledge of the history of the area and evident land use change to identify where habitat losses have occurred. Additional research can be utilized to increase the accuracy of this estimate including consideration of floodplain maps, historical aerial photographs, soil maps, etc.
- 5. Calculate the area of existing and historical wetlands. Divide the area of existing wetland by the total amount of existing and historical wetland and riparian habitat, and determine the variable score using the guidelines below. Enter sub-variable score at the bottom of p.2 of the Habitat Connectivity data form.

| Variable Score | Condition Grade | Scoring Guidelines |
|-------------------|-------------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Very little or no loss of wetlands in the HCEor negligible. |
| <0.9 - 0.8 | B Highly Functioning | More than 80% of historical wetland habitat area within the HCE is still present (less than 20% of habitat area lost). |
| <0.8 - 0.7 | C Functioning | 80 to 60% of historical wetland habitat area within the HCE is still present (20% to 40% of habitat area lost). |
| <0.7 - 0.6 | D Functioning Impaired | Less than 60 to 25% of historical wetland habitat area within the HCE is still present (more than 40 to 75% of habitat area lost). |
| <0.6 | F Non- functioning | Less than 25% of the historical wetland habitat area within the HCE still in existence (more than 70% of habitat lost). |

Notes: Judge Orr Rd runs through the existing nearby wetlands and is within the 500m HCE.

Variable 1: Habitat Connectivity p. 2

SV 1.2: Migration/Dispersal Barriers

This sub-variable is intended to rate the degree to which the AA has become isolated from existing neighboring wetland and riparian habitat by artificial barriers that inhibit migration or dispersal of organisms. On the aerial photograph, identify the manmade barriers within the HCE that intercede between the AA and surrounding wetlands and riparian areas, and identify them by type on the stressor list. Score this variable based on the barriers' impermeability to migration and dispersal and the amount of surrounding wetland/riparian habitat they affect.

Rules for Scoring:

- 1. On the aerial photo, outline **all** existing wetland and riparian habitat areas within the HCE. This includes naturally occurring habitats, as well as those purposefully created or induced by land use change.
- 2. Identify artificial barriers to dispersal and migration of organisms within the HCE that intercede between the AA and surrounding habitats. Mark the stressors present with a check in the first column and describe the general nature, severity and extent of each. List additional stressors in empty rows at the bottom of the table and explain.
- 3. Considering the composite effect of all of identified barriers to migration and dispersal (i.e., stressors), assign an overall variable score using the scoring guidelines.

| | / | Stressors | Comments/description |
|------------|----------|---------------------------|---|
| | | Major Highway | |
| barriers | Х | Secondary Highway | 2-lane paved Rd (Judge Orr Rd) |
| arri | | Tertiary Roadway | |
| | | Railroad | |
| <u>cia</u> | | Bike Path | |
| artificial | | Urban Development | |
| = al | | Agricultural Development | |
| | Х | Artificial Water Body | Excavated ponds with Earthen dams (3) |
| Stressors | Х | Fence | Surrounding property and the surrounding properties |
| .es | Х | Ditch or Aqueduct | Ditch along the roadway |
| Stl | Х | Aquatic Organism Barriers | Dams breaking up continuous surface flow of water. |
| | | | |
| | | | |

| Variable Score | Condition Grade | Scoring Guidelines |
|-------------------|----------------------------------|---|
| 1.0 - 0.9 | A Reference Standard | No appreciable barriers exist between the AA and other wetland and riparian habitats in the HCE; or there are no other wetland and riparian areas in the HCE. |
| <0.9 - 0.8 | B Highly Functioning | Barriers impeding migration/dispersal between the AA and up to 33% of surrounding wetland/riparian habitat highly permeable and easily passed by most organisms. Examples could include gravel roads, minor levees, ditches or barbed-wire fences. More significant barriers (see "functioning category below) could affect migration to up to 10% of surrounding wetland/riparian habitat. |
| <0.8 - 0.7 | C Functioning | Barriers to migration and dispersal retard the ability of many organisms/propagules to pass between the AA and up to 66% of wetland/riparian habitat. Passage of organisms and propagules through such barriers is still possible, but it may be constrained to certain times of day, be slow, dangerous or require additional travel. Busy two-lane roads, culverted areas, small to medium artificial water bodies or small earthen dams would commonly rate a score in this range. More significant barriers (see "functioning impaired" category below) could affect migration to up to 10% of surrounding wetland/riparian |
| <0.7 - 0.6 | D Functioning Impaired | Barriers to migration and dispersal preclude the passage of some types of organisms/propagules between the AA and up to 66% of surrounding wetland/riparian habitat. Travel of those animals which can potential negotiate the barrier are strongly restricted and may include a high chance of mortality. Up to 33% of surrounding wetland/riparian habitat could be functionally isolated from the AA. |
| <0.6 | F Non-functioning | AA is essentially isolated from surrounding wetland/riparian habitat by impermeable migration and dispersal barriers. An interstate highway or concrete-lined water conveyance canal are examples of barriers which would generally create functional isolation between the AA and wetland/riparian habitat in the HCE. |

| SV 1.1 Score | 0.89 |
|--------------|------|
| SV 1.2 Score | 0.75 |

Variable 2: Contributing Area

The AA's Contributing Area is defined as the 250-meter-wide zone surrounding the perimeter of the AA. This variable is a measure of the capacity of that area to support characteristic functions of high quality wetland habitat. Depending on its condition, the contributing area can help maintain wetland condition or it can degrade it. Contributing Area condition is evaluated by considering the AA's Buffer and its Surrounding Land Use. Buffers are strips or patches of more-or-less natural upland and/or wetland habitat more than 5m wide. Buffers are contiguous with the AA boundary and they intercede between it and more intensively used lands. The AA Buffer is characterized with three sub-variables: Buffer Condition, Buffer Extent, and Average Buffer Width. The Surrounding Land Use Sub-variable considers changes within the Contributing Area that limit its capacity to support characteristic wetland functions. Many of the acute, on-site effects of land use change in the Contributing Area are specifically captured by Variables 3 - 8.

Rules for Scoring:

- 1. Delimit the Contributing Area on an aerial photograph as the zone within 250 meters of the outer boundary of the AA.
- 2. Evaluate and then rate the Buffer Condition sub-variable using the scoring guidelines. Record the score in the cell provided on the datasheet.
- 3. Indicate on the aerial photograph zones surrounding the AA which have ≥5m of buffer vegetation and those which do
- 4. Calculate the percentage of the AA which has a Buffer and record the value where indicated on the data sheet.
- 5. Rate the Buffer Extent Sub-variable using the scoring guidelines.
- 6.Determine the average Buffer width by drawing a line perpendicularly from the AA boundary to the outer extent of the buffer habitat. Measure line length and record its value on the data sheet. Repeat this process until a total of 8 lines have been sampled.
- 7. Calculate the average buffer width and record value on the data form. Then determine the sub-variable score using the scoring quidelines.
- 8.Score the Surrounding Land Use sub-variable by recording land use changes on the stressor list that affect the capacity of the landscape to support characteristic wetland functioning.
- 9. Enter the lowest of the three Buffer sub-variable scores along with the Surrounding Land Use Sub-variable score in the Contributing Area Variable scoring formula at the bottom of p. 2 of the data form. The Contributing Area Variable is the average of the two sub-variable scores

SV 2.1 - Buffer Condition

0.86 SV 2.1 - Buffer Condition Score

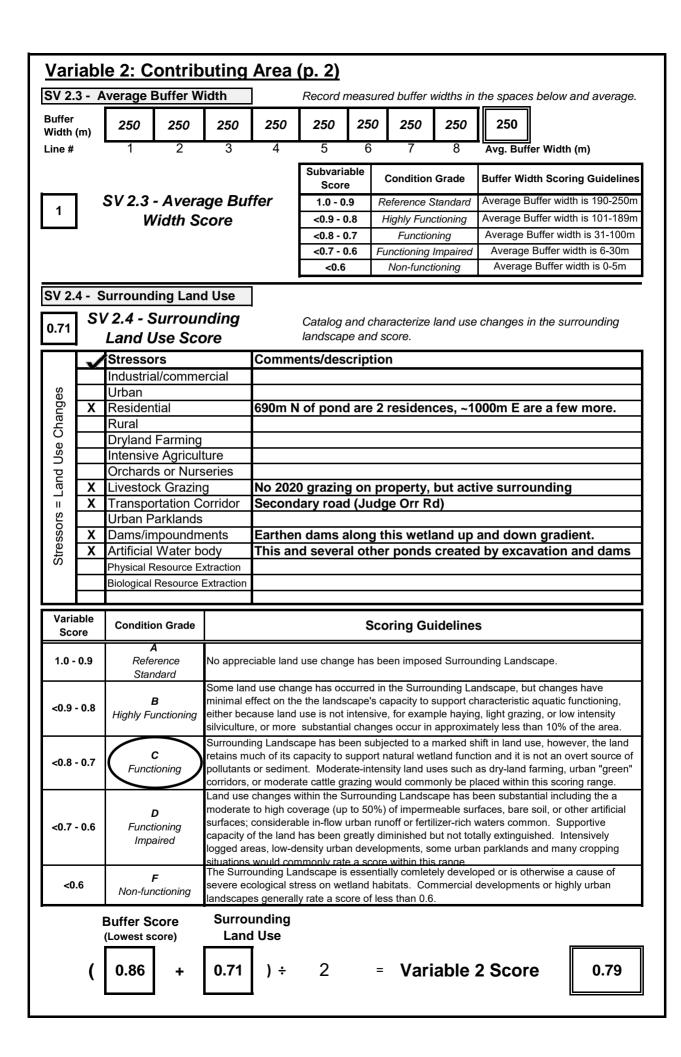
| Subvariable Score | Condition Grade | Buffer Condition Scoring Guidelines |
|----------------------|-------------------------|---|
| 1.0 - 0.9 | Reference Standard | Buffer vegetation is predominately native vegetation, human-caused disturbance of the substrate is not evident, and human visitation is minimal. Common examples: Wilderness areas, undeveloped forest and range lands. |
| <0.9 - 0.8 | Highly Functioning | Buffer vegetation may have a mixed native-nonnative composition, but characteristic structure and complexity remain. Soils are mostly undisturbed or have recovered from past human disturbance. Little or only low-impact human visitation. Buffers with higher levels of substrate disturbance may be included here if the buffer is still able to maintain predominately native vegetation. Common examples: Dispursed camping areas in national forests, common in wildland parks (e.g. State Parks) and open spaces. |
| <0.8 - 0.7 | Functioning | Buffer vegetation is substantially composed of non-native species. Vegetation structure may be somewhat altered, such as by brush clearing. Moderate substrate distrbance and compaction occurs, and small pockets of greater disturbance may exist. Common examples: City natural areas, mountain hay meadows. |
| <0.7 - 0.6 | Functioning Impaired | Buffer vegetation is substantially composed of non-native species and vegetation structure has been strongly altered by the complete removal of one or more strata. Soil disturbance and the intensity of human visitation are generally high. Common examples: Open lands around resource extraction sites (e.g., gravel mines), clear cut logging areas, ski slopes. |
| <0.6 | Non-functioning | Buffer is nearly or entirely absent. |

SV 2.2 - Buffer Extent

1.00 Percent of AA with Buffer

| 1.00 | sv | 2.2 | - 1 | Buf | fer | Ext | tent |
|------|----|-----|-----|-----|-----|-----|------|
| | | | | | | | |

| Subvariable Score | Condition Class | % Buffer Scoring Guidelines | |
|-------------------------------|--------------------|-----------------------------|--|
| 1.0 - 0.9 | Reference Standard | 90 - 100% of AA with Buffer | |
| <0.9 - 0.8 Highly Functioning | | 70-90% of AA with Buffer | |
| - 1 - 1 - U | | 51-69% of AA with Buffer | |
| | | 26-50% of AA with Buffer | |
| <0.6 | Non-functioning | 0-25% of AA with Buffer | |



Variable 3: Water Source

This variable is concerned with **up-gradient** hydrologic connectivity. It is a measure of impacts to the AA's water source, including the quantity and timing of water delivery, and the ability of source water to perform work such as sediment transport, erosion, soil pore flushing, etc. To score this variable, identify stressors that alter the source of water to the AA, and record their presence on the stressor list. Stressors can impact water source by depletion, augmentation, or alteration of inflow timing or hydrodynamics. This variable is designed to assess water quantity, power and timing, not water quality. Water quality will be evaluated in Variable 7.

Scoring rules:

- 1. Use the stressor list and knowledge of the watershed to catalog type-specific impairments of the AA's water source. Mark the stressors present with a check in the first column and describe the general nature, severity and extent of each. List additional stressors in empty rows at the bottom of the table and explain.
- 2. Considering the composite effect of stressors on the water source, rate the condition of this variable with the aid of the scoring guidelines.

| | Stressors | Comments/description |
|---|---------------------------------|---|
| × | Ditches or Drains (tile, etc.) | Culvert under US 24 |
| × | Dams | Several Earthen dams up gradient to create ponds for livestock |
| | Diversions | |
| × | Groundwater pumping | Several residential wells, several commercial irrigation wells |
| | Draw-downs | |
| X | Culverts or Constrictions | Source water crosses US 24 |
| × | Point Source (urban, ind., ag.) | Housing development built at headwaters |
| | Non-point Source | |
| | Increased Drainage Area | |
| | Storm Drain/Urban Runoff | |
| × | Impermeable Surface Runoff | Roads, parking lots, driveways at headwaters |
| × | Irrigation Return Flows | Grounds around neighborhood at headwaters uses irrigation (base |
| | Mining/Natural Gas Extraction | |
| | Transbasin Diversion | |
| | Actively Managed Hydrology | |
| | | |
| | | |

| Variable Score | Condition Grade | Depletion | Augmentation |
|-------------------|-------------------------------------|---|---|
| 1.0 - 0.9 | A Reference Standard | Unnatural drawdown events minor, rare or non- existent, very slight uniform depletion, or trivial alteration of hydrodynamics. | Unnatural high-water events minor, rare or non- existent, slight uniform increase in amount of inflow, or trivial alteration of hydrodynamics. |
| <0.9 - 0.8 | B Highly Functioning | Unnatural drawdown events occasional, short duration and/or mild; or uniform depletion up to 20%; or mild to moderate reduction of peak flows or capacity of water to perform work. | Occasional unnatural high-water events, short in duration and/or mild in intensity; or uniform augmentation up to 20%; or mild to moderate increase of peak flows or capacity of water to perform work. |
| <0.8 - 0.7 | C Functioning | Unnatural drawdown events common and of mild to moderate intensity and/or duration; or uniform depletion up to 50%; or moderate to substantial reduction of peak flows or capacity of water to perform work. | Common occurrence of unnatural high-water events, of a mild to moderate intensity and/or duration; or uniform augmentation up to 50%; or moderate to substantial increase of peak flows or capacity of water to perform work. |
| <0.7 - 0.6 | D Functioning Impaired | Unnatural drawdown events occur frequently with a moderate to high intensity and/or duration; or uniform depletion up to 75%; or substantial reduction of peak flows or capacity of water to perform work. Wetlands with actively managed or wholly artificial hydrology will usually score in this range or lower. | Common occurrence of unnatural high-water events, some of which may be severe in nature or exist for a substantial portion of the growing season; or uniform augmentation more than 50% or capacity of water to perform work. Wetlands with actively managed or wholly artificial hydrology will usually score in this range or |
| <0.6 | F Non- functioning | Water source diminished enough to threaten or extinguish wetland hydrology in the AA. | Frequency, duration or magnitude of unnaturally high-water great enough to change the fundamental characteristics of the wetland. |

Variable 4: Water Distribution

This variable is concerned with hydrologic connectivity **within** the AA. It is a measure of alteration to the spatial distribution of surface and groundwater within the AA. These alterations are manifested as local changes to the hydrograph and generally result from geomorphic modifications within the AA. To score this variable, identify stressors within the AA that alter flow patterns and impact the hydrograph of the AA, including localized increases or decreases to the depth or duration of the water table or surface water.

Because the wetland's ability to distribute water in a characteristic fashion is fundamentally dependent on the condition of its water source, in most cases the Water Source variable score will define the upper limit Water Distribution score. For example, if the Water Source variable is rated at 0.85, the Water Distribution score will usually have the potential to attain a maximum score of 0.85. Additional stressors within or outside the lower end of the AA effecting water distribution (e.g., ditches and levees) will reduce the score from the maximum value.

Scoring rules:

- 1. Identify impacts to the natural distribution of water throughout the AA and catalog them in the stressor table.
- 2. Considering all of the stressors identified, assign an overall variable score using the scoring guidelines. In most cases, the Water Source variable score will set the upper limit for the Water Distribution score.

| | 10. | |
|---|-------------------------------|--|
| | Stressors | Comments/description |
| | Alteration of Water Source | |
| | Ditches | |
| × | Ponding/Impoundment | The pond is artificial. It was formed through excavation |
| | Culverts | |
| | Road Grades | |
| | Channel Incision/Entrenchment | |
| | Hardened/Engineered Channel | |
| | Enlarged Channel | |
| | Artificial Banks/Shoreline | |
| | Weirs | |
| × | Dikes/Levees/Berms | Earthen Dam abuts the pond and is within the AA. |
| | Diversions | |
| | Sediment/Fill Accumulation | |
| | | |

| Variable Score | Condition Grade | Non-riverine | Riverine |
|-------------------|----------------------------------|---|--|
| 1.0 - 0.9 | A Reference Standard | Little or no alteration has been made to the way in which water is distributed throughout the wetland. AA maintains a natural hydrologic regime. | Natural active floodplain areas flood on a normal recurrence interval. No evidence of alteration of flooding and subirrigation duration and intensity. |
| <0.9 - 0.8 | B Highly Functioning | Less than 10% of the AA is affected by <i>in situ</i> hydrologic alteration; or more widespread impacts result in less than a 2 in. (5 cm) change in mean growing season water table elevation. | Channel-adjacent areas have occasional unnatural periods of drying or flooding; or uniform shift in the hydrograph less than typical root depth. |
| <0.8 - 0.7 | C Functioning | Between 10 and 33% of the AA is affected by in situ hydrologic alteration; or more widespread impacts result in a 4 in. (5 cm) or less change in mean growing season water table elevation. | In channel-adjacent area, periods of drying or flooding are common; or uniform shift in the hydrograph near root depth. |
| <0.7 - 0.6 | D Functioning Impaired | 33 to 66% of the AA is affected by <i>in situ</i> hydrologic alteration; or more widespread impacts result in a 6 in. (15 cm) or less change in mean growing season water table elevation. Water table behavior must still meet jurisdictional criteria to merit this rating. | Adjacent to the channel, unnatural periods of drying or flooding are the norm; or uniform shift in the hydrograph greater than root depth. |
| <0.6 | F Non-functioning | More than 66% of the AA is affected by hydrologic alteration which changes the fundamental functioning of the wetland system, generally exhibited as a conversion to upland or deep water habitat. | Historical active floodplain areas are almost never wetted from overbank flooding, and/or groundwater infiltration is effectively cut off. |

Variable 5: Water Outflow

This variable is concerned with **down-gradient** hydrologic connectivity and the flow of water and water-borne materials and energy out of the AA. In particular it illustrates the degree to which the AA can support the functioning of down-gradient habitats. It is a measure of impacts that affect the hydrologic outflow of water including the passage of water through its normal low- and high-flow surface outlets, infiltration/groundwater recharge, and the energetic characteristics of water delivered to dependent habitats. In some cases, alteration of evapotranspiration rates may be significant enough of a factor to consider in scoring. Score this variable by identifying stressors that impact the means by which water is exported from the AA. To evaluate this variable focus on how water, energy and associated materials are exported out of the AA and their ability it support down-gradient habitats in a manner consistent with their HGM (regional) subclass.

Because the wetland's ability to export water and materials in a characteristic fashion is to a very large degree dependent the condition of its water source, as with the Water Distribution variable, in most cases the Water Source variable score will define the upper limit Water Outflow score.

Scoring rules:

- 1. Identify impacts to the natural outflow of water from the AA and catalog them in the stressor table.
- 2.Considering all of the stressors identified, assign an overall variable score using the scoring guidelines. Take in to account the cumulative effect of stressors on the wetland's ability to export water and water-borne materials. In most cases the Water Source variable will set the upper limit for the Water Outflow score.

| / | Stressors | Comments/description |
|----------|-------------------------------|---|
| × | Alteration of Water Source | As previously described regarding altered surface runoff and dams up gradient |
| | Ditches | |
| × | Dikes/Levees | Earthen Dam in AA blocking surface flow |
| | Road Grades | |
| | Culverts | |
| X | Diversions | Dam diverts water around it only during high water events |
| | Constrictions | |
| | Channel Incision/Entrenchment | |
| | Hardened/Engineered Channel | |
| | Artificial Stream Banks | |
| | Weirs | |
| | Confined Bridge Openings | |
| | | |

| Variable Score | Condition Grade | Scoring Guidelines |
|-------------------|--------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Stressors have little to no effect on the magnitude, timing or hydrodynamics of the AA water outflow regime. |
| <0.9 - 0.8 | B Highly Functioning | High- or low-water outflows are mildly to moderately affected, but at intermediate ("normal") levels flow continues essentially unaltered in quantity or character. |
| <0.8 - 0.7 | C Functioning | High- or low-water outflows are moderately affected, mild alteration of intermediate level outflow occurs; or hydrodynamics moderately affected. |
| <0.7 - 0.6 | D Functioning Impaired | Outflow at all stages is moderately to highly impaired resulting in persistent flooding of portions of the AA or unnatural drainage; or outflow hydrodynamics severely disrupted. |
| <0.6 | F Non-functioning | The natural outflow regime is profoundly impaired. Down-gradient hydrologic connection severed or nearly so. Alterations may cause widespread unnatural persistent flooding or dewatering of the wetland system. |

Variable 5 Score

Variable 6: Geomorphology

This variable is a measure of the degree to which the geomorphic setting has been altered within the AA. Changes to the surface configuration and natural topography constitute stressors. Such stressors may be observed in the form of fill, excavation, dikes, sedimentation due to absence of flushing floods, etc. In riverine systems, geomorphic changes to the stream channel should be considered if the channel is within the AA (i.e, small is size). Alterations may involve the bed and bank (substrate embeddedness or morphological changes), stream instability, and stream channel reconfiguration. Geomorphic changes are usually ultimately manifested as changes to wetland surface hydrology and water relations with vegetation. Geomorphic alterations can also directly affect soil properties, such as near-surface texture, and the wetland chemical environment such as the redox state or nutrient composition in the rooting zone. In rating this variable, do not include these resultant effects of geomorphic change; rather focus on the physical impacts within the footprint of the alteration within the AA — For example, the width and depth of a ditch or the size of a levee within the AA would describe the extent of the stressors. The secondary effects of geomorphic change are addressed by other variables. All alterations to geomorphology should be evaluated including small-scale impacts such as pugging, hoof sheer, and sedimentation which can be significant but not immediately obvious.

Scoring Rules:

- 1. Identify impacts to geomorphological setting and topography within the AA and record them on the stressor checklist.
- 2. Considering all of the stressors identified, assign an overall variable score using the scoring guidelines.

| | | Stressors | Comments |
|---|------|---|--|
| × | | Dredging/Excavation/Mining | The pond was formed through excavation |
| × | | Fill, including dikes, road grades, etc | Dam bordering the pond in the AA is fill from the excavated pond |
| | | Grading | |
| | = | Compaction | |
| | eral | Plowing/Disking | |
| | en | Excessive Sedimentation | |
| | g | Dumping | |
| | | Hoof Shear/Pugging | |
| | | Aggregate or Mineral Mining | |
| | | Sand Accumulation | |
| | | Channel Instability/Over Widening | |
| | nly | Excessive Bank Erosion | |
| | ō | Channelization | |
| | els | Reconfigured Stream Channels | |
| | uu | Artificial Banks/Shoreline | |
| | haı | Beaver Dam Removal | |
| | ਹ | Substrate Embeddedness | |
| | | Lack or Excess of Woody Debris | |
| | | | |

| Variable Score | Condition Grade | Scoring Guidelines |
|-------------------|-----------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Topography essentially unaltered from the natural state, or alterations appear to have a minimal effect on wetland functioning and condition. Patch or microtopographic complexity may be slightly altered, but native plant communities are still supported. |
| <0.9 - 0.8 | B Highly Functioning | Alterations to topography result in small but detectable changes to habitat conditions in some or all of the AA; or more severe impacts exist but affect less than 10% of the AA. |
| <0.8 - 0.7 | C Functioning | Changes to AA topography may be pervasive but generally mild to moderate in severity. May include patches of more significant habitat alteration; or more severe alterations affect up to 20 % of the AA. |
| <0.7 - 0.6 | D Functioning Impaired | At least one important surface type or landform has been eliminated or created; microtopography has been strongly impacted throughout most or all of the AA; or more severe alterations affect up to 50% of the AA. Evidence that widespread diminishment or alteration of native plant community exist due to physical habitat alterations. Most incidentally created wetland habitat such as that created by roadside ditches and the like would score in this range or lower. |
| <0.6 | F Non- functioning | Pervasive geomorphic alterations have caused a fundamental change in site character and functioning, commonly resulting in a conversion to upland or deepwater habitat. |

Variable 6

Score

Variable 7: Water and Soil Chemical Environment

This variable concerns the chemical environment of the soil and water media within the AA, including pollutants, water and soil characteristics. The origin of pollutants may be within or outside the AA. Score this variable by listing indicators of chemical stress in the AA. Consider point source and non-point sources of pollution, as well as mechanical or hydrologic changes that alter the chemical environment. Because water quality frequently cannot be inferred directly, the presence of stressors is often identified by the presence of indirect indicators. Five sub-variables are used to describe the Water and Soil Chemical Environment: Nutrient Enrichment/Eutrophication/Oxygen; Sedimentation/Turbidity; Toxic Contamination/pH; Temperature; and Soil Chemistry and Redox Potential. Utilization of web-based data mining tools is highly recommended to help inform and support variable scores.

Scoring rules:

- 1. Stressors are grouped into sub-variables which have a similar signature or set of causes.
- 2. Use the indicator list to identify each stressor impacting the chemical environment of the AA.
- 3. For each sub-variable, determine its score using the scoring guideline table provided on the second page of the scoring sheet. Scoring sub-variables is carried out in exactly the same way as normal variable scoring.
- -If the AA is part of a water body that is recognized as impaired or recommended for TMDL development for one of the factors, then score that sub-variable 0.65 or lower.
- 4. Transcribe sub-variable scores to the following variable scoring page and compute the sum.
- 5. The lowest sub-variable score sets the letter grade range. The composite of sub-variables influences the score within that range.

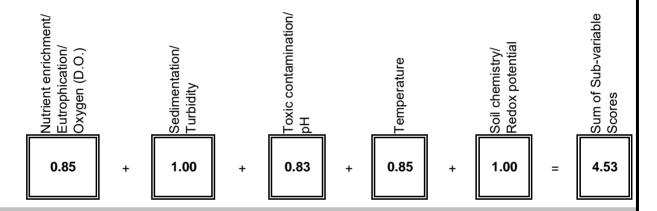
| Sub-variable | Stressor Indicator | √ | Comments | ĺ | Sub- |
|----------------------|--|----------|----------------------------------|-------------|----------|
| | Livestock | Х | No grazing in '20, but in previo | | variable |
| SV 7.1 | Agricultural Runoff | | | | Score |
| Nutrient Enrichment/ | Septic/Sewage | | | ĺ | 0.05 |
| Eutrophication/ | Excessive Algae or Aquatic Veg. | | | | 0.85 |
| Oxygen (D.O.) | Cumulative Watershed NPS | | | | |
| Oxygen (D.O.) | CDPHE Impairment/TMDL List | | | / | |
| | · | | | ľ | |
| | Excessive Erosion | | | \ | |
| | Excessive Deposition | | | | |
| 0)/7.0 | Fine Sediment Plumes | | | \ | |
| SV 7.2 | Agricultural Runoff | | | | 1.00 |
| Sedimentation/ | Excessive Turbidity | | | | 1.00 |
| Turbidity | Nearby Construction Site | | | | _ |
| | Cumulative Watershed NPS | | | / / | |
| | CDPHE Impairment/TMDL List | | | / | |
| | Decent Chemical Spills | | | | |
| | Recent Chemical Spills | | | \ | |
| | Nearby Industrial Sites | v | Cavaral rda un aradiant | \ | |
| | Road Drainage/Runoff | X | Several rds up gradient | \ | |
| | Livestock | ^ | No active livestock in 2020, but | \ | |
| SV 7.3 | Agricultural Runoff | | | \ | |
| Toxic contamination/ | Storm Water Runoff Fish/Wildlife Impacts | | | | 0.83 |
| | · | | | <u> </u> | |
| рН | Vegetation Impacts | | | / | |
| | Cumulative Watershed NPS | | | / | |
| | Acid Mine Drainage | | | / | |
| | Point Source Discharge | | | / | |
| | CDPHE Impairment/TMDL List | | | / | |
| | Metal staining on rocks and veg. | | | | |
| | Excessive Temperature Regime | V | Other less distants at hely less | | |
| | Lack of Shading | Х | Other less disturbed hab. have | \ \ <u></u> | |
| SV 7.4 | Reservoir/Power Plant Discharge | | | | 0.85 |
| Temperature | Industrial Discharge | | | إرا | |
| | Cumulative Watershed NPS | | | / | |
| | CDPHE Impairment/TMDL List | | | / | |
| | Unnatural Saturation/Desaturation | | | | |
| SV 7.5 | Mechanical Soil Disturbance | | | | 4.00 |
| Soil chemistry/ | Dumping/introduced Soil | | | | 1.00 |
| Redox potential | CDPHE Impairment/TMDL List | | | | |
| | <u> </u> | | | Υ | |

Variable 7: Water and Soil Chemical Environment p.2

Sub-variable Scoring Guidelines

| Variable Score | Condition Class | Scoring Guidelines |
|----------------|--------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Stress indicators not present or trivial. |
| <0.9 - 0.8 | B Highly Functioning | Stress indicators scarcely present and mild, or otherwise not occurring in more than 10% of the AA. |
| <0.8 - 0.7 | C Functioning | Stress indicators present at mild to moderate levels, or otherwise not occurring in more than 33% of the AA. |
| <0.7 - 0.6 | D Functioning Impaired | Stress indicators present at moderate to high levels, or otherwise not occurring in more than 66% of the AA |
| <0.6 | F Non-functioning | Stress indicators strongly evident throughout the AA at levels which apparently alter the fundamental chemical environment of the wetland system |

Input each sub-variable score from p. 1 of the V7 data form and calculate the sum.



Use the table to score the Chemical Environment Variable circling the applicable scoring rules.

| Variable Score | Condition Grade | Scoring Rules | | | | | | |
|-------------------|-----------------------------------|--|--------------------------------------|--|--|--|--|--|
| 00010 | Orace | Single Factor | Composite Score | | | | | |
| 1.0 - 0.9 | A Reference Standard | No single factor scores < 0.9 | The factor scores sum > 4.5 | | | | | |
| <0.9 - 0.8 | B Highly Functioning | Any single factor scores ≥ 0.8 but < 0.9 | The factor scores sum >4.0 but ≤4.5 | | | | | |
| <0.8 - 0.7 | C Functioning | Any single factor scores ≥ 7.0 but < 0.8 | The factor scores sum >3.5 but ≤ 4.0 | | | | | |
| <0.7 - 0.6 | D Functioning Impaired | Any single factor scores ≥ 0.6 but <0.7 | The factor scores sum >3.0 but ≤3.5 | | | | | |
| < 0.6 | F Non- functioning | Any single factor scores < 0.6 | The factor scores sum < 3.0 | | | | | |

Variable 7 Score

Variable 8: Vegetation Structure and Complexity

This variable is a measure of the condition of the wetland's vegetation relative to its native state. It particularly focuses on the wetland's ability to perform higher-order functions such as support of wildlife populations, and influence primary functions such as flood-flow attenuation, channel stabilization and sediment retention. Score this variable by listing stressors that have affected the structure, diversity, composition and cover of each vegetation stratum that would normally be present in the HGM (regional) subclass being assessed. For this variable, stressor severity is a measure of how much each vegetation stratum differs functionally from its natural condition or from the natural range of variability exhibited the HGM subclass or regional subclass. This variable has four sub-variables, each corresponding to a stratum of vegetation: Tree Canopy; Shrub Layer; Herbaceous Layer; and Aquatics.

Rules for Scoring:

- 1. Determine the number and types of vegetation layers present within the AA. Make a judgment as to whether additional layers were historically present using direct evidence such as stumps, root wads or historical photographs. Indirect evidence such as local knowledge and expert opinion can also be used in this determination.
- 2. Do not score vegetation layers that would not normally be present in the wetland type being assessed.
- 3. Estimate and record the current coverage of each vegetation layer at the top of the table.
- 4. Record the Reference Standard or expected percent coverage of each vegetation layer to create the sub-variable weighting factor. The condition of predominant vegetation layers has a greater influence on the variable score than do minor components.
- 5. Enter the percent cover values as decimals in the row of the stressor table labeled "Reference/expected Percent Cover of Layer". Note, percentages will often sum to more than 100% (1.0).
- 6. Determine the severity of stressors acting on each individual canopy layers, indicating their presence with checks in the appropriate boxes of the stressor table. The difference between the expected and observed stratum coverages is one measure of stratum alteration.
- 7. Determine the sub-variable score for each valid vegetation layer using the scoring guidelines on the second page of the scoring sheet. Enter each sub-variable score in the appropriate cell of the row labeled "Veg. Layer Sub-variable Score". If a stratum has been wholly removed score it as 0.5.
- 8. Multiply each layer's *Reference Percent Cover of Layer* score by its Veg. Layer Sub-variable scores and enter the products in the labled cells. These are the weighted sub-variable scores. Individually sum the *Reference Percent Cover of Layer* and *Weighted Sub-variables scores*.
- 9. Divide the sum of "Veg. Layer Sub-variable Scores" by the total coverage of all layers scored. This product is the Variable 8 score. Enter this number in the labeled box at the bottom of this page.

| | | | | | 1 3 |
|--|--------|-----------|----------|---------|---|
| | \ | /egetatio | n Layers | | |
| Current % Coverage of | 0 | 0 | 90 | 10 | |
| Layer | · | ŭ | • | . • | |
| Stressor | Tree | Shrub | Herb | Aquatic | Comments |
| Noxious Weeds | | | Х | | |
| Exotic/Invasive spp. | | | Х | | |
| Tree Harvest | | | | | |
| Brush Cutting/Shrub Removal | | | | | |
| Livestock Grazing | | | Х | | Previous years. Not 2020 |
| Excessive Herbivory | | | | | |
| Mowing/Haying | | | | | |
| Herbicide | | | | | |
| Loss of Zonation/Homogenization | | | | | |
| Dewatering | | | | | |
| Over Saturation | | | | | |
| DIFFERENCE BETWEEN CURRENT COVERAGE AND REFERENCE/EXPECTED | 2% | 20% | 10% | 0 | |
| Reference/Expected % Cover of Layer | 0.02 + | 0.20 + | 0.00 | | = 1.12 |
| Veg. Layer Sub- variable Score | 0.5 | 0.5 | 0.78 | 0.8 | See sub-variable scoring guidelines on following page |
| | II | II | <u> </u> | | |
| Weighted Sub-variable Score | 0.01 + | 0.10 + | 0.62 + | 0.08 | = 0.814 |
| | | | | | Variable 8 Score 0.73 |

Variable 8: Vegetation Structure and Complexity p. 2

Sub-variable 8 Scoring Guidelines:

Based on the list of stressors identified above, rate the severity of their cumulative effect on vegetation structure and complexity for each vegetation layer.

| Variable Score | Condition Grade | Scoring Guidelines |
|----------------|-------------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Stressors not present or with an intensity low enough as to not detectably affect the structure, diversity or composition of the vegetation layer. |
| <0.9 - 0.8 | B Highly Functioning | Stressors present at intensity levels sufficient to cause detectable, but minor, changes in layer composition. Stress related change should generally be less than 10% for any given attribute (e.g., 10% cover of invasive, 10% reduction in richness or cover) if the stressor is evenly distributed throughout the wetland. Stress related change could be as high as 33% for a given attribute if stressors are confined to patches comprising less than 10% of the wetland. |
| <0.8 - 0.7 | C Functioning | Stressors present with enough intensity to cause significant changes in the character of vegetation, including alteration of layer coverage, structural complexity and species composition. The vegetation layer retains its essential character though. AA's with a high proportion of non-native grasses will commonly fall in this class. Stress related change should generally be less than 33% for any given attribute (e.g., 33% cover of invasive, 33% reduction in richness or cover) if the stressor is evenly distributed throughout the wetland. Stress related change could be as much as 66% for a given attribute if stressors are confined to patches comprising less than 25% of the wetland. |
| <0.7 - 0.6 | D Functioning Impaired | Stressor intensity severe enough to cause profound changes to the fundamental character of the vegetation layer. Stress-related change should generally be less than 66% for any given attribute (e.g., 66% cover of invasive, 66% reduction in richness or cover) if the stressor is evenly distributed throughout the wetland. Stress related change could be as much as 80% of a given attribute if stressors are confined to patches comprising less than 50% of the wetland. |
| <0.6 | F Non- functioning | Vegetation layer has been completely removed or altered to the extent that is no longer comparable to the natural structure, diversity and composition. |

FACWet Score Card

Scoring Procedure:

- 1. Transcribe variable scores from each variable data sheet to the corresponding cell in the variable score table.
- 2. In each Functional Capacity Index (FCI) equation, enter the corresponding variable scores in the equation cells. Do not enter values in the crossed cells lacking labels.
- 3. Add the variable scores to calculate the total functional points achieved for each function.
- 4. Divide the total functional points achieved by the functional points possible. The typical number of total points possible is provided, however, if a variable is added or subtracted to FCI equation the total possible points must be adjusted
- 5. Calculate the Composite FCI, by adding the FCI scores and dividing by the total number of functions scored (usually 7).
- 6. If scoring is done directly in the Excel spreadsheet, all values will be transferred and calculated automatically.

| VARIA | BLE SCORE | TABLE | | - | | | | | |
|----------------------------------|-----------------------------------|---|------------|--------------|--|--|--|--|--|
| er & cape text | Variable 1: | Habitat Connectivity (Connect) | 0.82 | | | | | | |
| Buffer & Landscape Context | Variable 2: | Contributing Area (CA) | 0.79 | | | | | | |
| gy | Variable 3: Water Source (Source) | | | | | | | | |
| Hydrology | Variable 4: | Water Distribution (Dist) | 0.70 | | | | | | |
| Į | Variable 5: | Water Outflow (Outflow) | 0.65 |] | | | | | |
| ınd oitat | Variable 6: | Geomorphology (Geom) | 0.40 | | | | | | |
| Abiotic and Siotic Habitat | Variable 7: | Chemical Environment (Chem) | 0.87 |] | | | | | |
| Abi Bioti | Variable 8: | Vegetation Structure and Complexity (Veg) | 0.73 | | | | | | |
| Function | al Capacity | | | _ | | | | | |
| | • • | Total aracteristic Wildlife Habitat Functional | | FCI | | | | | |
| CONTICOL | | (2 x V8 _{veg}) Points | | 0.70 | | | | | |
| | + 0.79 + | 1.45 + + = 3.06 | ÷ 4 = | 0.76 | | | | | |
| | $+ (2 \times V4_{dist}) +$ | aracteristic Fish/aquatic Habitat (2 x V5 _{outflow}) + V6 _{geom} + V7 _{chem} | | | | | | | |
| 2.43 | + 1.40 + | 1.30 + 0.40 + 0.87 + = 6.40 | ÷ 9 = | 0.71 | | | | | |
| Function 3 - | Flood Attenua | | | | | | | | |
| | | (2 x V4 _{dist}) + (2 x V5 _{outflow}) + V6 _{geom} + V8 _{veg} | | | | | | | |
| 0.79 | + 1.62 + | 1.40 + 1.30 + 0.40 + 0.73 = 6.23 | ÷ 9 = | 0.69 | | | | | |
| | Short- and Lor | ng-term Water Storage | | | | | | | |
| | | (2 x V5 _{outflow}) V6 _{geom} | 1 | | | | | | |
| 0.81 | + 1.40 + | 1.30 + 0.40 + = 3.91 | ÷ 6 = | 0.65 | | | | | |
| | Nutrient/Toxic | | | | | | | | |
| | | V6 _{geom} V7 _{chem} | l | | | | | | |
| | + 1.40 + | 0.40 + 0.87 + + = 4.24 | ÷ 6 = | 0.71 | | | | | |
| | | ntion/Shoreline Stabilization | | | | | | | |
| | + (2 x V6 _{geom}) + | | _ | | | | | | |
| | + 0.80 + | 1.45 + + = 3.04 | ÷ 5 = | 0.61 | | | | | |
| | | port/Food Chain Support | | | | | | | |
| | + (2 x V5 _{outflow}) + | $V6_{geom} + V7_{chem} + (2 \times V8_{veg})$ | - - | | | | | | |
| 0.82 | + 1.30 + | 0.40 + 0.87 + 1.45 + = 4.84 | ÷ 7 = | 0.69 | | | | | |
| | | Sum of Individual FCI | Scores | 4.83 | | | | | |

Divide by the Number of Functions Scored

Composite FCI Score

÷ 7

ADMINISTRATIVE CHARACTERIZATION

| General Information | | | | | | | | e of | 12/8/2020 |) | | |
|---|---|---|--|---------------|--|-----|---|-------------------|---------------------------------|--------------|---------------|--|
| General Inte | Evaluation: 12/6/2020 st & Wetland 4 | | | | | | | | | | | |
| Site Name or I | | irface Water Derived Features Project Name: Judge Orr Mitigation Bank | | | | | | | n Bank | | | |
| 404 or Other F Application #: | | | | | Applicant Name: | | | | Pete Lein & Sons | | | |
| Thomas McInt Jesse Dillon Evaluator Name(s): | | | ntyre Evaluator's professional position and organization: | | | | | | Biologist Ecologist | | | |
| L ocation In | forma | tion: | | | | | | | | | | |
| Site Coordinates (Decimal Degrees, e.g., 38.85, -104.96): | | | Geographic Datum Used (NAD 83): | | | | NAD 83 z13N | | | | | |
| 00.00, -104.0 | | | Elevation | | | | | | 6753 ft | | | |
| Location Inform | mation: | Bordered by | Judge Orr R | d | to the South, | St | apleton Rd | to th | ne West, a | and Elbert R | d to the East | |
| Associated stream/water body name | | | | Stream Order: | | | | | 2nd | | | |
| USGS Quadrangle Falcon Quado | | | rangle Map Scale: (Circle one) | | | | | 1:24,000 Other | 1:100,000 1: | | | |
| Sub basin Nan | Sub basin Name (8 Chico (1102000 | | | | | | Wetland Ownership: | | Private: Pete Lien & Sons, Inc. | | | |
| Project Information: | | | | | | | Potentially I | тра | acted Wetlands | | | |
| This evaluation is being performed at: (Check applicable box) Project We X Mitigation S | | | | | Purpose of Evaluation (check all applicable): | X | Mitigation; F Mitigation; F Monitoring Other (Desc | Pre-c Post- | onstructio | n | | |
| Intent of Project: (Check all applicable | | | [| | Restoration | • | Image: section of the | Enh | nancement | | Creation | |
| Total Size of Wetland Involved: (Record Area, Check and Describe Measurement Method Used) | | | 1.9 ac. | Χ | Measured Estimated | | | | | | | |
| Assessment Area (AA) Size (Record Area, check appropriate box. Additional spaces | | | Χ | Measured | | ac. | | ac. | ac. | ac. | | |
| are used to record acreage when more than one AA is included in a single assessment) | | 48.4 ac. | | Estimated | | ac. | | ac. | ac. | ac. | | |
| Characteristics or Method used for AA boundary determination: | | | | | eation- boun th GPS. Wetl | | • | | | • • | | |
| Notes: This FACWet Analysi comprehensive analy | | | | | | | | | erty line. It is | s not a | | |

ECOLOGICAL DESCRIPTION 1

| Special Co | Special Concerns Check all that apply | | | | | | | | |
|---|---|-------------------------|----------------|--|--------------|------------------------------|--|--------------------------------|--|
| | s including Histosols or ne AA (i.e., AA includes | | Х | X Federally threatened or endangered species are SUSPECTED to occur in the AA? | | | | | |
| Project will o | directly impact organic s | soil portions of the AA | | While IPAC identifies federally threatened species in the | | | | | |
| | eas possessing either F | | | | | | o occur in this | | |
| I · · | s are known to occur a | numbers within the | | habitat | oorn oo | ording to | the Colore | do Natural Heritage | |
| | wetland of which the AA | , | | (CNHP) are kn | | | | uo Naturai Heritage | |
| | The wetland is a habitat oasis in an otherwise dry or urbanized landscape? | | | | | in a potent as determ | | vation area or element NHP? | |
| | Federally threatened or endangered specto occur in the AA? List Below. | | | X Other special concerns (please design No known species occuring in AA threatened spp in region: Eastern plover, Whooping crane, Greenba sturgeon, Ute ladies'-tresses, Wes | | AA, but pern black back cutt | A, but possible federally n black rail, Least tern, Piping ack cutthroat Trout, Pallid | | |
| | | HYDROGEO | MO | RPHIC SE | TTINC | ì | | | |
| X AA wetland | AA wetland maintains its fundamental natural hydrogeomorphic characteristics | | | | | | | | |
| | | | | | | nodificatio | n | | |
| AA wetland has been subject to change in HGM classes as a result of anthrough the above is checked, please describe the original wetland type if discernable. | | | | | | | | | |
| AA wetland | was created from an เ | ıpland setting. | | | | | | | |
| Current Co | nditions | Describe the hydrogeo | morp | hic setting of the | e wetlan | d by circlii | ng all con | ditions that apply. | |
| | | | | | | | | | |
| | Water source | Surface flow |) (| Groundwater | | ipitation | | Unknown | |
| | Hydrodynamics Wetland Gradient | Unidirectional | | Vertical | | ectional 4-10% | >10% | , | |
| | # Surface Inlets | Over | 0 - 2 -bank | | <u></u> | 2 | 3 | >3 | |
| | # Surface Inlets # Surface Outlets | Over | -Dank | 0 (| \ | 2 | 3 | >3 | |
| HGM Setting | Geomorphic Setting (Narrative Description. Include approx. stream order for riverine) | 2nd order stream in a | gras | | e, low w | | - | 73 | |
| | HGM class | Riverine |) | Slope | Depr | essional | | Lacustrine | |
| Historical Co | nditions | | | | | | | | |
| Water source | | Surface flow |) (| Groundwater | Prec | ipitation | | Unknown | |
| | Hydrodynamics | Unidirectional |) | Vertical | | | | | |
| Previous wetland typology | Geomorphic Setting (Narrative Description) | 2nd order stream in a | gras | sland drainage | , low w | ater level | | | |
| | Previous HGM Class | Riverine |) | Slope | Depr | essional | | Lacustrine | |
| Notes (include in Riverine subcla | | HGM subclass and regi | onal s | subclass): | | | | | |

ECOLOGICAL DESCRIPTION 2

| System Subsystem Class Subclass Water Regime Other Modifier Riverine Perennial Emergent Rooted vascular Z 0 Comparison Comparison | 5 % A 5% | |
|--|---------------------|--|
| Acustrine Limnoral Rock Bot. (RB) Uncon Bottom(UB) Aquatic Bed(AB) Rocky Shore(RS) Uncon Shore(US) Emergent(EM) Shrub-scrub(SS) Forested (FO) Forested (FO) Draw a sketch map of the site including relevant portions of the wetland, AA boundary, structures, habitand other significant features. | + | |
| Limnoral Limnoral Rock Bot. (RB) Uncon Bottom(UB) Aquatic Bed(AB) Aquatic Bed(AB) Acid(a) Circumpeutral(c) Cobbin Circumpeutral(c) Circumpeutr | | |
| Lustrine Limoral Rock Bot. (RB) Uncon Bottom(UB) Aquatic Bed(AB) Rocky Shore(RS) Uncon Shore(US) Emergent(EM) Shrub-scrub(SS) Forested (FO) Palustrine Draw a sketch map of the site including relevant portions of the wetland, AA boundary, structures, habitand other significant features. Examples Temporarily flooded(A); Saturated(B); Seasonally flooded(C); Seasflood./sat.(E); Semi-Perm. flooded(F); Intermittently exposed(G); Artificially flooded(K); Sat./semiperm./Seas. (Y); Int. exposed/permenant(Z) Draw a sketch map of the site including relevant portions of the wetland, AA boundary, structures, habitand other significant features. | | |
| Lustrine Limoral Rock Bot. (RB) Uncon Bottom(UB) Aquatic Bed(AB) Rocky Shore(RS) Uncon Shore(US) Emergent(EM) Shrub-scrub(SS) Forested (FO) Palustrine Draw a sketch map of the site including relevant portions of the wetland, AA boundary, structures, habitand other significant features. Examples Temporarily flooded(A); Saturated(B); Seasonally flooded(C); Seasflood./sat.(E); Semi-Perm. flooded(F); Intermittently exposed(G); Artificially flooded(K); Sat./semiperm./Seas. (Y); Int. exposed/permenant(Z) Draw a sketch map of the site including relevant portions of the wetland, AA boundary, structures, habitand other significant features. | | |
| Lower perennial; Upper perennial; Upper perennial; Intermittent Up | ; | ne(8); n; Fresh(0); na); utral(c); careous(i); |
| and other significant features. | | Partially cched(d); ed(f); unded(h); bstrate(r); |
| Tributary East and Wetland 4 on Figure 11 | at classes | es, habitat |
| Tributary East and Wetland 4 on Figure 11 | | |
| Tributary East and Wetland 4 on Figure 11 | | |
| | | 1 |
| | | |
| | $\perp \perp \perp$ | |
| | | |

Variable 1: Habitat Connectivity

The Habitat Connectivity Variable is described by two sub-variables – Neighboring Wetland and Riparian Habitat Loss and Barriers to Migration and Dispersal. These sub-variables were treated as independent variables in FACWet Version 2.0. The merging of these variables makes their structure more consistent with that of other composite variables in FACWet. The new variable configuration also makes this landscape variable more accurately reflect the interactions amongst aquatic habitats in Colorado's agricultural and urbanized landscapes, which have a naturally low density of wetlands. The two Habitat Connectivity Sub-variables are scored in exactly the same manner as their FACWet 2.0 counterparts, as described below. The Habitat Connectivity Variable score is simply the arithmetic average of the two sub-variable scores which is entered on the second page of the Variable 1 data form. If there is little or no wetland or riparian habitat in the Habitat Connectivity Envelope (defined below), then Sub-variable 1.1 is not scored.

SV 1.1 - Neighboring Wetland and Riparian Habitat Loss

(Do not score if few or no wetlands naturally exist in the HCE)

This sub-variable is a measure of how isolated from other naturally-occurring wetlands or riparian habitat the AA has become as the result of habitat destruction. To score this sub-variable, estimate the percent of naturally-occurring wetland/riparian habitat that has been lost (by filling, draining, development, or whatever means) within the 500-meter-wide belt surrounding the AA. This zone is called the Habitat Connectivity Envelope (HCE). In most cases the evaluator must use best professional judgment to estimate the amount of natural wetland loss. Historical photographs, National Wetland Inventory (NWI) maps, hydric soil maps can be helpful in making these determinations. Floodplain maps are especially valuable in river-dominated regions, such as the Front Range urban corridor. Evaluation of landforms and habitat patterns in the context of perceivable land use change is used to steer estimates of the amount of wetland loss within the HCE.

Rules for Scoring:

- 1. On the aerial photo, create a 500 m perimeter around the AA.
- 2. The area within this perimeter is the Habitat Connectivity Envelope (HCE).
- 3. Within the HCE, outline the current extent of naturally occurring wetland and riparian habitat. Do not include habitats such as excavated ponds or reservoir induced fringe wetlands.
- 4. Outline the historical extent of wetland and riparian habitats (i.e., existing natural wetlands plus those that have been destroyed).
- Use your knowledge of the history of the area and evident land use change to identify where habitat losses have occurred. Additional research can be utilized to increase the accuracy of this estimate including consideration of floodplain maps, historical aerial photographs, soil maps, etc.
- 5. Calculate the area of existing and historical wetlands. Divide the area of existing wetland by the total amount of existing and historical wetland and riparian habitat, and determine the variable score using the guidelines below. Enter sub-variable score at the bottom of p.2 of the Habitat Connectivity data form.

| Variable Score | Condition Grade | Scoring Guidelines |
|-------------------|-----------------------------------|--|
| 1.0 - 0.9 | A Reference Standard | Very little or no loss of wetlands in the HCEor negligible. |
| <0.9 - 0.8 | • | More than 80% of historical wetland habitat area within the HCE is still present (less than 20% of habitat area lost). |
| <0.8 - 0.7 | C Functioning | 80 to 60% of historical wetland habitat area within the HCE is still present (20% to 40% of habitat area lost). |
| <0.7 - 0.6 | D Functioning Impaired | Less than 60 to 25% of historical wetland habitat area within the HCE is still present (more than 40 to 75% of habitat area lost). |
| <0.6 | F Non- functioning | Less than 25% of the historical wetland habitat area within the HCE still in existence (more than 70% of habitat lost). |

Notes: Judge Orr Rd bisects historical wetland

Variable 1: Habitat Connectivity p. 2

SV 1.2: Migration/Dispersal Barriers

This sub-variable is intended to rate the degree to which the AA has become isolated from existing neighboring wetland and riparian habitat by artificial barriers that inhibit migration or dispersal of organisms. On the aerial photograph, identify the manmade barriers within the HCE that intercede between the AA and surrounding wetlands and riparian areas, and identify them by type on the stressor list. Score this variable based on the barriers' impermeability to migration and dispersal and the amount of surrounding wetland/riparian habitat they affect.

Rules for Scoring:

- 1. On the aerial photo, outline **all** existing wetland and riparian habitat areas within the HCE. This includes naturally occurring habitats, as well as those purposefully created or induced by land use change.
- 2. Identify artificial barriers to dispersal and migration of organisms within the HCE that intercede between the AA and surrounding habitats. Mark the stressors present with a check in the first column and describe the general nature, severity and extent of each. List additional stressors in empty rows at the bottom of the table and explain.
- 3. Considering the composite effect of all of identified barriers to migration and dispersal (i.e., stressors), assign an overall variable score using the scoring guidelines.

| | √ | Stressors | Comments/description |
|------------|----------|---------------------------|---|
| | | Major Highway | |
| barriers | Х | Secondary Highway | 2-lane paved road (Judge Orr Rd) |
| arri | | Tertiary Roadway | |
| | | Railroad | |
| cia | | Bike Path | |
| artificial | | Urban Development | |
| = a | | Agricultural Development | |
| | Х | Artificial Water Body | Ponds created by dams |
| Stressors | Х | Fence | Surrounding property and more on surrounding properties |
| sə. | Х | Ditch or Aqueduct | Ditch along the roadway |
| Str | Х | Aquatic Organism Barriers | Earthen dams breakup the continuous surface flow of water |
| | | | |
| | | | |

| Variable Score | Condition Grade | Scoring Guidelines |
|-------------------|----------------------------------|---|
| 1.0 - 0.9 | A Reference Standard | No appreciable barriers exist between the AA and other wetland and riparian habitats in the HCE; or there are no other wetland and riparian areas in the HCE. |
| <0.9 - 0.8 | B Highly Functioning | Barriers impeding migration/dispersal between the AA and up to 33% of surrounding wetland/riparian habitat highly permeable and easily passed by most organisms. Examples could include gravel roads, minor levees, ditches or barbed-wire fences. More significant barriers (see "functioning category below) could affect migration to up to 10% of surrounding wetland/riparian habitat. |
| <0.8 - 0.7 | C Functioning | Barriers to migration and dispersal retard the ability of many organisms/propagules to pass between the AA and up to 66% of wetland/riparian habitat. Passage of organisms and propagules through such barriers is still possible, but it may be constrained to certain times of day, be slow, dangerous or require additional travel. Busy two-lane roads, culverted areas, small to medium artificial water bodies or small earthen dams would commonly rate a score in this range. More significant barriers (see "functioning impaired" category below) could affect migration to up to 10% of surrounding wetland/riparian |
| <0.7 - 0.6 | D Functioning Impaired | Barriers to migration and dispersal preclude the passage of some types of organisms/propagules between the AA and up to 66% of surrounding wetland/riparian habitat. Travel of those animals which can potential negotiate the barrier are strongly restricted and may include a high chance of mortality. Up to 33% of surrounding wetland/riparian habitat could be functionally isolated from the AA. |
| <0.6 | F Non-functioning | AA is essentially isolated from surrounding wetland/riparian habitat by impermeable migration and dispersal barriers. An interstate highway or concrete-lined water conveyance canal are examples of barriers which would generally create functional isolation between the AA and wetland/riparian habitat in the HCE. |

| SV 1.1 Score | 0.89 |
|--------------|------|
| SV 1.2 Score | 0.75 |

Add SV 1.1 and 1.2 scores and divide by two to calculate variable score

Variable 1 Score

Variable 2: Contributing Area

The AA's Contributing Area is defined as the 250-meter-wide zone surrounding the perimeter of the AA. This variable is a measure of the capacity of that area to support characteristic functions of high quality wetland habitat. Depending on its condition, the contributing area can help maintain wetland condition or it can degrade it. Contributing Area condition is evaluated by considering the AA's Buffer and its Surrounding Land Use. Buffers are strips or patches of more-or-less natural upland and/or wetland habitat more than 5m wide. Buffers are contiguous with the AA boundary and they intercede between it and more intensively used lands. The AA Buffer is characterized with three sub-variables: Buffer Condition, Buffer Extent, and Average Buffer Width. The Surrounding Land Use Sub-variable considers changes within the Contributing Area that limit its capacity to support characteristic wetland functions. Many of the acute, on-site effects of land use change in the Contributing Area are specifically captured by Variables 3 - 8.

Rules for Scoring:

- 1. Delimit the Contributing Area on an aerial photograph as the zone within 250 meters of the outer boundary of the AA.
- 2. Evaluate and then rate the Buffer Condition sub-variable using the scoring guidelines. Record the score in the cell provided on the datasheet.
- 3. Indicate on the aerial photograph zones surrounding the AA which have ≥5m of buffer vegetation and those which do
- 4. Calculate the percentage of the AA which has a Buffer and record the value where indicated on the data sheet.
- 5. Rate the Buffer Extent Sub-variable using the scoring guidelines.
- 6.Determine the average Buffer width by drawing a line perpendicularly from the AA boundary to the outer extent of the buffer habitat. Measure line length and record its value on the data sheet. Repeat this process until a total of 8 lines have been sampled.
- 7. Calculate the average buffer width and record value on the data form. Then determine the sub-variable score using the scoring guidelines.
- 8.Score the Surrounding Land Use sub-variable by recording land use changes on the stressor list that affect the capacity of the landscape to support characteristic wetland functioning.
- 9. Enter the lowest of the three Buffer sub-variable scores along with the Surrounding Land Use Sub-variable score in the Contributing Area Variable scoring formula at the bottom of p. 2 of the data form. The Contributing Area Variable is the average of the two sub-variable scores

SV 2.1 - Buffer Condition

0.86 SV 2.1 - Buffer Condition Score

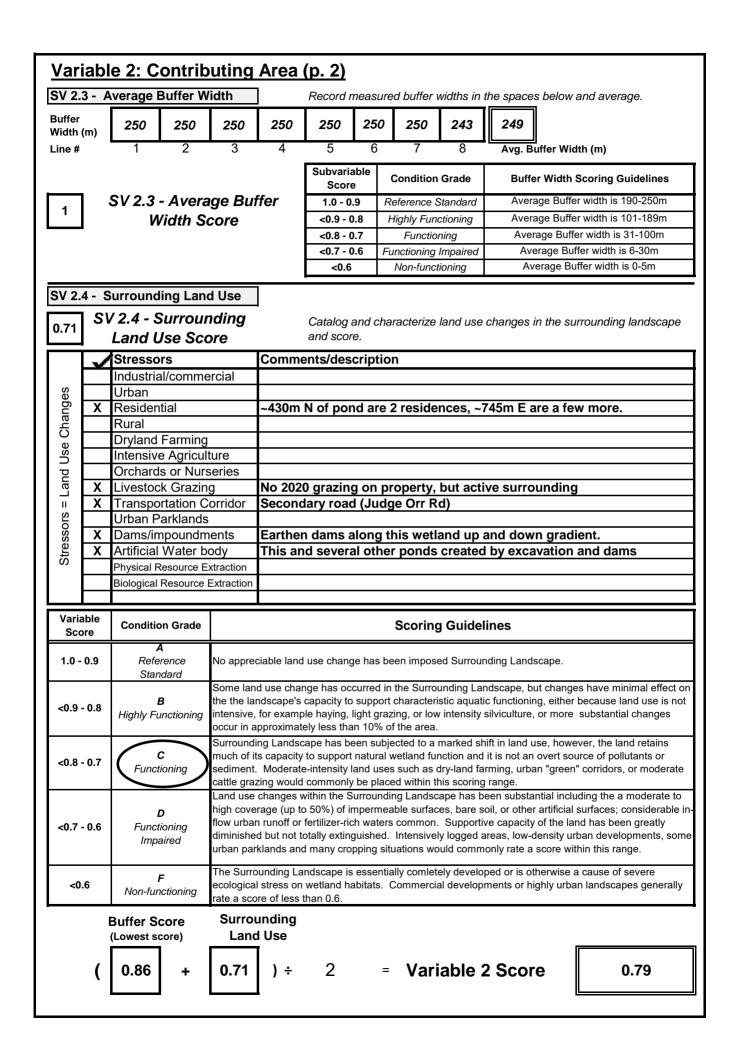
| Subvariable Score | Condition Grade | Buffer Condition Scoring Guidelines |
|----------------------|-------------------------|---|
| 1.0 - 0.9 | Reference Standard | Buffer vegetation is predominately native vegetation, human-caused disturbance of the substrate is not evident, and human visitation is minimal. Common examples: Wilderness areas, undeveloped forest and range lands. |
| <0.9 - 0.8 | Highly Functioning | Buffer vegetation may have a mixed native-nonnative composition, but characteristic structure and complexity remain. Soils are mostly undisturbed or have recovered from past human disturbance. Little or only low-impact human visitation. Buffers with higher levels of substrate disturbance may be included here if the buffer is still able to maintain predominately native vegetation. Common examples: Dispursed camping areas in national forests, common in wildland parks (e.g. State Parks) and open spaces. |
| <0.8 - 0.7 | Functioning | Buffer vegetation is substantially composed of non-native species. Vegetation structure may be somewhat altered, such as by brush clearing. Moderate substrate distrbance and compaction occurs, and small pockets of greater disturbance may exist. Common examples: City natural areas, mountain hay meadows. |
| <0.7 - 0.6 | Functioning Impaired | Buffer vegetation is substantially composed of non-native species and vegetation structure has been strongly altered by the complete removal of one or more strata. Soil disturbance and the intensity of human visitation are generally high. Common examples: Open lands around resource extraction sites (e.g., gravel mines), clear cut logging areas, ski slopes. |
| <0.6 | Non-functioning | Buffer is nearly or entirely absent. |

SV 2.2 - Buffer Extent

1.00 Percent of AA with Buffer

1.00 SV 2.2 - Buffer Extent

| Subvariable Score Condition Class | | % Buffer Scoring Guidelines |
|--------------------------------------|----------------------|-----------------------------|
| 1.0 - 0.9 | Reference Standard | 90 - 100% of AA with Buffer |
| <0.9 - 0.8 | Highly Functioning | 70-90% of AA with Buffer |
| <0.8 - 0.7 | Functioning | 51-69% of AA with Buffer |
| <0.7 - 0.6 | Functioning Impaired | 26-50% of AA with Buffer |
| <0.6 | Non-functioning | 0-25% of AA with Buffer |



Variable 3: Water Source

This variable is concerned with **up-gradient** hydrologic connectivity. It is a measure of impacts to the AA's water source, including the quantity and timing of water delivery, and the ability of source water to perform work such as sediment transport, erosion, soil pore flushing, etc. To score this variable, identify stressors that alter the source of water to the AA, and record their presence on the stressor list. Stressors can impact water source by depletion, augmentation, or alteration of inflow timing or hydrodynamics. This variable is designed to assess water quantity, power and timing, not water quality. Water quality will be evaluated in Variable 7.

Scoring rules:

- 1. Use the stressor list and knowledge of the watershed to catalog type-specific impairments of the AA's water source. Mark the stressors present with a check in the first column and describe the general nature, severity and extent of each. List additional stressors in empty rows at the bottom of the table and explain.
- 2. Considering the composite effect of stressors on the water source, rate the condition of this variable with the aid of the scoring guidelines.

| ✓ | Stressors | Comments/description |
|----------|---------------------------------|---|
| | Ditches or Drains (tile, etc.) | Culvert under US 24 |
| × | Dams | Several Earthen dams up gradient to create ponds for livestock |
| | Diversions | |
| × | Groundwater pumping | Several residential wells, several commercial irrigation wells |
| | Draw-downs | |
| × | Culverts or Constrictions | Source water crosses US 24 |
| | Point Source (urban, ind., ag.) | Housing development built at headwaters |
| | Non-point Source | |
| | Increased Drainage Area | |
| × | Storm Drain/Urban Runoff | Large housing development near headwaters for adjacent wetland |
| × | Impermeable Surface Runoff | Roads, parking lots, driveways at headwaters |
| × | Irrigation Return Flows | Grounds around neighborhood at headwaters uses irrigation (base |
| | Mining/Natural Gas Extraction | |
| | Transbasin Diversion | |
| | Actively Managed Hydrology | |
| | | |
| | | |

| Variable Score | Condition Grade | Depletion | Augmentation |
|-------------------|-------------------------------------|---|---|
| 1.0 - 0.9 | A Reference Standard | Unnatural drawdown events minor, rare or non- existent, very slight uniform depletion, or trivial alteration of hydrodynamics. | Unnatural high-water events minor, rare or non- existent, slight uniform increase in amount of inflow, or trivial alteration of hydrodynamics. |
| <0.9 - 0.8 | | Unnatural drawdown events occasional, short duration and/or mild; or uniform depletion up to 20%; or mild to moderate reduction of peak flows or capacity of water to perform work. | Occasional unnatural high-water events, short in duration and/or mild in intensity; or uniform augmentation up to 20%; or mild to moderate increase of peak flows or capacity of water to perform work. |
| <0.8 - 0.7 | C Functioning | Unnatural drawdown events common and of mild to moderate intensity and/or duration; or uniform depletion up to 50%; or moderate to substantial reduction of peak flows or capacity of water to perform work. | Common occurrence of unnatural high-water events, of a mild to moderate intensity and/or duration; or uniform augmentation up to 50%; or moderate to substantial increase of peak flows or capacity of water to perform work. |
| <0.7 - 0.6 | D Functioning Impaired | Unnatural drawdown events occur frequently with a moderate to high intensity and/or duration; or uniform depletion up to 75%; or substantial reduction of peak flows or capacity of water to perform work. Wetlands with actively managed or wholly artificial hydrology will usually score in this range or lower. | Common occurrence of unnatural high-water events, some of which may be severe in nature or exist for a substantial portion of the growing season; or uniform augmentation more than 50% or capacity of water to perform work. Wetlands with actively managed or wholly artificial hydrology will usually score in this range or |
| <0.6 | F Non- functioning | Water source diminished enough to threaten or extinguish wetland hydrology in the AA. | Frequency, duration or magnitude of unnaturally high-water great enough to change the fundamental characteristics of the wetland. |

Variable 4: Water Distribution

This variable is concerned with hydrologic connectivity **within** the AA. It is a measure of alteration to the spatial distribution of surface and groundwater within the AA. These alterations are manifested as local changes to the hydrograph and generally result from geomorphic modifications within the AA. To score this variable, identify stressors within the AA that alter flow patterns and impact the hydrograph of the AA, including localized increases or decreases to the depth or duration of the water table or surface water.

Because the wetland's ability to distribute water in a characteristic fashion is fundamentally dependent on the condition of its water source, in most cases the Water Source variable score will define the upper limit Water Distribution score. For example, if the Water Source variable is rated at 0.85, the Water Distribution score will usually have the potential to attain a maximum score of 0.85. Additional stressors within or outside the lower end of the AA effecting water distribution (e.g., ditches and levees) will reduce the score from the maximum value.

Scoring rules:

- 1. Identify impacts to the natural distribution of water throughout the AA and catalog them in the stressor table.
- 2. Considering all of the stressors identified, assign an overall variable score using the scoring guidelines. In most cases, the Water Source variable score will set the upper limit for the Water Distribution score.

| ✓ | Stressors | Comments/description |
|----------|-------------------------------|---------------------------------|
| × | Alteration of Water Source | As mentioned in Variable 3 |
| | Ditches | |
| | Ponding/Impoundment | |
| | Culverts | |
| | Road Grades | |
| | Channel Incision/Entrenchment | |
| | Hardened/Engineered Channel | |
| | Enlarged Channel | |
| | Artificial Banks/Shoreline | |
| | Weirs | |
| | Dikes/Levees/Berms | |
| × | Diversions | Small diversion west of channel |
| × | Sediment/Fill Accumulation | |
| | | |

| Variable Score | Condition Grade | Non-riverine | Riverine |
|-------------------|----------------------------------|---|--|
| 1.0 - 0.9 | A Reference Standard | Little or no alteration has been made to the way in which water is distributed throughout the wetland. AA maintains a natural hydrologic regime. | Natural active floodplain areas flood on a normal recurrence interval. No evidence of alteration of flooding and subirrigation duration and intensity. |
| <0.9 - 0.8 | B Highly Functioning | Less than 10% of the AA is affected by <i>in situ</i> hydrologic alteration; or more widespread impacts result in less than a 2 in. (5 cm) change in mean growing season water table elevation. | Channel-adjacent areas have occasional unnatural periods of drying or flooding; or uniform shift in the hydrograph less than typical root depth. |
| <0.8 - 0.7 | C Functioning | Between 10 and 33% of the AA is affected by in situ hydrologic alteration; or more widespread impacts result in a 4 in. (5 cm) or less change in mean growing season water table elevation. | In channel-adjacent area, periods of drying or flooding are common; or uniform shift in the hydrograph near root depth. |
| <0.7 - 0.6 | D Functioning Impaired | 33 to 66% of the AA is affected by <i>in situ</i> hydrologic alteration; or more widespread impacts result in a 6 in. (15 cm) or less change in mean growing season water table elevation. Water table behavior must still meet jurisdictional criteria to merit this rating. | Adjacent to the channel, unnatural periods of drying or flooding are the norm; or uniform shift in the hydrograph greater than root depth. |
| <0.6 | F Non-functioning | More than 66% of the AA is affected by hydrologic alteration which changes the fundamental functioning of the wetland system, generally exhibited as a conversion to upland or deep water habitat. | Historical active floodplain areas are almost never wetted from overbank flooding, and/or groundwater infiltration is effectively cut off. |

Variable 4 Score

Variable 5: Water Outflow

This variable is concerned with **down-gradient** hydrologic connectivity and the flow of water and water-borne materials and energy out of the AA. In particular it illustrates the degree to which the AA can support the functioning of down-gradient habitats. It is a measure of impacts that affect the hydrologic outflow of water including the passage of water through its normal low- and high-flow surface outlets, infiltration/groundwater recharge, and the energetic characteristics of water delivered to dependent habitats. In some cases, alteration of evapotranspiration rates may be significant enough of a factor to consider in scoring. Score this variable by identifying stressors that impact the means by which water is exported from the AA. To evaluate this variable focus on how water, energy and associated materials are exported out of the AA and their ability it support down-gradient habitats in a manner consistent with their HGM (regional) subclass.

Because the wetland's ability to export water and materials in a characteristic fashion is to a very large degree dependent the condition of its water source, as with the Water Distribution variable, in most cases the Water Source variable score will define the upper limit Water Outflow score.

Scoring rules:

- 1. Identify impacts to the natural outflow of water from the AA and catalog them in the stressor table.
- 2.Considering all of the stressors identified, assign an overall variable score using the scoring guidelines. Take in to account the cumulative effect of stressors on the wetland's ability to export water and water-borne materials. In most cases the Water Source variable will set the upper limit for the Water Outflow score.

| / | Stressors | Comments/description |
|----------|-------------------------------|----------------------|
| × | Alteration of Water Source | Up gradient impacts |
| | Ditches | |
| | Dikes/Levees | |
| | Road Grades | |
| | Culverts | |
| | Diversions | |
| | Constrictions | |
| | Channel Incision/Entrenchment | |
| | Hardened/Engineered Channel | |
| | Artificial Stream Banks | |
| | Weirs | |
| | Confined Bridge Openings | |
| | | |

| Variable | Condition Grade | Scoring Guidelines |
|------------|--------------------------------|--|
| Score | | |
| 1.0 - 0.9 | A Reference Standard | Stressors have little to no effect on the magnitude, timing or hydrodynamics of the AA water outflow regime. |
| <0.9 - 0.8 | B Highly Functioning | High- or low-water outflows are mildly to moderately affected, but at intermediate ("normal") levels flow continues essentially unaltered in quantity or character. |
| <0.8 - 0.7 | C Functioning | High- or low-water outflows are moderately affected, mild alteration of intermediate level outflow occurs; or hydrodynamics moderately affected. |
| <0.7 - 0.6 | D Functioning Impaired | Outflow at all stages is moderately to highly impaired resulting in persistent flooding of portions of the AA or unnatural drainage; or outflow hydrodynamics severely disrupted. |
| <0.6 | F Non-functioning | The natural outflow regime is profoundly impaired. Down-gradient hydrologic connection severed or nearly so. Alterations may cause widespread unnatural persistent flooding or dewatering of the wetland system. |

Variable 5 Score

Variable 6: Geomorphology

This variable is a measure of the degree to which the geomorphic setting has been altered within the AA. Changes to the surface configuration and natural topography constitute stressors. Such stressors may be observed in the form of fill, excavation, dikes, sedimentation due to absence of flushing floods, etc. In riverine systems, geomorphic changes to the stream channel should be considered if the channel is within the AA (i.e, small is size). Alterations may involve the bed and bank (substrate embeddedness or morphological changes), stream instability, and stream channel reconfiguration. Geomorphic changes are usually ultimately manifested as changes to wetland surface hydrology and water relations with vegetation. Geomorphic alterations can also directly affect soil properties, such as near-surface texture, and the wetland chemical environment such as the redox state or nutrient composition in the rooting zone. In rating this variable, do not include these resultant effects of geomorphic change; rather focus on the physical impacts within the footprint of the alteration within the AA – For example, the width and depth of a ditch or the size of a levee within the AA would describe the extent of the stressors. The secondary effects of geomorphic change are addressed by other variables. All alterations to geomorphology should be evaluated including small-scale impacts such as pugging, hoof sheer, and sedimentation which can be significant but not immediately obvious.

Scoring Rules:

- 1. Identify impacts to geomorphological setting and topography within the AA and record them on the stressor checklist.
- 2. Considering all of the stressors identified, assign an overall variable score using the scoring guidelines.

| / | Stressors | | Comments |
|---|-----------|---|---|
| | | Dredging/Excavation/Mining | |
| | | Fill, including dikes, road grades, etc | |
| | | Grading | |
| | = | Compaction | |
| | eral | Plowing/Disking | |
| | | Excessive Sedimentation | |
| | Ō | Dumping | |
| × | | Hoof Shear/Pugging | Hoof shear along banks of stream and within it. |
| | | Aggregate or Mineral Mining | |
| | | Sand Accumulation | |
| | | Channel Instability/Over Widening | |
| | nly | Excessive Bank Erosion | |
| | ŏ | Channelization | |
| | els | Reconfigured Stream Channels | |
| | nne | Artificial Banks/Shoreline | |
| | Char | Beaver Dam Removal | |
| | 5 | Substrate Embeddedness | |
| | | Lack or Excess of Woody Debris | |
| | | | |

| Variable Score | Condition Grade | Scoring Guidelines | | |
|-------------------|-----------------------------------|--|--|--|
| 1.0 - 0.9 | A Reference Standard | Topography essentially unaltered from the natural state, or alterations appear to have a minimal effect on wetland functioning and condition. Patch or microtopographic complexity may be slightly altered, but native plant communities are still supported. | | |
| <0.9 - 0.8 | B Highly Functioning | Alterations to topography result in small but detectable changes to habitat conditions in some or all of the AA; or more severe impacts exist but affect less than 10% of the AA. | | |
| <0.8 - 0.7 | Functioning | Changes to AA topography may be pervasive but generally mild to moderate in severity. May include patches of more significant habitat alteration; or more severe alterations affect up to 20 % of the AA. | | |
| <0.7 - 0.6 | Functioning Impaired | At least one important surface type or landform has been eliminated or created; microtopography has been strongly impacted throughout most or all of the AA; or more severe alterations affect up to 50% of the AA. Evidence that widespread diminishment or alteration of native plant community exist due to physical habitat alterations. Most incidentally created wetland habitat such as that created by roadside ditches and the like would score in this range or lower. | | |
| <0.6 | F Non- functioning | Pervasive geomorphic alterations have caused a fundamental change in site character and functioning, commonly resulting in a conversion to upland or deepwater habitat. | | |

Variable 6 Score

Variable 7: Water and Soil Chemical Environment

This variable concerns the chemical environment of the soil and water media within the AA, including pollutants, water and soil characteristics. The origin of pollutants may be within or outside the AA. Score this variable by listing indicators of chemical stress in the AA. Consider point source and non-point sources of pollution, as well as mechanical or hydrologic changes that alter the chemical environment. Because water quality frequently cannot be inferred directly, the presence of stressors is often identified by the presence of indirect indicators. Five sub-variables are used to describe the Water and Soil Chemical Environment: Nutrient Enrichment/Eutrophication/Oxygen; Sedimentation/Turbidity; Toxic Contamination/pH; Temperature; and Soil Chemistry and Redox Potential. Utilization of web-based data mining tools is highly recommended to help inform and support variable scores.

Scoring rules:

- 1. Stressors are grouped into sub-variables which have a similar signature or set of causes.
- 2. Use the indicator list to identify each stressor impacting the chemical environment of the AA.
- 3. For each sub-variable, determine its score using the scoring guideline table provided on the second page of the scoring sheet. Scoring sub-variables is carried out in exactly the same way as normal variable scoring.
- -If the AA is part of a water body that is recognized as impaired or recommended for TMDL development for one of the factors, then score that sub-variable 0.65 or lower.
- 4. Transcribe sub-variable scores to the following variable scoring page and compute the sum.
- 5. The lowest sub-variable score sets the letter grade range. The composite of sub-variables influences the score within that range.

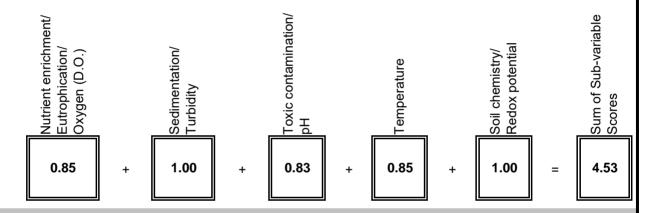
| Sub-variable | Stressor Indicator | √ | Comments | 1 | Sub- |
|---|-----------------------------------|----------|----------------------------------|------------|----------|
| | Livestock | Х | No '20 grazing, but in previous | | variable |
| SV 7.1 | Agricultural Runoff | | | \ | Score |
| Nutrient Enrichment/ | Septic/Sewage | | | | 0.85 |
| Eutrophication/ | Excessive Algae or Aquatic Veg. | | | | 0.65 |
| Oxygen (D.O.) | Cumulative Watershed NPS | | | | |
| ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | CDPHE Impairment/TMDL List | | | | |
| | Excessive Erosion | | | | |
| | Excessive Deposition | | | | |
| 0) / = 0 | Fine Sediment Plumes | | | \ | |
| SV 7.2 | Agricultural Runoff | | | | 1.00 |
| Sedimentation/ | Excessive Turbidity | | | | 1.00 |
| Turbidity | Nearby Construction Site | | | / | |
| | Cumulative Watershed NPS | | | / | |
| | CDPHE Impairment/TMDL List | | | / | |
| | Recent Chemical Spills | | | \ | |
| | Nearby Industrial Sites | | | | |
| | Road Drainage/Runoff | Х | Several rds upgradient | \ | |
| | Livestock | Х | No '20 grazing, but active on si | \ | |
| | Agricultural Runoff | | | \ | |
| SV 7.3 | Storm Water Runoff | | | | 0.83 |
| Toxic contamination/ | Fish/Wildlife Impacts | | | | 0.03 |
| рН | Vegetation Impacts | | | ! / | _ |
| | Cumulative Watershed NPS | | | / | |
| | Acid Mine Drainage | | | / | |
| | Point Source Discharge | | | 1/ | |
| | CDPHE Impairment/TMDL List | | | ! / | |
| | Metal staining on rocks and veg. | | | ľ | |
| | Excessive Temperature Regime | | | | |
| | Lack of Shading | Х | Other less disturbed hab. have | \ | |
| SV 7.4 | Reservoir/Power Plant Discharge | | | | 0.85 |
| Temperature | Industrial Discharge | | | | 0.00 |
| · | Cumulative Watershed NPS | | | / | |
| | CDPHE Impairment/TMDL List | | | / | |
| C)/7.5 | Unnatural Saturation/Desaturation | | | | |
| SV 7.5 | Mechanical Soil Disturbance | | | | 1.00 |
| Soil chemistry/ | Dumping/introduced Soil | | |] | 1.00 |
| Redox potential | CDPHE Impairment/TMDL List | | | | |
| <u> </u> | | | | | |

Variable 7: Water and Soil Chemical Environment p.2

Sub-variable Scoring Guidelines

| Variable Score | Condition Class | Scoring Guidelines | | | |
|------------------------------------|--------------------------------|--|--|--|--|
| 1.0 - 0.9 | A Reference Standard | Stress indicators not present or trivial. | | | |
| <0.9 - 0.8 B Highly Functioning | | Stress indicators scarcely present and mild, or otherwise not occurring in more than 10% of the AA. | | | |
| <0.8 - 0.7 | C Functioning | Stress indicators present at mild to moderate levels, or otherwise not occurring in more than 33% of the AA. | | | |
| <0.7 - 0.6 | D Functioning Impaired | Stress indicators present at moderate to high levels, or otherwise not occurring in more than 66% of the AA | | | |
| <0.6 | F Non-functioning | Stress indicators strongly evident throughout the AA at levels which apparently alter the fundamental chemical environment of the wetland system | | | |

Input each sub-variable score from p. 1 of the V7 data form and calculate the sum.



Use the table to score the Chemical Environment Variable circling the applicable scoring rules.

| Variable Score | Condition Grade | Scoring Rules | | | | |
|-------------------|--|--|--------------------------------------|--|--|--|
| 30016 | | Single Factor | Composite Score | | | |
| 1.0 - 0.9 | 1.0 - 0.9 Reference Standard No single factor scores < 0.9 | | The factor scores sum > 4.5 | | | |
| <0.9 - 0.8 | B Highly Functioning | Any single factor scores ≥ 0.8 but < 0.9 | The factor scores sum >4.0 but ≤4.5 | | | |
| <0.8 - 0.7 | .8 - 0.7 C Any single factor scores ≥ 7.0 but < 0.8 | | The factor scores sum >3.5 but ≤ 4.0 | | | |
| <0.7 - 0.6 | D Functioning Impaired | Any single factor scores ≥ 0.6 but <0.7 | The factor scores sum >3.0 but ≤3.5 | | | |
| < 0.6 | < 0.6 F Non-functioning Any single factor scores < 0.6 Non-functioning Non-functioning | | The factor scores sum < 3.0 | | | |

Variable 7 Score

Variable 8: Vegetation Structure and Complexity

This variable is a measure of the condition of the wetland's vegetation relative to its native state. It particularly focuses on the wetland's ability to perform higher-order functions such as support of wildlife populations, and influence primary functions such as flood-flow attenuation, channel stabilization and sediment retention. Score this variable by listing stressors that have affected the structure, diversity, composition and cover of each vegetation stratum that would normally be present in the HGM (regional) subclass being assessed. For this variable, stressor severity is a measure of how much each vegetation stratum differs functionally from its natural condition or from the natural range of variability exhibited the HGM subclass or regional subclass. This variable has four sub-variables, each corresponding to a stratum of vegetation: Tree Canopy; Shrub Layer; Herbaceous Layer; and Aquatics.

Rules for Scoring:

- 1. Determine the number and types of vegetation layers present within the AA. Make a judgment as to whether additional layers were historically present using direct evidence such as stumps, root wads or historical photographs. Indirect evidence such as local knowledge and expert opinion can also be used in this determination.
- 2. Do not score vegetation layers that would not normally be present in the wetland type being assessed.
- 3. Estimate and record the current coverage of each vegetation layer at the top of the table.
- 4. Record the Reference Standard or expected percent coverage of each vegetation layer to create the sub-variable weighting factor. The condition of predominant vegetation layers has a greater influence on the variable score than do minor components.
- 5. Enter the percent cover values as decimals in the row of the stressor table labeled "Reference/expected Percent Cover of Layer". Note, percentages will often sum to more than 100% (1.0).
- 6. Determine the severity of stressors acting on each individual canopy layers, indicating their presence with checks in the appropriate boxes of the stressor table. The difference between the expected and observed stratum coverages is one measure of stratum alteration.
- 7. Determine the sub-variable score for each valid vegetation layer using the scoring guidelines on the second page of the scoring sheet. Enter each sub-variable score in the appropriate cell of the row labeled "Veg. Layer Sub-variable Score". If a stratum has been wholly removed score it as 0.5.
- 8. Multiply each layer's *Reference Percent Cover of Layer* score by its Veg. Layer Sub-variable scores and enter the products in the labled cells. These are the weighted sub-variable scores. Individually sum the *Reference Percent Cover of Layer* and *Weighted Sub-variables scores*.
- 9. Divide the sum of "Veg. Layer Sub-variable Scores" by the total coverage of all layers scored. This product is the Variable 8 score. Enter this number in the labeled box at the bottom of this page.

| | Vegetation Layers | | | | |
|--|-------------------|---------------|---------------|-----------|---|
| Current % Coverage of Layer | 0 | 0 | 90 | 10 | |
| Stressor | Tree | Shrub | Herb | Aquatic | Comments |
| Noxious Weeds | | | Х | | |
| Exotic/Invasive spp. | | | Х | | |
| Tree Harvest | | | | | |
| Brush Cutting/Shrub Removal | | | | | |
| Livestock Grazing | | X | Х | | Not this year (limited 2020 impact) |
| Excessive Herbivory | | | | | |
| Mowing/Haying | | | | | |
| Herbicide | | | | | |
| Loss of Zonation/Homogenization | | | | | |
| Dewatering | | | | | |
| Over Saturation | | | | | |
| DIFFERENCE BETWEEN CURRENT COVERAGE AND REFERENCE/EXPECTED | 2% | 20% | 10% | 0% | |
| Reference/Expected % Cover of Layer | 0.02 + | 0.20 + | 0.80 + | 0.10 X | = 1.12 |
| Veg. Layer Sub- variable Score | 0.5 | 0.5 | 0.78 | 0.94 | See sub-variable scoring guidelines on following page |
| Weighted Sub-variable Score | 0.01 + | 0.10 + | 0.62 + | 0.09 | = 0.828 |
| | | | | | Variable 8 Score 0.74 |

Variable 8: Vegetation Structure and Complexity p. 2

Sub-variable 8 Scoring Guidelines:

Based on the list of stressors identified above, rate the severity of their cumulative effect on vegetation structure and complexity for each vegetation layer.

| Variable Score | Condition Grade | Scoring Guidelines | | | |
|----------------|-------------------------------------|--|--|--|--|
| 1.0 - 0.9 | A Reference Standard | Stressors not present or with an intensity low enough as to not detectably affect the structure, diversity or composition of the vegetation layer. | | | |
| <0.9 - 0.8 | B Highly Functioning | Stressors present at intensity levels sufficient to cause detectable, but minor, changes in layer composition. Stress related change should generally be less than 10% for any given attribute (e.g., 10% cover of invasive, 10% reduction in richness or cover) if the stressor is evenly distributed throughout the wetland. Stress related change could be as high as 33% for a given attribute if stressors are confined to patches comprising less than 10% of the wetland. | | | |
| <0.8 - 0.7 | C Functioning | Stressors present with enough intensity to cause significant changes in the character of vegetation, including alteration of layer coverage, structural complexity and species composition. The vegetation layer retains its essential character though. AA's with a high proportion of non-native grasses will commonly fall in this class. Stress related change should generally be less than 33% for any given attribute (e.g., 33% cover of invasive, 33% reduction in richness or cover) if the stressor is evenly distributed throughout the wetland. Stress related change could be as much as 66% for a given attribute if stressors are confined to patches comprising less than 25% of the wetland. | | | |
| <0.7 - 0.6 | D Functioning Impaired | Stressor intensity severe enough to cause profound changes to the fundamental character of the vegetation layer. Stress-related change should generally be less than 66% for any given attribute (e.g., 66% cover of invasive, 66% reduction in richness or cover) if the stressor is evenly distributed throughout the wetland. Stress related change could be as much as 80% of a given attribute if stressors are confined to patches comprising less than 50% of the wetland. | | | |
| <0.6 | F Non- functioning | Vegetation layer has been completely removed or altered to the extent that is no longer comparable to the natural structure, diversity and composition. | | | |

FACWet Score Card

Scoring Procedure:

- 1. Transcribe variable scores from each variable data sheet to the corresponding cell in the variable score table.
- 2. In each Functional Capacity Index (FCI) equation, enter the corresponding variable scores in the equation cells. Do not enter values in the crossed cells lacking labels.
- 3. Add the variable scores to calculate the total functional points achieved for each function.
- 4. Divide the total functional points achieved by the functional points possible. The typical number of total points possible is provided, however, if a variable is added or subtracted to FCI equation the total possible points must be adjusted
- 5. Calculate the Composite FCI, by adding the FCI scores and dividing by the total number of functions scored (usually 7).
- 6. If scoring is done directly in the Excel spreadsheet, all values will be transferred and calculated automatically.

| VARIA | BLE SCORE | TABLE | • | | | | | | |
|---|----------------------------------|---|------------------------------|----------------------------|---------------------|-------------|---------------|------|--------|
| Buffer & Landscape Context | Variable 1: | Habitat Connectivity (Connect) | | | | | | 0.82 | |
| | Variable 2: | Contributing Area (CA) | | | | | | 0.79 | |
| Hydrology | Variable 3: | Water Source (Source) | | | | | | 0.81 | |
| | Variable 4: | Water Distribution (Dist) | | | | | | 0.78 | |
| | Variable 5: | Water Outflow (Outflow) | | | | | | | |
| Abiotic and Biotic Habitat | Variable 6: | Geomorphology (Geom) | | | | | | 0.85 | |
| | Variable 7: | Chemical Environment (Chem) | | | | | | | |
| | Variable 8: | Vegetation Structure and Complexity (Veg) | | | | | | 0.74 | 1 |
| Functional Capacity Indices | | | | | | | | | |
| | Support of Cha | aracteristic Wi | ldlife Habitat | | | | tal tional | | FCI |
| V1 _{connect} | + V2 _{CA} + | (2 x V8 _{veg}) | | | | | nts | | |
| 0.82 | + 0.79 + | 1.48 + | | + | + | = 3. | 08 ÷ | 4 | = 0.77 |
| Function 2 Support of Characteristic Fish/aquatic Habitat | | | | | | | | | |
| (3 x V3 _{source}) | + (2 x V4 _{dist}) + | (2 x V5 _{outflow}) + | $V6_{geom}$ | + V7 _{chem} | | _ | | | |
| 2.43 | + 1.56 + | 1.56 + | 0.85 | + 0.87 | + | = 7. | 27 ÷ | 9 | = 0.81 |
| Function 3 Flood Attenuation | | | | | | | | | |
| V2 _{CA} | + (2 x V3 _{source}) + | (2 x V4 _{dist}) + | (2 x V5 _{outflow}) | + V6 _{geom} | + V8 _{veg} | _ | | | |
| 0.79 | + 1.62 + | 1.56 + | 1.56 | + 0.85 | + 0.74 | = 7. | 11 ÷ | 9 | = 0.79 |
| | Short- and Lor | ng-term Water | | | | | | | |
| V3 _{source} | + (2 x V4 _{dist}) + | (2 x V5 _{outflow}) | V6 _{geom} | | | _ | | | |
| 0.81 | + 1.56 + | 1.56 + | 0.85 | + | + | = 4. | 78 ÷ | 6 | = 0.80 |
| | Nutrient/Toxic | | | | | | | | |
| | + $(2 \times V4_{dist})$ + | $V6_{geom}$ | V7 _{chem} | | | _ | | | |
| 1.57 | + 1.56 + | 0.85 + | 0.87 | + | + | = 4. | 85 ÷ | 6 | = 0.81 |
| | Sediment Rete | | e Stabilization | on | | | | | |
| V2 _{CA} | + (2 x V6 _{geom}) + | | | | 1 | _ | | | |
| 0.79 | + 1.70 + | 1.48 + | | + | + | = 3. | 96 ÷ | 5 | = 0.79 |
| Function 7 Production Export/Food Chain Support | | | | | | | | | |
| V1 _{connect} | + (2 x V5 _{outflow}) + | V6 _{geom} + | V7 _{chem} | + (2 x V8 _{veg}) | | _ | | | |
| 0.82 | + 1.56 + | 0.85 + | 0.87 | + 1.48 | + | = 5. | 58 ÷ | 7 | = 0.80 |
| Sum of Individual FCI | | | | | | | | | 5.56 |

Divide by the Number of Functions Scored ÷ 7

Composite FCI Score

0.79

Appendix E

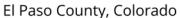
The USFWS IPaC Query Results

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location





Local office

Colorado Ecological Services Field Office

\((303) 236-4773

(303) 236-4005

MAILING ADDRESS

Denver Federal Center P.O. Box 25486

Denver, CO 80225-0486

PHYSICAL ADDRESS

134 Union Boulevard, Suite 670 Lakewood, CO 80228-1807

http://www.fws.gov/coloradoES http://www.fws.gov/platteriver



Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Draw the project location and click CONTINUE.
- 2. Click DEFINE PROJECT.
- 3. Log in (if directed to do so).
- 4. Provide a name and description for your project.
- Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the <u>Ecological Services Program</u> of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact <u>NOAA Fisheries</u> for <u>species under their jurisdiction</u>.

- 1. Species listed under the <u>Endangered Species Act</u> are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the <u>listing status page</u> for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
- 2. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME STATUS

Eastern Black Rail Laterallus jamaicensis ssp. jamaicensis

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/10477

Threatened

Threatened

Piping Plover Charadrius melodus

This species only needs to be considered if the following condition applies:

• Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.

There is final critical habitat for this species. The location of the critical habitat is not available.

https://ecos.fws.gov/ecp/species/6039

Whooping Crane Grus americana

This species only needs to be considered if the following condition applies:

• Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.

There is **final** critical habitat for this species. The location of the critical habitat is not available.

https://ecos.fws.gov/ecp/species/758

Endangered

Fishes

NAME **STATUS**

Greenback Cutthroat Trout Oncorhynchus clarkii stomias

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/2775

Threatened

Pallid Sturgeon Scaphirhynchus albus

Wherever found

This species only needs to be considered if the following condition applies:

• Project includes water-related activities and/or use in the N. Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/7162

Insects

NAME STATUS

Endangered

Monarch Butterfly Danaus plexippus

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/9743

Flowering Plants

NAME STATUS

Ute Ladies'-tresses Spiranthes diluvialis

Threatened

Candidate

Wherever found

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/2159

Western Prairie Fringed Orchid Platanthera praeclara

Wherever found

This species only needs to be considered if the following condition applies:

Project includes water-related activities and/or use in the N.
 Platte, S. Platte, and Laramie River Basins which may affect listed species in Nebraska.

No critical habitat has been designated for this species.

https://ecos.fws.gov/ecp/species/1669

Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act 1 and the Bald and Golden Eagle Protection Act 2 .

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described <u>below</u>.

- 1. The Migratory Birds Treaty Act of 1918.
- 2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds
 http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

THERE ARE NO MIGRATORY BIRDS OF CONSERVATION CONCERN EXPECTED TO OCCUR AT THIS LOCATION.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern (BCC)</u> and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey, banding, and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>AKN Phenology Tool</u>.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: <u>The Cornell Lab of Ornithology All About Birds Bird Guide</u>, or (if you are unsuccessful in locating the bird of interest there), the <u>Cornell Lab of Ornithology Neotropical Birds</u>

<u>guide</u>. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the <u>Northeast Ocean Data Portal</u>. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the <u>NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.</u>

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid

or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to <u>NWI wetlands</u> and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local <u>U.S. Army Corps of Engineers District</u>.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

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

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix F

Real Estate Records and Assurances

BEFORE THE COLORADO GROUND WATER COMMISSION

UPPER BLACK SQUIRREL CREEK DESIGNATED GROUND WATER BASIN AND UPPER BLACK SQUIRREL CREEK GROUND WATER MANAGEMENT DISTRICT - EL PASO COUNTY

TAKE NOTICE that pursuant to Section 37-90-107(7), C.R.S., Pete Lien & Sons, Inc. (hereinafter "applicant") has applied for determinations of water right to allow the withdrawal of designated ground water from the Laramie-Fox Hills, Arapahoe and Denver aquifers underlying 92.47 acres generally described as a portion of the S1/2 of the SW1/4 and a portion of the west 528 feet of the SW1/4 of the SE1/4, all in Section 34, Township 12 South, Range 64 West, 6th P.M.. The applicant claims ownership of this land and control of the ground water in the above described aquifers under this property. The ground water from these allocations will be used on the described property for the following beneficial uses: industrial, commercial and irrigation. The maximum allowable annual amount of ground water in the aquifer underlying the described property will be allocated.

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, the Colorado Ground Water Commission shall allocate ground water from the above aquifers based on ownership of the overlying land and an aquifer life of one hundred years. A preliminary evaluation of the application by the Commission Staff finds the annual amount of water available for allocation from the aquifers underlying the above-described property to be 28.4 acre-feet for the Laramie-Fox Hills aquifer, 32.2 acre-feet for the Arapahoe aquifer and 31.4 acre-feet for the Denver aquifer, subject to final staff evaluation. The estimated available annual acre-feet allocation for each aquifer may be increased or decreased by the Commission to conform to the actual aquifer characteristics, based upon site specific data.

In accordance with Rule 5.3.6 of the Designated Basin Rules, the Commission Staff's preliminary evaluation of the application finds the replacement water requirement status for the aquifers underlying the above-described property to be nontributary for the Laramie-Fox Hills aquifer, nontributary for the Arapahoe aquifer and not-nontributary (4% replacement) for the Denver aquifer.

Upon Commission approval of the determination of water right, well permits for wells to withdraw the allowed allocation shall be available upon application, subject to the conditions of the determination and the Designated Basin Rules and subject to approval by the Commission. Such wells must be completed in the aquifer and must be located on the above-described 92.47 acre property.

Any person wishing to object to the approval of these determinations of water right must do so in writing, briefly stating the nature of the objection and indicating the above applicant, property description and specific aquifers that are the subject of the objection. The objection must be accompanied by a \$10 fee per aquifer and must be received by the Commission Staff, Colorado Ground Water Commission, 1313 Sherman Street, Room 821, Denver, Colorado 80203, by June 8, 2019.

VERIFICATION OF MINERAL CONSULTANT

| STATE OF WYOMING |) |
|------------------|------|
| |) SS |
| COUNTY OF GOSHEN |) |

I, James E. Wann, being of lawful age, and being first duly sworn upon my oath, depose and state that I am a Mineral Title Consultant, that I reviewed the mineral estate more particularly described on EXHIBIT "A" attached hereto and situated in El Paso County, Colorado, with the express purpose of identifying record title ownership of this estate effective November 2, 2018 that I prepared the MINERAL OWNERSHIP VERIFICATION dated November 2, 2018, attached hereto as Exhibit "A", that I am the individual stated in the MINERAL OWNERSHIP VERIFICATION, that I have read and understand the contents thereof, that I executed said instrument, and that the facts set forth in the MINERAL OWNERSHIP VERIFICATION dated November 2, 2018, are true as I verily believe.

James E. Wann

Subscribed and sworn to before me this 5th day of November, 2018, by James E. Wann.

Witness my hand and official seal.

Jan 13, 2019

Notary Public

My Commission Expires:

EXHIBIT "A"

I. LEGAL DESCRIPTION

- S1/2SW1/4 and the West 528 feet of the SW1/4SE1/4 of Section 34, Township 12 South, Range 64 West, 6th P.M. excepting therefrom those parcels conveyed to El Paso County, Colorado recorded April 28, 2015 under reception numbers 215041107 & 215041110B.

II. MINERAL OWNERSHIP

Pete Lien & Sons, Inc. – 100.00%

III. RECORDS REVIEWED

- Office of Clerk and Recorder, El Paso County, Colorado
- Office of Assessor, El Paso County, Colorado

Legal Description for Judge Orr Property

FROM THE COUNTY

S2SW4, W528.0 ft of SW4SE4 SEC 34-12-64, EX PT TO COUNTY BY REC #215041107 & 2015041108

FROM THE WARRANTY DEED

THE SOUTH HALF OF THE SOUTHWEST QUARTER AND THE WEST 528 FEET OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 64 WEST OF THE 6TH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, EXCEPTING THEREFROM THOSE PARCELS CONVEYED TO EL PASO COUNTY RECORDED APRIL 28, 2015 UNDER RECEPTION NOS. 215041107 AND 215041108

Judge Orr Mitigation Bank Prospectus

Appendix G

Cultural Report



300 E. Boardwalk, 4-C. Fort Collins, CO 80525 | Phone 1-970-225-6575 | Fax 1-970-225-6577 | www.centennialarchaeology.com

May 25, 2022

Mr. Jesse Dillion Cedar Creek Associates, Inc. PO Box 272150 Fort Collins, CO 80527

Re: Class I File Search for the Proposed Judge Orr Wetland Mitigation Bank Project in El Paso County, Colorado

Dear Mr. Dillon:

The results of a Class I cultural resource investigation for the Proposed Judge Orr Wetland Mitigation Bank project are provided in this letter report. The property is situated in the Town of Falcon in El Paso County, Colorado (Figure 1). The project area (Figure 2) encompasses 92.47 acres and includes one parcel located in El Paso County. The locale is situated at the northeast corner of the intersection of Judge Orr Road and Stapleton Road. It is in the S ½ of Section 34 of Township 12 South – Range 64 West. Because project work actively involves a wetland, permitting will be required from the U.S. Army Corps of Engineers (USACE). Consideration of cultural resources is required under Section 106 of the National Historic Preservation Act due to the regulatory role of the USACE in permitting the project. Project proponents determined that a Class I (desktop literature review/file search) is needed to provide an overview of potential cultural resources (archaeological and historic) in the project area. Cedar Creek Associates, Inc. contracted Centennial Archaeology LLC (Centennial) to conduct this file search and prepare the resulting letter report.

The Class I file search area includes the subject property as well as a 0.5-mile-wide buffer extending in all directions from the project area. The study area was chosen to limit the file search results to relevant sites that might fall within or very near the property and that could, accordingly, be impacted by the proposed work. It intersects all or portions of:

- Sections 33-35 Township 12 South Range 64 West
- Sections 2-4 of Township 13 South Range 64 West

File search information was accessed through the Colorado Office of Archaeology and Historic Preservation (OAHP) Compass and General-Purpose Viewer (GPV) web applications; GIS shapefiles of sites and surveys were also obtained from the OAHP. The results of the file search include National Register of Historic Places (NRHP) properties and districts. The GIS shapefiles were received on May 17, 2022. Historic maps including General Land Office (GLO) survey plats

and USGS topographic maps were also inspected to identify historic trails, transportation routes, and other historic resources that, if they still exist, may intersect the study area. Supplemental data including materials on file with El Paso County, Colorado Department of Water Resources structure records, and images provided by Google Earth were also consulted. For this investigation, the standard minimum age criterion of 50 years was applied when determining if a resource meets the threshold of a historic property. For this project, it was assumed that work will be conducted in 2023 at the latest. Accordingly, the threshold for this project was set at 1973 and a built-environment feature would have to have been constructed in or before 1973 to be considered historic.

OAHP Data

Records on file with the OAHP reveal that no sites or surveys have been conducted within the larger file search area, and no sites or surveys are known to intersect the boundaries of the project area.

Assessor's Data

A review of parcel data available through the El Paso County Assessor's office shows that the project area includes one parcel. This parcel does not contain any buildings or structures, and it is designated by the county as agricultural grazing land.

Map Data

No buildings, roads, or structures are depicted within the file search study area on either the 1868 GLO Original Survey Map for Township 12 South – Range 64 West or on the 1871 GLO Original Survey Map for Township 13 South - Range 64 West. A review of historic USGS topographic quadrangle maps from 1893 through 1975 indicates that several major and minor roadways, two buildings, the Gieck Ranch, and two small and unnamed reservoirs as well as their associated dams are historic in age. The 1909 Colorado Spring 1:125,000-scale USGS topographic quadrangle map shows Judge Orr Road, Elbert Road, Curtis Road, Gieck Ranch, and a building to the south of Judge Orr Road that was likely associated with a small-scale farm or ranch in the file search area. The 1940 Falcon 1:24,000-scale USGS topographic quadrangle map continues to show the aforementioned resources as well as a small, unnamed reservoir in the greater file search area. Depicted within the project area is another small reservoir and dam placed along a small intermittent water drainage. This reservoir and dam are in the SW 1/4 of the SE 1/4 of Section 34 of Township 12 South – Range 64 West. Also illustrated in the project area on the 1940 Falcon topographic map is a two-track road that extends northeast approximately 0.15 mi for from Judge Orr Road to the dam. At this point, the road passes over the dam. From here, it transcends northeast for 150 m and then north once more for 0.25 mi where it ends at Gieck Ranch. The road, reservoir, and dam are all observable on current satellite images of the area available through Google Earth. No additional resources were illustrated within the file search area on the 1975 Falcon 1:24,000scale USGS topographic map, and from 1940 to 1975, the area appears to have been largely unchanged.

Colorado Division of Water Resources (DWR)

Research conducted through the Colorado's Decisions Support Systems (CDSS) database available through the DWR produced no results. No reservoirs, ditches, named creeks, or water tributary are listed in the file search area or within the boundaries of the proposed project area.

Given the lack of information, the reservoir noted as being within the project area on the 1940 map is thought to be a minor, local structure and not a major project associated with one of the significant water control and diversion systems in the state.

It should be noted that the file search data mainly reflect prior investigations, and do not necessarily include all cultural resources in the project area. A comprehensive field survey would be necessary to identify the full range of sites.

Please contact me (egarner@centennialarch.com or 970-225-6575) if you have questions or need additional information.

Sincerely,

Eva Garner

Project Director / Historian

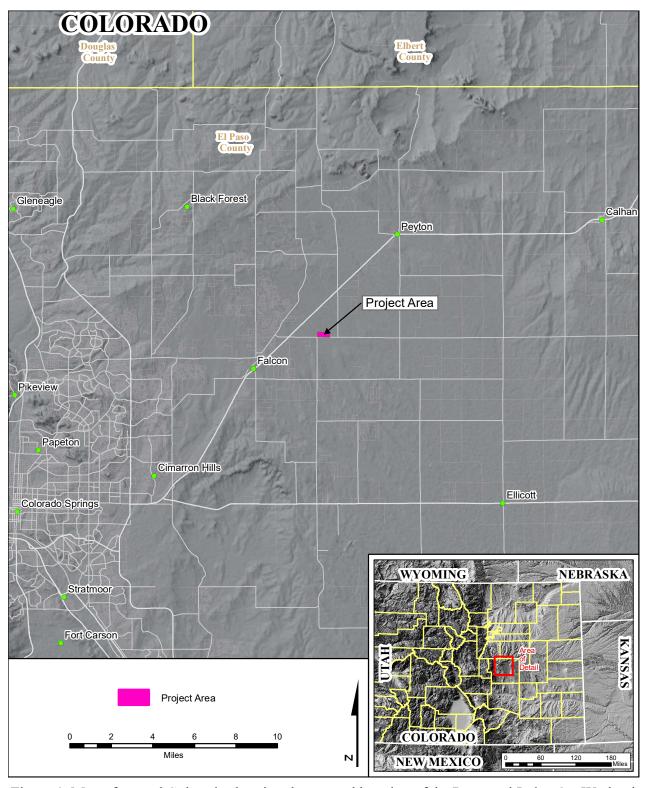


Figure 1. Map of central Colorado showing the general location of the Proposed Judge Orr Wetland Mitigation Bank project area.

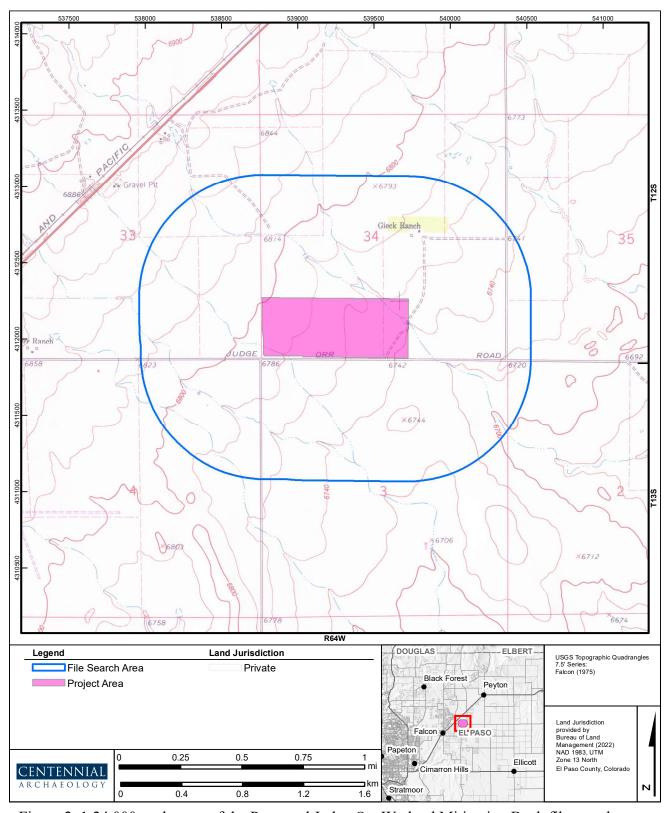


Figure 2. 1:24,000-scale map of the Proposed Judge Orr Wetland Mitigation Bank file search area.