Exhibit J

Wetlands and Other Jurisdictional Waters

West End Solar Project
September 2022

Prepared for
EE West End Solar LLC

Prepared by

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Acronyms and Abbreviations

Applicant	EE West End Solar LLC
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OAR	Oregon Administrative Rule
ORS	Oregon Revised Statutes
Project	West End Solar Project
WOS	Waters of the State

1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit J was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-021-0010(1)(j).

2.0 Analysis Area

The Analysis Area for wetlands and other jurisdictional waters is the area within the proposed Site Boundary (Figure J-1). The proposed Site Boundary is defined in Exhibits B and C, which includes the information required by OAR 345-021-0010(1)(b) and (c).

3.0 Wetlands and Other Jurisdictional Waters – OAR 345-021-0010(1)(j)(A)

OAR 345-021-0010(1)(j) Information based on literature and field study, as appropriate, about waters of this state, as defined under ORS 196.800, including:

OAR 345-021-0010(1)(j)(A) A description of all areas within the site boundary that might be waters of this state and a map showing the location of these features.

3.1 Definitions

3.1.1 State

Oregon Revised Statutes (ORS) 196.800(15) defines Waters of the State as:

> *…all natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and non-navigable bodies of water in this state and those portions of the ocean shore, as defined in ORS 390.605, where removal or fill activities are regulated under a state-assumed permit program as provided in 33 United States Code 1344(g) of the Federal Water Pollution Control Act, as amended.*

In OAR 141-085-0510(105), the Oregon Department of State Lands defines wetlands as "[t]hose areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

3.2 Jurisdictional Versus Non-Jurisdictional Waters

Not all wetlands and streams are within the jurisdiction of state regulation. For the Project, several jurisdictional distinctions are important, to estimate impacts only to jurisdictional wetlands and other waters. These include determinations related to the following:

- Ephemeral streams, which are not under state jurisdiction, as distinct from perennial and intermittent.
- Artificially created roadside and farm ditches, which are considered waters of the state (WOS) if they contain food or game fish and are connected to WOS (OAR 141-085-0515(8)).

Ephemeral streams are defined in the Streamflow Duration Assessment Method for the Pacific Northwest (Nadeau 2015) as streams that flow:

> *…only in direct response to precipitation. Water typically flows only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the stream bed is always above the water table, and stormwater runoff is the primary source of water. An ephemeral stream typically lacks biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water).*

In contrast, intermittent streams are defined by the OARs as "any stream which flows during a portion of every year and which provides spawning, rearing or food-producing areas for food and game fish" (OAR 141-085-0510(46)). Food-producing streams are typically one stream order above a fish-bearing stream.

3.3 Desktop Study

The Applicant conducted a desktop review to determine the potential for the presence of wetlands and other non-wetland waters within the Site Boundary. The desktop study reviewed the National Wetlands Inventory (NWI) database (USFWS 2019, USFWS 2020), National Hydrography Dataset (NHD; USGS 2017), Natural Resources Conservation Service (NRCS) hydric soils data (NRCS 2019, NRCS 2020a), and aerial imagery (Google Earth 2019, Google Earth 2020) to identify potential wetlands and other waters that may occur on the Project site. The results of the desktop review of the NWI and NHD found no wetlands or steams that were mapped within the Site Boundary (Figure J-1). Based on the NRCS soil data, the Site Boundary is comprised primarily (236 acres or 73 percent) of Adkins fine sandy loam, 0 to 5 percent slopes, with the remaining portions (88 acres or 27 percent) composed of Quincy fine sand, 0 to 5 percent slopes (Figure J-2). The Adkins fine sandy loam, 0 to 5 percent slopes soil type is considered non-hydric, whereas 3 percent of the components of the Quincy fine sand, 0 to 5 percent slope soil type may meet the criteria for hydric soils (NRCS 2019, NRCS 2020a).

3.4 Delineation of Wetlands and Other Water Features

3.4.1 Methods

Field surveys for wetland/non-wetland waters were conducted on July 3, 2019, June 22, 2020, and May 19, 2022 (Attachment J-1). The surveys were conducted using the methods outlined in the *Wetlands Delineation Manual, Technical Report Y-87-1* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West* (Version 2.0; USACE 2008). Based on the protocols of these manuals, three indicators of wetlands (hydrophytic vegetation, hydric soils, and wetland hydrology) were used for identification in order to determine if wetlands were present. The presence of non-wetland waters was determined based on the methods of the *Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008). Sample plots were established in three low topographic depressional areas of the site to document conditions in areas that would most likely contain wetlands (Attachment J-1).

3.4.2 Results

As noted in Section 3.3, desktop review of NWI and NHD data did not identify any wetlands or stream features mapped by the NWI or NHD within the Site Boundary (Figure J-1). The majority of the Site Boundary (73 percent) is composed of 1B - Adkins fine sandy loam, zero to 5 percent, which is considered non-hydric (NRCS 2019, NRCS 2020b). The remaining 27 percent of the Project Area is comprised of the 74B - Quincy fine sand, zero to 5 percent slopes soil type. The soil description for Quincy fine sand map unit, zero to 5 percent slopes indicates that minor soil components located in depressions (3 percent) may meet the criteria for hydric soils (NRCS 2019, NRCS 2020b). However, since this soil type does not contain a major component that is rated as hydric it is; therefore, considered "predominantly nonhydric" by the NRCS's State Soil Data Access Hydric Soils Rating by Map Unit (NRCS 2020b).

Although a few Facultative (FAC = species that occur in wetlands and non-wetlands) species were observed in the Site Boundary, the vast majority of the species were Facultative Upland (species that usually occur in non-wetlands) and Upland (almost always occur in non-wetlands) species. The FAC species observed in the Site Boundary were only occasionally observed and/or when observed were intermixed with Facultative Upland or Upland plant species and therefore, no area within the Site Boundary would have met the criteria for hydrophytic vegetation. In addition, no areas (e.g., topographic depression) that would appear to hold water for a sustained period were observed in the Site Boundary. As stated above, three field indicators of wetlands (hydrophytic vegetation, hydric soils, and wetland hydrology) must be present to make a positive wetland determination. Based on these criteria, and field data collected at three sample plots located in locations most likely to contain wetlands (depressional areas), no wetlands were identified within the Site Boundary. Additionally, no stream features or other features that appear to convey water were identified within the Site Boundary during field surveys. See Attachment J-1 for more details.

4.0 Effects on Wetlands and Other Jurisdictional Waters of the State – OAR 345-021-0010(1)(j)(B)

OAR 345-021-0010(1)(j)(B) An analysis of whether construction or operation of the proposed facility would adversely affect any waters of this state.

OAR 345-021-0010(1)(j)(B) requests the analysis of the impacts from construction and operation of the proposed Project on WOS. No WOS were identified during the desktop and field surveys; therefore, there will be no impacts to WOS.

4.1 Significance of Impacts – OAR 345-021-0010(1)(j)(C)

OAR 345-021-0010(1)(j)(C) A description of the significance of potential adverse impacts to each feature identified in (A), including the nature and amount of material the applicant would remove from or place in the waters analyzed in (B).

There are no WOS within the Site Boundary, therefore there will be no significant adverse impacts.

5.0 Information Supporting Lack of Requirement for Removal-Fill Permit – OAR 345-021-0010(1)(j)(D)

OAR 345-021-0010(1)(j)(D) If the proposed facility would not need a removal-fill authorization, an explanation of why no such authorization is required for the construction and operation of the proposed facility.

A removal-fill authorization is not required because there are no WOS within the Site Boundary.

6.0 Information Supporting Issuance of Removal-Fill Permit – OAR 345-021-0010(1)(j)(E)

OAR 345-021-0010(1)(j)(E) If the proposed facility would need a removal-fill authorization, information to support a determination by the Council that the Oregon Department of State Lands should issue a removal-fill permit, including information in the form required by the Department of State Lands under OAR Chapter 141 Division 85.

A removal-fill authorization is not required because there are no WOS within the Site Boundary.

7.0 Mitigation and Monitoring Program – OAR 345-021-0010(1)(j)(F)

OAR 345-021-0010(1)(j)(F) A description of proposed actions to mitigate adverse impacts to the features identified in (A) and the applicant's proposed monitoring program, if any, for such impacts.

Mitigation and monitoring are not required because there are no WOS within the Site Boundary.

8.0 References

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USFWS. 2020. National Wetlands Inventory, Wetlands Data by State. Available online at: https://www.fws.gov/wetlands/Data/Data-Download.html. Accessed June 2020.

USGS (U.S. Geological Survey). 2017. National Hydrography Dataset. Available online at: https://nhd.usgs.gov. Accessed May 2019 and June 2020.

Figures

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West End Solar Project

Figure J-1 Overview, NWI, and NHD Map

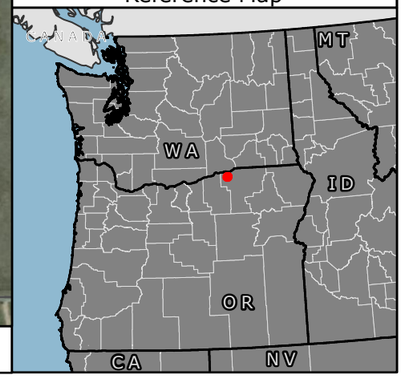
UMATILLA COUNTY, OR

Proposed Site Boundary
Local Roads
NHD Streams/Rivers
Canal Ditch
NWI Waterbodies
Riverine

Melody Ln
Canal Rd
Co 1203 Rd
S Edwards Rd
Feedville Rd
Co 1000 Rd

TETRA TECH Eurus Energy

Reference Map



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0 0.13 0.25 0.5 0.75 1 Miles

NOT FOR CONSTRUCTION

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West End Solar Project

Figure J-2
NRCS Soil

UMATILLA COUNTY, OR

Proposed Site Boundary

Local Roads

NRCS Soil Types

1B - Adkins fine sandy loam, 0 to 5 percent slopes

74B - Quincy fine sand, 0 to 5 percent slopes

Melody Ln

Canal Rd

Co 1203 Rd

S Edwards Rd

Feedville Rd

Co 1000 Rd

1:10,000

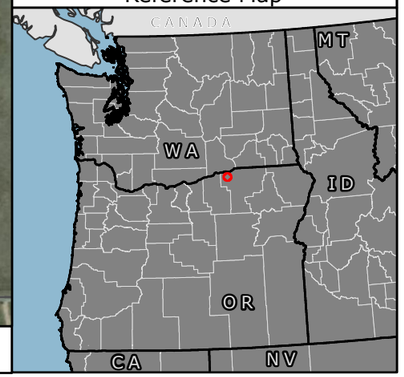
WGS 1984 UTM Zone 11N

0 0.13 0.25 0.5 0.75 1 Miles

NOT FOR CONSTRUCTION

TETRA TECH Eurus Energy

Reference Map



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Attachment J-1. 2019-2022 Botanical and Wetland Survey Report West End Solar Project

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2019-2022 Botanical and Wetland Survey Report

West End Solar Project

Prepared for

Eurus Energy

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Prepared by

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June 2022

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This deliverable was prepared in accordance with generally accepted professional practices that are typically utilized for scientific work products. The work was performed within the limitations and assumptions of our approved scope of work, and the descriptive documentation associated with this deliverable. Unless explicitly included in our approved scope of work, information provided in this deliverable has not been prepared to meet industry standards for engineering and should not be used for construction.

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1.0 Introduction

Eurus Energy America LLC (Eurus) contracted Tetra Tech, Inc. (Tetra Tech) to conduct biological surveys in support of the West End Solar Project (Project), a proposed solar project in Umatilla County, Oregon. This summary report presents the methods and results for the botanical and wetland surveys conducted in July 2019, June 2020, and May 2022. The purpose of the botanical surveys was to document the presence of federal or state-listed endangered, threatened, or candidate vascular plant species. Concurrent with the botanical surveys, Tetra Tech also assessed the Project for the presence of wetlands and other non-wetland waters. Wildlife and habitat categorization surveys are addressed in a separate report.

2.0 Survey Area

The Project is located on approximately 324 acres of private land within Umatilla County, roughly a mile east of the City of Hermiston. The botanical and wetland survey area consisted of the approximately 324-acre Project Area, which encompasses the proposed solar array and associated facilities (Figure 1).

3.0 Methods

3.1 Background Review

3.1.1 Special-Status Plants

Prior to conducting field surveys, Tetra Tech conducted a desktop review to identify endangered, threatened, or candidate plant species (i.e., special-status plants) with the potential to occur within the Project Area. Sources of information included:

- U.S. Fish and Wildlife Service (USFWS) threatened, endangered, and candidate species lists for Umatilla County (USFWS 2019a, USFWS 2020a);
- Oregon Biodiversity Information Center's (ORBIC) list of Oregon's rare, threatened, and endangered species (ORBIC 2019);
- ORBIC database of known occurrences of target plant species within the vicinity of the Project Area (ORBIC 2018);
- Oregon threatened, endangered, and candidate plants (ODA 2019);
- The Oregon Flora Project (OFP 2019a, OFP 2019b);
- The PLANTS Database (NRCS 2019a);
- Gap Analysis Project /LANDFIRE National Terrestrial Ecosystems data (USGS 2011); and

- The Site Characterization Report for the West End Solar Project (Tetra Tech 2018).

The initial list of potential, primary target species included all vascular plant species listed as endangered, threatened, or candidates for listing by the USFWS under the federal Endangered Species Act, or by the Oregon Department of Agriculture under the Oregon Endangered Species Act. Tetra Tech reviewed this initial list, as well as the sources noted above, to produce a final list of target species that included all federal and state-listed and candidate plant species that have the potential to occur within or near the Project Area (Table 1). Species were eliminated from consideration if their habitat was likely absent from the Project Area, or their known or suspected range did not overlap with the Project.

Table 1. Federal and State Threatened, Endangered, and Candidate Vascular Plant Species with Potential to Occur at the Project

Scientific Name	Common Name	Federal Status[1]	State Status[2]	Survey Period
Astragalus collinus var. *laurentii*	Laurence's milkvetch	SOC	T	Fruits needed; June - August
Eremothera (Camissonia) pygmaea	dwarf evening-primrose	--	C	June - August
Myosurus sessilis	sessile mousetail	SOC	C	March - May
1. SOC = Species of Concern 2. T = Threatened, C = Candidate for listing				

Tetra Tech also completed a review of existing literature, herbarium records, and other sources (Burke Museum of Natural History and Culture 2019, ODA 2019, OFP 2019a, OFP 2019b, WDNR 2019) prior to field surveys to generate fact sheets for each target species. These fact sheets were used by surveyors in the field and included:

- Photos of each species and its habitat;
- Information detailing habitat associations;
- Range and flowering period;
- Identifying features; and
- Characteristics distinguishing the target species from similar species within its range.

In response to a formal request to ORBIC, Tetra Tech received vascular plant element occurrence records in the vicinity of the Project Area, which included one element occurrence record for the state threatened Laurence's milkvetch (*Astragalus collinus* var. *laurentii*), approximately 3 miles south of the Project Area (ORBIC 2018). Tetra Tech visited the location of a known Laurence's milkvetch element occurrence prior to commencing surveys in order to determine the current phenology of the species, and to provide an identification reference for individuals encountered within the Project Area.

Although not considered target species, Tetra Tech also identified 28 other vascular plant species tracked by ORBIC that have the potential to occur at the Project (Attachment 1). ORBIC-tracked species are not protected under federal or state law, but are species of conservation concern or species for which more information is needed before their status can be determined (ORBIC 2019).

3.1.2 Wetlands and Other Non-wetland Waters

Prior to field work, Tetra Tech reviewed the National Wetlands Inventory (NWI) database, National Hydrography Dataset (NHD), hydric soils data, and aerial photographs to identify potential wetlands and other waters. Sources reviewed included:

- USFWS NWI (USFWS 2019b, USFWS 2020b);
- U.S. Geological Survey NHD (USGS 2017);
- Google Earth Pro – West End Solar Project Area (Google Earth Pro 2019, Google Earth Pro 2020);
- Web Soil Survey (NRCS 2019b, NRCS 2020a); and
- The Site Characterization Report for the West End Solar Project (Tetra Tech 2018).

Desktop review of NWI and NHD data did not identify any wetlands or stream features mapped by the NWI or NHD within the Project Area (Figure 2). Based on the Natural Resources Conservation Service soil data, the Project Area is comprised primarily (235.8 acres or 73 percent) of Adkins fine sandy loam, zero to 5 percent slopes, with the remaining portions (88 acres or 27 percent) composed of Quincy fine sand, zero to 5 percent slopes (Figure 3). The Adkins fine sandy loam, zero to 5 percent slopes soil type is considered non-hydric, whereas 3 percent of the map unit of the Quincy fine sand, zero to 5 percent slope soil located in depressions may meet the criteria for hydric soils (NRCS 2019b, NRCS 2020a). Review of aerial imagery did not identify any potential wetlands or other non-wetland waters.

3.2 Field Survey Methods

3.2.1 Special-Status Plant Survey Methods

Tetra Tech conducted surveys for botanical resources on July 3, 2019, and June 22, 2020. The survey schedule was chosen to cover the identification period for Laurence's milkvetch and Dwarf evening-primrose (*Eremothera* [*Camissonia*] *pygmaea*). The survey period also coincided with the identification period for the majority of the ORBIC-tracked species that have the potential to occur at the Project. Although the survey period was out of the recommended identification period for sessile mousetail (*Myosurus sessilis*), this species' vernal pool habitat was considered unlikely to occur in the Project Area, and no vernal pools were observed within the Project Area during field surveys. Additionally, depending on the year, sessile mousetail is sometimes identifiable through early July.

Botanical field surveys were conducted using the Intuitive Controlled survey method, a standard and commonly accepted survey protocol (USFS and BLM 1998). This method incorporates meandering transects that traverse the Project Area, and that target the full array of major vegetation types, aspects, topographical features, habitats, and substrate types. While en route, the surveyors search for target species, and when the surveyors arrive at an area of high potential habitat (that was defined in the pre-field review or encountered during the field visit), they conduct a complete survey for the target species. Complete surveys include an examination of 100 percent of the habitat.

During surveys, Tetra Tech maintained a running list of vascular plant species encountered and made informal collections of unknown species for later identification. Identification was verified by the use of appropriate plant keys; in particular, Flora of the Pacific Northwest (Hitchcock and Cronquist 2018). For quality control, species identifications were compared against location records of known observations and vouchered specimens (OFP 2019a, OFP 2020). Nomenclature follows the Angiosperm Phylogeny Group III system, as used by the Oregon Flora Project (OFP 2019c). The final vascular plant species list for the Project Area is included as Attachment 2.

3.2.2 Wetlands and other Non-Wetland Waters

Concurrent with the botanical surveys, Tetra Tech surveyed the site for the presence of wetlands and other non-wetland waters. Wetland presence was assessed per methods in the *Wetlands Delineation Manual, Technical Report Y-87-1* (USACE 1987) and *the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West (Version 2.0*; USACE 2008*)*. As noted in these manuals, three field indicators of wetlands (hydrophytic vegetation, hydric soils, and wetland hydrology) must be present to make a positive wetland determination. The presence of non-wetland waters was assessed based on methods described in the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008). Sample plots were established in three topographic depressional areas of the site to document conditions in areas that would most likely contain wetlands (Figure 5, Attachment 4).

4.0 Results

4.1 Observed Site Characteristics

Botanical and wetland surveys were conducted within the Project Area on July 3, 2019, June 22, 2020, and May 19, 2022. Habitat within the Project Area primarily consisted of degraded grassland habitat dominated by non-native invasive grasses and forbs, including cheatgrass (*Bromus tectorum*), bulbous bluegrass (*Poa bulbosa*), cereal rye (*Secale cereale*), yellow starthistle (*Centaurea solstitialis*), prickly lettuce (*Lactuca serriola*), yellow salsify (*Tragopogon dubius*), tall tumblemustard (*Sisymbrium altissimum*), redstem stork's bill (*Erodium cicutarium*), rush skeletonweed (*Chondrilla juncea*), and prickly Russian thistle (*Salsola tragus*). Scattered shrubs

such as rubber rabbitbrush (*Ericameria nauseosa*), and green rabbitbrush (*Chrysothamnus viscidiflorus*) were also occasionally observed within grassland habitat.

Two small areas of shrub-steppe were also observed in the Project Area: one in the northwest corner and one in the south-central portion of the Project Area (Photos 1 and 2, Attachment 3). The northwestern patch of shrub-steppe consisted primarily of an overstory of big sagebrush (*Artemisia tridentata* ssp. *tridentata*), with traces of rubber rabbitbrush, bitterbrush (*Purshia tridentata*), and green rabbitbrush. The understory in this area was dominated by non-native species, including cheatgrass, bulbous bluegrass, prickly lettuce, tall tumblemustard, and yellow starthistle. Ruderal native species included tall annual willowherb (*Epilobium brachycarpum*), bugloss fiddleneck (*Amsinckia lycopsoides*), and ribseed sandmat (*Chamaesyce glyptosperma*).

Shrub-steppe in the south-central portion of the Project Area was also dominated by an overstory of big sagebrush, with rubber rabbitbrush the subdominant shrub species observed. Scattered individuals of green rabbitbrush were also observed in this area. The understory of the shrub-steppe habitat in this area included a mix of native and non-native grass and forb species including needle-and-thread (*Hesperostipa comata*), Sandberg's bluegrass (*Poa secunda*), Idaho fescue (*Festuca idahoensis*), cereal rye, cheatgrass, bulbous bluegrass, yarrow (*Achillea millefolium*), woolly plantain (*Plantago patagonica*), tall annual willowherb (*Epilobium brachycarpum*), yellow starthistle, prickly lettuce, and yellow salsify.

A total of 56 vascular plant species were observed in the Project Area (Attachment 2). Of the 56 species observed, 29 (52 percent) are non-native species, including six species that are listed as noxious weeds in the State of Oregon and/or Umatilla County. State and county-listed noxious weeds observed within the Project Area include: kochia (*Bassia* [*Kochia*] *scoparia*), yellow starthistle, rush skeletonweed, Scotch thistle (*Onopordum acanthium*), cereal rye, and puncturevine (*Tribulus terrestris*). Three of these listed noxious weeds, yellow starthistle, rush skeletonweed, and cereal rye, were highly abundant throughout the Project Area (Photo 3 and 4 in Attachment 3). Attachment 2 includes the state and county noxious weed designations for the six listed noxious weeds that Tetra Tech observed during surveys.

4.2 Special-Status Plant Species

No target species were observed within the Project Area. Additionally, due to the abundance of non-native invasive species and noxious weeds, very little potential suitable habitat for target species was observed within the Project Area. However, Tetra Tech observed two ORBIC-tracked species, Columbia milkvetch (*Astragalus succumbens*) and stalked-pod milkvetch (*Astragalus sclerocarpus*). Surveyors observed Columbia milkvetch in three locations within the Project Area (Figure 4). Only five individuals were observed in these three locations. Columbia milkvetch is listed with a global rank of G4G5 (apparently secure, uncommon but not rare/secure, common, abundant and widespread), a state rank of S4 (apparently secure, not rare in Oregon) and ORBIC List 4 (Watch List) (ORBIC 2019). Photo 5 in Attachment 3 provides a representative photo of a Columbia milkvetch individual observed within the Project Area.

Stalked-pod milkvetch was observed in seven locations within the Project Area, with a total of 26 individuals observed (Figure 4). Stalked-pod milkvetch is listed with a global rank of G5 (secure, common, abundant and widespread), a state rank of S3 (vulnerable, rare, threatened or uncommon in Oregon) and ORBIC List 4 (Watch List) (ORBIC 2019). Photos 6 and 7 in Attachment 3 provide representative photos of Columbia milkvetch individuals and habitat observed within the Project Area.

Although both species are tracked by ORBIC, they are classified as "List 4: Watch." These species are "of conservation concern but are not currently threatened or endangered" and List 4 includes species "which are very rare (elsewhere) but are currently secure in Oregon, as well as taxa which are declining in numbers but are still too common to be proposed as threatened or endangered" (ORBIC 2019). List 4 species are typically being tracked because further information on their current range and abundance in Oregon is needed before they can either be removed from the ORBIC Watch List or be considered for listing as threatened or endangered in Oregon.

4.3 Wetlands and Other Waters of the US

As noted in Section 3 above, desktop review of NWI and NHD data did not identify any wetlands or stream features mapped by the NWI or NHD within the Project Area (Figure 2). The majority of the Project Area (73 percent) is composed of 1B - Adkins fine sandy loam, zero to 5 percent, which is considered non-hydric (NRCS 2019b, NRCS 2020b). The remaining 27 percent of the Project Area is comprised of the 74B - Quincy fine sand, zero to 5 percent slopes soil type. The soil description for Quincy fine sand map unit, zero to 5 percent slopes indicates that minor soil components located in depressions (3 percent) may meet the criteria for hydric soils (NRCS 2019b, NRCS 2020b). However, since this soil type does not contain a major component that is rated as hydric it is; therefore, considered "predominantly nonhydric" by the NRCS's State Soil Data Access Hydric Soils Rating by Map Unit (NRCS 2020b).

Although a few Facultative (FAC = species that occur in wetlands and non-wetlands) species were observed in the Project Area, the vast majority of the species were Facultative Upland (species that usually occur in non-wetlands) and Upland (almost always occur in non-wetlands) species (see Attachment 2). The FAC species observed in the Project Area were only occasionally observed and/or when observed were intermixed with Facultative Upland or Upland plant species and therefore, no area within the Project Area would have met the criteria for hydrophytic vegetation. In addition, no areas (e.g., topographic depression) that would appear to hold water for a sustained period were observed in the Project Area. As stated above, three field indicators of wetlands (hydrophytic vegetation, hydric soils, and wetland hydrology) must be present to make a positive wetland determination. Based on these criteria, and field data collected at three sample plots located in locations most likely to contain wetlands (depressional areas), no wetlands were identified within the Project Area (Figure 5, Attachment 4). Additionally, no stream features or other features that appear to convey water were identified within the Project Area during field surveys.

5.0 Conclusions and Recommendations

Tetra Tech did not observe any target plant species within the Project Area. Additionally, no wetlands or other non-wetland waters were observed within the Project Area. In general, the Project Area is dominated by non-native, invasive species, including several state or county-listed noxious weeds, and is subject to ongoing human disturbance.

Two ORBIC-tracked plant species, Columbia milkvetch and stalked-pot milkvetch, were observed within the Project Area. As stated above, ORBIC-tracked species are not protected under federal or state law, but are species of conservation concern or species for which more information is needed before their status can be determined. Tetra Tech recommends that Eurus avoid the locations of these two milkvetch species, if possible; however, avoidance of these species is not required.

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Figures

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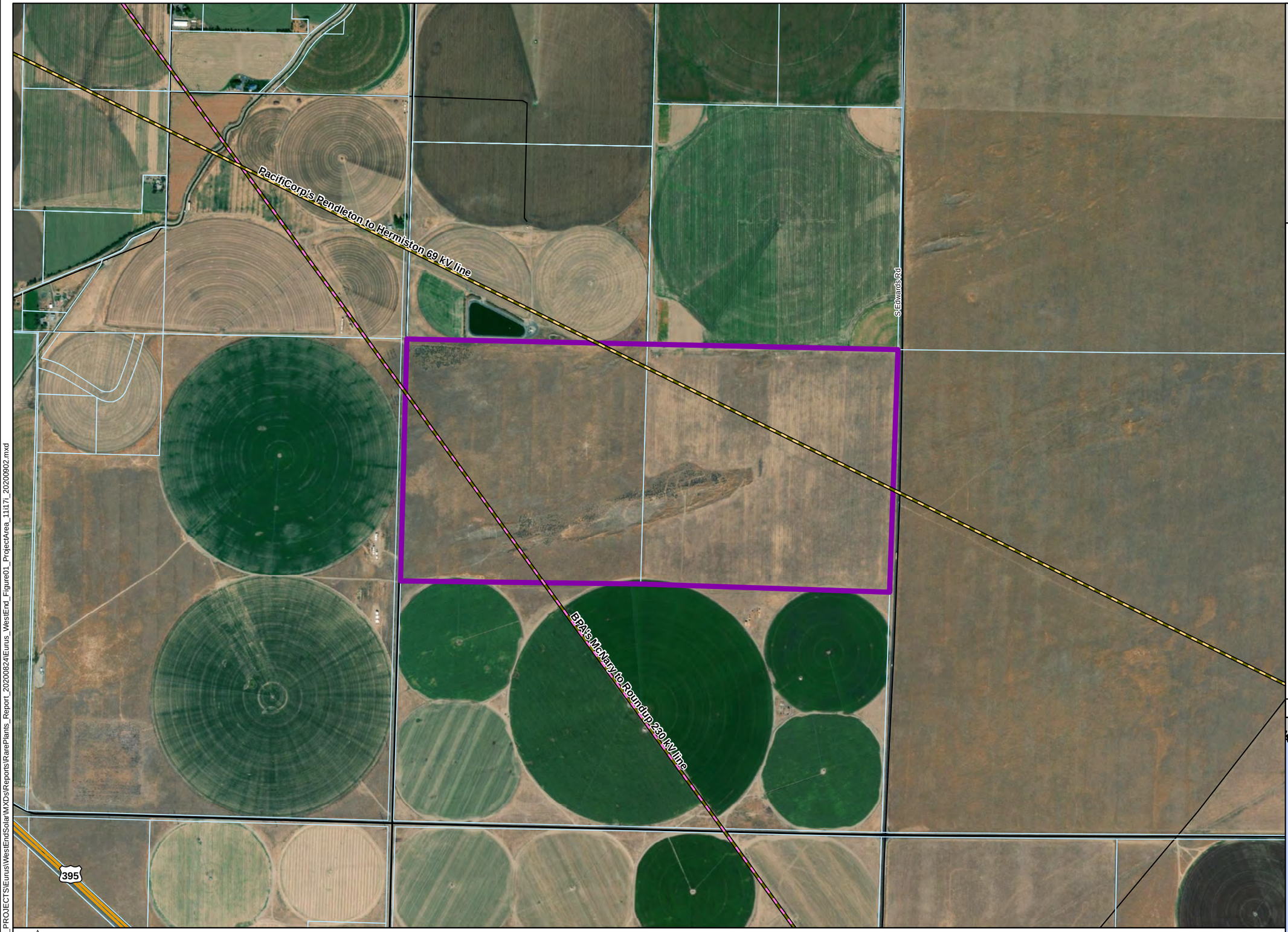


Eurus Energy

West End Solar Project

Figure 1 Project Area

UMATILLA COUNTY, OR

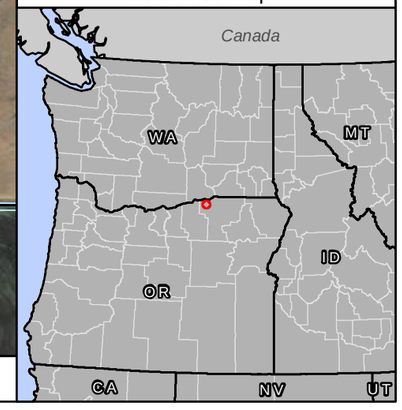
- Project Area
- Secondary Highway
- Secondary Road
- Tax Lot Boundary

Existing Transmission Lines

- Greater than 100 kV
- Under 100 kV

TETRA TECH

Reference Map



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Eurus Energy

West End Solar Project

Figure 2
NWI and NHD Features within the Vicinity of the Project Area

UMATILLA COUNTY, OR

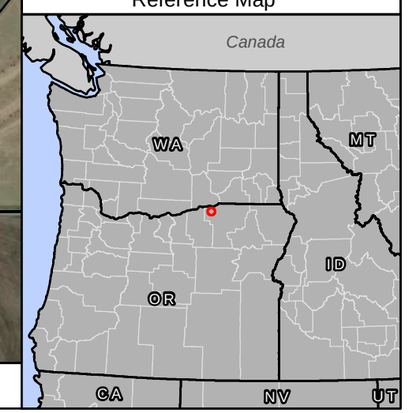
Project Area
Secondary Highway
Secondary Road
Local Road
City/Town
County Boundary

Wetland Type (NWI)

Riverine

TETRA TECH

Reference Map



Meiody Ln
SE Airport Rd
SE Edwards Rd
Feedville Rd
395

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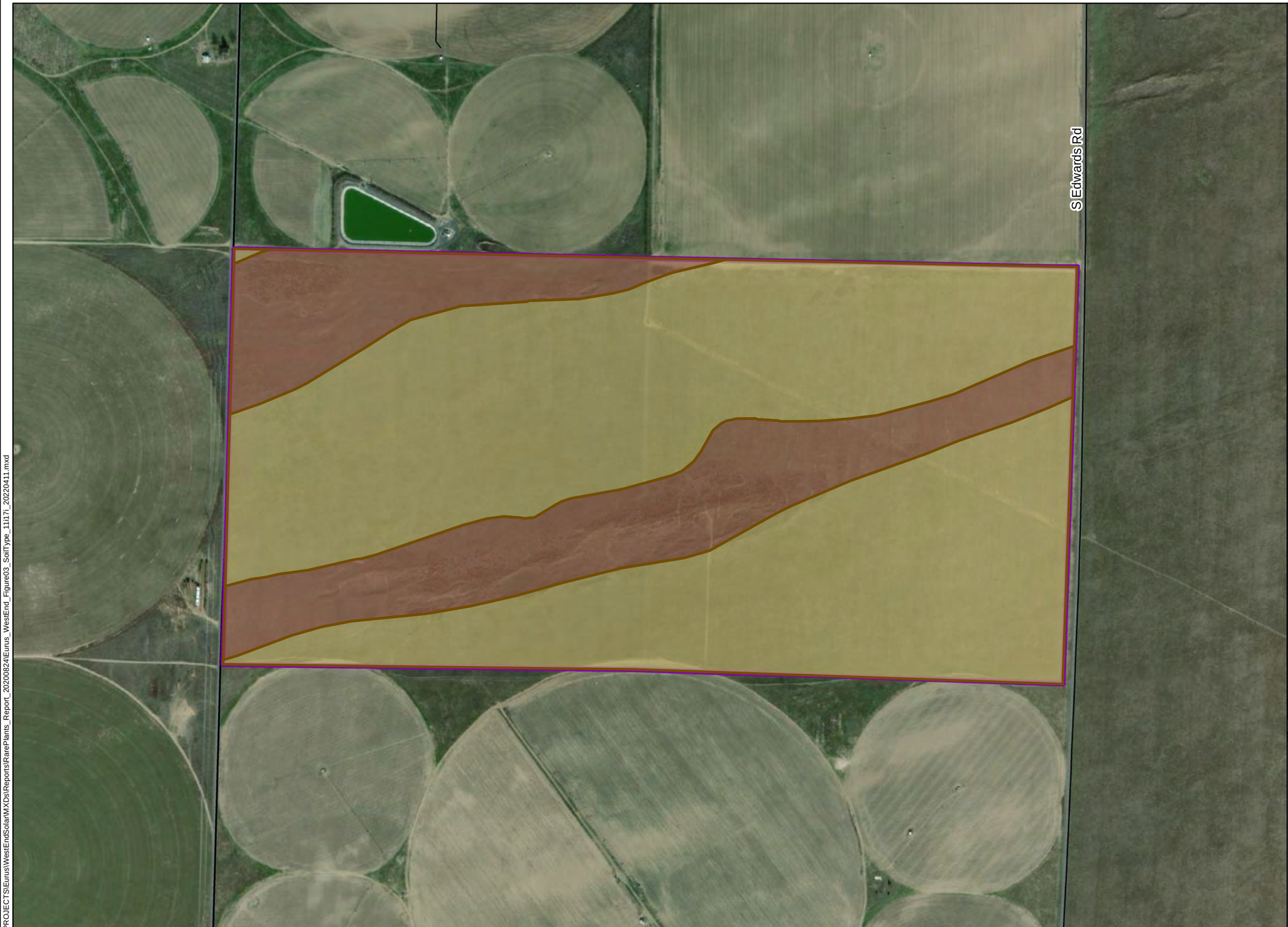

Eurus Energy

West End Solar Project

Figure 3 Soil Type

UMATILLA COUNTY, OR

- Project Area
- Secondary Road
- Soil Unit

Soil Types

- 1B - Adkins fine sandy loam, 0 to 5 percent slopes
- 74B - Quincy fine sand, 0 to 5 percent slopes

TETRA TECH

Reference Map

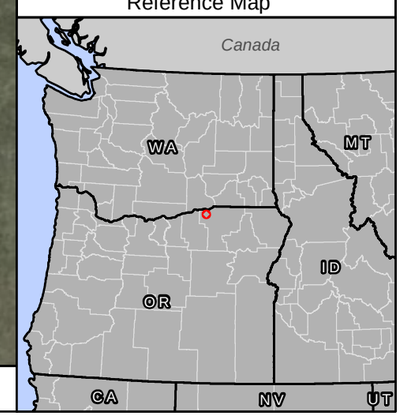

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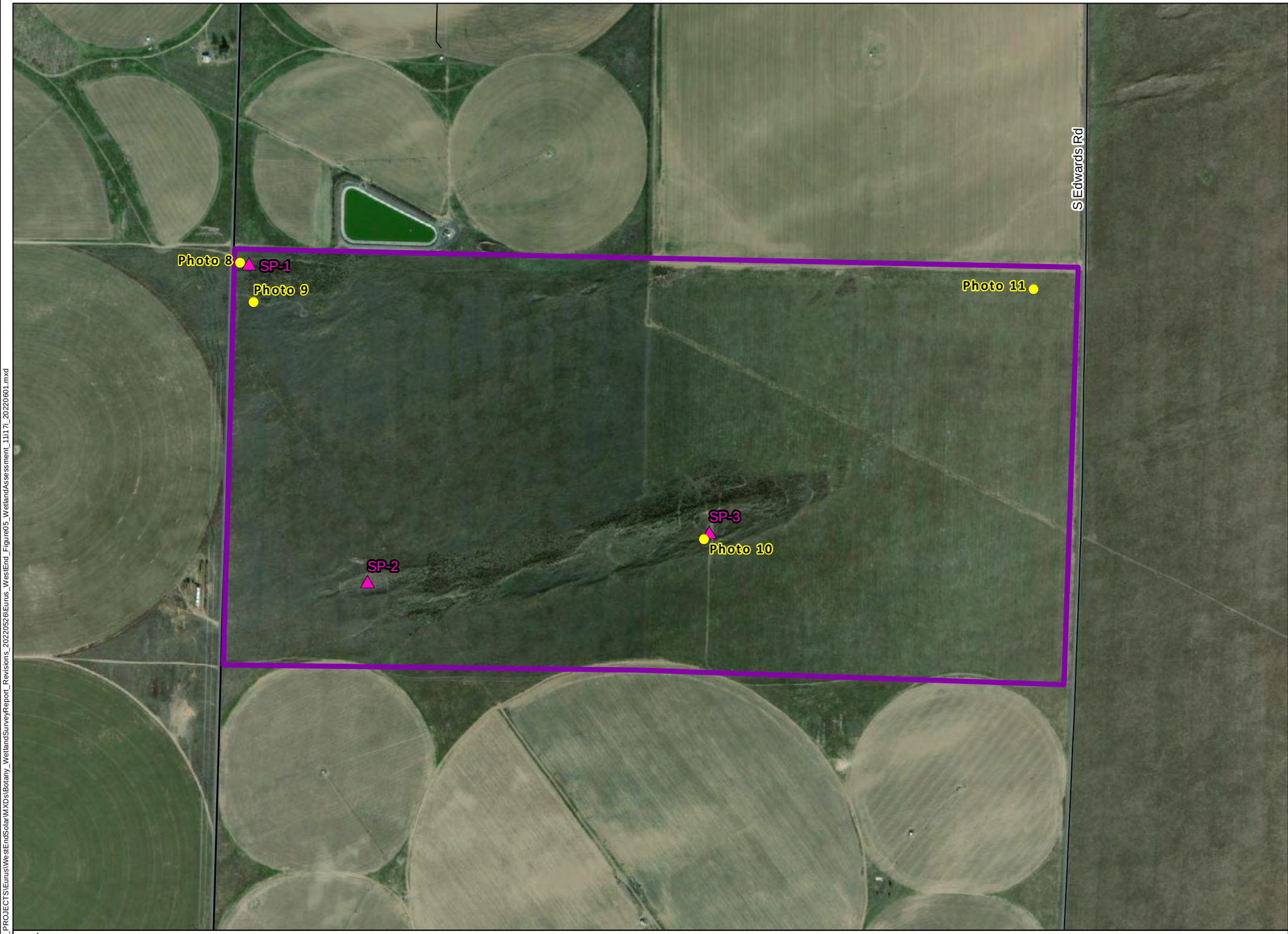
Figure 4 is confidential and submitted under separate cover



Eurus Energy

West End Solar Project

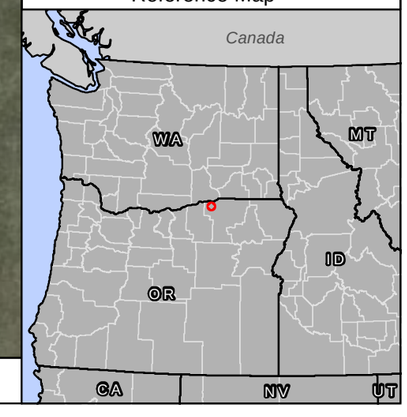
Figure 5
Wetland Assessment

UMATILLA COUNTY, OR

- Project Area
- Secondary Road
- Photo Point
- Sample Plot

TETRA TECH

Reference Map



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Attachment 1. Federal and State-Listed and ORBIC-tracked Vascular Plant Species with the Potential to Occur at the Project

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Attachment 1: Federal and State-Listed and ORBIC-tracked Vascular Plant Species with the Potential to Occur at the Project						
Scientific Name	**Common Name**	**Federal[1]**	**State[1]**	**ORBIC[2]**	**Habitat[3]**	**Survey Period[3]**
Abronia mellifera	White sand verbena			3	Dunes and sandy soils at low elevations (328 to 6,562 feet).	May - July
Achnatherum richardsonii	Richardson needlegrass			2	Intermontane valley grasslands and meadows. Common on hillsides and dry plains, in open grassland or sagebrush benches, and in bottomlands, swales, and wooded slopes; also found on moraines and gravel outwash associated with streams.	July - September
Allium robinsonii	Robinson's onion			2-ex	Rocky or sandy hillsides, lithosol benches, talus, sand and gravelly soil along rivers, and other well drained, open slopes.	April - May
Astragalus collinus var. *laurentii*	Lawrence's milkvetch	SOC	T	1	Sandy or rocky soils overlying basalt on dry slopes mostly at elevations between 2,000 to 3,400 feet, although species has been reported at elevations as low as 400 feet.	Fruits needed; late May - August
Astragalus conjunctus var. *conjuctus*	Idaho milkvetch			3	Dry rocky slopes, scablands, and hilltops throughout the sagebrush desert, typically above 2,000 feet.	April - June
Astragalus geyeri var. *geyeri*	Geyer's milkvetch			2	Depressions in mobile or stabilized dunes, sandy flats and valley floors.	April - July
Astragalus sclerocarpus	Stalked-pod milkvetch			4	Dunes and sandy barrens at low elevations; dry sandy banks and terraces in the steppe and lower montane zones.	June
Astragalus succumbens	Columbia milkvetch			4	Sagebrush deserts, sandy barrens, and lower foothills.	April - June
Balsamorhiza rosea	Rosy balsamroot			2	Dry, rocky slopes at low elevation.	April - May
Boechera cusickii	Cusick's rockcress			3	Sagebrush flats to open ponderosa pine forests, often on lithosol.	March - May
Carex cordillerana	Cordilleran sedge			2	Naturally disturbed, rocky slopes with organic layer and leaf litter in mesic mixed forests, or disturbed, open, grassy slopes.	late May - late July
Cryptantha rostellata	Beaked cryptantha			3	Usually in scattered patches of a few individuals along dry, open drainages at 600 to 2,900 feet.	late April - mid-June
Eremothera (Camissonia) pygmaea	Dwarf evening-primrose		C	1	Found on dry plains and slopes with unstable soils or on gravel in steep talus, dry washes, banks and roadcuts at elevations of 490 to 1,970 feet.	June - August
Helianthus nuttallii	Nuttall's sunflower			3	Moist open places, ditches, roadside; meadows and other moist places, low to moderate elevations in the mountains.	July - September
Heliotropium curassavicum	Salt heliotrope			2	Saline places at low elevations, often in the beds of dried ponds.	June -September
Isoetes minima	Midget quillwort			1	Grows in depressions that are seasonally wet, drying by mid-summer; vernal pools.	June
Lepidium acutidens	Veiny peppergrass			3	Alkaline flats, gullies, or fields, saline vernal flats, grassy fields.	February - April
Lepidium dictyotum	Alkali peppergrass			2	Open areas where often seasonally moist, such as vernal ponds; tolerant of alkaline soils. Margins of playas, saline areas, meadows, gypsum hills, dried pools, alkaline and clay flats and dsinks, near hot springs, roadsides, borders of springs and ponds, sandy flats; 0 to 5,250 feet.	March - June
Leymus flavescens	Sand wildrye			2	Sand dunes, open sandy flats, ditches and road cuts.	June - July
Lipocarpha aristulata	Aristulate lipocarpha			2	Wet soil and mud, often comprised of fine sand and silt, in bottomlands, sandbars, beaches, shorelines, streambanks, ponds, and ditches; 0 to 500 feet.	June - August
Lygodesmia juncea	Rush skeletonplant			3	Dry, open places, often in sandy soil.	June - September
Marsilea vestita	Hairy water-fern			3	Ponds, vernal pools, floodplains; Widespread and variable; in ponds and wet depressions and on river floodplains; 0 to 7,545 feet.	April - October
Myosurus sessilis	Sessile mousetail	SOC	C	1	Vernal pools and alkali flats at elevations of 33 to 5,249 feet.	March - May
Orobanche ludoviciana ssp. ludoviciana	Louisiana broomrape			2	Drier areas, often in sand, low to moderate elevations; parisitic. Open sandy areas at low elevations.	July - September
Penstemon deustus var. *variabilis*	Hot-rock penstemon			1	Dry foothills and lowlands, on open, dry, thin soils over basalt.	June - July
Symphyotrichum ericoides var. *pansum*	White heath aster			3	Open, wet or dry places in the valleys and plains; tolerant of alkali.	July - September
Thelypodium sagittatum ssp. sagittatum	Arrow thelypody			3	Moist swales and meadows in sagebrush plains and scablands and moist alkaline meadows and salt flats that dry by mid-summer.	June - July
Trifolium douglasii	Douglas' clover	SOC		1	Moist to wet open meadows, forested wetlands, and stream banks.	June - July

[1]**Federal**: SOC = Species of Concern; **State**: T= Threatened, C = Candidate

[2]**ORBIC List**: 1=Threatened or endangered throughout range, 2=Threatened or endangered in Oregon but secure elsewhere, 3=Review, 4=Watch, 2-ex=Extirpated in Oregon, secure or abundant elsewhere

[3]**Resources**: http://oregonflora.org/rareplants.php, http://biology.burke.washington.edu/herbarium/imagecollection.php, http://www.dnr.wa.gov/NHPfieldguide, http://www.efloras.org/, http://inr.oregonstate.edu/sites/inr.oregonstate.edu/files/2016-rte-book.pdf, http://www.oregon.gov/ODA/programs/PlantConservation/Pages/ListedPlants.aspx

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Attachment 2. Vascular Plant Species Observed within the Project Area

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Attachment 2. Vascular Plant Species Observed within the Project Area

Scientific Name	Common Name	Family	Type	Non-Native	Noxious Weed Designation State[1] / Umatilla County[2]	Wetland Indicator Status[3]	Synonyms and Notes
Achillea millefolium	yarrow	Asteraceae	Forb	both		FACU	
Agoseris heterophylla	annual agoseris	Asteraceae	Forb			NI	
Amaranthus albus	white pigweed, tumbling pigweed	Amaranthaceae	Forb	x		FACU	
Ambrosia acanthicarpa	bur ragweed, annual bursage	Asteraceae	Forb			NI	
Amsinckia lycopsoides	bugloss fiddleneck, tarweed fiddleneck	Boraginaceae	Forb			NI	
Artemisia tridentata ssp. *tridentata*	big sagebrush, basin big sagebrush	Asteraceae	Shrub			NI	
Astragalus sclerocarpus	stalked-pod milkvetch, The Dalles milkvetch	Fabaceae	Forb			NI	ORBIC List 4
Astragalus succumbens	Columbia milkvetch, crouching milvetch	Fabaceae	Forb			NI	ORBIC List 4
Bassia scoparia	mock cypress, burning bush, kochia	Amaranthaceae	Forb	x	List B / List B	FAC	*Kochia scoparia*
Bromus hordeaceus	soft brome, soft chess	Poaceae	Graminoid	x		FACU	*B. mollis*
Bromus tectorum	cheatgrass	Poaceae	Graminoid	x		NI	
Cenchrus longispinus	longspine sandbur	Poaceae	Graminoid	x		UPL	
Centaurea solstitialis	yellow starthistle	Asteraceae	Forb	x	List B / List B	NI	
Chamaesyce glyptosperma	ribseed sandmat, ridge-seded spurge	Euphorbiaceae	Forb			NI	*Euphorbia glyptosperma*
Chenopodium album	lamb's quarter, pigweed	Amaranthaceae	Forb	x		FACU	
Chondrilla juncea	rush skeletonweed	Asteraceae	Forb	x	List B, List T / List A	NI	
Chrysothamnus viscidiflorus	green rabbitbrush, yellow rabbitbrush	Asteraceae	Shrub			NI	
Conyza canadensis	Canadian fleabane, horseweed	Asteraceae	Forb			NI	
Descurainia pinnata	western tansymustard	Brassicaceae	Forb			NI	
Dieteria canescens var. *canescens*	hoary aster, hoary tansyaster	Asteraceae	Forb			UPL	*Aster canescens, Machaeranthera canescens*
Epilobium brachycarpum	tall annual willowherb	Onagraceae	Forb			FAC	
Ericameria nauseosa	rubber rabbitbrush, gray rabbitbrush	Asteraceae	Shrub			NI	*Chrysothamnus nauseosus*
Erigeron filifolius	threadleaf fleabane	Asteraceae	Forb			NI	
Erigeron pumilus	shaggy fleabane	Asteraceae	Forb			NI	
Erodium cicutarium	redstem stork's bill, red-stemmed filaree	Geraniaceae	Forb	x		NI	
Festuca idahoensis	Idaho fescue	Poaceae	Graminoid			FACU	
Hesperostipa comata ssp. *comata*	needle-and-thread	Poaceae	Graminoid			NI	*Stipa comata*
Heterotheca villosa var. *villosa*	hairy goldaster	Asteraceae	Forb			NI	
Holosteum umbellatum	jagged chickweed	Caryophyllaceae	Forb	x		NI	
Hordeum murinum	mouse barley, wall barley, hare barley	Poaceae	Graminoid	x		FACU	
Lactuca serriola	prickly lettuce	Asteraceae	Forb	x		FACU	
Lagophylla ramosissima	slender hareleaf, branched lagophylla	Asteraceae	Forb			NI	
Logfia arvensis	field filago	Asteraceae	Forb	x		NI	*Filago arvensis*

Scientific Name	Common Name	Family	Type	Non-Native	Noxious Weed Designation State[1] / Umatilla County[2]	Wetland Indicator Status[3]	Synonyms and Notes
Malva neglecta	common mallow, dwarf mallow	Malvaceae	Forb	x		NI	
Medicago sativa	alfalfa	Fabaceae	Forb	x		UPL	
Melilotus officinalis	sweetclover	Fabaceae	Forb	x		FACU	
Oenothera pallida ssp. *pallida*	whitestem evening primrose	Onagraceae	Forb			NI	
Onopordum acanthium	Scotch thistle	Asteraceae	Forb	x	List B / List B	NI	
Plantago lanceolata	English plantain	Plantaginaceae	Forb	x		FAC	
Plantago patagonica	woolly plantain, Indian wheat	Plantaginaceae	Forb			NI	
Poa bulbosa	bulbous bluegrass	Poaceae	Graminoid	x		FACU	
Poa secunda	Sandberg's bluegrass	Poaceae	Graminoid			FACU	
Polygonum aviculare	prostrate knotweed	Polygonaceae	Forb	x		FAC	
Purshia tridentata	bitterbrush	Rosaceae	Shrub			NI	
Salsola tragus	prickly Russian thistle	Amaranthaceae	Forb	x		FACU	*S. kali*
Secale cereale	cereal rye, rye	Poaceae	Graminoid	x	not listed / List B	NI	
Setaria viridis var. *viridis*	green bristlegrass	Poaceae	Graminoid	x		NI	
Sisymbrium altissimum	tumble mustard, tall tumblemustard	Brassicaceae	Forb	x		FACU	
Sporobolus cryptandrus	sand dropseed	Poaceae	Graminoid			FACU	
Stephanomeria paniculata	stiff branched wirelettuce	Asteraceae	Forb			NI	
Taraxacum officinale	common dandelion	Asteraceae	Forb	x		FACU	
Tragopogon dubius	yellow salsify	Asteraceae	Forb	x		NI	
Tribulus terrestris	puncturevine, goat's head	Zygophyllaceae	Forb	x	List B / List B	NI	
Triticum aestivum	wheat	Poaceae	Graminoid	x		NI	
Vicia americana var. *americana*	American vetch	Fabaceae	Forb			FAC	
Vulpia bromoides	brome fescue, rattail fescue	Poaceae	Graminoid	x		FACU	

[1] List B = A weed of economic importance which is regionally abundant, but which may have limited distribution in some counties. Recommended action: Limited to intensive control at the state, county or regional level as determined on a site specific, case-by-case basis. Where implementation of a fully integrated statewide management plan is not feasible, biological control (when available) shall be the primary control method.
List T = A designated group of weed species that are selected and will be the focus for prevention and control by the Noxious Weed Control Program. Action against these weeds will receive priority. T-designated noxious weeds are determined by the Oregon State Weed Board and directs ODA to develop and implement a statewide management plan. T-designated noxious weeds are species selected from either the A or B list (ODA 2019).

[2] List A = weeds that have been ffound as siingle plants or iin verry limited populations in the county. Prevention, early detection and eradication is high priority. Cost shares may be available at the Weed Board discretion.
Recomended Action: Infestations are subject to intensive control when and where found.
List B = weed of known economic importance which is regionally abundant, but which may have limited distribution in some counties. Where implementation of a fully integrated statewide management plan is feasible, biological control shall be the main control for species for which bilogical agents are available. Recommended action: Limited to intensive control at state or county level as determined on a case-by-case basis.

[3] Status based on the National Wetland Plant List for the Arid West Region (USACE 2020). Definitions of indicator status: FAC = Facultative; FACU = Facultative Upland; UPL = Upland; NI = No Indicator, refers to plants that are not listed in the wetland plant list and are thereby considered to be Upland plants.

Attachment 3. Select Site Photographs

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Photo 1. Shrub-steppe habitat in northwestern portion of Survey Area with abundant yellow starthistle (*Centaurea solstitialis*) in foreground.

Photo 2. Shrub-steppe habitat in south-central portion of Project Area.

Photo 3. Heavy cover of cereal rye (*Secale cereale*) and prickly lettuce (*Lactuca serriola*) in grassland habitat.

Photo 4. Heavy cover of yellow starthistle in grassland habitat (foreground), with shrub-steppe habitat in the background.

Photo 5. Columbia milkvetch (*Astragalus succumbens*) in fruit.

Photo 6. Stalked-pod milkvetch (*Astragalus sclerocarpus*) in foreground and habitat.

Photo 7. Stalked-pod milkvetch with denuded stems and only a few fruits remaining.

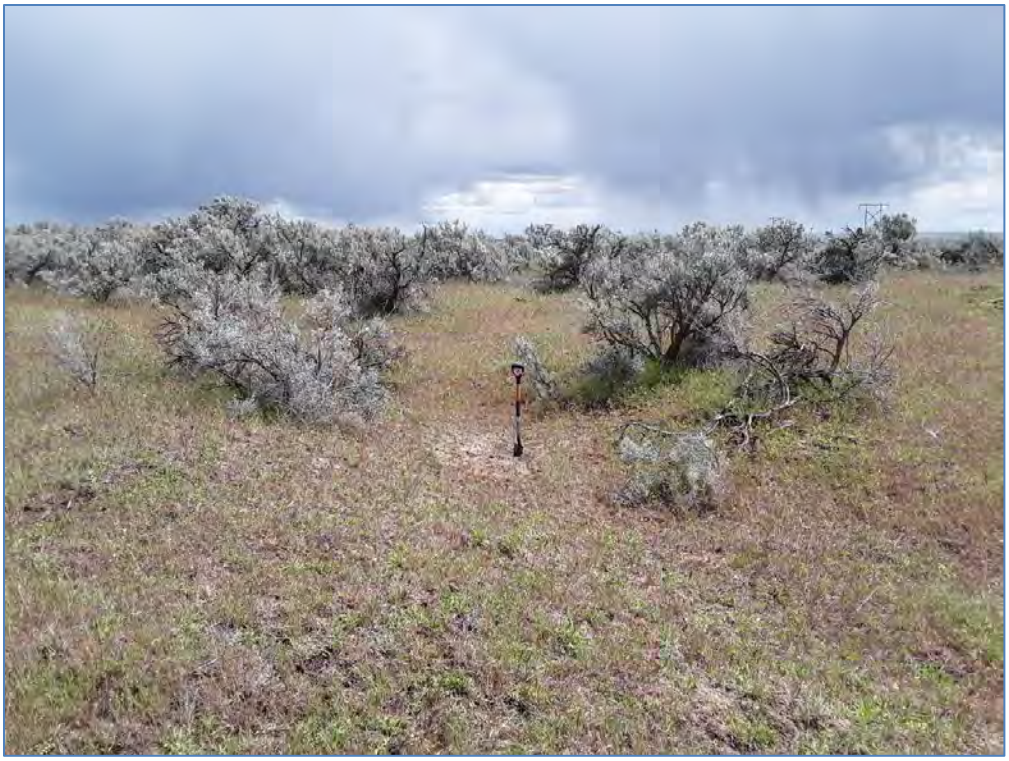

Photo 8. Facing east. Shovel is located in a narrow upland swale, at sample plot SP-1. No positive wetland field indicators were present.

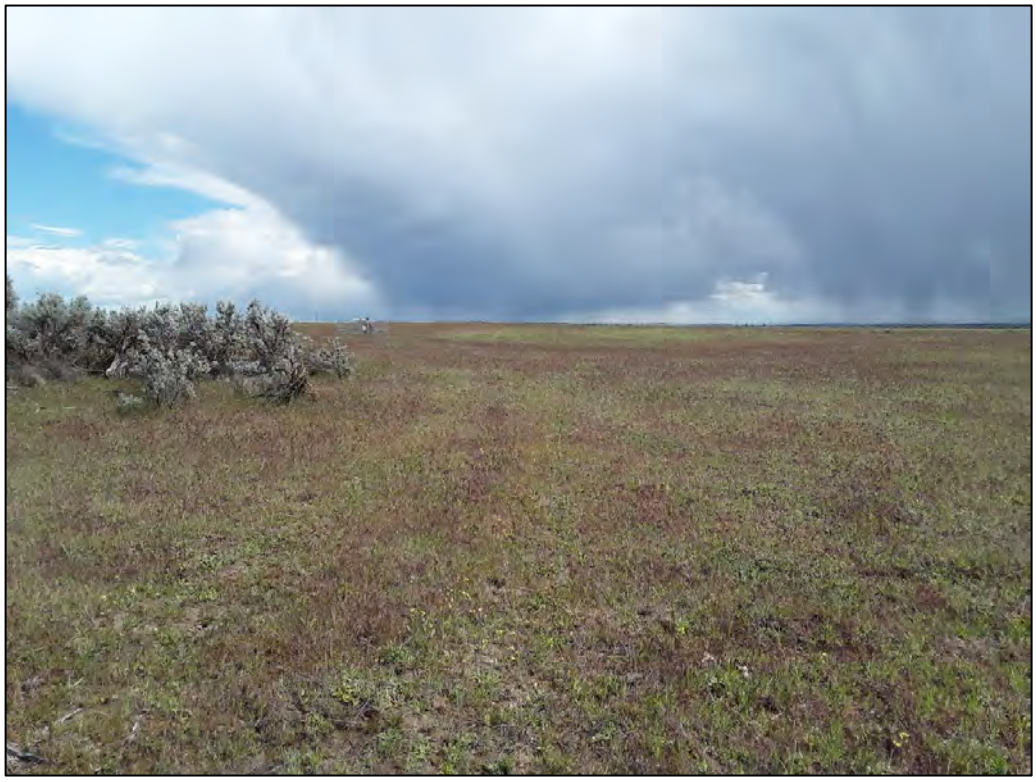

Photo 9. Facing east. Typical landscape in the western portion of the site is predominantly non-native, invasive grasses and forbs. An island of big sagebrush is also present in the northwest corner of the site.

Photo 10. Facing north. Shovel is located in a large upland swale, at sample plot SP-3. No positive wetland field indicators were present.

Photo 11. Facing southwest. Typical landscape in the eastern portion of the site is predominantly non-native, invasive grasses and forbs.

Attachment 4. Wetland Determination Data Forms

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WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: West End Solar **City/County:** Umatilla **Sampling Date:** 19-May-22

Applicant/Owner: Eurus Energy **State:** OR **Sampling Point:** SP-1

Investigator(s): ES **Section, Township, Range:** S 20 T 4N R 29E

Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** concave **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR B **Lat.:** 45.820098 **Long.:** -119.225279 **Datum:** NAD 83

Soil Map Unit Name: 74 - Quincy fine sand, 0-5 percent slope **NWI classification:**

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

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

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

Remarks: Precipitation for March, April, and May 2022 was above normal. The month of April 2022 was 181% of normal. Site is actively farmed.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Artemisia tridentata	25	☑ 83.3%	UPL
2. Chrysothamnus nauseosus	5	☐ 16.7%	UPL
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	30	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Bromus tectorum	15	☑ 25.0%	UPL
2. Poa bulbosa	15	☑ 25.0%	FACU
3. Sisymbrium altissimum	15	☑ 25.0%	FACU
4. Centaurea solstitialis	15	☑ 25.0%	UPL
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	60	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 40 **% Cover of Biotic Crust** 0

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	60	x 5 =	300
Column Totals:	90 (A)		420 (B)

Prevalence Index = B/A = 4.667

Hydrophytic Vegetation Indicators:

- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP-1

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	2.5Y	3/2	100					Fine Sand	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR C)
- ☐ 1 cm Muck (A9) (LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[3]

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

Hydrology

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (Nonriverine)
- ☐ Sediment Deposits (B2) (Nonriverine)
- ☐ Drift deposits (B3) (Noneriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)
- ☐ Sediment Deposits (B2) (Riverine)
- ☐ Drift Deposits (B3) Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

Slightly moist throughout.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: West End Solar **City/County:** Umatilla **Sampling Date:** 19-May-22

Applicant/Owner: Eurus Energy **State:** OR **Sampling Point:** SP-2

Investigator(s): ES **Section, Township, Range:** S 20 T 4N R 29E

Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** concave **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR B **Lat.:** 45.814623 **Long.:** -119.222103 **Datum:** NAD 83

Soil Map Unit Name: 74 - Quincy fine sand, 0-5 percent slope **NWI classification:**

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

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

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

Remarks: Precipitation for March, April, and May 2022 was above normal. The month of April 2022 was 181% of normal. Site is actively farmed.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. Chrysothamnus nauseosus	10	☑ 100.0%	UPL
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	10	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Bromus tectorum	50	☑ 62.5%	UPL
2. Poa bulbosa	25	☑ 31.3%	FACU
3. Centaurea solstitialis	5	☐ 6.3%	UPL
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	80	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 20 **% Cover of Biotic Crust** 0

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	0	**x 2 =**	0
FAC species	0	**x 3 =**	0
FACU species	25	**x 4 =**	100
UPL species	65	**x 5 =**	325
Column Totals:	90 **(A)**		425 **(B)**

Prevalence Index = B/A = 4.722

Hydrophytic Vegetation Indicators:

- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP-2

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	2.5Y	3/2	100					Fine Sand	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR C)
- ☐ 1 cm Muck (A9) (LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[3]

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

Hydrology

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (Nonriverine)
- ☐ Sediment Deposits (B2) (Nonriverine)
- ☐ Drift deposits (B3) (Noneriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)
- ☐ Sediment Deposits (B2) (Riverine)
- ☐ Drift Deposits (B3) Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

Slightly moist throughout.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: West End Solar **City/County:** Umatilla **Sampling Date:** 19-May-22

Applicant/Owner: Eurus Energy **State:** OR **Sampling Point:** SP-3

Investigator(s): ES **Section, Township, Range:** S 20 T 4N R 29E

Landform (hillslope, terrace, etc.): Terrace **Local relief (concave, convex, none):** concave **Slope:** 0.0 % / 0.0 °

Subregion (LRR): LRR B **Lat.:** 45.815634 **Long.:** -119.213626 **Datum:** NAD 83

Soil Map Unit Name: 74 - Quincy fine sand, 0-5 percent slope **NWI classification:**

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

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

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

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

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

Remarks: Precipitation for March, April, and May 2022 was above normal. The month of April 2022 was 181% of normal. Site is actively farmed.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Poa bulbosa	20	☑ 33.3%	FACU
2. Heterotheca villosa	30	☑ 50.0%	UPL
3. Bromus tectorum	10	☐ 16.7%	UPL
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	60	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 40 **% Cover of Biotic Crust** 0

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	0	**x 2 =**	0
FAC species	0	**x 3 =**	0
FACU species	20	**x 4 =**	80
UPL species	40	**x 5 =**	200
Column Totals:	60	**(A)**	280 **(B)**

Prevalence Index = B/A = 4.667

Hydrophytic Vegetation Indicators:

- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: SP-3

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	2.5Y	3/2	100					Fine Sand	

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

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR C)
- ☐ 1 cm Muck (A9) (LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[3]

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

Hydrology

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (Nonriverine)
- ☐ Sediment Deposits (B2) (Nonriverine)
- ☐ Drift deposits (B3) (Noneriverine)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)
- ☐ Sediment Deposits (B2) (Riverine)
- ☐ Drift Deposits (B3) Riverine)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

Slightly moist throughout.