EXHIBIT J
WETLANDS

OAR 345-021-0010(1)(j)

TABLE OF CONTENTS

ATTACHMENTS

TABLE

FIGURES

J.1 INTRODUCTION

The Energy Facility Siting Council (EFSC; Council) previously approved construction of the 404-megawatt (MW) Montague Wind Power Facility (Facility)[1] and found that the Facility complies with the wetlands and waters of the State requirements under ORS 469.503(3) and the General Standard of Review (OAR 345-11 022-0000). Montague Wind Power Facility, LLC (Montague) is constructing the Facility in phases. Phase 1 consists of up to 81 wind turbines generating 202 MW of power within the approved site boundary. Montague has already begun construction of Phase 1 under the conditions of the existing Site Certificate. Phase 2 consists of an expanded site boundary, modification of turbine types and construction schedule, and addition of a solar array and battery storage. The analysis in this exhibit focuses on Phase 2 and the three design scenarios described in *Request for Amendment No. 4 Project Description and OAR Division 27 Compliance* (referred to herein as RFA 4).

J.2 SUMMARY OF ANALYSIS RESULTS

The Council previously found in the Final Order on the Application, Final Order on Amendment 1, Final Order on Amendment 2, and Final Order on Amendment 3 that based on compliance with existing Site Certificate conditions, the Facility will avoid impacts to wetlands and waters of the State and will not need a removal-fill permit.[2] This exhibit presents an analysis of Facility impacts on wetlands and waters of the State as a result of the modifications proposed in RFA 4, and demonstrates that the previous findings still apply to the Facility, as amended. The analysis results are summarized as follows:

- **Expansion of Site Boundary**: There will be no impacts to wetlands and waters of the State associated with the site boundary expansion.
- **Modification of Turbine Type:** Installation of larger turbines will not result in impacts to wetlands and waters of the State.
- **Modification of Construction Schedule**: Changing the construction schedule for Phase 2 will not affect analysis of wetlands and waters of the State. Montague will ensure delineations are current at the time of construction.
- **Addition of Solar Array**: There will be no impacts to wetlands and water of the State associated with the addition of a solar array.
- **Addition of Battery Storage**: There will be no impacts to wetlands and waters of the State associated with the addition of battery storage.

J.3 CONDITION COMPLIANCE

The Third Amended Site Certificate imposes eight conditions (80, 81, 82, 83, 84, 85, 86, and 87) designed to reduce or avoid potential impacts to wetlands. The conditions include requirements related to stormwater management, avoidance of impacts to wetlands and streams, and management of blade washwater. The modifications proposed under RFA 4 do not affect Montague's ability to comply with the existing Site Certificate conditions. Montague will

[1] EFSC. 2017a. *Third Amended Site Certificate for Montague Wind Power Facility*. July 11.

[2] EFSC. 2017b. *Final Order on Request for Contested Case and Amendment #3 of the Site Certificate for the Montague Wind Power Facility.* p. 55. July 12.

continue to comply with the conditions, and proposes minor modifications to Conditions 83 and 87 shown below with underline and strikeout.

83: Before beginning construction of the facility or a phase of the facility, the certificate holder shall provide to the Department a map showing the final design locations of all components ~~of the facility~~ and the areas that would be disturbed during construction and showing the wetlands and stream channels previously surveyed by CH2M HILL or HDR as described in the Final Order on the Application and the Final Order on Amendment #4. For areas to be disturbed during construction that lie outside of the previously-surveyed areas, the certificate holder shall hire qualified personnel to conduct a pre-construction investigation to determine whether any jurisdictional waters of the State exist in those locations within the proposed expanded site boundary. The certificate holder shall provide a written report on the pre-construction investigation to the Department and the Department of State Lands for approval before beginning construction of the phase. The certificate holder shall ensure that construction and operation of the facility will have no impact on any jurisdictional water identified in the pre-construction investigation.

87: During facility operation, if blade-washing or solar panel washing becomes necessary, the certificate holder shall ensure that there is no runoff of wash water from the site or discharges to surface waters, storm sewers or dry wells. The certificate holder shall not use acids, bases or metal brighteners with the wash water. The certificate holder may use biodegradable, phosphate free cleaners sparingly.

J.4 INVESTIGATION BACKGROUND

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:*

Response: Sections J.4.1 and J.4.2 describe literature and field studies completed to support the analysis described in this exhibit.

J.4.1 Previous and New Wetland Delineations

Montague previously performed wetland and water delineations within the approved site boundary in 2009, as described in the Final Order on the Application.[3] The delineation was performed in accordance with the Oregon Removal-Fill Law and Section 404 of the Clean Water Act. The delineation report (*Montague Wind Power Facility, Gilliam County, Oregon, Wetlands and Other Waters Delineation Report*; CH2M HILL, 2010) was submitted to the Oregon Department of State Lands (DSL) in January 2010 for review and approval, and to the U.S. Army Corps of Engineers (USACE) in January 2010 as an attachment to the Joint Permit Application (JPA). DSL concurrence and jurisdictional determinations were received in 2010 (WD#2010-0083). The 2010 jurisdictional determination was based on data collected during Montague's 2009 delineations, as well as data collected from several previous delineations (WD#2005-0142, WD#2007-0430, WD#2009-0252, WD#2010-0081) which had been prepared for other projects that were also sited within the approved site boundary. These included the Pebble Springs Wind Project (WD#2007-0430) and Leaning Juniper II Wind Power Facility (WD#2005-0142, WD#2009-0252, WD#2010-0081).

[3] EFSC. 2010. *Final Order on the Application for Site Certificate for the Montague Wind Power Facility*. pp. 134-135. September 10.

Some areas of the proposed expanded site boundary were investigated for wetlands as part of the Baseline Wind Project in 2011, with delineation results summarized in the wetland delineation report (WD#2011-0364) and agency concurrence received in 2012. These jurisdictional determinations are now expired; therefore, Montague conducted wetland and water delineations in 2017 in an analysis area defined as all areas that could be disturbed by construction for Phase 2. The 2017 wetland delineation reports were submitted to DSL in 2017 for review and approval. DSL provided verification of concurrence for the first of the two reports, titled *Wetlands and Waterbodies Delineation Report, Montague Wind Power Facility* (HDR Engineering, Inc., 2017a) (WD#2017-0111), in a letter dated October 26, 2017 (see Attachment J-2). DSL provided concurrence with the second of the two reports, titled *Supplemental Delineation Report for Reissuance of Expired WD#2011-0364, Montague 2 Wind Power Facility* (HDR Engineering, Inc., 2017b), in a letter dated February 28, 2019 (see Attachment J-3).

Since 2017, approximately 1,837 acres of land were identified for additional Phase 1 and Phase 2 supplemental, preconstruction wetlands and waterbodies delineations. The 2018 Phase 1 and Phase 2 supplemental delineation areas are generally located adjacent to the 2017 wetland survey corridors and to some areas previously delineated in 2011. CH2M performed the Phase 1 supplemental delineations of 673 acres on May 8 and 9, 2018. The results are documented in *2018 Wetlands and Waterbodies Supplemental Delineation for Montague Wind Power Facility—Phase 1* (CH2M, 2018a), which was submitted to DSL on October 9, 2018. DSL provided concurrence with this report on February 26, 2019 (see Attachment J-4).

CH2M performed the Phase 2 supplemental delineations of 1,164 acres on October 17, 2018. The results are documented in *2018 Wetlands and Waterbodies Supplemental Delineation for Montague Wind Power Facility—Phase 2* (CH2M, 2018b), which was submitted to DSL on December 13, 2018. DSL provided concurrence with this report on March 5, 2019 (Attachment J-5). As with the 2017 delineations, the 2018 methodology, results, and associated mapping for the 2018 delineations are consistent with the methods described in *Wetlands and Waterbodies Delineation Report, Montague Wind Power Facility* (HDR Engineering, Inc., 2017a) and *Supplemental Delineation Report for Reissuance of Expired WD#2011-0364, Montague 2 Wind Power Facility* (HDR Engineering, Inc., 2017b).

J.4.2 Overview of Literature Review and Field Study

J.4.2.1 Literature Review

Before conducting the field study, the following information was reviewed:

- *Wetland Delineation Report, Pebble Springs Wind Power Project, Gilliam County, Oregon* (CH2M HILL, 2007)
- *Wetland Delineation Report, Pebble Springs Wind Power Project: 2008 Addendum, Gilliam County, Oregon* (CH2M HILL, 2008)
- *Addendum to Leaning Juniper II Wind Power Facility, Wetlands and Waters Delineation Report, Gilliam County, Oregon* (CH2M HILL, 2009)
- *Montague Wind Power Facility, Wetlands and Other Waters Delineation Report, Gilliam County, Oregon* (CH2M HILL, 2010)
- *World Street Map and Aerial Photos: World Imagery*. Aerial imagery, 1-meter resolution (ESRI, 2016)

- *Baseline Wind Power Facility, Wetland Delineation Report, Gilliam County, Oregon* (HDR Engineering, Inc., 2011)
- S*oil Survey of Gilliam County, Oregon* (Hosler et al., 1984)
- National Wetlands Inventory (NWI) digital data
- DSL concurrence letters dated September 29, 2009, for DSL file WD#09-0252 (Leaning Juniper IIB) and January 10, 2008, for DSL file WD#07-0430 (Pebble Springs)
- DSL concurrence letter dated June 28, 2010, for DSL file WD#2010-0083 (Montague) (DSL, 2010)
- DSL concurrence letter dated May 18, 2012, for DSL file WD#2011-0364 (Baseline) (DSL, 2012)
- Precipitation data from Climate Analysis for Wetlands (WETS) OR0265, Arlington (NRCS, 2017a)
- *Hydric Soils List for Gilliam County, Oregon* (NRCS, 2017b)
- USACE jurisdictional determination dated May 29, 2009, for Corps file NWP-2007-925 (Pebble Springs)
- U.S. Geological Survey (USGS) 7.5' topographic maps (digital format)
- USGS 100K National Hydrography Dataset - digital water course data

Multiple National Hydrography Dataset (NHD) drainages were identified within the analysis area. Wetlands and waters previously delineated as part of Montague's 2010 application, and for the Pebble Springs, Leaning Juniper IIB, and Baseline projects, were identified from existing information. There were no mapped hydric soils in the delineation analysis area and there were no NWI-mapped wetlands outside of the identified drainages. No springs were mapped on the USGS maps in the analysis area.

Review of the delineation reports noted above indicate that there are no previously delineated wetlands within the Phase 2 wetland analysis area but multiple delineated waterways are present.

J.4.2.2 Field Study

Montague completed field investigations in April and July of 2017 and in May and October of 2018. Previously identified wetlands and waterways were located in the field using GPS and reviewed to determine if there had been any changes in site conditions. In previously unsurveyed areas, Montague investigated low topographic depressions, vegetative changes, and other suspect areas for the presence of wetlands. Likewise, mapped NHD features were field-verified to determine whether they contained stream channels, wetlands, or other waters. Representative upland sample plots were taken to verify upland conditions in the analysis area.

Data collection, description, and analysis for wetlands and other jurisdictional waters of the U.S. followed procedures in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE, 2008). The ordinary high water (OHW) mark for waterbodies in the study area was determined in the field using the methodology outlined in the USACE *Regulatory Guidance Letter No. 05-05* (USACE, 2005). Observed waterways were

assessed using the *Streamflow Duration Assessment Method for the Pacific Northwest* (SDAM) (Nadeau, 2015) to determine if they had ephemeral, intermittent, or perennial flow regimes.

The routine onsite wetland determination method was used to observe vegetation, soils, and hydrological conditions at representative locations. Paired sample plots were used to document wetland and upland areas adjacent to wetland boundaries. Wetland plant indicator status was determined using the "State of Oregon 2016 Wetland Plant List" (Lichvar et al., 2016).

J.5 DESCRIPTION OF WETLANDS, STREAMS, AND RIPARIAN AREAS

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.*

Response: There are 185 NHD-mapped waters within the expanded site boundary. The field surveys confirmed the presences of 10 ephemeral streams within the Phase 2 wetland analysis area. No wetlands were identified.

J.5.1 Wetlands

As previously described in Section J.2.1, review of the 2010 Montague and 2011 Baseline delineation reports indicates that there are no previously delineated wetlands within the Phase 2 analysis area. Additionally, no new wetlands were observed during 2017 and 2018 field investigations within the Phase 2 study corridors.

J.5.2 Other Waters

A total of 10 waterways were identified in the Phase 2 analysis area and are described in Table J-1. Of these, two waterways (SD1026 and SD1043) were previously identified in Baseline's 2011 delineation (WD#2011-0364) and eight are new waterways which were not previously delineated. With exception of one roadside ditch (SD3015), all waterways drain to other waters outside of the expanded site boundary. Four drain to Eightmile Canyon, which flows from south to north draining to Willow Creek and five drain to Rock Creek which flows southeast to northeast, draining to the John Day River. Both Willow Creek and the John Day River are tributaries of the Columbia River. SDAM forms are included in Appendix B2 of the respective wetlands and waterbodies delineation reports identified in Section J.4.1**.** Complete wetland and other waters descriptions, field data, and photographs are provided in the delineation reports.

SD1048 was previously mapped as upland in 2011 but now contains a waterway. Since that time the road has been regraded and an 18-inch culvert added under the road. The upstream end of the culvert is located in an area used for vehicular access to a field and no identifiable channel was observed. The downstream end of the waterway (north of the road) did exhibit signs of bed and bank, erosion, and deposition. Based on these indicators, the downstream reach of the waterway (north of the road) was mapped as a new waterway, SD1048. The remaining six waterways (P2S01, SD2005, SD2009, SD 2018, SD2106, and SD3044) were identified in areas of the analysis area which were not previously surveyed during 2009 Montague or 2011 Baseline delineations (see Table J-1).

Table J-1. Waterways Identified in the Phase 2 Study Area

Waterway Reach ID (Previous ID)[a]	Flow Regime	Width at Widest Point (m)	Downstream Receiving Water	Preliminary Jurisdictional Determination USACE	Preliminary Jurisdictional Determination DSL
P2S01[b]	Ephemeral	1.2	Rock Creek	Yes	No
SD 1026 (D5)[c]	Ephemeral	3.5	Rock Creek	Yes	No
SD1043 (S204)[d]	Ephemeral	1.2	Eightmile Canyon	Yes	No
SD1048[c]	Ephemeral	1.0	Eightmile Canyon	Yes	No
SD2005[c]	Ephemeral	2.0	Rock Creek	Yes	No
SD2009[c]	Ephemeral	2.0	Rock Creek	Yes	No
SD2018[e]	Ephemeral	1.5	Eightmile Canyon	Yes	No
SD2106[e]	Ephemeral	3.0	Eightmile Canyon	Yes	No
SD3015[e]	Ephemeral	2.0	None	No	No
SD3044[e]	Ephemeral	<1.0	Rock Creek	Yes	No

[a] Previous ID is the reach name used in the 2011 Baseline delineation report (HDR Engineering, Inc., 2011).

[b] See *2018 Wetlands and Waterbodies Supplemental Delineation for Montague Wind Power Facility—Phase 2* (CH2M, 2018b).

[c] See *Supplemental Delineation Report for Reissuance of Expired WD#2011-0364, Montague II Wind Power Facility* (HDR Engineering, Inc., 2017b).

[d] See *2018 Wetlands and Waterbodies Supplemental Delineation for Montague Wind Power Facility—Phase 1* (CH2M, 2018a).

[e] See Attachment J-1: *Wetlands and Waterbodies Delineation Report, Montague Wind Power Facility* (HDR Engineering, Inc., 2017a).

Preliminary jurisdictional determinations for waterways are included in Table J-1. With the exception of one roadside ditch (SD3015), the remaining nine waterways eventually connect to waters of the United States and therefore may be considered jurisdictional to the USACE. DSL does not regulate ephemeral drainages and thus all of the ephemeral drainages in the analysis area would not be jurisdictional to DSL. Montague has submitted wetland delineation reports to DSL and DSL has provided concurrence to confirm these preliminary jurisdictional determinations.

J.6 EFFECT ON WATERS OF THE STATE AND WETLANDS

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.*

Response: Delineated waters were overlain with proposed facilities (Figures J-1 through J-3). Figure J-4 identifies complete survey coverage for the Phase 2 study area in the micrositing corridor within the proposed expanded site boundary. The Facility is designed to avoid impacts to waters of the State. Collector lines will cross two streams, SD2018 shown on Figures J-1.2 and J-2.2, and SD2106 shown on Figures J-1.4 and J-2.4, respectively. Impacts will be avoided by using either overhead crossings or by boring under these streams. No other Facility components will cross or otherwise impact the remaining streams. There are no wetlands identified within the Phase 2 analysis area.

If selected, boring is a preferred waterbody crossing method because it avoids impacts to waterbodies and streambeds, unlike other traditional trenching methods. The boring process uses a horizontal directional drill rig that installs the collector line below the streambed allowing for trenchless construction. The work areas for the boring will be located outside of the ordinary high water mark of the stream to avoid direct impacts to the streambed. The drill rig first advances a pilot hole along the designated directional path, and then the pilot hole is enlarged using reaming bits to the desired diameter. A conduit is pulled back into the enlarged hole, and collection cables are then routed through the conduit. Drilling fluid is used throughout the operation to transport drilled spoil, reduce friction, and stabilize the hole during pullback. Drilling fluids are made of a nontoxic bentonite solution. Thus, construction with the boring method will not adversely affect streams, including streams SD2018 and SD2106.

J.7 SIGNIFICANT POTENTIAL DISTURBANCES TO WETLANDS

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).*

Response: Impacts to delineated streams will be avoided, so no potential adverse impacts will occur. There are no wetlands identified within the Phase 2 study corridor, so there will also be no adverse impacts to wetlands.

J.8 REMOVAL-FILL PERMIT

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.*

Response: No wetlands are present within the Phase 2 study corridor and waters within the study corridor are all ephemeral and, as such, are presumed not to be state jurisdictional. As such, there are no waters of the State construction area for Phase 2. Therefore, no removal-fill permit is needed. The streams are likely federally jurisdictional. However, because there will be no impacts to streams, the federal Section 404 permit is not required.

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.*

Response: No wetlands are present within the Phase 2 study corridor and waters within the study corridor are all ephemeral and, as such, are presumed not state jurisdictional. Therefore, there are no impacts to wetlands or waters under this RFA 4 and no removal-fill permit is required.

J.9 MONITORING PROGRAM, IF ANY, FOR DISTURBANCES TO WETLANDS

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*

Response: No wetlands are present within Phase 2 study corridor and waters within the study corridor are all ephemeral and, as such, are presumed not state jurisdictional. Therefore, there

are no impacts to wetlands or waters under this RFA 4 and no removal-fill permit or associated mitigation is required.

No wetlands are present within the analysis area and the facilities have been designed to avoid all waters within the analysis area. In addition, best management practices will be implemented as described in the Site Certificate to ensure no impacts to these waters.

J.10 CONCLUSION

Montague is committed to avoiding impacts to streams and wetlands regardless of where Facility components are sited within the site boundary. Montague has delineated wetlands and streams within the micrositing corridor within the revised proposed expanded site boundary, and each design scenario can be constructed avoiding impacts on jurisdictional waterbodies. If Facility components are shifted to constrained areas that have not been previously surveyed, or for which the delineation reports are considered out of date, additional surveys will be conducted in compliance with Condition 83, and Montague will continue to avoid impacts to streams and wetlands.

On the basis of the information presented above, Montague has satisfied the requirements under ORS 469.503(3) and the Council's General Standard of Review (OAR 345-11 022-0000). The modifications proposed under RFA 4 will not result in impacts to wetlands or waters of the State.

J.11 REFERENCES

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CH2M HILL. 2008. *Wetland Delineation Report, Pebble Springs Wind Power Project: 2008 Addendum, Gilliam County, Oregon*.

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Nadeau, Tracie-Lynn. 2015. *Streamflow Duration Assessment Method for the Pacific Northwest*. EPA 910-K-14-001, U.S. Environmental Protection Agency, Region 10, Seattle, WA.

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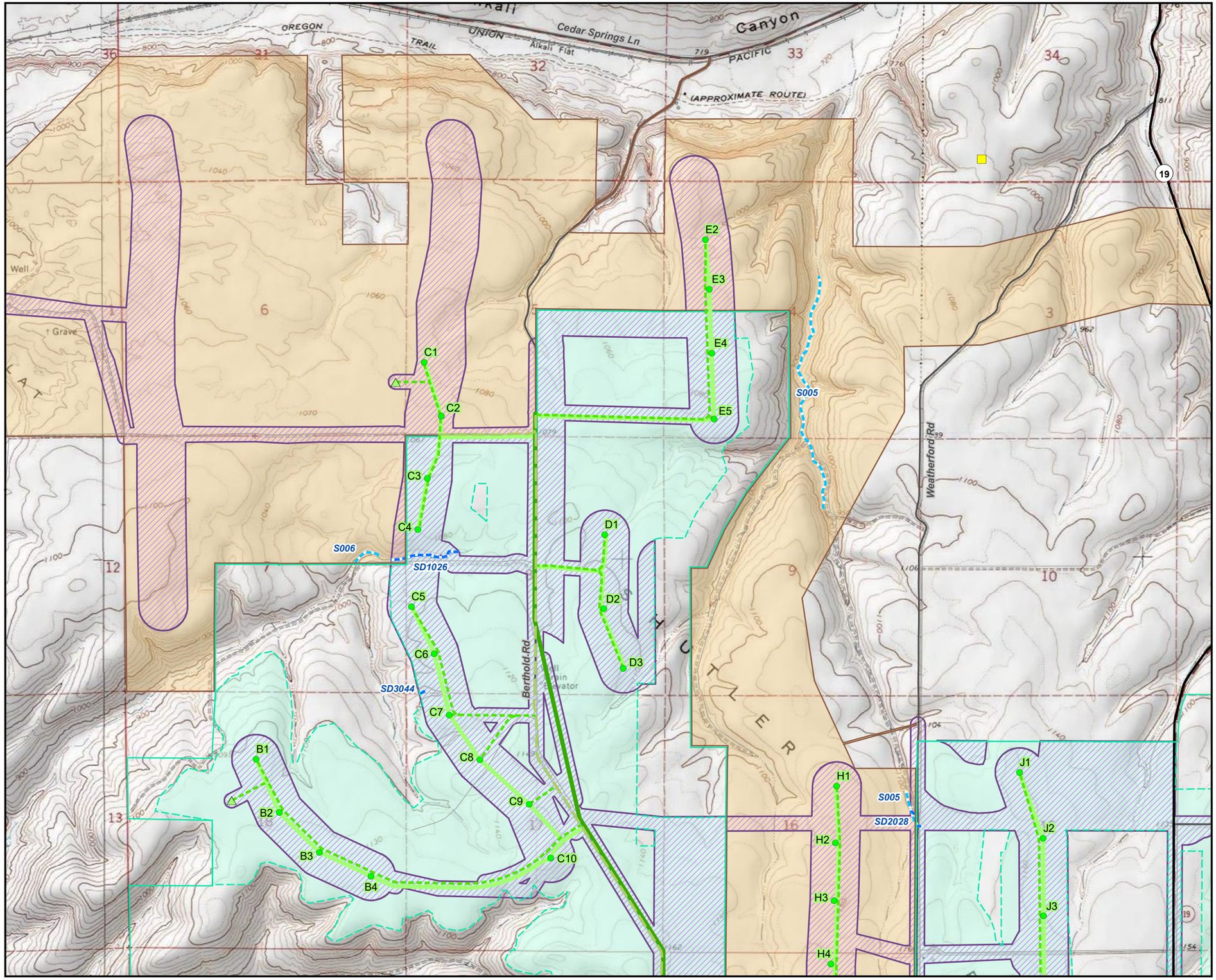
Figures

Figure J-1.1
Wetlands and Waters
Phase 2 Design Scenario A:
Detailed View
Montague Wind Power Facility



Legend

- Approved Site Boundary
- Approved Micrositing Corridor
- Proposed Expanded Site Boundary
- Proposed Expanded Micrositing Corridor
- Wetland Survey Corridor with Concurrence from Oregon Department of State Lands (DSL) (WD#2017-0111, WD#2018-0597, WD#2011-0364R, WD#2018-0660)
- 2017/2018 Field Verified Ordinary High Water
- Previously Field Verified Ordinary High Water
- Existing Shared LJIIB O&M Building

Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)

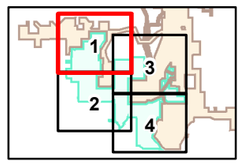
- Proposed Turbine
- Meteorological Tower
- Phase 2 Collector Substation
- Battery Storage System
- O&M Building
- Temporary Laydown Area
- Modified 230-kV Transmission Line Route
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- New Access Road
- Facility Use of Existing Road

Phase 1 (Features Constructed within the Approved Site Boundary and Micrositing Corridor)

- Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- Access Road

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line



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Basemap Source: ESRI USA Topo Maps

Figure J-1.2
Wetlands and Waters
Phase 2 Design Scenario A:
Detailed View
Montague Wind Power Facility

Legend

- Approved Site Boundary
- Approved Micrositing Corridor
- Proposed Expanded Site Boundary
- Proposed Expanded Micrositing Corridor
- Wetland Survey Corridor with Concurrence from Oregon Department of State Lands (DSL) (WD#2017-0111, WD#2018-0597, WD#2011-0364R, WD#2018-0660)
- 2017/2018 Field Verified Ordinary High Water
- Previously Field Verified Ordinary High Water
- Existing Shared LJIIB O&M Building

Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)

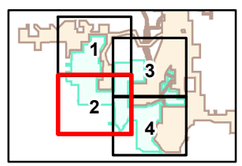
- Proposed Turbine
- Meteorological Tower
- Phase 2 Collector Substation
- Battery Storage System
- O&M Building
- Temporary Laydown Area
- Modified 230-kV Transmission Line Route
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- New Access Road
- Facility Use of Existing Road

Phase 1 (Features Constructed within the Approved Site Boundary and Micrositing Corridor)

- Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- Access Road

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line



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Basemap Source: ESRI USA Topo Maps

Figure J-1.3
Wetlands and Waters
Phase 2 Design Scenario A:
Detailed View
Montague Wind Power Facility

Legend

- Approved Site Boundary
- Approved Micrositing Corridor
- Proposed Expanded Site Boundary
- Proposed Expanded Micrositing Corridor
- Wetland Survey Corridor with Concurrence from Oregon Department of State Lands (DSL) (WD#2017-0111, WD#2018-0597, WD#2011-0364R, WD#2018-0660)
- 2017/2018 Field Verified Ordinary High Water
- Previously Field Verified Ordinary High Water
- Existing Shared LJIIB O&M Building

Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)

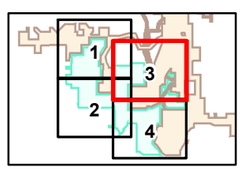
- Proposed Turbine
- Meteorological Tower
- Phase 2 Collector Substation
- Battery Storage System
- O&M Building
- Temporary Laydown Area
- Modified 230-kV Transmission Line Route
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- New Access Road
- Facility Use of Existing Road

Phase 1 (Features Constructed within the Approved Site Boundary and Micrositing Corridor)

- Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- Access Road

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line



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Basemap Source: ESRI USA Topo Maps

Figure J-1.4
Wetlands and Waters
Phase 2 Design Scenario A:
Detailed View
Montague Wind Power Facility

Legend

- Approved Site Boundary
- Approved Micrositing Corridor
- Proposed Expanded Site Boundary
- Proposed Expanded Micrositing Corridor
- Wetland Survey Corridor with Concurrence from Oregon Department of State Lands (DSL) (WD#2017-0111, WD#2018-0597, WD#2011-0364R, WD#2018-0660)
- 2017/2018 Field Verified Ordinary High Water
- Previously Field Verified Ordinary High Water
- Existing Shared LJIIB O&M Building

Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)

- Proposed Turbine
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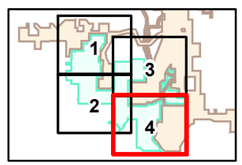
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- New Access Road
- Facility Use of Existing Road

Phase 1 (Features Constructed within the Approved Site Boundary and Micrositing Corridor)

- Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- Access Road

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line



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Basemap Source: ESRI USA Topo Maps

Figure J-2.1
Wetlands and Waters
Phase 2 Design Scenario B:
Detailed View
Montague Wind Power Facility

Legend

- Approved Site Boundary
- Approved Micrositing Corridor
- Proposed Expanded Site Boundary
- Proposed Expanded Micrositing Corridor
- Wetland Survey Corridor with Concurrence from Oregon Department of State Lands (DSL) (WD#2017-0111, WD#2018-0597, WD#2011-0364R, WD#2018-0660)
- 2017/2018 Field Verified Ordinary High Water
- Previously Field Verified Ordinary High Water
- Existing Shared LJIIB O&M Building

Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)

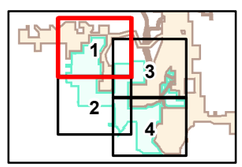
- Proposed Turbine
- Meteorological Tower
- Phase 2 Collector Substation
- Battery Storage System
- O&M Building
- Temporary Laydown Area
- Modified 230-kV Transmission Line Route
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- New Access Road
- Facility Use of Existing Road

Phase 1 (Features Constructed within the Approved Site Boundary and Micrositing Corridor)

- Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- Access Road

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line



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Basemap Source: ESRI USA Topo Maps

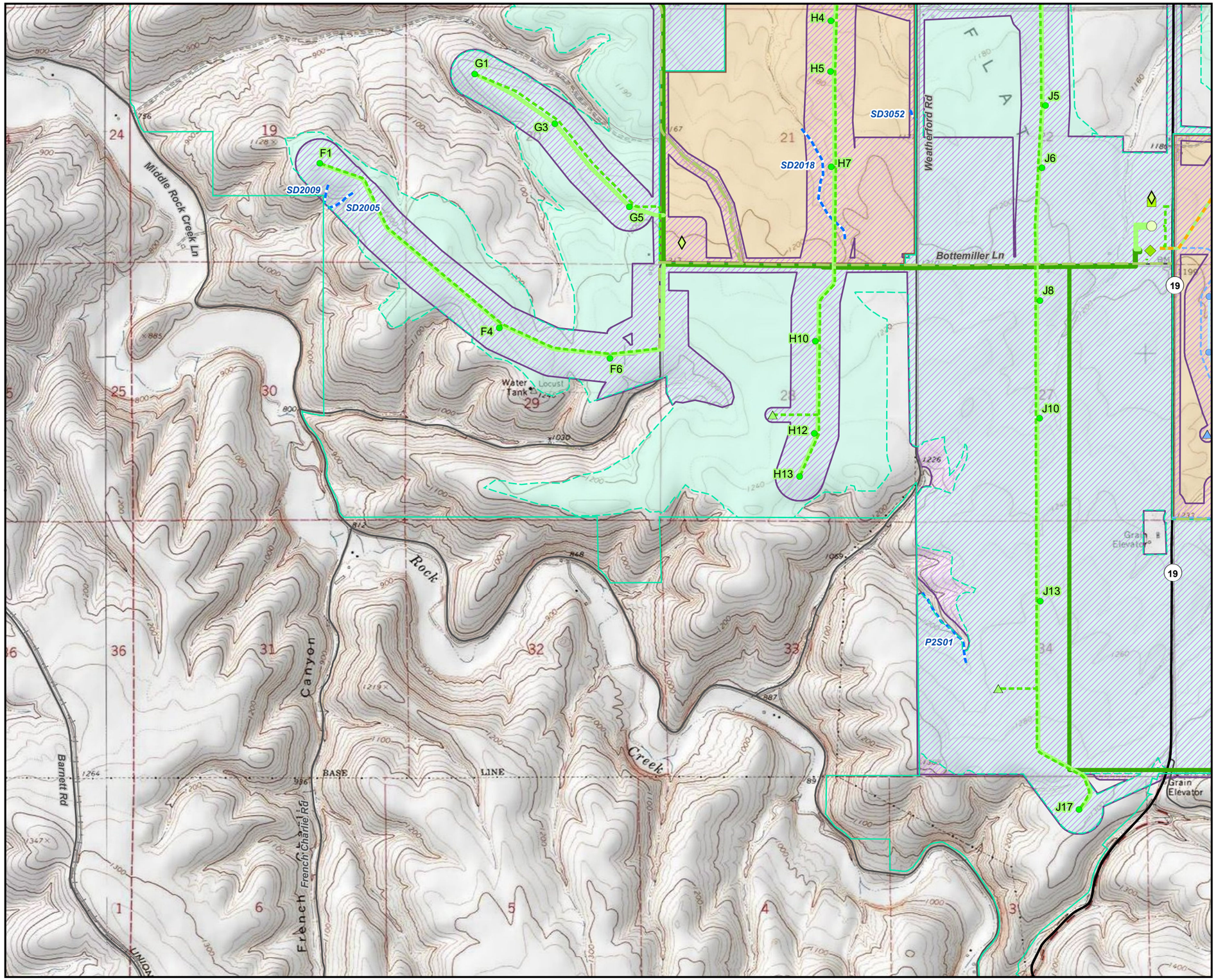


Figure J-2.2
Wetlands and Waters
Phase 2 Design Scenario B:
Detailed View
Montague Wind Power Facility

Legend

- Approved Site Boundary
- Approved Micrositing Corridor
- Proposed Expanded Site Boundary
- Proposed Expanded Micrositing Corridor
- Wetland Survey Corridor with Concurrence from Oregon Department of State Lands (DSL) (WD#2017-0111, WD#2018-0597, WD#2011-0364R, WD#2018-0660)
- 2017/2018 Field Verified Ordinary High Water
- Previously Field Verified Ordinary High Water
- Existing Shared LJIIB O&M Building

Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)

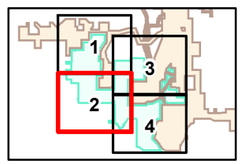
- Proposed Turbine
- Meteorological Tower
- Phase 2 Collector Substation
- Battery Storage System
- O&M Building
- Temporary Laydown Area
- Modified 230-kV Transmission Line Route
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- New Access Road
- Facility Use of Existing Road

Phase 1 (Features Constructed within the Approved Site Boundary and Micrositing Corridor)

- Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- Access Road

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line



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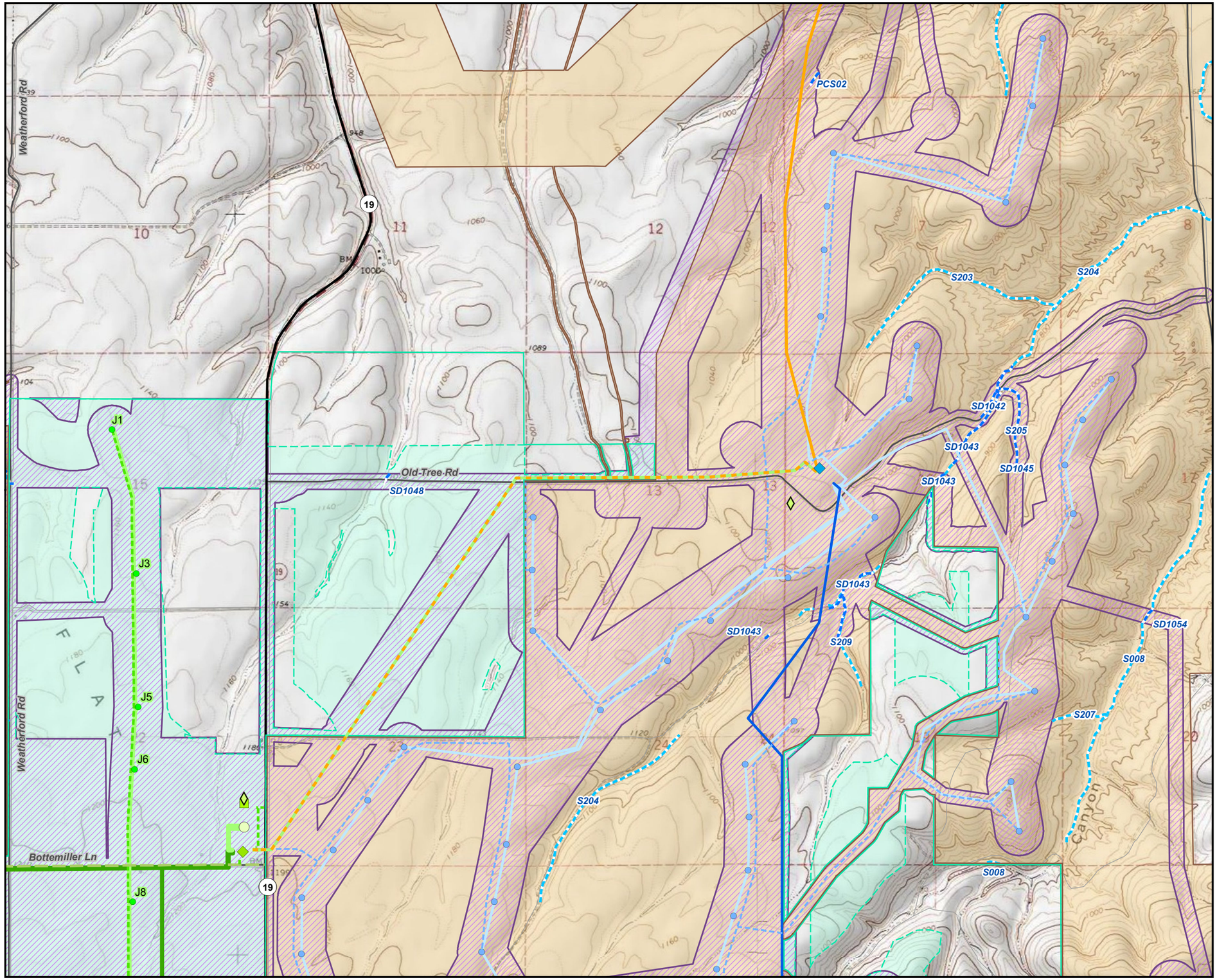
Basemap Source: ESRI USA Topo Maps

Figure J-2.3
Wetlands and Waters
Phase 2 Design Scenario B:
Detailed View
Montague Wind Power Facility



Legend

- Approved Site Boundary
- Approved Micrositing Corridor
- Proposed Expanded Site Boundary
- Proposed Expanded Micrositing Corridor
- Wetland Survey Corridor with Concurrence from Oregon Department of State Lands (DSL) (WD#2017-0111, WD#2018-0597, WD#2011-0364R, WD#2018-0660)
- 2017/2018 Field Verified Ordinary High Water
- Previously Field Verified Ordinary High Water
- Existing Shared LJIIB O&M Building

Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)

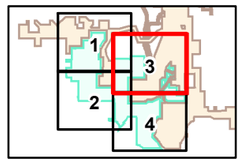
- Proposed Turbine
- Meteorological Tower
- Phase 2 Collector Substation
- Battery Storage System
- O&M Building
- Temporary Laydown Area
- Modified 230-kV Transmission Line Route
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- New Access Road
- Facility Use of Existing Road

Phase 1 (Features Constructed within the Approved Site Boundary and Micrositing Corridor)

- Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- Access Road

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line



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Basemap Source: ESRI USA Topo Maps

Figure J-2.4
Wetlands and Waters
Phase 2 Design Scenario B:
Detailed View
Montague Wind Power Facility

Legend

- Approved Site Boundary
- Approved Micrositing Corridor
- Proposed Expanded Site Boundary
- Proposed Expanded Micrositing Corridor
- Wetland Survey Corridor with Concurrence from Oregon Department of State Lands (DSL) (WD#2017-0111, WD#2018-0597, WD#2011-0364R, WD#2018-0660)
- 2017/2018 Field Verified Ordinary High Water
- Previously Field Verified Ordinary High Water
- Existing Shared LJIIB O&M Building

Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)

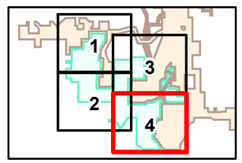
- Proposed Turbine
- Meteorological Tower
- Phase 2 Collector Substation
- Battery Storage System
- O&M Building
- Temporary Laydown Area
- Modified 230-kV Transmission Line Route
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- New Access Road
- Facility Use of Existing Road

Phase 1 (Features Constructed within the Approved Site Boundary and Micrositing Corridor)

- Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- Access Road

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line



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Basemap Source: ESRI USA Topo Maps

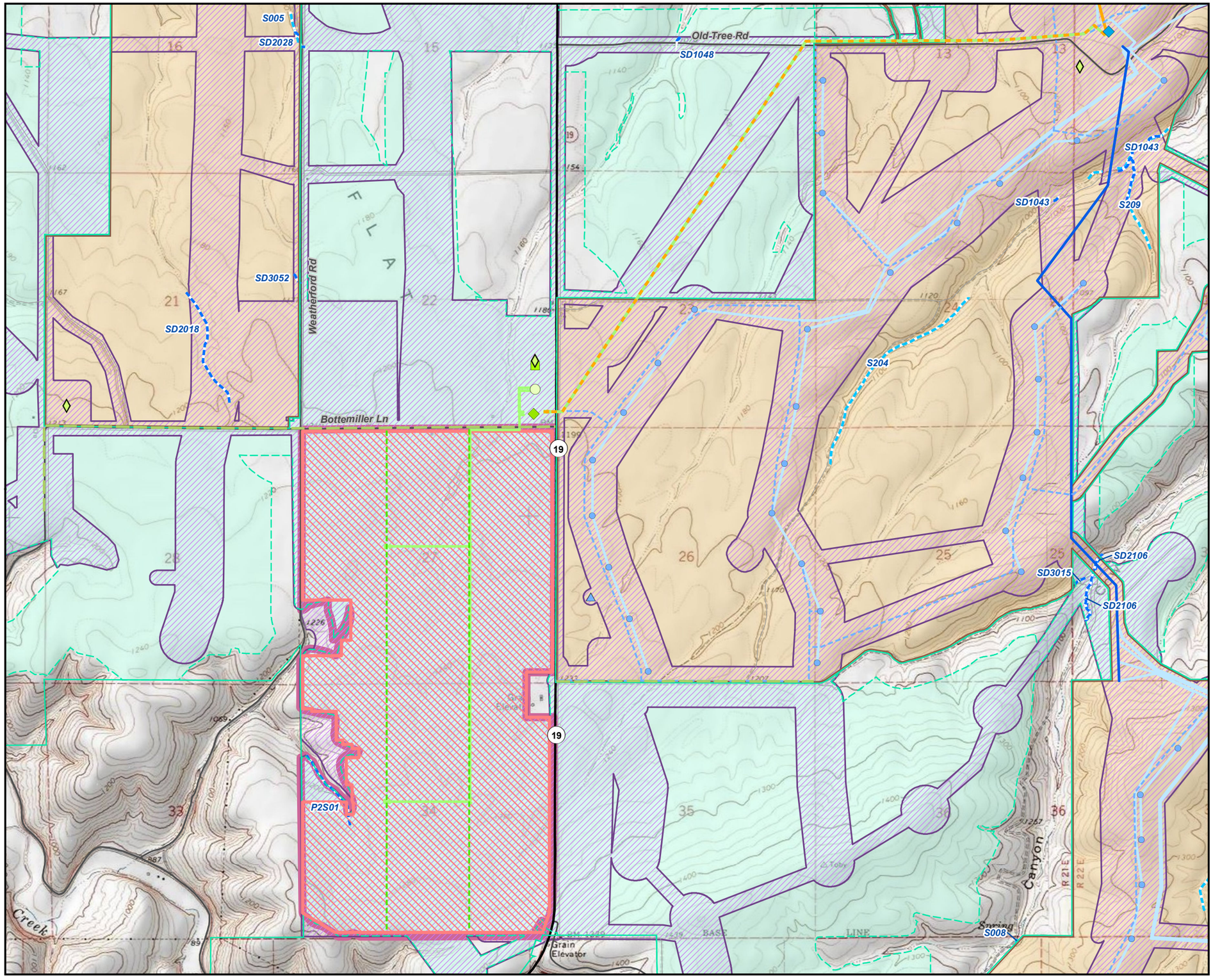


Figure J-3
Wetlands and Waters
Phase 2 Design Scenario C:
Detailed View
Montague Wind Power Facility

Legend

- Approved Site Boundary
- Approved Micrositing Corridor
- Proposed Expanded Site Boundary
- Proposed Expanded Micrositing Corridor
- Wetland Survey Corridor with Concurrence from Oregon Department of State Lands (DSL) (WD#2017-0111, WD#2018-0597, WD#2011-0364R, WD#2018-0660)
- 2017/2018 Field Verified Ordinary High Water
- Previously Field Verified Ordinary High Water
- Existing Shared LJIIB O&M Building

Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)

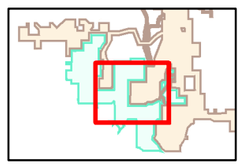
- Phase 2 Collector Substation
- Battery Storage System
- O&M Building
- Temporary Laydown Area
- Modified 230-kV Transmission Line Route
- 34.5-kV Underground Collector Line
- New Access Road
- Facility Use of Existing Road
- Solar Array
- Solar Micrositing Area

Phase 1 (Features Constructed within the Approved Site Boundary and Micrositing Corridor)

- Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- Access Road

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line



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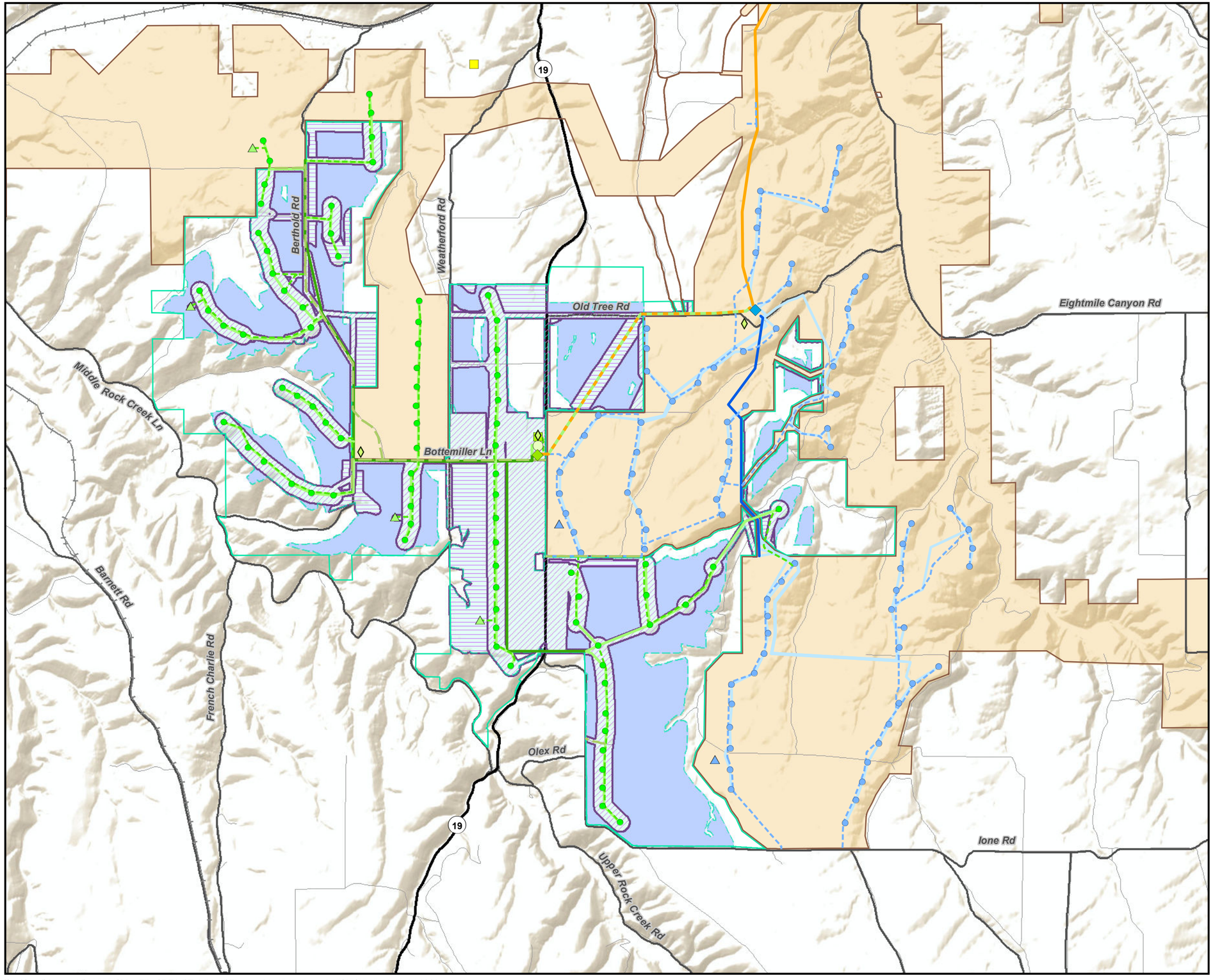
Basemap Source: ESRI USA Topo Maps

Figure J-4
Wetlands and Waters Survey Coverage
Montague Wind Power Facility



Legend

- Approved Site Boundary
- Approved Micrositing Corridor
- Proposed Expanded Site Boundary
- Proposed Expanded Micrositing Corridor
- 2017 Wetland Survey Corridor
- 2018 Wetland Survey Corridor
- Previously Surveyed for Wetlands
- Existing Shared LJIIB O&M Building

Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)

- Proposed Turbine
- Meteorological Tower
- Phase 2 Collector Substation
- Battery Storage System
- O&M Building
- Temporary Laydown Area
- Modified 230-kV Transmission Line Route
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- New Access Road
- Facility Use of Existing Road

Phase 1 (Features Constructed within the Approved Site Boundary and Micrositing Corridor)

- Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 34.5-kV Overhead Collector Line
- 34.5-kV Underground Collector Line
- Access Road

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line

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Basemap Source: ESRI World Terrain Base

Attachment J-1
Wetlands and Waterbodies Delineation Report, Montague 1 Wind Power Facility (July 10, 2017)

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach this form to the front of an unbound report or include a hard copy of the completed form with a CD/DVD that includes a single PDF file of the report cover form and report (minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.** A single PDF attachment of the completed cover from and report may be e-mailed to **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail instructions on how to access the file from your ftp or other file sharing website. Fees can be paid by check or credit card. Make the check payable to the Oregon Department of State Lands. To pay the fee by credit card, call 503-986-5200.

☑ Applicant ☐ Owner Name, Firm and Address: Matt Hutchinson, Avandrid Renewables 1125 NW Couch Street, Suite 700 Portland, Oregon 97209	Business phone # 503.478.6317 Mobile phone # (optional) E-mail: matthew.hutchinson@avangrid.com
☐ Authorized Legal Agent, Name and Address: Same as applicant.	Business phone # Mobile phone # E-mail:

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: Matt Hutchinson Signature: [signature]

Date: Special instructions regarding site access:

Project and Site Information (using decimal degree format for lat/long., enter centroid of site or start & end points of linear project)

Project Name: Montague Wind Power Facility	Latitude: S: 45.704539 E: 45.151867 Longitude: S: -120.517339 E: -120.142036
Proposed Use: Construction of a wind power facility including turbines and access roads.	Tax Map # See next page for tax map #s
Project Street Address (or other descriptive location): Project site is located east and west of Highway 19 between Arlington, Oregon and Mikkalo, Oregon City: nearest city is Arlington, OR County: Gilliam	Township Range Section QQ Tax Lot(s) See next page Waterway: not applicable River Mile: not applicable NWI Quad(s): Shutler Flat, Hickland Butte, Mikkalo, Wolf Hollow Falls

Wetland Delineation Information

Wetland Consultant Name, Firm and Address: Leandra Cleveland, HDR Engineering, Inc. 1001 SW 5th Avenue Suite 1800 Portland, Oregon 97204	Phone # 360.975.6831 Mobile phone # 360.901.1410 E-mail: leandra.cleveland@hdrinc.com

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.

Consultant Signature: [signature] Date: 07/10/17

Primary Contact for report review and site access is ☑ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☑ Yes ☐ No | Study Area size: 6,848 acres | Total Wetland Acreage: 0.15 acres

Check Box Below if Applicable:	**Fees:**
☐ R-F permit application submitted	☐ Fee payment submitted $
☐ Mitigation bank site	☐ Fee ($100) for resubmittal of rejected report
☐ Wetland restoration/enhancement project (not mitigation)	☑ No fee for request for reissuance of an expired report
☐ Industrial Land Certification Program Site	
☑ Reissuance of a recently expired delineation Previous DSL # 10-0083 Expiration date June 2014	

Other Information:	Y	N	
Has previous delineation/application been made on parcel?	☑	☐	If known, previous DSL # 10-0083
Does LWI, if any, show wetland or waters on parcel?	☐	☑	

For Office Use Only

DSL Reviewer: _____	Fee Paid Date: ___/___/___	DSL WD # _____
Date Delineation Received: ___/___/___	DSL Project # _____	DSL Site # _____
Scanned: ☐ Final Scan: ☐	DSL WN # _____	DSL App. # _____

Township	Range	Section	Taxlots
1 North	20 East	1-2, 12	100, 800
1 North	21 East	1, 4-8, 12-17, 21-28, 34-36	100, 200, 300, 400, 401, 500, 800 , 802, 804, 805, 806, 900, 1000, 1002, 1100, 1500, 1900, 2000, 2002, 2100
1 North	22 East	5-8, 17-20, 28-33	500, 700, 800, 900, 1001, 1100, 1800, 1900, 2000, 2200, 2900, 2901, 2902
1 South	21 East	31-32	200
1 South	22 East	4-8, 17-18	500, 501, 502, 503, 1200
2 North	20 East	6	2800
2 North	21 East	1, 7-8, 17-18, 35-36	100, 101, 1600, 1701, 1704, 2100, 2500
2 North	22 East	13, 24-25, 31-33	1001, 1500, 2500, 2600, 2900
3 North	21 East	7, 36	503, 506

TaxMap Numbers		
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01N20E0000-00800	01N22E0000-01001	01S21E0000-00200
01N21E0000-00100	01N22E0000-01100	01S21E0000-ROADS
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01N21E0000-00300	01N22E0000-01900	01S22E0000-00501
01N21E0000-00400	01N22E0000-02000	01S22E0000-00502
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01N21E0000-00806	01S21E0000-ROADS	02N21E0000-01600
01N21E0000-00900	01N22E0000-00500	02N21E0000-01701
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Wetlands and Waterbodies Delineation

Avangrid Renewables

Montague Wind Power Facility

Gilliam County

July 10, 2017

Contents

Tables

Appendices

Introduction

HDR conducted a wetland and other waters of the United Sates delineation in 2017 to identify potentially jurisdictional wetlands and other waters for the proposed Montague Wind Power Facility (Facility) in Gilliam County, Oregon (Figure 1). The delineation was completed in accordance with Section 404 of the Clean Water Act (CWA) and the Oregon Removal-Fill Law.

The Oregon Energy Facility Siting Council issued a site certificate to Montague Wind Power Facility, LLC (Montague) for construction of the Facility in September 2010. Site certificate conditions require that Montague investigate areas that will be disturbed by construction to determine "whether any jurisdictional waters of the State exist in those locations" (Condition 83). The turbine corridors and associated access roads are proposed in areas previously delineated under WD#2010-0083[1] (DSL, 2010), as well as additional areas. However, this jurisdictional determination expired in 2015 and this report provides new data to update the original delineation efforts in the revised study area (6,848 acres) for issuance of a new jurisdictional determination. The revised study area includes a substantial portion of the 2010 study area in addition to small revisions based on changes in the overall Facility layout for turbine strings, solar generation facilities, and other related and supporting facilities. The new study area was defined by the limits of expected ground disturbance associated with construction and operation of the new facility.

1 Description of Site, Landscape Setting, and Previous and Current Land Uses

The proposed Facility is located in the Columbia Plateau physiographic region, primarily in the Pleistocene Lake Basins Level IV ecoregion, with the extreme southern portions located in the Umatilla Plateau ecoregion (Thorson et al., 2003). The landscape consists of gentle rolling hills, plateaus, and occasional high buttes, rocky outcrops, sand dunes, and shallow exposed bedrock. These areas are regularly dissected by gently sloped to steep headwater gullies, relict drainages, ravines, and shallow vegetated swales. Area elevations range from approximately 600 feet above mean sea level (AMSL) in Eightmile Canyon to approximately 1,500 feet AMSL on the Umatilla Plateau in the southern portions of the site. Vegetation communities in the site are primarily shrub-steppe, grassland, and agricultural land. Historical land use was dominated by wheat farming and livestock grazing. Current land use includes wheat and hay farming, livestock grazing, and lands in the Conservation Reserve Program. Wheat crops are grown on the plateaus and gentler upper slopes of ridges and rolling hills. Irrigated hay crops are grown in portions of the valley bottom of Eightmile Canyon.

[1] The 2010 jurisdictional determination consolidated several previous delineations (WD#2005-0142, WD#2007-0430, WD#2009-0252, WD#2010-0081). Of those, WD#2007-0430 included several wetlands at the north end of the study area and includes the original reporting information for that area.

2 Site Alterations

Vegetation throughout the site has been altered by historical and ongoing grazing. The headwaters of drainages in much of the site are currently or were historically managed as wheat fields with regular plowing and planting as part of the agricultural operations, eliminating most traces of drainages in these areas. Drainages that traverse steeper unfarmed areas (because of slope or rocky soils) have more developed channels, apparently as the result of natural erosive processes. The drainages then become less defined or entirely lose observable bed and banks as they enter the flatter bottoms of Eightmile Canyon and the other large canyons in the site. Portions of the valley bottom of Eightmile Canyon are irrigated with well water for hay crops. Detention basins have been constructed within the canyon's channel to capture irrigation runoff for reuse or stock watering. Additional site alterations include residences and farms, many of which are abandoned, asphalt and gravel roads, and dirt farm access roads. Eightmile Canyon has areas where gravel has previously been mined from the channel.

3 Precipitation Data and Analysis

Precipitation amounts during the three months prior to the field investigations are shown in Table 3-1. Precipitation was above normal ranges from January through June 2017 with June lower than average but within normal range. The overall variation from normal precipitation increased the likelihood of observing wetland hydrology indicators or indicators of stream flow duration. Several upland areas exhibited indicators of wetland hydrology but otherwise lacked hydric soils and/or hydrophytic vegetation.

Table 3-1. Summary of Antecedent and Average Precipitation between January 2017 and June 2017 in Arlington, Oregon

Month	Antecedent Precipitation (inches)	Average Precipitation (inches)	Percent of Average Recorded	30% chance less than or more than ranges for normal precipitation (inches)
January	1.43	1.40	102%	<0.83 >1.70
February	1.63	1.02	160%	<0.69 >1.22
March	1.63	0.76	214%	<0.40 >0.93
April	1.55	0.61	254%	<0.22 >0.71
May	0.81	0.67	121%	<0.35 >0.82
June	0.14	0.35	40%	<0.11 >0.39

Table 3-1. Summary of Antecedent and Average Precipitation between January 2017 and June 2017 in Arlington, Oregon

Month	Antecedent Precipitation (inches)	Average Precipitation (inches)	Percent of Average Recorded	30% chance less than or more than ranges for normal precipitation (inches)
Total Water Year (Oct 1-June 30)	7.27	8.44	116%	

Source: NRCS, 2017a (see WETS Table in Appendix D)

In additional the following precipitation information is provided as required by DSL:

- Precipitation total two weeks prior to field visit:

  March 26 to April 09 = 0.24 inches

  April 11 to April 25 = 1.28 inches

  June 18 to July 2 = none

- Precipitation day of the field visit:

  April 10 = 0.05 inches
  April 11 = none
  April 12 = 0.02 inches
  April 13 = none
  April 26 = 0.04 inches
  April 27 = 0.04 inches
  July 3 = none

4 Methods

A review of existing literature, maps, and other materials was conducted to identify potential wetlands and other waters of the United States within the study area prior to initiating the field investigations. Existing documents reviewed included:

- Montague Wind Power Facility, Wetlands and Other Waters Delineation Report, Gilliam County, Oregon (CH2M HILL, 2010)
- Baseline Wind Power Facility, Wetland Delineation Report, Gilliam County, Oregon (HDR Engineering, Inc., 2011)
- Oregon Department of State Lands (DSL) concurrent letter dated January 10, 2008, for DSL file WD#2007-0430 (Pebble Springs) (DSL, 2008)
- DSL concurrence letter dated June 28, 2010, for DSL file WD#2010-0083 (Montague) (DSL, 2010)
- DSL concurrence letter dated May 18, 2012, for DSL file WD#2011-0364 (Baseline) (DSL, 2012)

- USGS 7.5' topographic maps (USGS, 2017a)
- National Hydrography Dataset (USGS, 2017b)
- National Wetlands Inventory (NWI) digital data (USFWS, 2017)
- Soil Survey of Gilliam County, Oregon (Hosler et al., 1984)
- Hydric Soils List for Gilliam County (NRCS, 2017b)
- June 2016 aerial imagery, 1-meter resolution (ESRI, 2016)
- Precipitation data from Climate Analysis for Wetlands (WETS) OR0265, Arlington (NRCS, 2017a)

4.1 Field Study

Field investigations were conducted by two teams of two wetland scientists within the study area during April 10-13, April 26-27, and July 3, 2017.

4.1.1 Wetlands

Wetland areas were delineated using the methods described in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987) and using the Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region (Environmental Laboratory, 2008).

Three previously delineated wetlands (WD#2007-0430; WD#2010-0083) are documented in the northern end of the study area. These wetlands are referred to as W1J, W1G, and W7 in WD#2007-0430 and WD#2010-0083. The boundaries and sample plots associated with these were located in the field using GPS and reviewed to observe changes in site conditions. Additional sample plots were taken near the original locations. Photographs of the wetlands and surrounding uplands were also taken.

In new survey areas, low topographic depressions, vegetative changes, and other suspect areas were investigated for the presence of wetlands. As no mapped NWI or hydric soils are located in the study area, these were not used as potential wetland locations. Sample plots and photographic documentation were recorded to document any new wetlands and verify upland conditions.

4.1.2 Waterways

The ordinary high water (OHW) mark for waterbodies in the study area was determined in the field using the methodology outlined in the USACE Regulatory Guidance Letter 05-05 (USACE, 2005). The USACE guidance is consistent with DSL's definition of OHW. Observed waterways were assessed using the Streamflow Duration Assessment Method (SDAM) (Nadeau, 2015) to determine if they had ephemeral, intermittent, or perennial flow regimes.

Waterways previously identified (WD#2010-0083) were located in the field using GPS and reviewed to identify if there had been any changes in site conditions. Photographs of the waterways and surrounding uplands were also taken. Updated SDAM forms were completed for all previously identified waterways.

In new survey areas, site investigators visited all of the waterways mapped by the National Hydrography Dataset within the study area to confirm or refute their presence. These identified waterways were assessed using the SDAM and photographic documentation was collected for each new mapped features.

5 Description of All Wetlands and Other Non-Wetland Waters

Two wetlands and fifteen waterways were identified in the study area (Figures 5.0 through 5.13).

5.1 Delineated Wetlands

Two wetlands (Figure 5.1, 5.7) were identified during the 2017 field investigations and concurred with as part of the 2010 and 2007 delineation efforts (WD#2010-0083; WD#2007-0430). These wetlands are referred to as W1G (0.48 acres total; 0.10 acres in study area) and W1J (0.12 acres total; 0.05 acres in study area). Both wetlands extend outside the study area and are isolated, depressional, palustrine-emergent wetlands. DSL previously determined (WD#2010-0083; WD#2007-0430) that the wetlands are jurisdictional under the Removal-Fill Law. USACE determined in 2009 that none of these wetlands was jurisdictional under the CWA (USACE, 2009). Data forms are included in Appendix B1 and ground level photographs are included in Appendix C.

The 2010 and 2007 efforts also identified two other wetlands in the same area as W1G and W1J (Figure 5.7). These other wetlands are referred to as W1H and W1I (WD#2010-0083; WD#2007-0430). No sample plots were recorded for these wetlands as part of previous efforts; however, they appear as saturated areas on the aerial imagery included in the previous reports (no date is provided for the aerial imagery). During the 2017 field investigations, these areas were revisited and determined to be upland based on the data plots. As shown on the data forms, the areas exhibited saturation in the upper 12 inches of the soil profile, but no hydric soil indicators or wetland vegetation was observed. Given the above normal precipitation for the area and season, the presence of hydrology is likely a false positive.

Wetland W7 was delineated and concurred with as part of the 2010 delineation effort (WD#2010-0083). This area (Figure 5.7) was revisited as part of the 2017 efforts. Although wetland hydrology was present, vegetation and soils indicating the presence of a wetland were not observed in 2017. As such this area was determined to be upland. Given the above normal precipitation for the area and season, the presence of hydrology is likely a false positive. As such, this area was determined to be upland. The original data for this wetland (Sample Point W7SP01, dated February 8, 2010) identified a dominance of hydrophytic vegetation and surface soil cracks but no hydric soils. The drought over the last several years could have resulted in temporal shifts in the plant community to a dominance of upland species. Surface soil cracks were not observed in 2017.

5.2 Waterways

Fifteen waterways were identified in the study area and are described in Table 5-1. SDAM forms are included in Appendix B2 and ground level photographs are included in Appendix C. With the exception of the roadside ditch (SD3015), the remaining waterways flow into Eightmile Canyon. Eightmile Canyon is outside of the study area and flows from south to north draining to Willow Creek, a Columbia River tributary. The waterways that have bed and banks and are connected to Eightmile Canyon would be jurisdictional to the USACE. DSL does not regulate ephemeral drainages and thus all of the drainages in the study area would not be jurisdictional to DSL.

Table 5-1. Waterways Identified in the Study Area

Waterway Reach ID (Previous ID)*	Flow Regime	Width @ Widest Point (m)	Downstream Receiving Water	Preliminary Jurisdictional Determination USACE	Preliminary Jurisdictional Determination DSL
SD1000	Ephemeral	1.75	Eightmile Canyon	Yes	No
SD1001 (S002)	Ephemeral	1.0	Eightmile Canyon	Yes	No
SD1002 (S003)	Ephemeral	3.0	Eightmile Canyon	Yes	No
SD1042 (S206)	Ephemeral	3.0	Eightmile Canyon	Yes	No
SD1043 (S204)	Ephemeral	4.0	Eightmile Canyon	Yes	No
SD1045 (S205)	Ephemeral	4.0	Eightmile Canyon	Yes	No
SD1054 (S008)	Ephemeral	2.0	Eightmile Canyon	Yes	No
SD2018	Ephemeral	1.5	Eightmile Canyon	Yes	No
SD2028 (S005)	Ephemeral	1.0	Eightmile Canyon	Yes	No
SD2063	Ephemeral	1.0	Eightmile Canyon	Yes	No
SD2096 (S208)	Ephemeral	4.0	Eightmile Canyon	Yes	No
SD2106	Ephemeral	3.0	Eightmile Canyon	Yes	No
SD3015	Ephemeral	2.0	None	No	No
SD3052	Ephemeral	<1.0	Eightmile Canyon	Yes	No
SD5000 (S204)	Ephemeral	6.0	Eightmile Canyon	Yes	No

Notes: Previous ID is the reach name used in the 2010 delineation report, if applicable.

5.3 Upland Vegetated Drainages

Areas identified as potential waterways by the USGS NHD were investigated. Those not determined to be a waterway are upland vegetated swales and gullies. These are generally well-vegetated, predominately with *Artemisia tridentata* (UPL), *Chrysothamnus*

viscidiflorus (UPL), *Bromus tectorum* (UPL) and other upland shrub-steppe species common to the area. They do not have bed and bank characteristics, OHW marks, or other indicators of recent flow. Ground level photographs of these drainages are in Appendix C. These non-waterway swales most likely represent relict drainageways and are not actively forming under current climatic conditions.

6 Deviation from LWI or NWI

No Local Wetland Inventory (LWI) has been established within the area. Three NWI features are mapped in the study area as shown in Table 6-1 and Figures 3.1 to 3.6. Two of these features correlate to observed waterways in the study area: SD1043 and SD1054/SD2106.

Table 6-1. NWI Mapped Features

Mapped NWI Feature	Figure Number	Correlating Wetland or Waterway Reach ID	Correlating Photographic Points
R4SBC	Figures 3.2, 5.2, 5.10	None	PP1003
R4SBC	Figures 3.4, 5.4, 5.15	SD1043	PP1043, PP1044
R4SBC	Figures 3.4, 3.6, 5.4, 5.6, 5.16, 5.21	SD1054; SD2106	PP2081; PP3014

Notes: R4SBC = Riverine, Intermittent, Streambed, Seasonally Flooded

7 Mapping Methods

During the field delineation, photo points, data plot locations, wetland boundaries, and OHW mark boundaries were recorded using a resource grade Trimble GeoXH 6000 Global Positioning System (GPS). Mapping accuracy of the unit is 50 cm (1.64 feet) using post-processed differential data correction. Once post-processing was completed, the data were overlain onto the National Agriculture Imagery Program aerial photographs used for field maps using GIS software. The data illustrated on Figure 5.1 to Figure 5.22 have a sub-meter mapping accuracy using post-processed differential data correction.

8 Additional Information

All of the wetlands and other waters of the United States identified in this report are potentially subject to federal and/or state jurisdiction. Jurisdictional determinations, including the applicability of exemptions, are made on a case-by-case basis by the regulatory agencies.

The wetlands would meet the state definition of a Waters of the State; however, none of the ephemeral stream channels are potentially jurisdictional as ephemeral streams are not included in the definition of Waters of the State (OAR 141-085-0510(91).

The wetlands are isolated and would not constitute a significant nexus or adjacency to a Traditional Navigable Water (TNW) and therefore would not be jurisdictional to the

USACE. With the exception of the roadside ditch (SD3015) the remaining waterways flow into Eightmile Canyon, which is a tributary to a TNW (Columbia River) and therefore would be jurisdictional to the USACE under 33 C.F.R. § 328.3(a)(3).

9 Results and Conclusions

Within the project study area, there are two wetlands and fifteen waterways. The wetlands are isolated and would be jurisdictional to DSL but not to USACE. The fifteen waterways identified are ephemeral drainages and would not be jurisdictional to DSL. With the exception of SD3015, the remaining waterways flow into Eightmile Canyon. Eightmile Canyon is outside of the study area and flows from south to north, draining to Willow Creek, a Columbia River tributary. Thus, these waterways would be considered jurisdictional to the USACE. SD3015 is a vegetated roadside ditch and is neither jurisdictional to DSL or USACE.

10 Disclaimer

This report documents the investigation, best professional judgment, and conclusions of the investigators. It should be considered a Preliminary Jurisdictional Determination and used at your own risk until it has been approved in writing by the DSL in accordance with OAR 141-090-0005 through 141-090-0055, and the USACE in accordance with Section 404 of the CWA (OAR 141-090-0035 [7][k]).

Appendix A. Figures

Figure 1
Wetland Survey
Project Location
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area
- Populated Place
- Road
- Highway
- Water Body
- NHD Flowline
- Contour 100m
- County Boundary

Data Source: OR Spatial Data Library 2017, ESRI 2017
Basemap Source: ESRI Multi-Directional Hillshade

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Figure 2
Wetland Survey
Tax Parcels
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area
- Gilliam County Tax Parcels
- Township & Range
- Populated Place
- Road
- Highway
- Water Body
- NHD Flowline
- Contour 100m
- County Boundary

Data Source: Gilliam County (2017), OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI Multi-Directional Hillshade

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Figure 3.1
Wetland Survey
NWI Map 1
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area

National Wetland Inventory

COWARDIN

- PUBFx, Palustrine, Unconsolidated Bottom, Semipermanently Flooded
- R4SBC, Riverine, Intermittent, Streambed, Seasonally Flooded

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo

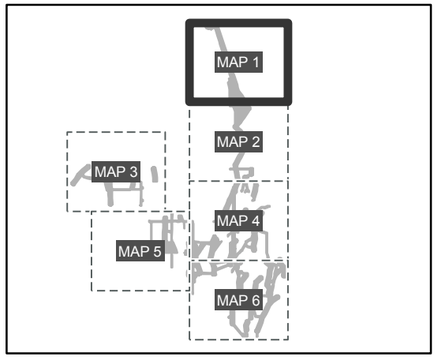

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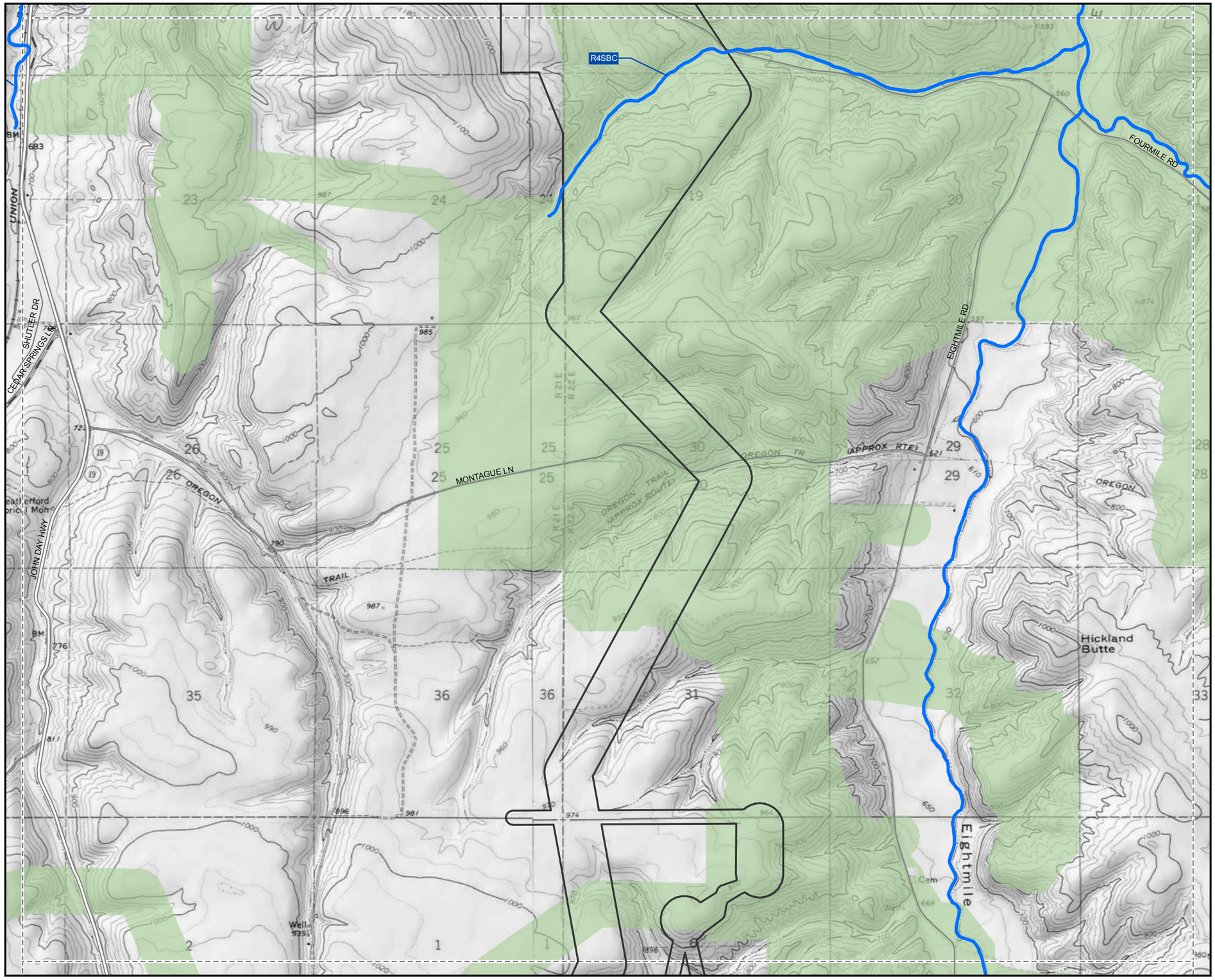
Figure 3.2
Wetland Survey
NWI Map 2
Montague Wind Power Facility



Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area

National Wetland Inventory

COWARDIN

- R4SBC, Riverine, Intermittent, Streambed, Seasonally Flooded

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo

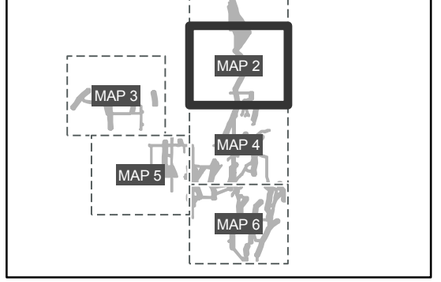


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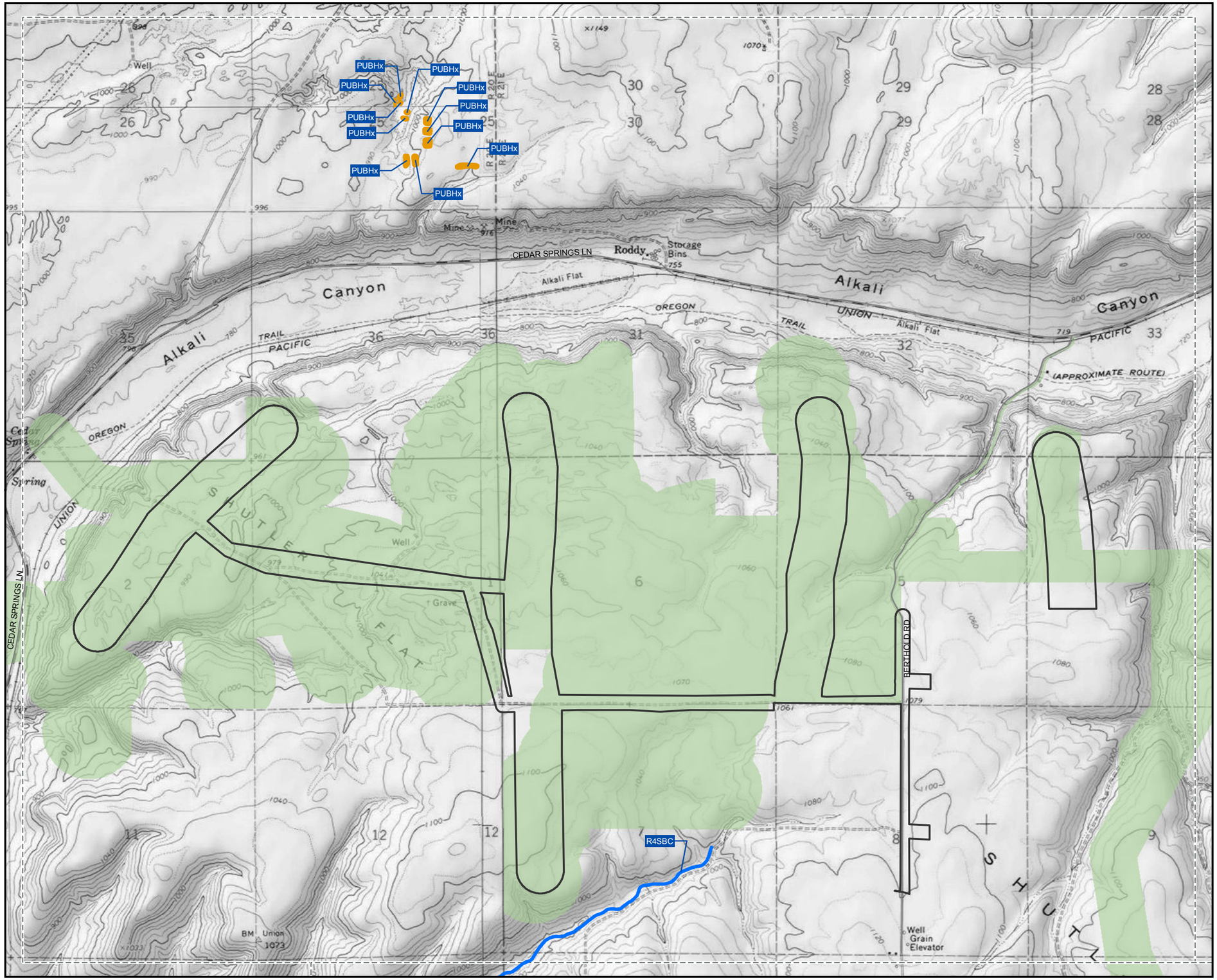
Figure 3.3
Wetland Survey
NWI Map 3
Montague Wind Power Facility



Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area

National Wetland Inventory

COWARDIN

- PUBHx, Palustrine, Unconsolidated Bottom, Permanently Flooded
- R4SBC, Riverine, Intermittent, Streambed, Seasonally Flooded

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo

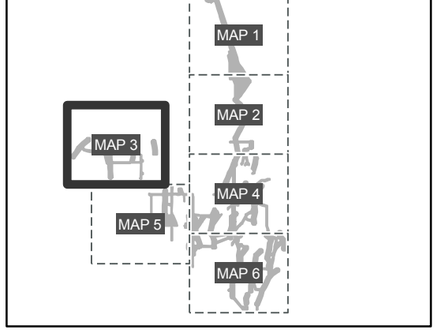


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Figure 3.4
Wetland Survey
NWI Map 4
Montague Wind Power Facility

Legend

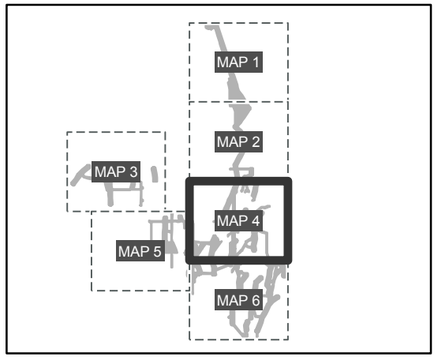
- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area

National Wetland Inventory

COWARDIN

- R4SBC, Riverine, Intermittent, Streambed, Seasonally Flooded

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo



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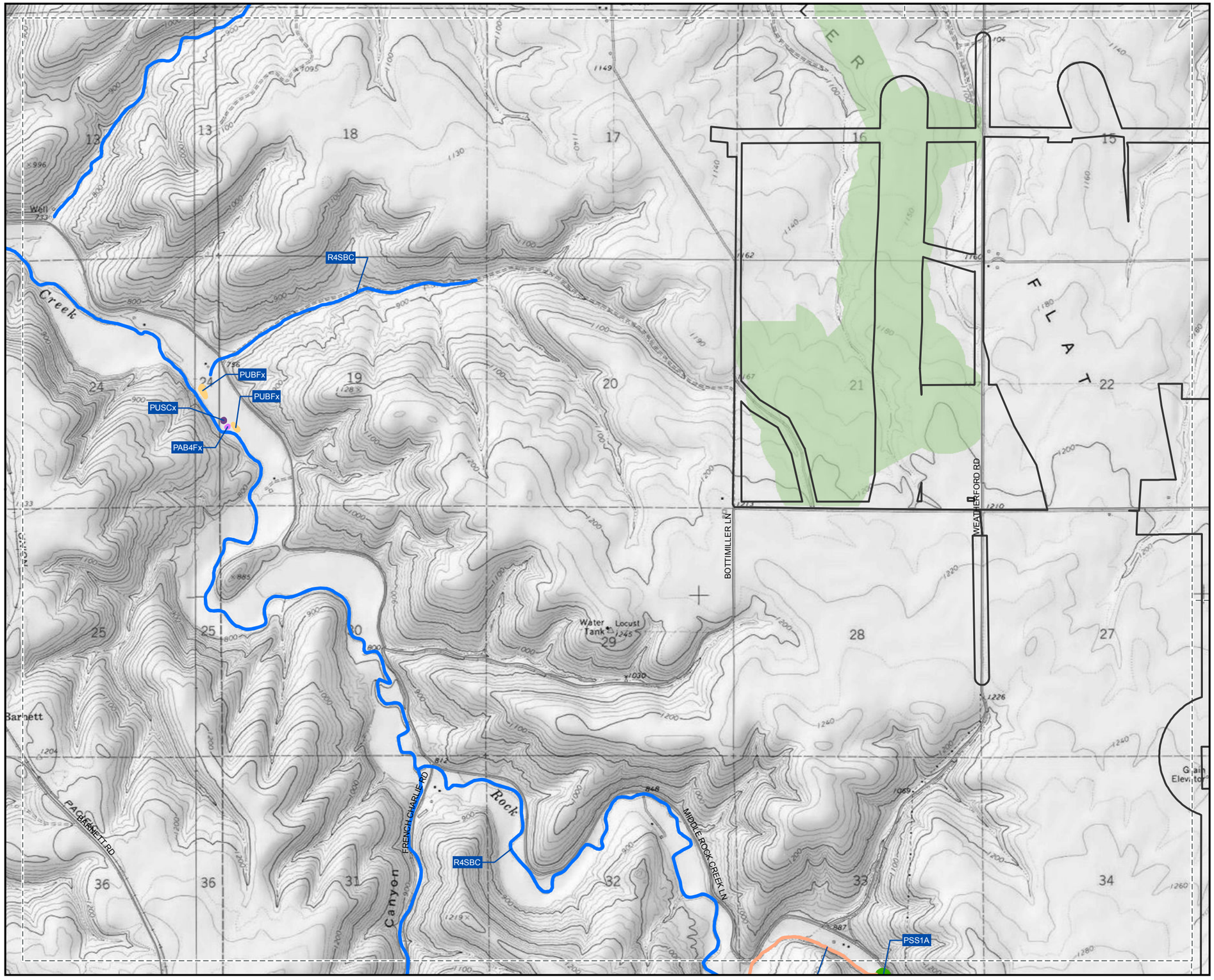

Figure 3.5
Wetland Survey
NWI Map 5
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area

National Wetland Inventory

COWARDIN

- PAB4Fx, Palustrine, Aquatic Bed, Semipermanently Flooded
- PSS1A, Palustrine, Scrub-Shrub, Seasonally Flooded
- PSS1C, Palustrine, Scrub-Shrub, Seasonally Flooded
- PUBFx, Palustrine, Unconsolidated Bottom, Semipermanently Flooded
- PUSCx, Palustrine, Unconsolidated Shore, Seasonally Flooded
- R4SBC, Riverine, Intermittent, Streambed, Seasonally Flooded

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo

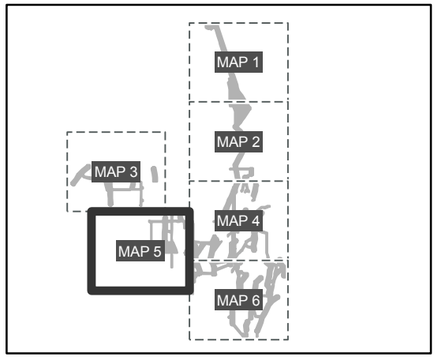

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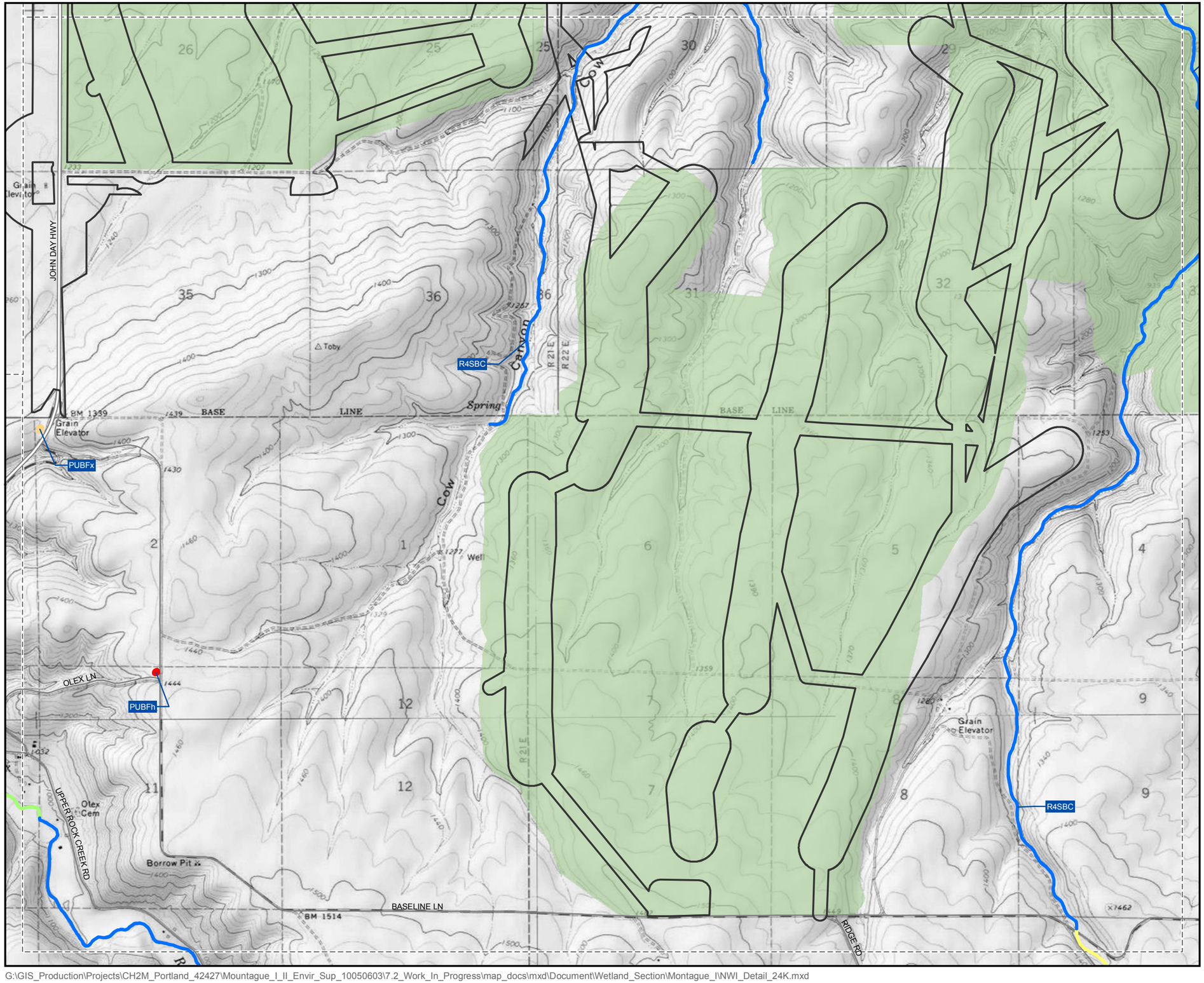
Figure 3.6
Wetland Survey
NWI Map 6
Montague Wind Power Facility



Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area

National Wetland Inventory

COWARDIN

- PFOC, Palustrine, Forested, Seasonally Flooded
- PUBFh, Palustrine, Unconsolidated Bottom, Semipermanently Flooded
- PUBFx, Palustrine, Unconsolidated Bottom, Semipermanently Flooded
- R4SBA, Riverine, Intermittent, Streambed, Temporary Flooded
- R4SBC, Riverine, Intermittent, Streambed, Seasonally Flooded

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Basemap Source: ESRI USGS Topo

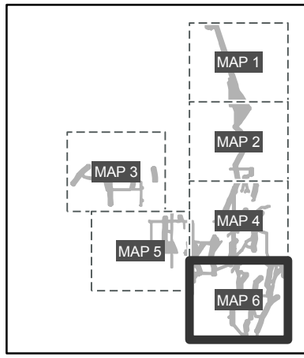

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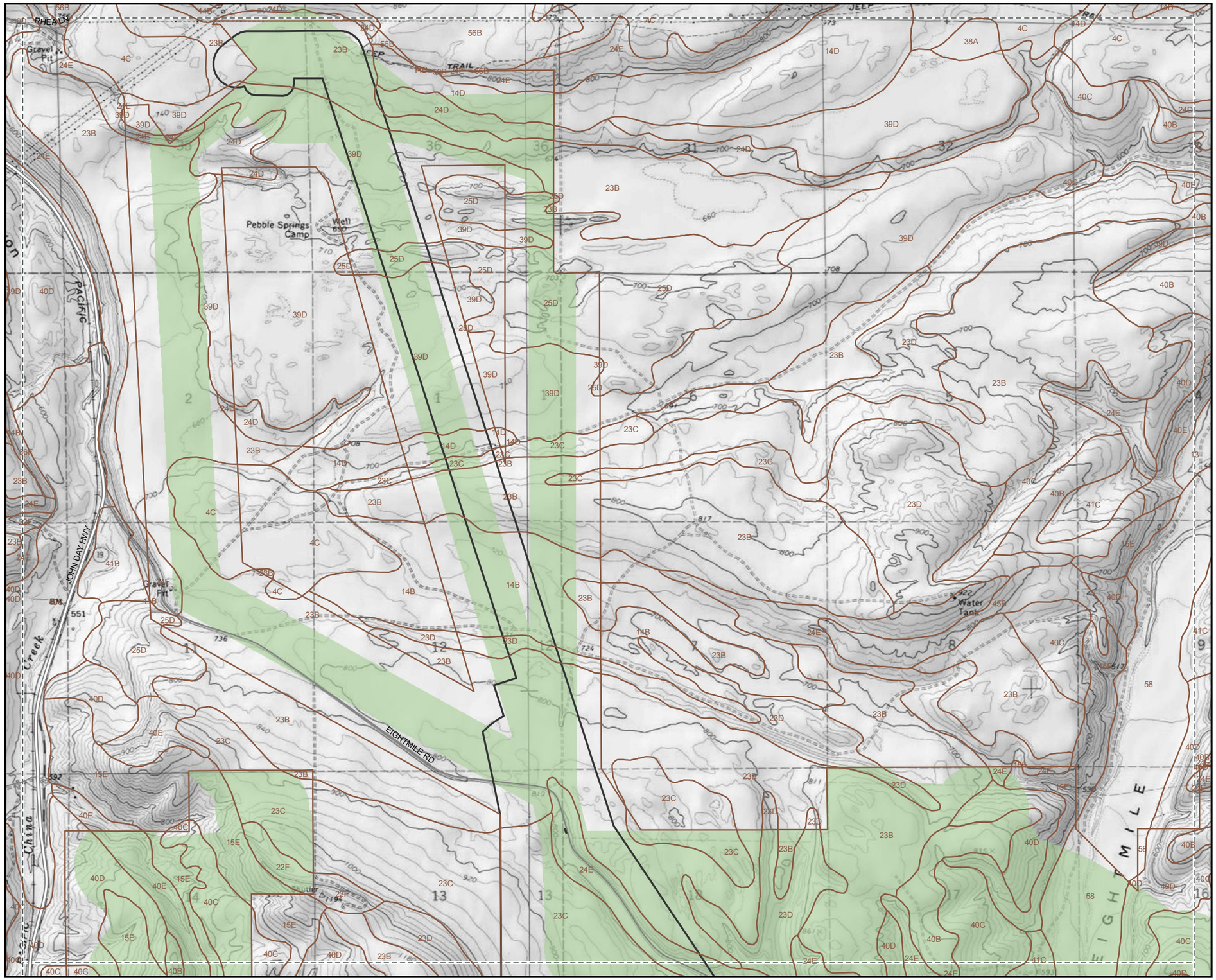
Figure 4.1
Wetland Survey
Soils Map 1
Montague Wind Power Facility



Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area
- Soil Map Units

13--Kimberly fine sandy loam
14B--Krebs silt loam, 2 to 5 percent slopes
14D--Krebs silt loam, 5 to 20 percent slopes
15E--Lickskillet very stony loam, 7 to 40 percent slopes
22F--Nansene silt loam, 35 to 70 percent slopes
23B--Olex silt loam, 0 to 5 percent slopes
23C--Olex silt loam, 5 to 12 percent slopes
23D--Olex silt loam, 12 to 20 percent slopes
24D--Olex gravelly silt loam, 5 to 20 percent slopes
24E--Olex gravelly silt loam, 20 to 40 percent slopes
25D--Olex-Roloff complex, 5 to 20 percent slopes
39D--Roloff-Rock outcrop complex, 1 to 20 percent slopes
40B--Sagehill fine sandy loam, 2 to 5 percent slopes
40C--Sagehill fine sandy loam, 5 to 12 percent slopes
40D--Sagehill fine sandy loam, 12 to 20 percent slopes
40E--Sagehill fine sandy loam, 20 to 40 percent slopes
41B--Sagehill fine sandy loam, hummocky, 2 to 5 percent slopes
41C--Sagehill fine sandy loam, hummocky, 5 to 12 percent slopes
4C--Blalock loam, 2 to 12 percent slopes
56B--Willis silt loam, 2 to 5 percent slopes
58--Xeric Torrifluvents, nearly level

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo

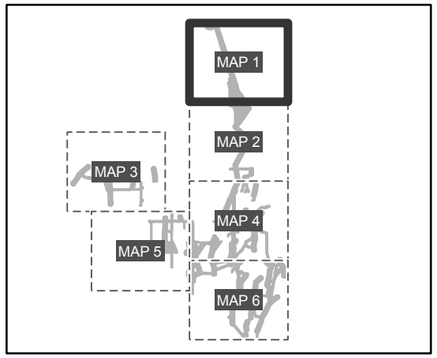


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Figure 4.2
Wetland Survey
Soils Map 2
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area
- Soil Map Units

13--Kimberly fine sandy loam
14D--Krebs silt loam, 5 to 20 percent slopes
14E--Krebs silt loam, 20 to 40 percent slopes
15E--Lickskillet very stony loam, 7 to 40 percent slopes
23B--Olex silt loam, 0 to 5 percent slopes
23C--Olex silt loam, 5 to 12 percent slopes
23D--Olex silt loam, 12 to 20 percent slopes
24D--Olex gravelly silt loam, 5 to 20 percent slopes
24E--Olex gravelly silt loam, 20 to 40 percent slopes
32B--Ritzville silt loam, 2 to 7 percent slopes
33E--Ritzville silt loam, 20 to 40 percent north slopes
40B--Sagehill fine sandy loam, 2 to 5 percent slopes
40C--Sagehill fine sandy loam, 5 to 12 percent slopes
40D--Sagehill fine sandy loam, 12 to 20 percent slopes
40E--Sagehill fine sandy loam, 20 to 40 percent slopes
41B--Sagehill fine sandy loam, hummocky, 2 to 5 percent slopes
41C--Sagehill fine sandy loam, hummocky, 5 to 12 percent slopes
55B--Warden silt loam, 2 to 5 percent slopes
55C--Warden silt loam, 5 to 12 percent slopes
55D--Warden silt loam, 12 to 20 percent slopes
55E--Warden silt loam, 20 to 40 percent slopes
56B--Willis silt loam, 2 to 5 percent slopes
58--Xeric Torrifluvents, nearly level

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo

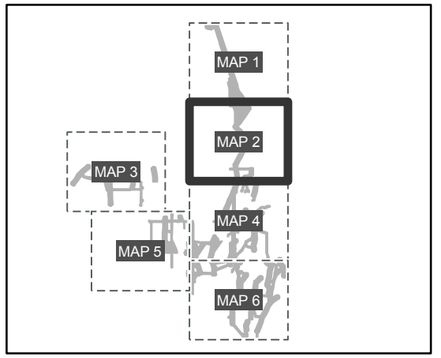

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Figure 4.3
Wetland Survey
Soils Map 3
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area
- Soil Map Units

14B--Krebs silt loam, 2 to 5 percent slopes
14D--Krebs silt loam, 5 to 20 percent slopes
14E--Krebs silt loam, 20 to 40 percent slopes
23B--Olex silt loam, 0 to 5 percent slopes
23C--Olex silt loam, 5 to 12 percent slopes
23D--Olex silt loam, 12 to 20 percent slopes
24D--Olex gravelly silt loam, 5 to 20 percent slopes
24E--Olex gravelly silt loam, 20 to 40 percent slopes
32B--Ritzville silt loam, 2 to 7 percent slopes
32C--Ritzville silt loam, 7 to 12 percent slopes
32D--Ritzville silt loam, 12 to 20 percent slopes
33E--Ritzville silt loam, 20 to 40 percent north slopes
34E--Ritzville silt loam, 20 to 40 percent south slopes
38C--Roloff silt loam, 7 to 12 percent slopes
39D--Roloff-Rock outcrop complex, 1 to 20 percent slopes
40B--Sagehill fine sandy loam, 2 to 5 percent slopes
40E--Sagehill fine sandy loam, 20 to 40 percent slopes
4C--Blalock loam, 2 to 12 percent slopes
55D--Warden silt loam, 12 to 20 percent slopes
56B--Willis silt loam, 2 to 5 percent slopes
56C--Willis silt loam, 5 to 12 percent slopes
56D--Willis silt loam, 12 to 20 percent slopes
58--Xeric Torrifluvents, nearly level

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo

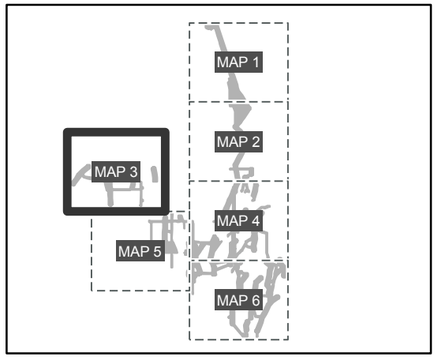

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Figure 4.4
Wetland Survey
Soils Map 4
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area
- Soil Map Units

13--Kimberly fine sandy loam
15E--Lickskillet very stony loam, 7 to 40 percent slopes
24D--Olex gravelly silt loam, 5 to 20 percent slopes
24E--Olex gravelly silt loam, 20 to 40 percent slopes
32A--Ritzville silt loam, 0 to 2 percent slopes
32B--Ritzville silt loam, 2 to 7 percent slopes
32C--Ritzville silt loam, 7 to 12 percent slopes
32D--Ritzville silt loam, 12 to 20 percent slopes
33E--Ritzville silt loam, 20 to 40 percent north slopes
40B--Sagehill fine sandy loam, 2 to 5 percent slopes
40C--Sagehill fine sandy loam, 5 to 12 percent slopes
40D--Sagehill fine sandy loam, 12 to 20 percent slopes
40E--Sagehill fine sandy loam, 20 to 40 percent slopes
55B--Warden silt loam, 2 to 5 percent slopes
55C--Warden silt loam, 5 to 12 percent slopes
55D--Warden silt loam, 12 to 20 percent slopes
55E--Warden silt loam, 20 to 40 percent slopes
56B--Willis silt loam, 2 to 5 percent slopes
56D--Willis silt loam, 12 to 20 percent slopes
56E--Willis silt loam, 20 to 30 percent slopes
58--Xeric Torrifluvents, nearly level

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo

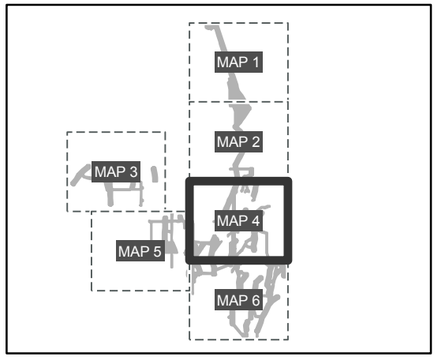

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Figure 4.5
Wetland Survey
Soils Map 5
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area
- Soil Map Units

13--Kimberly fine sandy loam

15E--Lickskillet very stony loam, 7 to 40 percent slopes

24E--Olex gravelly silt loam, 20 to 40 percent slopes

32A--Ritzville silt loam, 0 to 2 percent slopes

32B--Ritzville silt loam, 2 to 7 percent slopes

32C--Ritzville silt loam, 7 to 12 percent slopes

32D--Ritzville silt loam, 12 to 20 percent slopes

33E--Ritzville silt loam, 20 to 40 percent north slopes

34E--Ritzville silt loam, 20 to 40 percent south slopes

56B--Willis silt loam, 2 to 5 percent slopes

56C--Willis silt loam, 5 to 12 percent slopes

56D--Willis silt loam, 12 to 20 percent slopes

57F--Wrentham-Rock outcrop complex, 35 to 70 percent slopes

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo

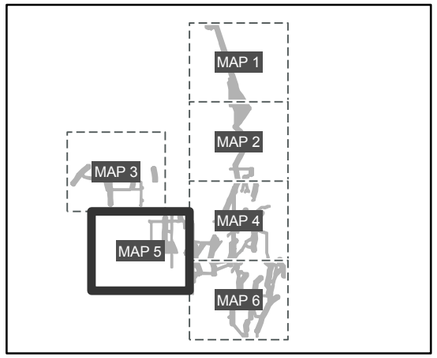

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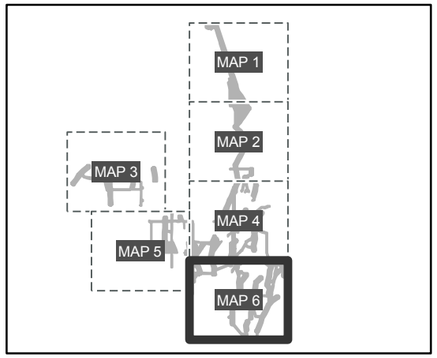
Figure 4.6
Wetland Survey
Soils Map 6
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area
- Soil Map Units

13--Kimberly fine sandy loam
15E--Lickskillet very stony loam, 7 to 40 percent slopes
17B--Mikkalo silt loam, 2 to 7 percent slopes
17C--Mikkalo silt loam, 7 to 12 percent slopes
17D--Mikkalo silt loam, 12 to 20 percent slopes
17E--Mikkalo silt loam, 20 to 40 percent slopes
32A--Ritzville silt loam, 0 to 2 percent slopes
32B--Ritzville silt loam, 2 to 7 percent slopes
32C--Ritzville silt loam, 7 to 12 percent slopes
32D--Ritzville silt loam, 12 to 20 percent slopes
33E--Ritzville silt loam, 20 to 40 percent north slopes
34E--Ritzville silt loam, 20 to 40 percent south slopes
55E--Warden silt loam, 20 to 40 percent slopes
56B--Willis silt loam, 2 to 5 percent slopes
56C--Willis silt loam, 5 to 12 percent slopes
56D--Willis silt loam, 12 to 20 percent slopes
56E--Willis silt loam, 20 to 30 percent slopes
57F--Wrentham-Rock outcrop complex, 35 to 70 percent slopes
58--Xeric Torrifluvents, nearly level

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI USGS Topo



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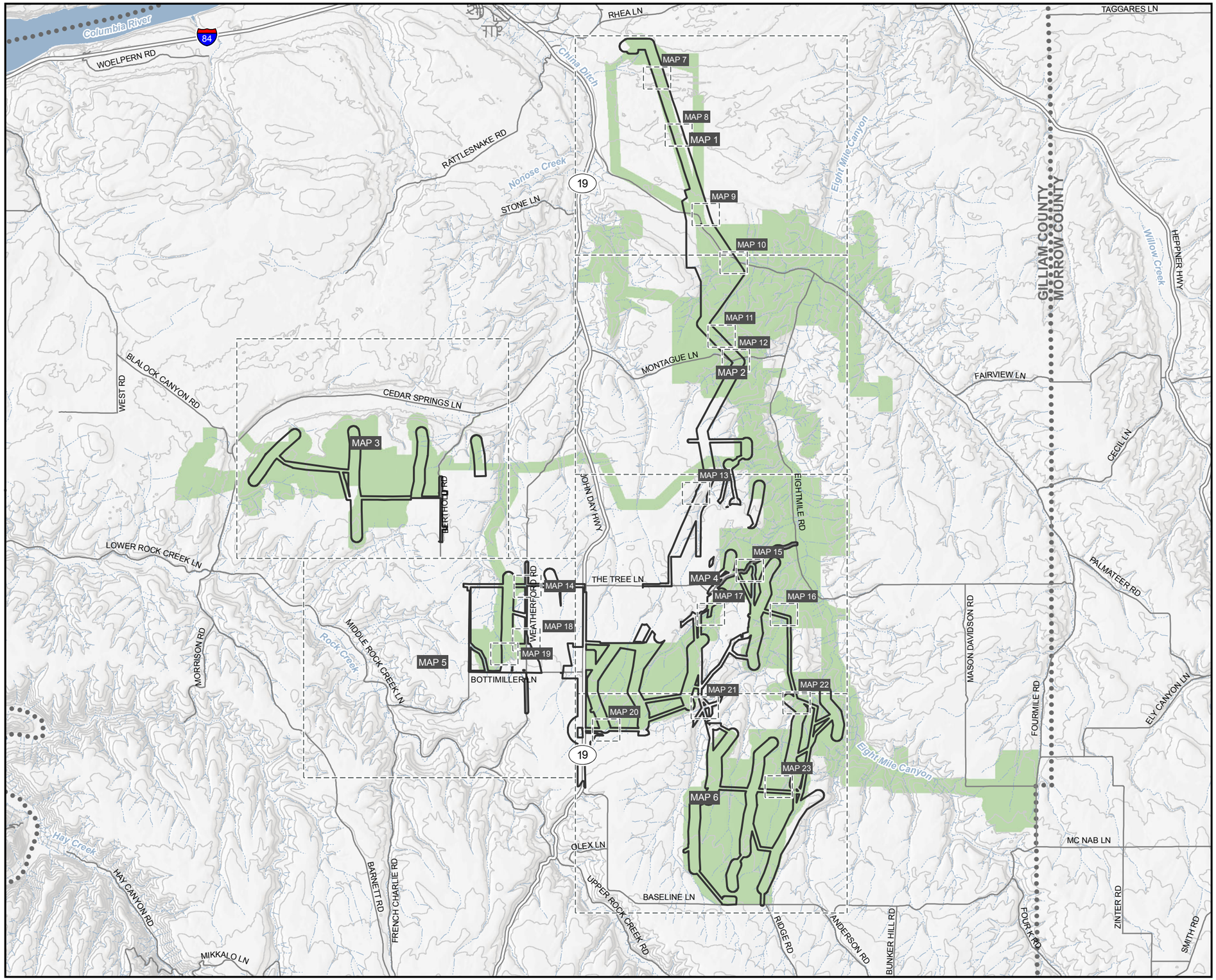

Figure 5.0
Wetland Survey
Wetland and Waterways Survey Overview
Montague Wind Power Facility

Legend

- Montague JD 2010-0083 Survey Area
- Wetland Survey Corridor
- Detail Map Index
- County Boundary
- Water body
- Contour 100 m

Data Source: OR Spatial Data Library 2017, ESRI 2017
Basemap Source: ESRI Multi-Directional Hillshade

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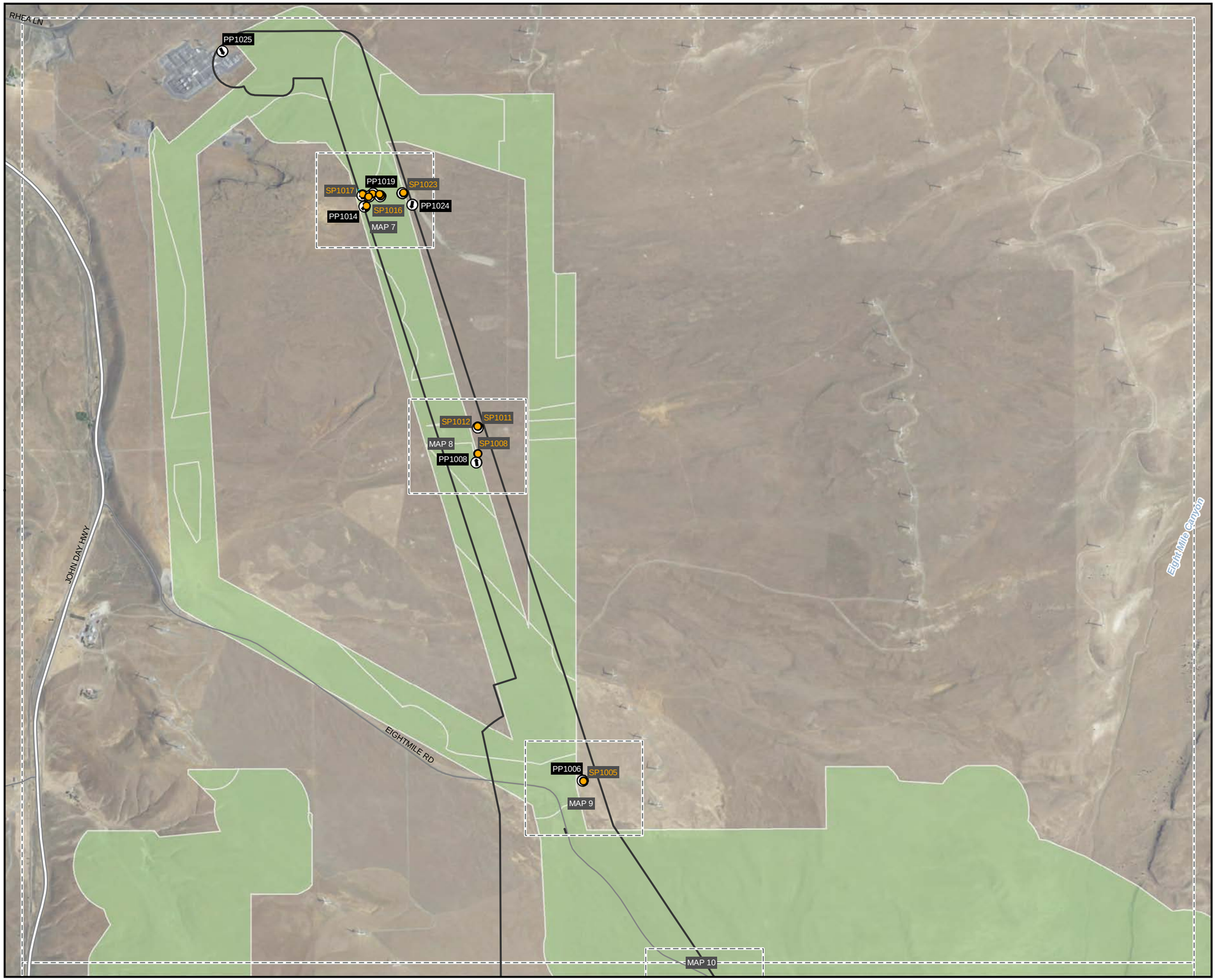
Figure 5.1
Wetland Survey
Wetland and Waterways
Survey Detail Map 1
Montague Wind Power Facility



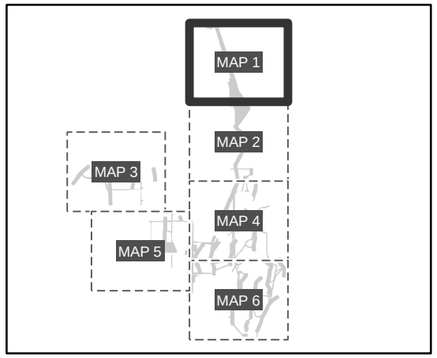
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017),
ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)



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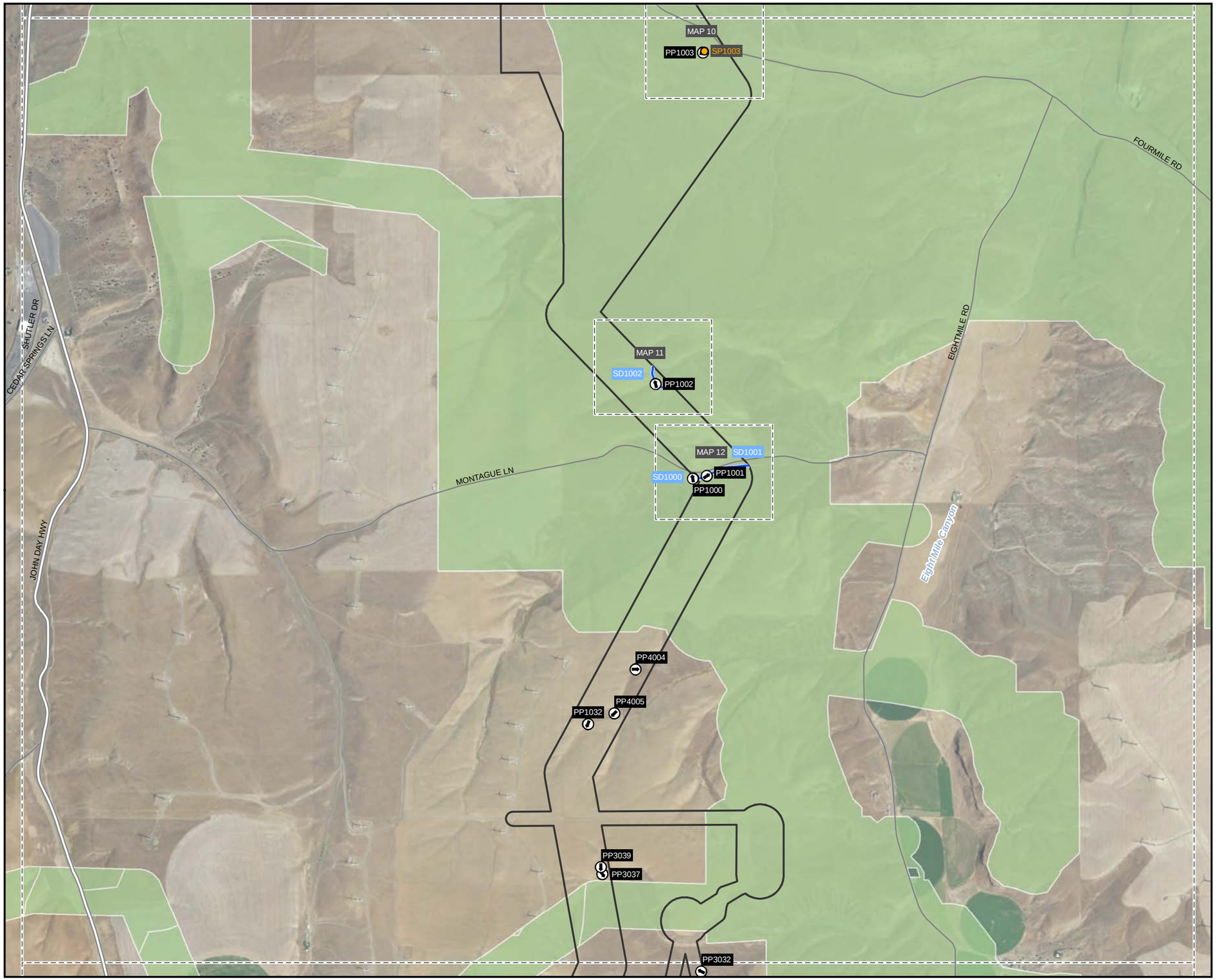


Figure 5.2
Wetland Survey
Wetland and Waterways Survey Detail Map 2
Montague Wind Power Facility

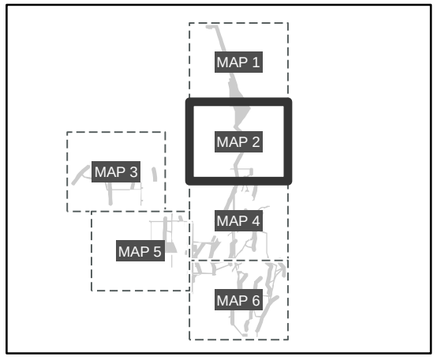
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017),
ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)



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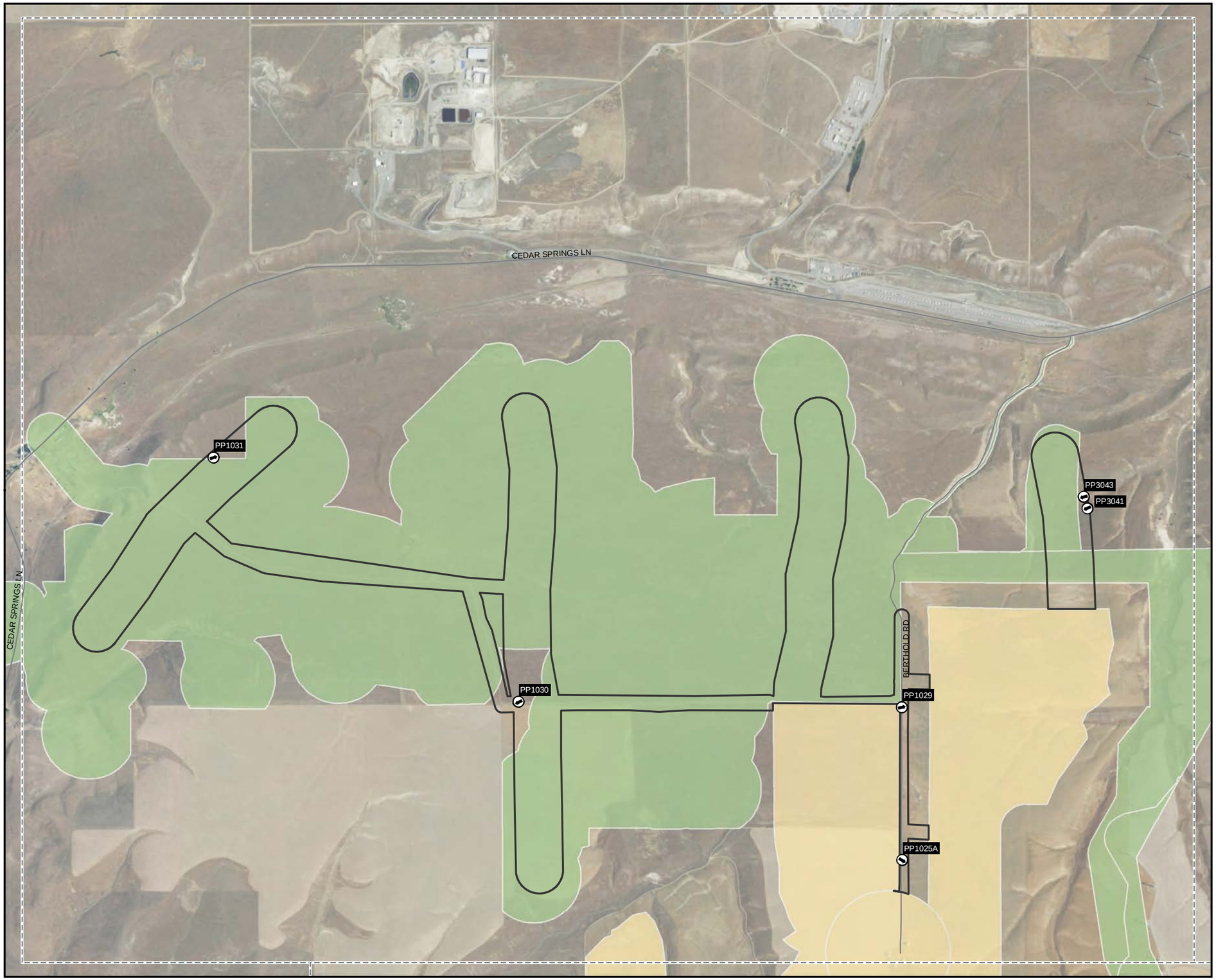

Figure 5.3
Wetland Survey
Wetland and Waterways Survey Detail Map 3
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)

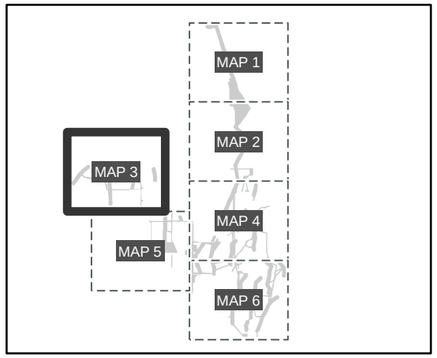

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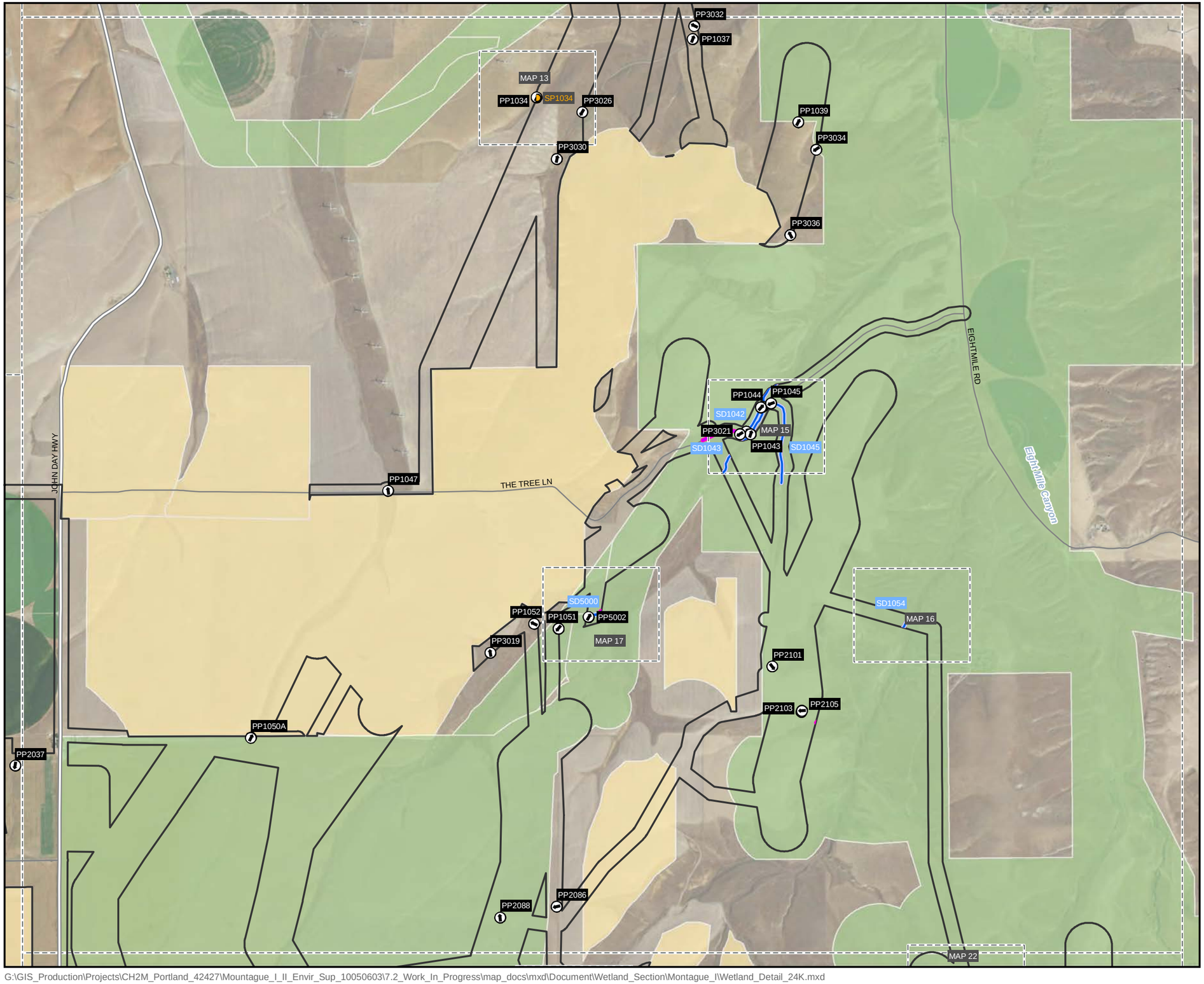
Figure 5.4
Wetland Survey
Wetland and Waterways Survey Detail Map 4
Montague Wind Power Facility



Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)

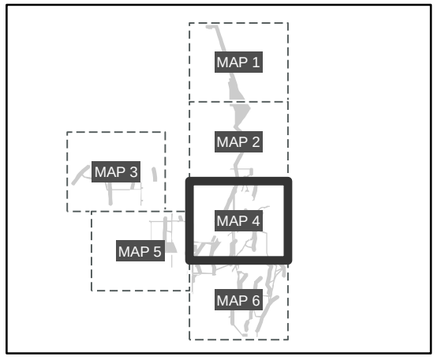


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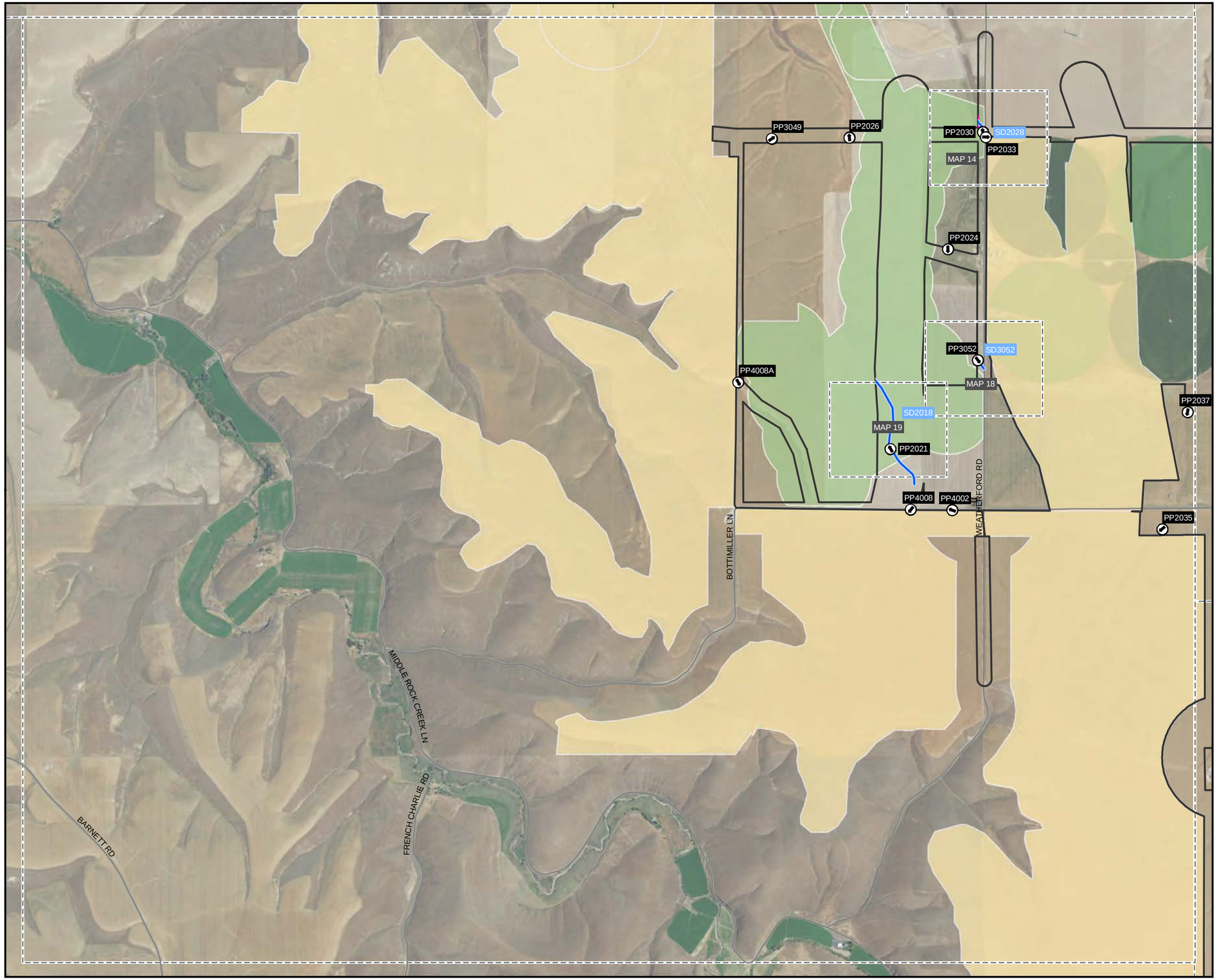
Figure 5.5
Wetland Survey
Wetland and Waterways Survey Detail Map 5
Montague Wind Power Facility



Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)

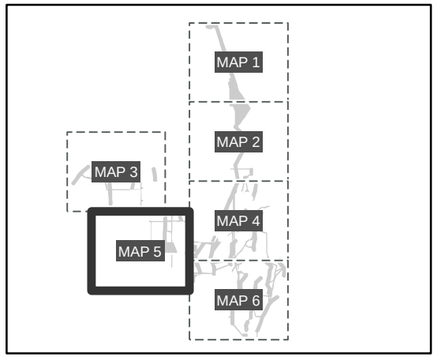


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Figure 5.6
Wetland Survey
Wetland and Waterways Survey Detail Map 6
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017),
ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)

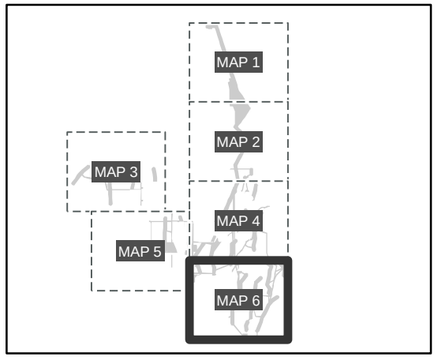

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Figure 5.7
Wetland Survey
Wetland and Waterways Survey Map 7
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

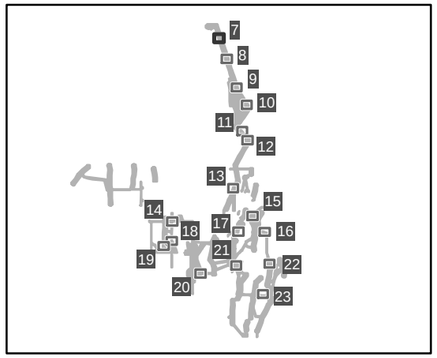

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Figure 5.8
Wetland Survey
Wetland and Waterways
Survey Map 8
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

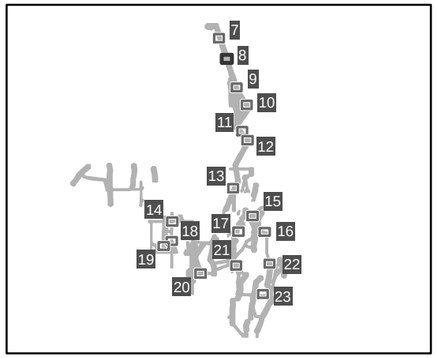

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Figure 5.9
Wetland Survey
Wetland and Waterways
Survey Map 9
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

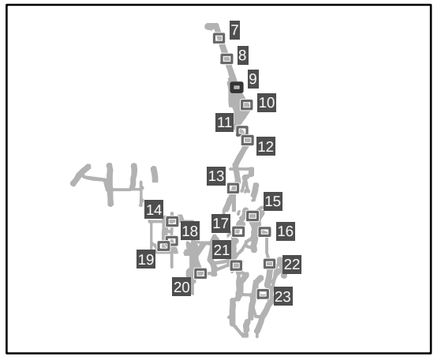

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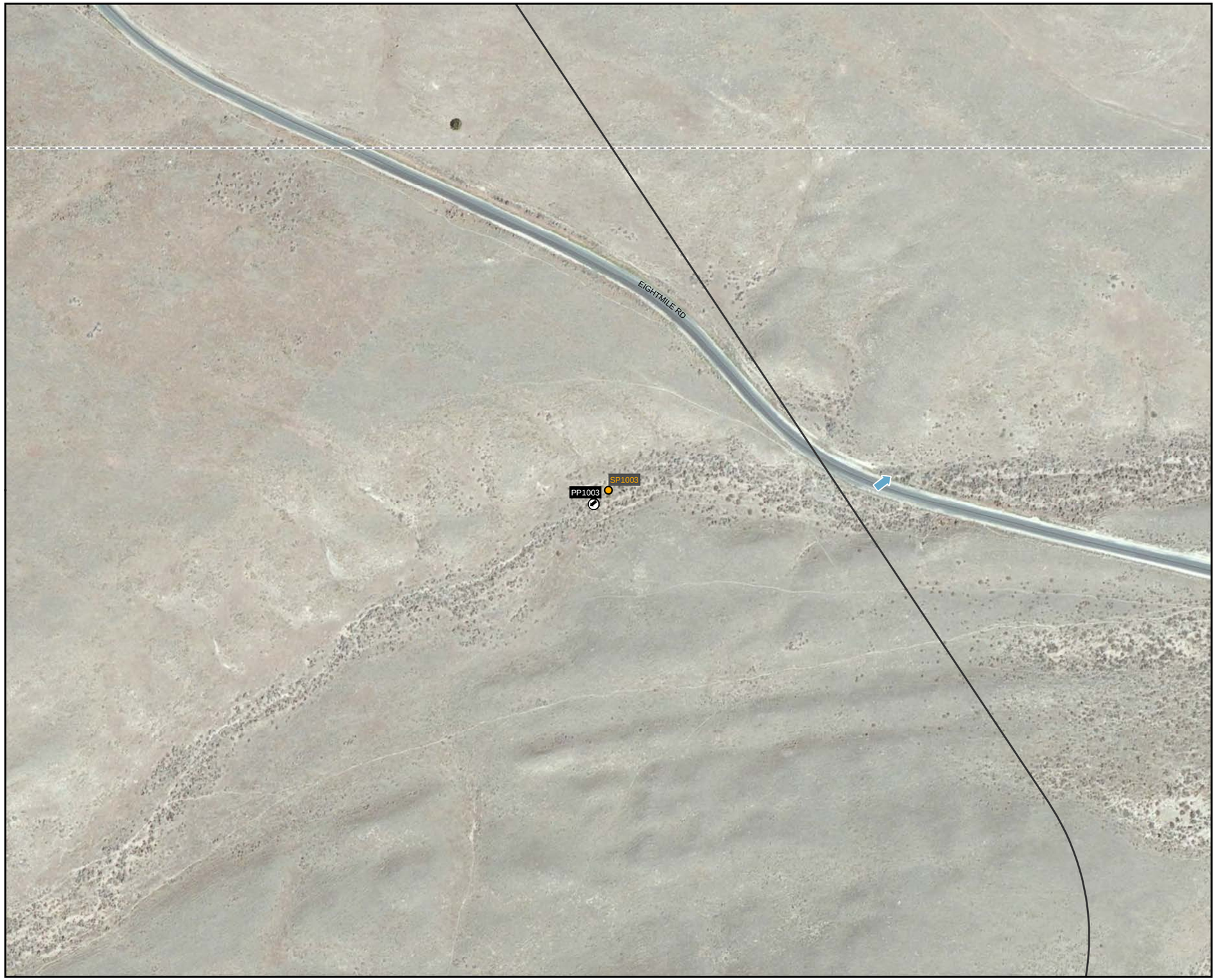
Figure 5.10
Wetland Survey
Wetland and Waterways
Survey Map 10
Montague Wind Power Facility



Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

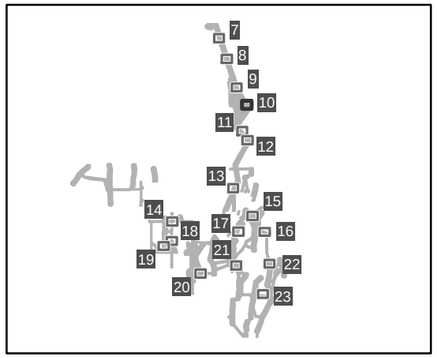


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Figure 5.11
Wetland Survey
Wetland and Waterways
Survey Map 11
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

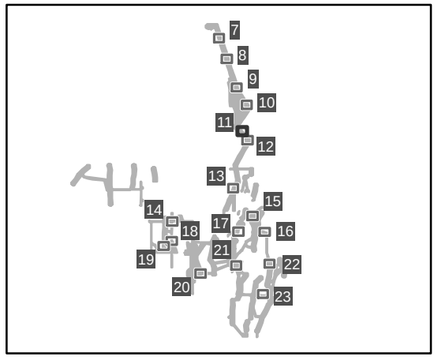

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Figure 5.12
Wetland Survey
Wetland and Waterways Survey Map 12
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

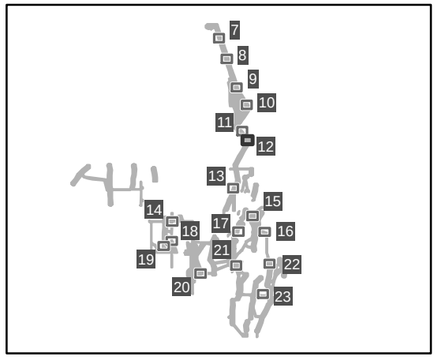

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Figure 5.13
Wetland Survey
Wetland and Waterways
Survey Map 13
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017),
ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

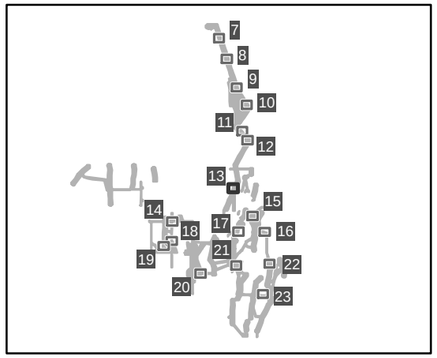

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Figure 5.14
Wetland Survey
Wetland and Waterways Survey Map 14
Montague Wind Power Facility

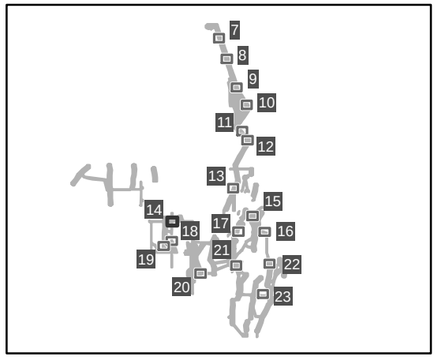
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017),
ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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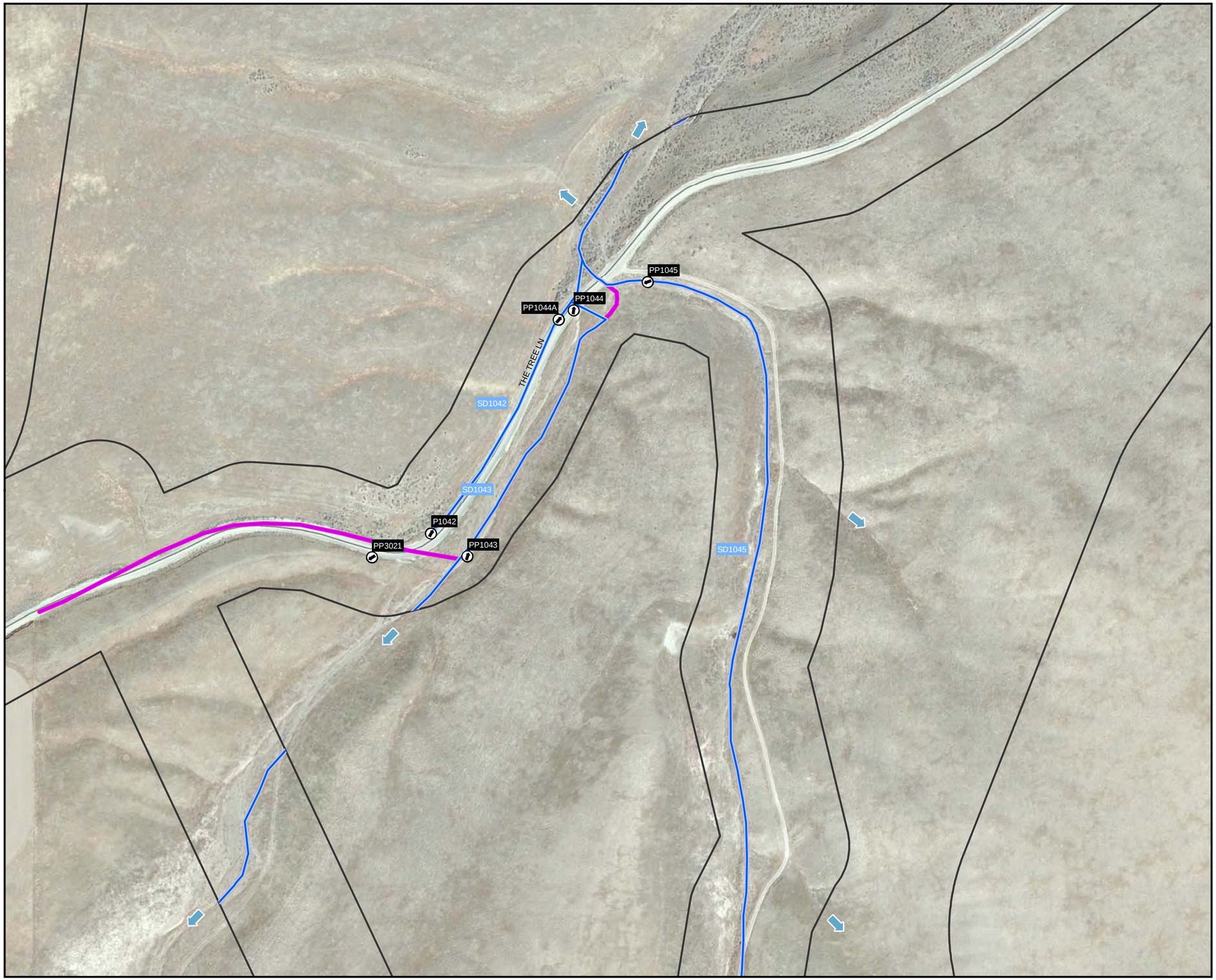

Figure 5.15
Wetland Survey
Wetland and Waterways Survey Map 15
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

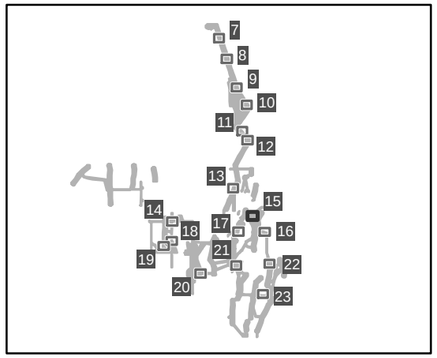

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Figure 5.16
Wetland Survey
Wetland and Waterways
Survey Map 16
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

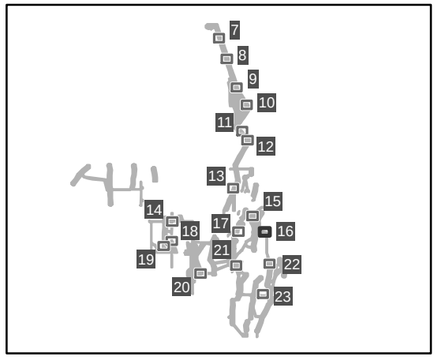

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Figure 5.17
Wetland Survey
Wetland and Waterways
Survey Map 17
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017),
ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

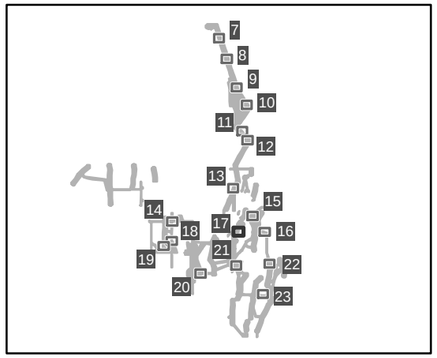

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Figure 5.18
Wetland Survey
Wetland and Waterways
Survey Map 18
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

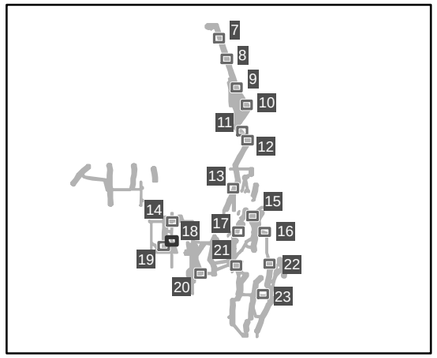

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Figure 5.19
Wetland Survey
Wetland and Waterways
Survey Map 19
Montague Wind Power Facility

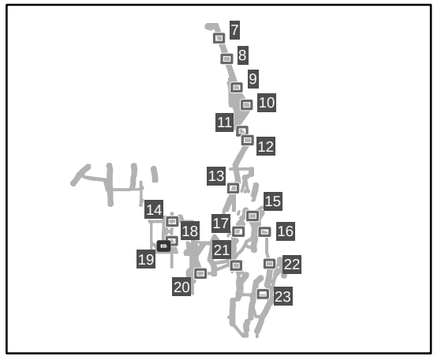
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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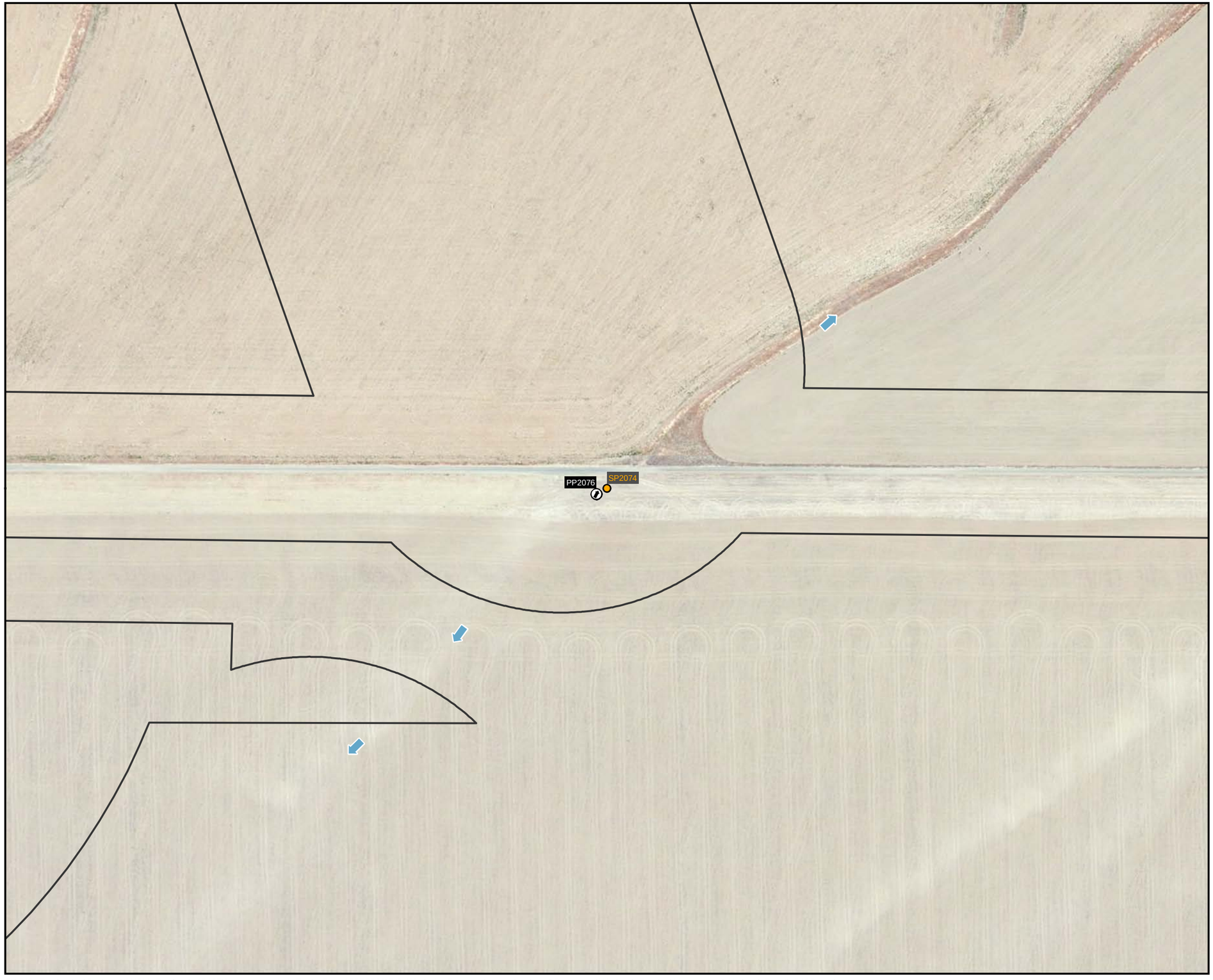

Figure 5.20
Wetland Survey
Wetland and Waterways
Survey Map 20
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017),
ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

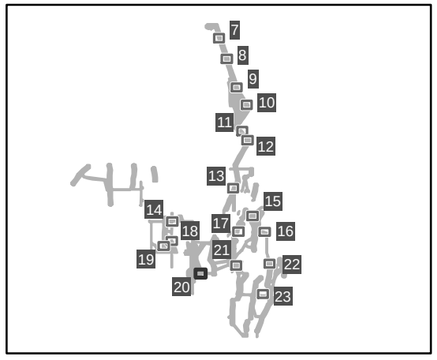

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Figure 5.21
Wetland Survey
Wetland and Waterways Survey Map 21
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

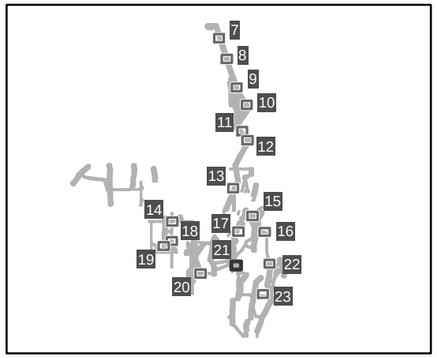

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Figure 5.22
Wetland Survey
Wetland and Waterways
Survey Map 22
Montague Wind Power Facility

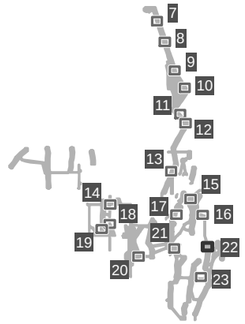
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017),
ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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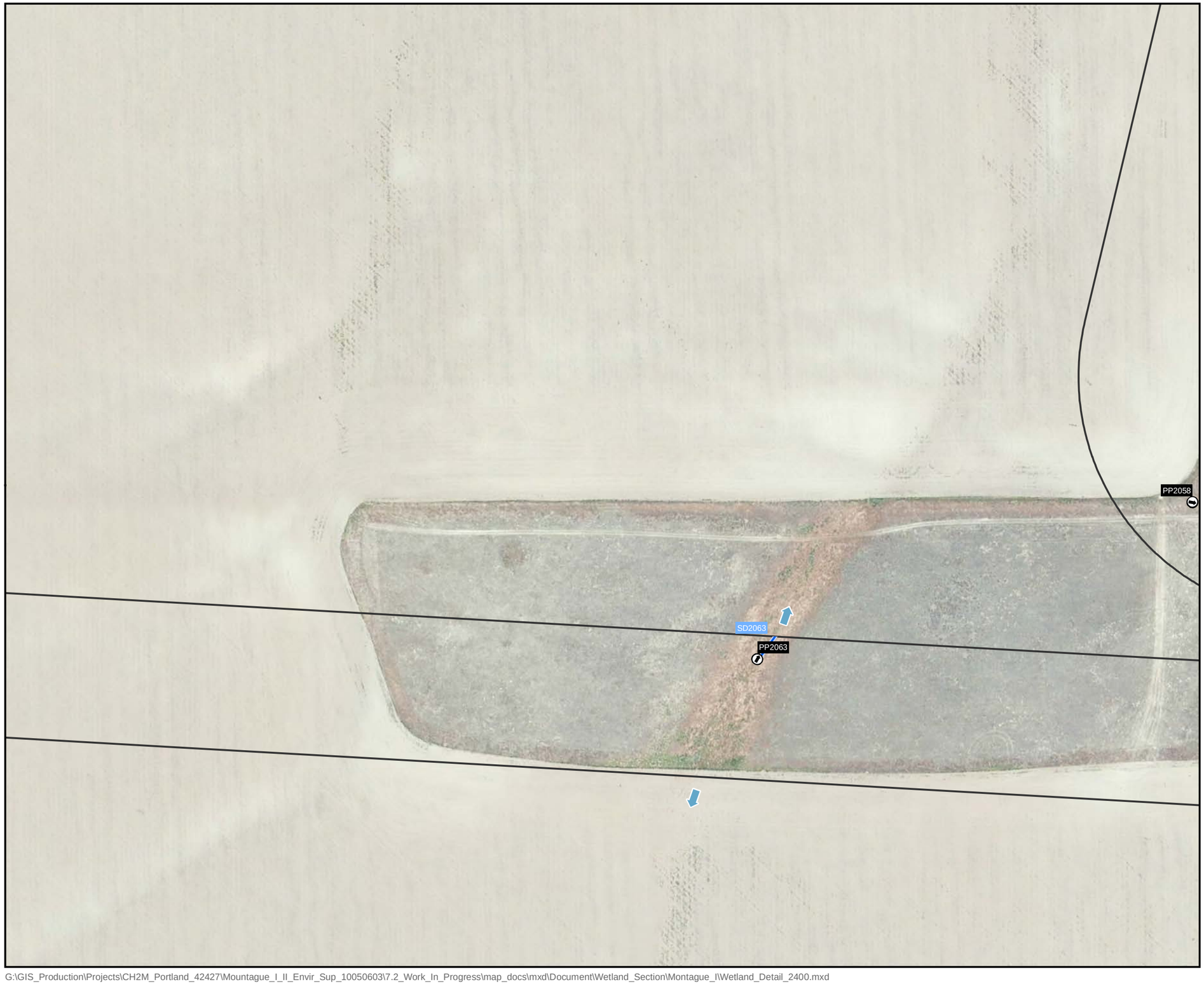


Figure 5.23
Wetland Survey
Wetland and Waterways
Survey Map 23
Montague Wind Power Facility

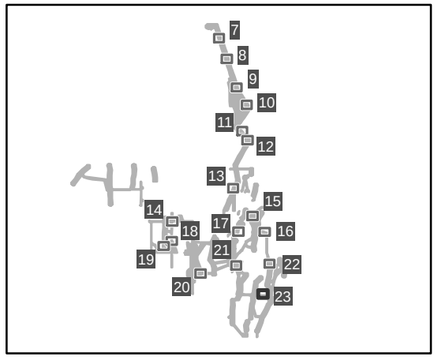
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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Appendix B. Delineation Data Forms

Index of Delineation Data Forms

2017 Sample Plot Number	Previous Wetland Name (Sample Plot Number)	Previous JD Number	Corresponding Figure Number
SP1003	n/a	n/a	5.10
SP1005	n/a	n/a	5.9
SP1008	n/a	n/a	5.8
SP1009	n/a	n/a	5.8
SP1011	n/a	n/a	5.8
SP1012	n/a	n/a	5.8
SP1014	W1J (no original data sheets)	2007-0430; 2010-0083	5.7
SP1015	W1J (no original data sheets)	2007-0430; 2010-0083	5.7
SP1016	W1J (no original data sheets)	2007-0430; 2010-0083	5.7
SP1017	W1G (no original data sheets)	2007-0430; 2010-0083	5.7
SP1018	W1G (no original data sheets)	2007-0430; 2010-0083	5.7
SP1019	W1I (no original data sheets)	2007-0430; 2010-0083	5.7
SP1020	W1H (no original data sheets)	2007-0430; 2010-0083	5.7
SP1021	W7 (W7SP01)	2010-0083	5.7
SP1022	W7 (W7SP02)	2010-0083	5.7
SP1023	n/a	n/a	5.7
SP1034	n/a	n/a	5.13
SP2074	n/a	n/a	5.20
SP2080	n/a	n/a	5.21

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-10-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1003

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T2N R22E S18

Landform (hillslope, terrace, etc.): Plateau | Local relief (concave, convex, none): none | Slope (%): 3

Subregion (LRR): B | Lat: 45.648658 | Long: -120.111539 | Datum: NAD83

Soil Map Unit Name: 40C, Sagehill fine sandy loam, 5-12% slopes | NWI classification: Upland

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 recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Chrysothamnus viscidiflorus*	15	yes	UPL
2.			
3.			
4.			
5.			
50% = 7.5, 20% = 3	15	= Total Cover	
Herb Stratum (Plot size: 6 ft)			
1. *Sisymbrium altissimum*	30	yes	FACU
2. *Brassica rapa*	20	yes	FACU
3. *Bromus secalinus*	5	no	UPL
4. *Cardamine oligosperma*	10	no	FAC
5. *Poa secunda*	T	no	FACU
6. *Bromus tectorum*	10	no	UPL
7. *Salsola kalo*	10	no	UPL
8. *Amaranthus albus*	10	no	FACU
50% = 47.5, 20% = 19	95	= Total Cover	
Woody Vine Stratum (Plot size: 6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 2	% 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	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species	10	x3 =	30
FACU species	60	x4 =	240
UPL species	40	x5 =	200
Column Totals:	110 (A)		470 (B)

Prevalence Index = B/A = 4.27

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1003

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10 YR 3/3	100					SaL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-10-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1005

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T2N R22E S18

Landform (hillslope, terrace, etc.): Plateau | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): B | Lat: 45.661172 | Long: -120.121478 | Datum: NAD83

Soil Map Unit Name: 23B, Olex silt loam, 0-5% slopes | NWI classification: Upland

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 recorded for the study area is above average and normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Cardamine oligosperma*	20	yes	FAC
2. *Bromus tectorum*	65	yes	UPL
3. *Poa secunda*	15	no	FACU
4.			
5.			
6.			
7.			
8.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 0	% Cover of Biotic Crust 0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species	20	x3 =	60
FACU species	15	x4 =	60
UPL species	65	x5 =	325
Column Totals:	100 (A)		445 (B)

Prevalence Index = B/A = 4.45

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1005

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 4/2	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soils Moist.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-10-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1008

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T2N R21E S1

Landform (hillslope, terrace, etc.): Plateau | Local relief (concave, convex, none): none | Slope (%): 3

Subregion (LRR): B | Lat: 45.680194 | Long: -120.130100 | Datum: NAD83

Soil Map Unit Name: 14D, Krebs silt loam, 5-20% slopes | NWI classification: Upland

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 ☒		
Hydric Soil Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes ☐ No ☒**
Wetland Hydrology Present?	Yes ☒	No ☐		

Remarks: **Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1. *Chrysothamnus viscidiflorus*	5	yes	UPL
2.			
3.			
4.			
5.			
50% = 2.5, 20% = 1	5	= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Poa secunda*	30	yes	FACU
2. *Centaurea diffusa*	15	yes	UPL
3. *Cardamine oligosperma*	15	yes	FAC
4. *Distichlis spicata*	10	no	FAC
5. *Ceratocephala testiculata*	5	no	UPL
6. *Lomatium ambiguum*	T	no	UPL
7. *Astragalus purshii*	T	no	UPL
8.			
50% = 37.5, 20% = 15	75	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 19	% Cover of Biotic Crust 0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	25	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species	25	x3 =	75
FACU species	30	x4 =	120
UPL species	25	x5 =	125
Column Totals:	80 (A)		320 (B)

Prevalence Index = B/A = 4.00

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1008

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 5/2	100					SiL	
6-12	10YR 4/2	100					SaL	
12-16	10YR 3/2	100					SaL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☒ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks: Although surface soil cracks were observed, the lack of hydric soils and hydrophytic vegetation indicates the cracks present may not be from early growing season inundation but rather temporary ponding.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-10-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1009

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T2N R21 S1

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

Subregion (LRR): B | Lat: 45.680192 | Long: -120.130067 | Datum: NAD83

Soil Map Unit Name: 14D, Krebs silt loam, 5-20% slopes | NWI classification: Upland

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 recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Ericameria nauseosa*	20	yes	UPL
2. *Chrysothamnus viscidiflorus*	10	yes	UPL
3.			
4.			
5.			
50% = 15, 20% = 6	30	= Total Cover	
Herb Stratum (Plot size: 6 ft)			
1. *Poa secunda*	60	yes	FACU
2. *Achillea millefolium*	T	no	FACU
3. *Cardamine oligosperma*	15	yes	FAC
4. *Tragopogon dubius*	T	no	UPL
5.			
6.			
7.			
8.			
50% = 37.5, 20% = 15	75	= Total Cover	
Woody Vine Stratum (Plot size: 6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 25	% Cover of Biotic Crust 0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	25	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species	15	x3 =	45
FACU species	60	x4 =	240
UPL species	30	x5 =	150
Column Totals:	105 (A)		435 (B)

Prevalence Index = B/A = 4.14

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1009

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 3/2	100					SiL	
12-17	10YR 3/2	100					SaL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1011

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T2N R21E S1

Landform (hillslope, terrace, etc.): Plateau | Local relief (concave, convex, none): none | Slope (%): 1

Subregion (LRR): B | Lat: 45.681783 | Long: -120.130064 | Datum: NAD83

Soil Map Unit Name: 39D, Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: Upland

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 recorded for the study area is above average and normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Chrysothamnus viscidiflorus*	10	yes	UPL
2.			
3.			
4.			
5.			
50% = 5, 20% = 2	10	= Total Cover	
Herb Stratum (Plot size: 6 ft)			
1. *Poa secunda*	15	yes	FACU
2. *Festuca idahoensis*	10	yes	FACU
3. *Ceratocephala testiculata*	15	yes	UPL
4. *Cardamine oligosperma*	10	yes	FAC
5.			
6.			
7.			
8.			
50% = 25, 20% = 10	50	= Total Cover	
Woody Vine Stratum (Plot size: 6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 50	% Cover of Biotic Crust 0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	5	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	20	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species	10	x3 =	30
FACU species	25	x4 =	100
UPL species	25	x5 =	125
Column Totals:	60 (A)		255 (B)

Prevalence Index = B/A = 4.25

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1011

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 4/2	100					SiL	
7-13	2.5Y 5/2	100					SaL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☒ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks: Although surface soil cracks were observed, the lack of hydric soils and hydrophytic vegetation indicates the cracks present may not be from early growing season inundation but rather temporary ponding.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1012

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T2N R21E S1

Landform (hillslope, terrace, etc.): Plateau | Local relief (concave, convex, none): none | Slope (%): 3

Subregion (LRR): B | Lat: 45.681803 | Long: -120.130092 | Datum: NAD83

Soil Map Unit Name: 39D, Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: Upland

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 recorded for the study area is above average and normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1. *Chrysothamnus viscidiflorus*	20	yes	UPL
2. *Ericameria nauseosa*	10	yes	UPL
3.			
4.			
5.			
50% = 15, 20% = 6	30	= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Poa secunda*	30	yes	FACU
2. *Festuca idahoensis*	40	yes	FACU
3. *Ceratocephala testiculata*	5	no	UPL
4. *Taeniatherum caput-medusae*	5	no	UPL
5. *Lithophragma glabrum*	10	no	UPL
6.			
7.			
8.			
50% = 45, 20% = 18	90	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 10	% 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:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	**0**	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species	70	x4 =	280
UPL species	50	x5 =	250
Column Totals:	120 (A)		530 (B)

Prevalence Index = B/A = 4.42

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1012

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 4/1	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1014

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T3N R21E S36

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

Subregion (LRR): B | Lat: 45.694567 | Long: -120.139328 | Datum: NAD83

Soil Map Unit Name: 39D, Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: PEM1A

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 ☒		
Hydric Soil Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?**	**Yes ☒ No ☐**
Wetland Hydrology Present?	Yes ☒	No ☐		

Remarks: **Verification of wetland W1J. This wetland was previously identified and included as part of DSL WD #07-0430 issued on January 1, 2008. Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = ____, 20% = ____		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = ____, 20% = ____		= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Ventenata dubia*	60	yes	UPL
2. *Centaurea diffusa*	10	no	UPL
3. *Poa secunda*	20	yes	FACU
4. *Bromus tectorum*	0	no	UPL
5. *Lepidium densiflorum*	5	no	UPL
6. *Artemisia biennis*	5	no	FACW
7. *Erodium cicutarium*	T	no	UPL
8. *Cardaria draba*	0	no	UPL
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = ____, 20% = ____		= Total Cover	
% Bare Ground in Herb Stratum 0	% 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	(A/B)

Prevalence Index worksheet:

	Total % Cover of :	Multiply by:	
OBL species	____	x1 =	____
FACW species	5	x2 =	10
FAC species	____	x3 =	____
FACU species	20	x4 =	80
UPL species	75	x5 =	375
Column Totals:	100 (A)		465 (B)

Prevalence Index = B/A = 4.65

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: Hydrophytic vegetation is not present. Using the problematic hydrophytic vegetation guidelines, the plot includes one indicator of hydric soil and one primary indicator of wetland hydrology. Aerial imagery used in the original 2007 determination indicates prolonged surface saturation is present. Since the 2007 delineation, the region has experienced drought conditions. These conditions may be enough to cause a termporal shift in vegetation in the area resulting in an upland dominate plant community.

Project Site: Montague I and II

SOIL

Sampling Point: SP1014

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	95	7.5YR 3/3	5	C	M	SiL	
7-15	10YR 4/2	90	2.5Y 5/1	10	D	M	SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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): 4

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1015

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T3N R21E S36

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

Subregion (LRR): B | Lat: 45.694581 | Long: -120.139317 | Datum: NAD83

Soil Map Unit Name: 39D, Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: PEM1A

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 ☒		
Hydric Soil Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?**	**Yes ☒ No ☐**
Wetland Hydrology Present?	Yes ☒	No ☐		

Remarks: **Verification of wetland W1J. This wetland was previously identified and included as part of DSL WD #07-0430 issued on January 1, 2008. Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size: 6 ft)			
1. *Ventenata dubia*	40	yes	UPL
2. *Erodium cicutarium*	T	no	UPL
3. *Poa secunda*	50	yes	FACU
4. *Bromus tectorum*	10	no	UPL
5.			
6.			
7.			
8.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 0	% Cover of Biotic Crust 0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

	Total % Cover of :	Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species	50	x4 =	200
UPL species	50	x5 =	250
Column Totals:	100 (A)		450 (B)

Prevalence Index = B/A = 4.50

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: Hydrophytic vegetation is not present. Using the problematic hydrophytic vegetation guidelines, the plot includes one indicator of hydric soil and one primary indicator of wetland hydrology. Aerial imagery used in the original 2007 determination indicates prolonged surface saturation is present. Since the 2007 delineation, the region has experienced drought conditions. These conditions may be enough to cause a temporal shift in vegetation in the area resulting in an upland dominate plant community.

Project Site: Montague I and II

SOIL

Sampling Point: SP1015

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	95	7.5YR 3/3	5	C	M	SiL	
7-15	10YR 4/2	90	2.5Y 5/1	10	D	M	SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (Inches): _____

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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): 7

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1016

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T3N R21E S36

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

Subregion (LRR): B | Lat: 45.694617 | Long: -120.139228 | Datum: NAD83

Soil Map Unit Name: 39D, Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: Upland

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: **Verification of wetland W1J. This wetland was previously identified and included as part of DSL WD #07-0430 issued on January 1, 2008. Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Ventenata dubia*	20	yes	UPL
2. *Erodium cicutarium*	10	no	UPL
3. *Poa secunda*	45	yes	FACU
4. *Bromus tectorum*	T	no	UPL
5. *Lithophragma glabrum*	15	no	UPL
6. *Lepidium densiflorum*	10	no	UPL
7.			
8.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 0	% 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	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species	45	x4 =	180
UPL species	55	x5 =	275
Column Totals:	100 (A)		455 (B)

Prevalence Index = B/A = 4.55

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1016

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	100					VGRSiL	
5-17	10YR 4/2	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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):	15

Wetland Hydrology Present? **Yes** ☐ **No** ☒

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1017

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T3N R21E S36

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

Subregion (LRR): B | Lat: 45.695253 | Long: -120.139594 | Datum: NAD83

Soil Map Unit Name: 39D, Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: PEM1A

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 ☒		
Hydric Soil Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?**	**Yes ☒ No ☐**
Wetland Hydrology Present?	Yes ☒	No ☐		

Remarks: **Verification of wetland W1G. This wetland was previously identified and included as part of DSL WD #07-0430 issued on January 1, 2008. Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Ventenata dubia*	60	yes	UPL
2. *Erodium cicutarium*	5	no	UPL
3. *Poa secunda*	15	no	FACU
4. *Lithophragma glabrum*	10	no	UPL
5. *Ceratocephala testiculata*	T	no	UPL
6.			
7.			
8.			
50% = 45, 20% = 18	90	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 10	% 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:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species	15	x4 =	60
UPL species	75	x5 =	375
Column Totals:	90 (A)		435 (B)

Prevalence Index = B/A = 4.83

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: Hydrophytic vegetation is not present. Using the problematic hydrophytic vegetation guidelines, the plot includes one indicator of hydric soil and one primary indicator of wetland hydrology. Aerial imagery used in the original 2007 determination indicates prolonged surface saturation is present. Since the 2007 delineation, the region has experienced drought conditions. These conditions may be enough to cause a temporal shift in vegetation in the area resulting in an upland dominate plant community.

Project Site: Montague I and II

SOIL

Sampling Point: SP1017

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	97	10YR 4/4	3	C	PL	SiL	
10-18	10YR 4/2	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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): 13
Saturation Present? (includes capillary fringe)	Yes	☒	No	☐	Depth (inches): 0

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1018

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T3N R21E S36

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

Subregion (LRR): B | Lat: 45.695286 | Long: -120.139531 | Datum: NAD83

Soil Map Unit Name: 39D, Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: Upland

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: **Verification of wetland W1G. This wetland was previously identified and included as part of DSL WD #07-0430 issued on January 1, 2008. Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Ventenata dubia*	25	yes	UPL
2. *Lepidium densiflorum*	10	no	UPL
3. *Poa secunda*	35	yes	FACU
4. *Lithophragma glabrum*	15	no	UPL
5. *Bromus tectorum*	15	no	UPL
6.			
7.			
8.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 0	% 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	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species	35	x4 =	140
UPL species	65	x5 =	325
Column Totals:	100 (A)		465 (B)

Prevalence Index = B/A = 4.65

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1018

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	2.5Y 4/3	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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): 12

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1019

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T3N R21E S36

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

Subregion (LRR): B | Lat: 45.695328 | Long: -120.138678 | Datum: NAD83

Soil Map Unit Name: 39D, Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: Upland

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: **Verification of wetland W1I. This wetland was previously identified and included as part of DSL WD #07-0430 issued on January 1, 2008. Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Chrysothamnus viscidiflorus*	5	yes	UPL
2.			
3.			
4.			
5.			
50% = 2.5, 20% = 1	5	= Total Cover	
Herb Stratum (Plot size: 6 ft)			
1. *Ventenata dubia*	50	yes	UPL
2. *Lepidium densiflorum*	5	no	UPL
3. *Poa secunda*	30	yes	FACU
4. *Ceratocephala testiculata*	T	no	UPL
5. *Erodium cicutarium*	10	no	UPL
6. *Centaurea diffusa*	5	no	UPL
7.			
8.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 0	% 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	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species	30	x4 =	120
UPL species	75	x5 =	375
Column Totals:	105 (A)		475 (B)

Prevalence Index = B/A = 4.52

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1019

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	98	10YR 3/4	2	C	M	SiL	
7-16	10YR 4/2	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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): 6

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1020

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T3N R21E S36

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

Subregion (LRR): B | Lat: 45.695169 | Long: -120.139047 | Datum: NAD83

Soil Map Unit Name: 39D, Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: Upland

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: **Verification of wetland W1H. This wetland was previously identified and included as part of DSL WD #07-0430 issued on January 1, 2008. Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Ventenata dubia*	40	yes	UPL
2. *Lepidium densiflorum*	5	no	UPL
3. *Poa secunda*	35	yes	FACU
4. *Ceratocephala testiculata*	T	no	UPL
5. *Erodium cicutarium*	T	no	UPL
6. *Lithophragma glabrum*	10	no	UPL
7. *Distichlis spicata*	10	no	FAC
8.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 0	% 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	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species	10	x3 =	30
FACU species	35	x4 =	140
UPL species	55	x5 =	275
Column Totals:	100 (A)		445 (B)

Prevalence Index = B/A = 4.45

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1020

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	2.5Y 3/2	100					SiL	
7-16	10YR 4/2	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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): 7

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1021

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T3N R21E S36

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

Subregion (LRR): B | Lat: 45.695206 | Long: -120.138047 | Datum: NAD83

Soil Map Unit Name: 39D (Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: Upland

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: **Verification of wetland W7. This wetland was previously identified and included as part of DSL WD2010-0083 issued on June 28, 2010. Sample point taken in location of original upland plot W7SP01. Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = ____, 20% = ____		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = ____, 20% = ____		= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Distichlis spicata*	20	yes	FAC
2. *Bromus tectorum*	5	no	UPL
3. *Secale cereale*	10	no	UPL
4. *Lithophragma glabrum*	5	no	UPL
5. *Ventenata dubia*	25	yes	UPL
6. *Poa secunda*	25	yes	FACU
7. *Distichlis spicata*	20	yes	FAC
8. *Malva neglecta*	5	no	UPL
8. *Lepidium densiflorum*	5	no	UPL
8. *Centaurea diffusa*	T	no	UPL
8. *Ceratocephala testiculata*	T	no	UPL
50% = 60, 20% = 24	120	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = ____, 20% = ____		= Total Cover	
% Bare Ground in Herb Stratum 0	% Cover of Biotic Crust 0		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

	Total % Cover of :	Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species	40	x3 =	120
FACU species	25	x4 =	100
UPL species	55	x5 =	275
Column Totals:	120 (A)		495 (B)

Prevalence Index = B/A = 4.12

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1021

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					SiL	
10-18	10YR 4/2	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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): 11

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1022

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T3N R21E S36

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

Subregion (LRR): B | Lat: 45.695286 | Long: -120.138133 | Datum: NAD83

Soil Map Unit Name: 39D (Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: Upland

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: **Verification of wetland W7. This wetland was previously identified and included as part of DSL WD2010-0083 issued on June 28, 2010. Sample point taken in location of original upland plot W7SP02. Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Erodium cicutarium*	15	yes	UPL
2. *Ventenata dubia*	10	no	UPL
3. *Poa secunda*	30	yes	FACU
4. *Bromus tectorum*	5	no	UPL
5. *Tragopogon dubius*	T	no	UPL
6. *Taeniatherum caput-medusae*	10	no	UPL
7. *Lithophragma glabrum*	15	yes	UPL
8.			
50% = 42.5, 20% = 17	85	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 15	% 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	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species	30	x4 =	120
UPL species	55	x5 =	275
Column Totals:	85 (A)		395 (B)

Prevalence Index = B/A = 4.65

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1022

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 3/3	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soils moist at 16 inches

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-11-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1023

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T3N R21E S36

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

Subregion (LRR): B | Lat: 45.695361 | Long: -120.136164 | Datum: NAD83

Soil Map Unit Name: 39D, Roloff-Rock outcrop complex, 1-20% slopes | NWI classification: Upland

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 ☒		
Hydric Soil Present?	Yes ☐	No ☒	**Is the Sampled Area within a Wetland?**	**Yes ☐ No ☒**
Wetland Hydrology Present?	Yes ☐	No ☒		

Remarks: **Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Erodium cicutarium*	10	no	UPL
2. *Lithophragma glabrum*	15	yes	UPL
3. *Bromus tectorum*	25	yes	UPL
4. *Lepidium perfoliatum*	20	yes	FACU
5. *Ventenata dubia*	15	yes	UPL
6. *Claytonia rubra*	15	yes	UPL
7. *Lepidium densiflorum*	5	no	UPL
8.			
50% = 52.5, 20% = 21	105	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	

% Bare Ground in Herb Stratum 0 | % 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	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species	20	x4 =	80
UPL species	85	x5 =	425
Column Totals:	105 (A)		505 (B)

Prevalence Index = B/A = 4.81

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1023

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					SiL	
6-18	10YR 4/2	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-12-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP1034

Investigator(s): Leandra Cleveland; Maki Dalzell | Section, Township, Range: T1N R21E S1

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): concave | Slope (%): 3

Subregion (LRR): B | Lat: 45.591036 | Long: -120.125311 | Datum: NAD83

Soil Map Unit Name: 55E, Warden silt loam, 20-40% slopes | NWI classification: Upland

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 recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1. *Salsola kalo*	30	yes	UPL
2.			
3.			
4.			
5.			
50% = 15, 20% = 6	30	= Total Cover	
Herb Stratum (Plot size: 6 ft)			
1. *Poa bulbosa*	50	yes	FACU
2. *Ventenata dubia*	15	no	UPL
3. *Bromus secalinus*	30	yes	UPL
4. *Epilobium ciliatum*	5	no	FACW
5.			
6.			
7.			
8.			
50% = 50, 20% = 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 0	% 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	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species	5	x2 =	10
FAC species		x3 =	
FACU species	50	x4 =	200
UPL species	75	x5 =	375
Column Totals:	130 (A)		585 (B)

Prevalence Index = B/A = 4.50

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP1034

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/3	100					SiL	
5-18	10YR 4/2	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-12-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP2074

Investigator(s): Lisa Danielski; Claudia Steinkoenig | Section, Township, Range: T1N R21E S13

Landform (hillslope, terrace, etc.): Swale | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): B | Lat: 45.531937 | Long: -120.157757 | Datum: NAD83

Soil Map Unit Name: 32C, Ritzville silt loadm, 7-12% slopes | NWI classification: Upland

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: **Recently sprayed field; field tilled. Precipitation recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size:30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size:6 ft)			
1. *Triticum aestivum*	25	yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50% = 12.5, 20% = 5	25	= Total Cover	
Woody Vine Stratum (Plot size:6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 75	% 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:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species	25	x5 =	125
Column Totals:	25 (A)		125 (B)

Prevalence Index = B/A = 5.00

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: Area has been recently mowed, tilled and sprayed. Vegetation is predominantly dead.

Project Site: Montague I and II

SOIL

Sampling Point: SP2074

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-19	10YR 3/3	100					SiL	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (Inches):

Hydric Soils Present? **Yes** ☐ **No** ☒

Remarks: Shallow tillage, not affecting soil profile.

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) **(Nonriverine)**
- ☐ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility | City/County: -----/Gilliam | Sampling Date: 04-12-17

Applicant/Owner: Avangrid | State: OR | Sampling Point: SP2080

Investigator(s): Lisa Danielski; Claudia Steinkoenig | Section, Township, Range: T1N R22E S30

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

Subregion (LRR): B | Lat: 45.538058 | Long: -120.122297 | Datum: NAD83

Soil Map Unit Name: 32D, Ritzville silt loam, 12-20% slopes | NWI classification: Upland

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 recorded for the study area is above average and normal.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
50% = , 20% =		= Total Cover	
Sapling/Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
50% = , 20% =		= Total Cover	
Herb Stratum (Plot size: 6 ft)			
1. *Poa cusickii*	3	yes	UPL
2. *Draba verna*	2	yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
50% = 2.5, 20% = 1	5	= Total Cover	
Woody Vine Stratum (Plot size: 6 ft)			
1.			
2.			
50% = , 20% =		= Total Cover	
% Bare Ground in Herb Stratum 95	% 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	(A/B)

Prevalence Index worksheet:

Total % Cover of :		Multiply by:	
OBL species		x1 =	
FACW species		x2 =	
FAC species		x3 =	
FACU species		x4 =	
UPL species	5	x5 =	25
Column Totals:	5 (A)		25 (B)

Prevalence Index = B/A = 5.00

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:

Project Site: Montague I and II

SOIL

Sampling Point: SP2080

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 3/2	100					GrLS	

[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 Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ 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, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Dense cobble

Depth (Inches): 8

Hydric Soils 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) **(Nonriverine)**
- ☐ 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 Tilled 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, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix B2. SDAM Forms

Index of SDAM Forms

2017 Waterway Reach ID	Previous Waterway Name	Previous JD Number	Corresponding Figure Number
SD1000	n/a	n/a	5.12
SD1001	S002	2010-0083	5.12
SD1002	S003	2010-0083	5.11
SD1042	S206	2010-0083	5.15
SD1043	S204	2010-0083	5.15
SD1045	S205	2010-0083	5.15
SD1054	S008	2010-0083	5.16
SD2018	n/a	n/a	5.19
SD2028	S005	2010-0083	5.14
SD2063	n/a	n/a	5.23
SD2096	S208	2010-0083	5.22
SD2106	n/a	n/a	5.21
SD3015	n/a	n/a	5.21
SD3052	n/a	n/a	5.18
SD5000	S204	2010-0083	5.17

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Cleveland; Dalzell**
Address		Date	**04-10-17**
Waterway Name	**SD1000**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°37'26.19" N
Reach Boundaries			Long. 120°6'45.68" W
Precipitation w/in 48 hours (cm) 0.13	Channel Width (m) 1.75	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

None. No plants present in channel.

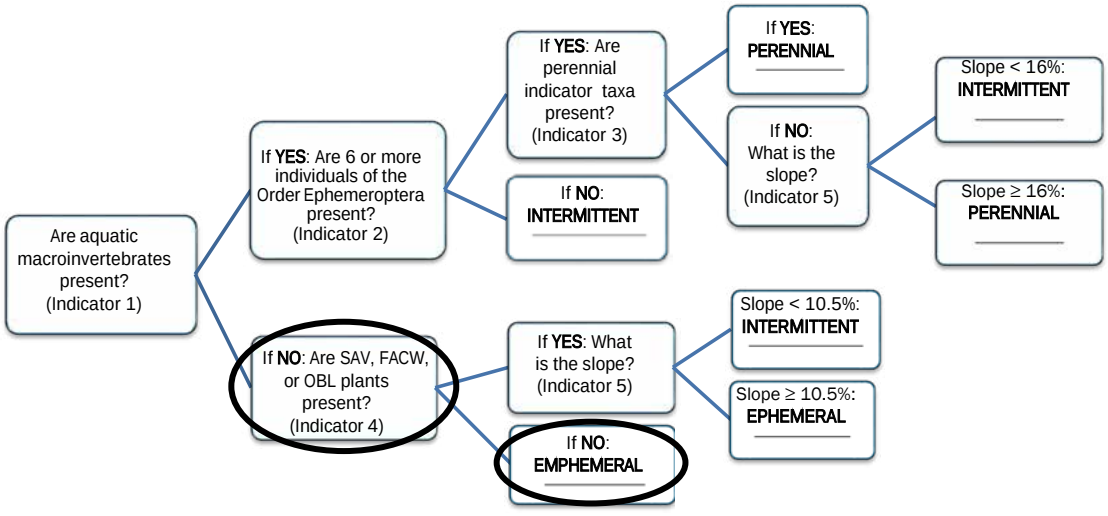
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	2 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Connects to stream outside of study area. Defined bed and bank present and signs of erosion.

Ancillary Information:

☐ Riparian Corridor – pasture, actively grazed

☐ Erosion and Deposition – signs of moderate erosion along entire reach

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Cleveland; Dalzell**
Address		Date	**04-10-17**
Waterway Name	**SD1001 (previous name S002)**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°37'27.18" N
Reach Boundaries			Long. 120°6'37.26" W
Precipitation w/in 48 hours (cm) 0.13	Channel Width (m) 1.0	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

None. No plants present in channel.

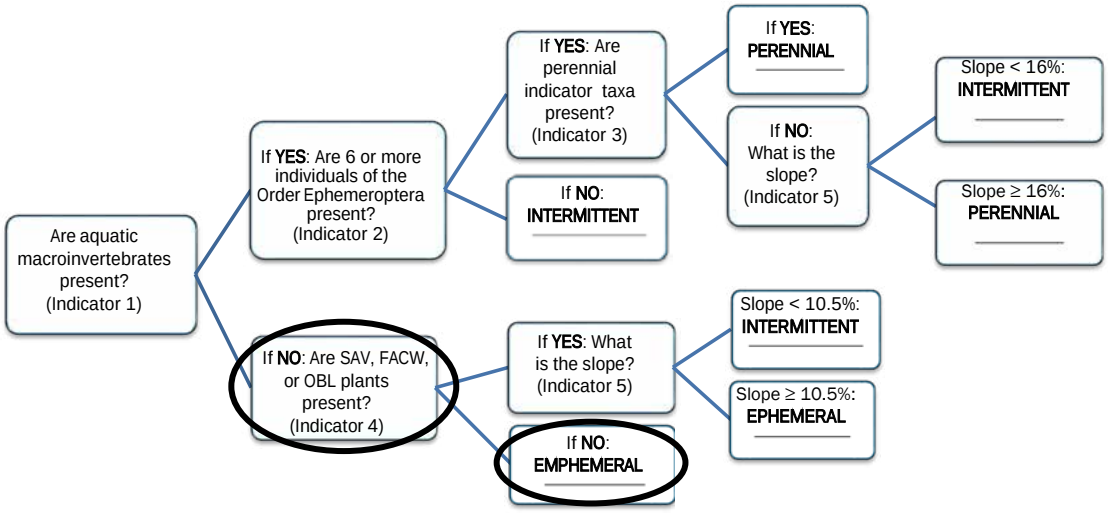
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	2 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Ancillary Information:

☐ Riparian Corridor – pasture, actively grazed

☐ Erosion and Deposition – signs of minimal erosion along entire reach. Bed and bank present.

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Cleveland; Dalzell**
Address		Date	**04-10-17**
Waterway Name	**SD1002 (previous name S003)**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°37'45.55" N
Reach Boundaries			Long. 120°6'56.25" W
Precipitation w/in 48 hours (cm) 0.13	Channel Width (m) 3.0	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

None.

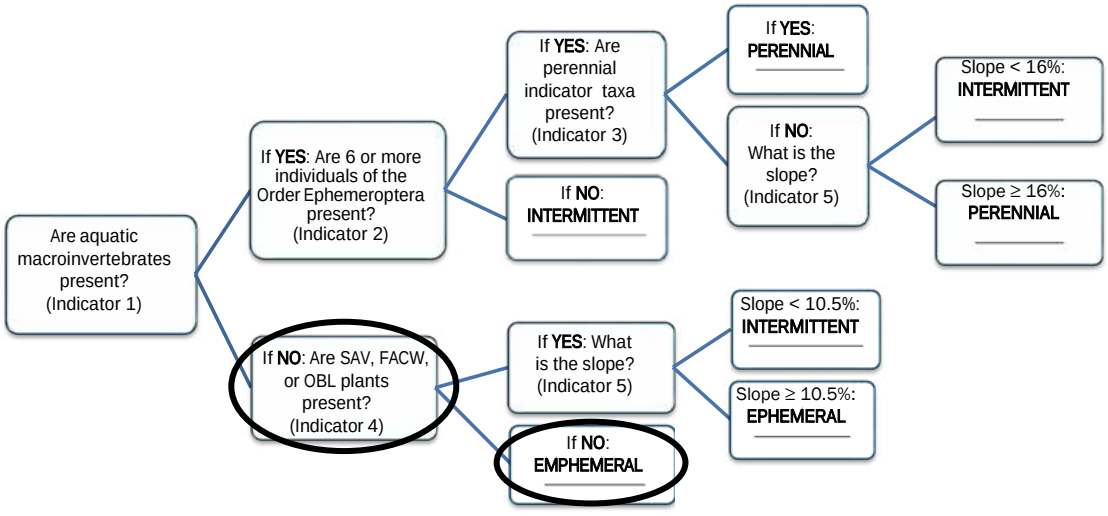
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	2 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Ancillary Information:

☐ Riparian Corridor – pasture, actively grazed

☐ Erosion and Deposition – high degree of erosion along entire reach. Bed and bank present.

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Cleveland; Dalzell**
Address		Date	**04-12-17**
Waterway Name	**SD1042 (previous name S206)**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°34'19.92" N
Reach Boundaries			Long. 120°6'25.86" W
Precipitation w/in 48 hours (cm) 0.05	Channel Width (m) 3	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

None.

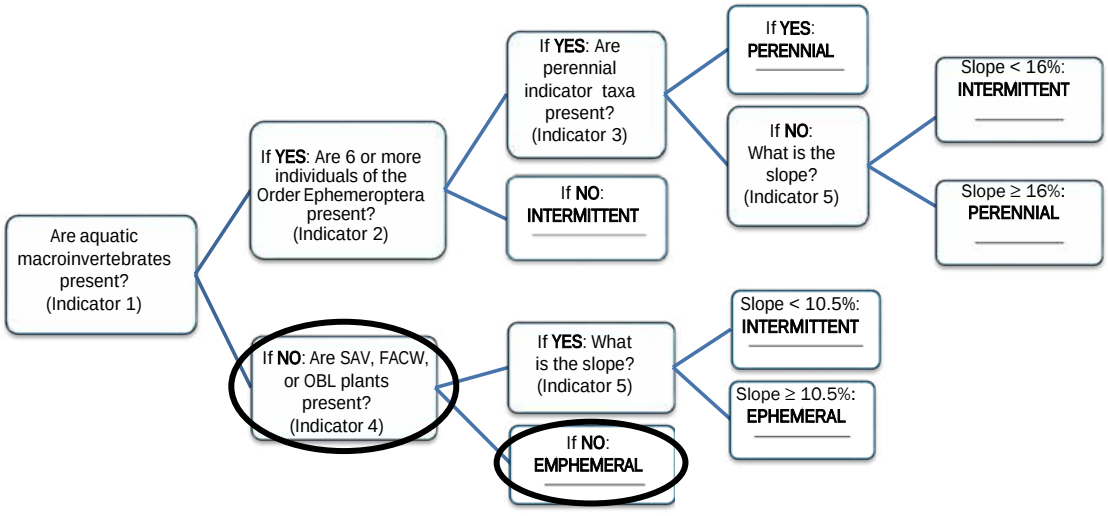
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	1 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Stream is mostly vegetated but stream mapped from previous field efforts both upstream and downstream of this location.

Ancillary Information:

☐ Riparian Corridor – sagebrush and road as this stream is a ditch feature adjacent to a gravel road.

☐ Erosion and Deposition – no bed and bank, no recent erosion or substrate; however, the road was recently modified (graded and graveled) and a new ditch dug adjacent to the roadway.

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Cleveland; Dalzell**
Address		Date	**04-12-17**
Waterway Name	**SD1043 (previous name S204)**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°34'17.88" N
Reach Boundaries			Long. 120°6'26.38" W
Precipitation w/in 48 hours (cm) 0.13	Channel Width (m) 4	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

None.

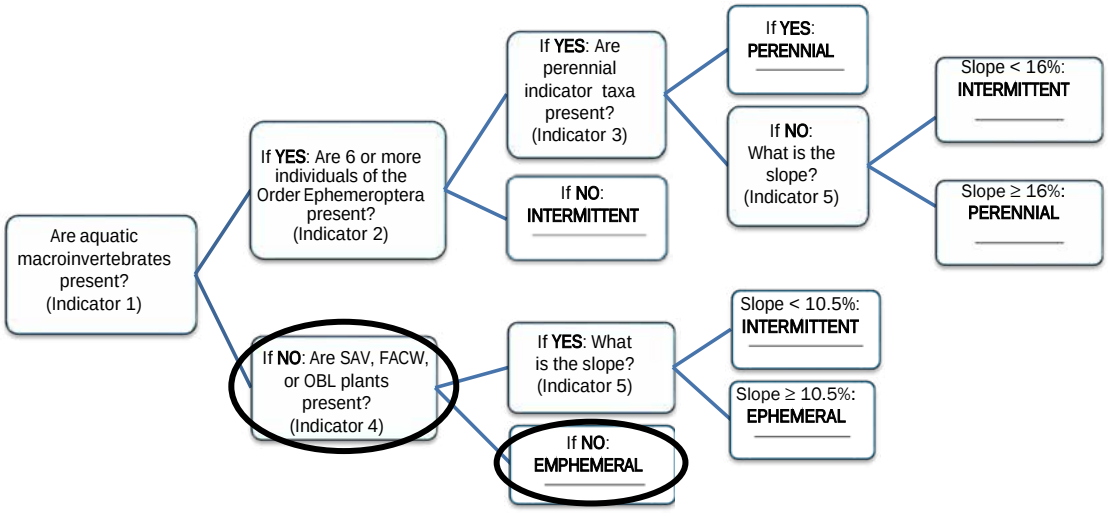
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	1 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Ancillary Information:

☐ Riparian Corridor – sagebrush.

☐ Erosion and Deposition – deposition of soil and rock; minor signs of erosion; defined bed and bank.

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Cleveland; Dalzell**
Address		Date	**04-12-17**
Waterway Name	**SD1045 (previous name S205)**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°34'16.41" N
Reach Boundaries			Long. 120°6'17.76" W
Precipitation w/in 48 hours (cm) 0.05	Channel Width (m) 4	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

None.

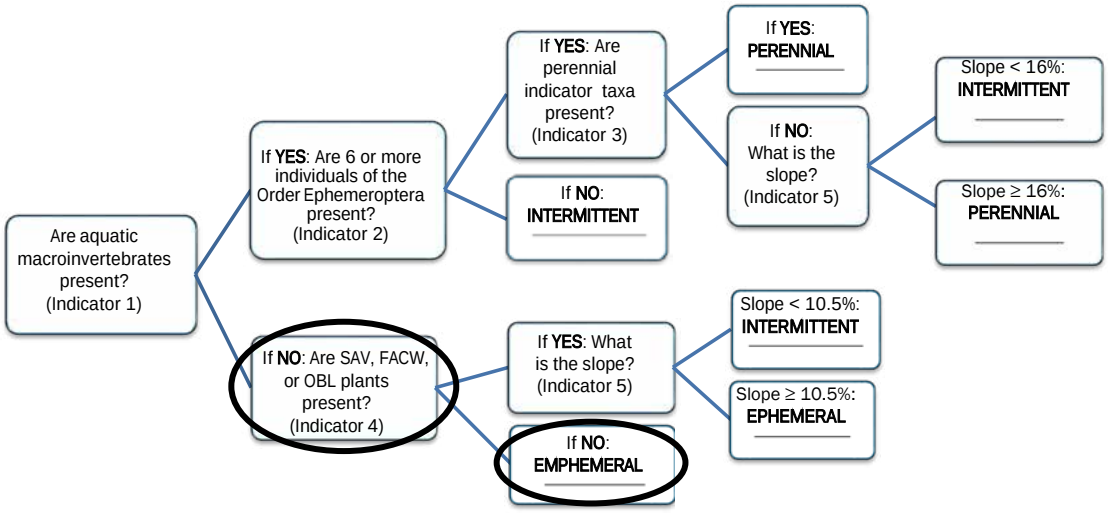
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	<1 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Ancillary Information:

☐ Riparian Corridor – sagebrush.

☐ Erosion and Deposition – deposition of soil and rock; minor signs of erosion; defined bed and bank.

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Cleveland; Dalzell**
Address		Date	**04-12-17**
Waterway Name	**SD1054 (previous name S008)**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°33'36.91" N
Reach Boundaries			Long. 120°5'40.81" W
Precipitation w/in 48 hours (cm) 0.05	Channel Width (m) 2	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

None.

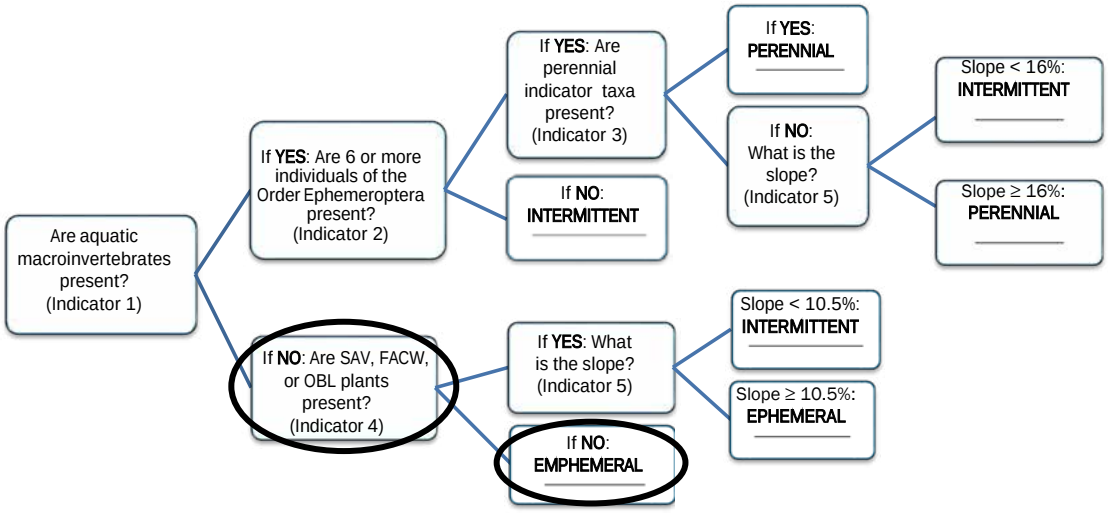
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	5 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Ancillary Information:

☐ Riparian Corridor – grassland

☐ Erosion and Deposition – defined bed and bank; minor erosion.

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Danielski**
Address		Date	**04-11-17**
Waterway Name	**SD2018**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°33'3.47" N
Reach Boundaries			Long. 120°11'37.34" W
Precipitation w/in 48 hours (cm) 0.13	Channel Width (m) 1.5	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

None

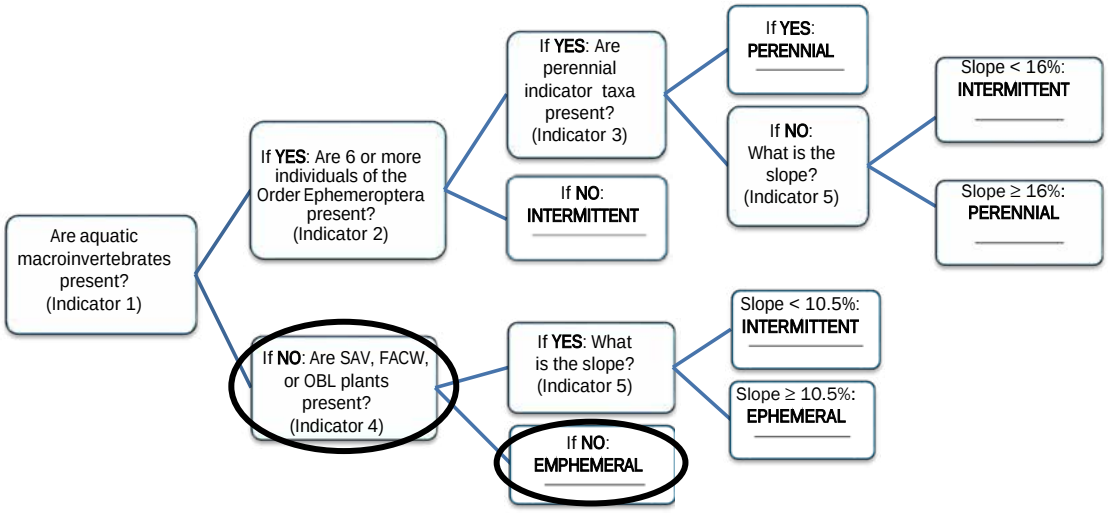
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	1 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

- ☐ Prolonged Abnormal Rainfall / Snowpack
  - ☐ Below Average
  - ☒ Above Average
- ☐ Natural or Anthropogenic Disturbance
- ☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Drainage in plowed field. Evidence of scour, debris racking. No streambed substrate. Vegetation has been mowed/sprayed. Checked soils in low depression – 10YR 4/3 with no redox in upper 12 inches.

Ancillary Information:

- ☐ Riparian Corridor
- ☐ Erosion and Deposition
- ☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Danielski**
Address		Date	**04-11-17**
Waterway Name	**SD2028 (previous name S005)**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°34'6.25" N
Reach Boundaries			Long. 120°11'9.38" W
Precipitation w/in 48 hours (cm) 0.13	Channel Width (m) 1	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

Agrostis sp (FAC)

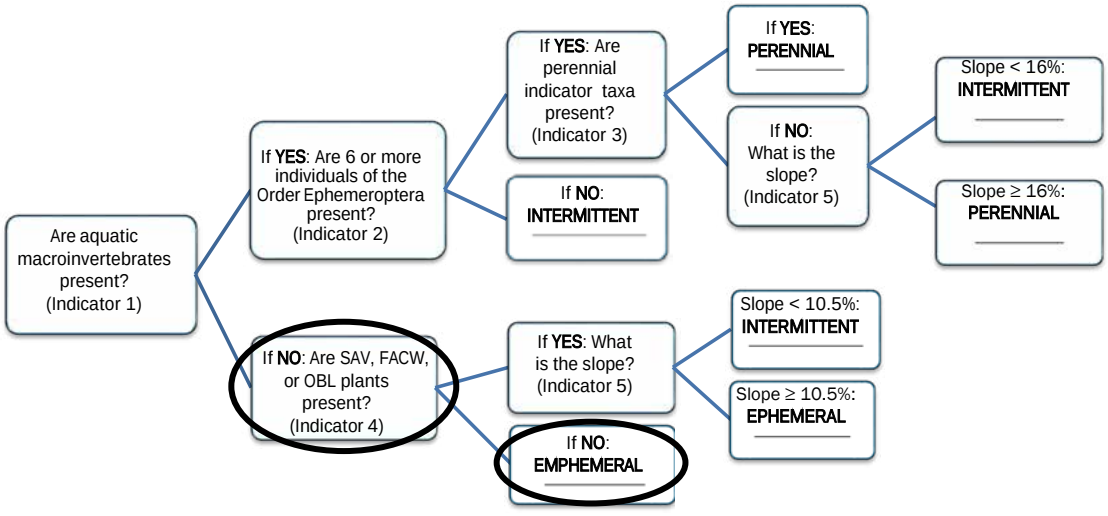
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	1 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☒ Above Average

☒ Natural or Anthropogenic Disturbance – excavated ditch

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Appears to be excavated drainage feature on side of two track road. Culvert under Weatherford Road.

Ancillary Information:

☐ Riparian Corridor

☐ Erosion and Deposition

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Danielski**
Address		Date	**04-11-17**
Waterway Name	**SD2063**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°31'0.96" N
Reach Boundaries			Long. 120°5'41.44" W
Precipitation w/in 48 hours (cm) 0.13	Channel Width (m) 1	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

Agrostis sp (FAC)

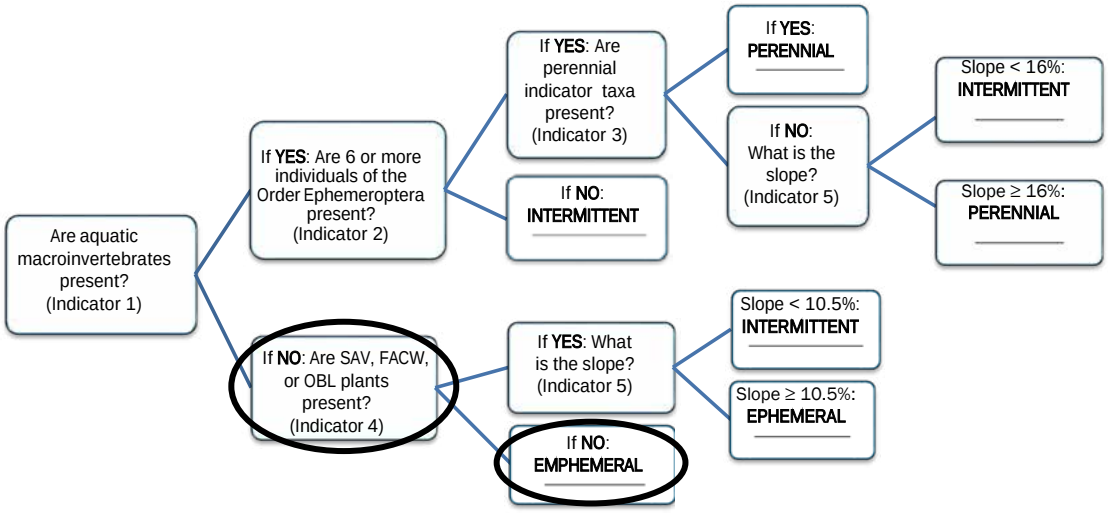
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	1-2 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☒ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Swale with evidence of flow/debris rack and some scour.

Ancillary Information:

☐ Riparian Corridor

☒ Erosion and Deposition

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Danielski**
Address		Date	**04-12-17**
Waterway Name	**SD2096 (previous S208)**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°32'18.81" N
Reach Boundaries			Long. 120°5'24.11" W
Precipitation w/in 48 hours (cm) 0.05	Channel Width (m) 2m avg; 4m max	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

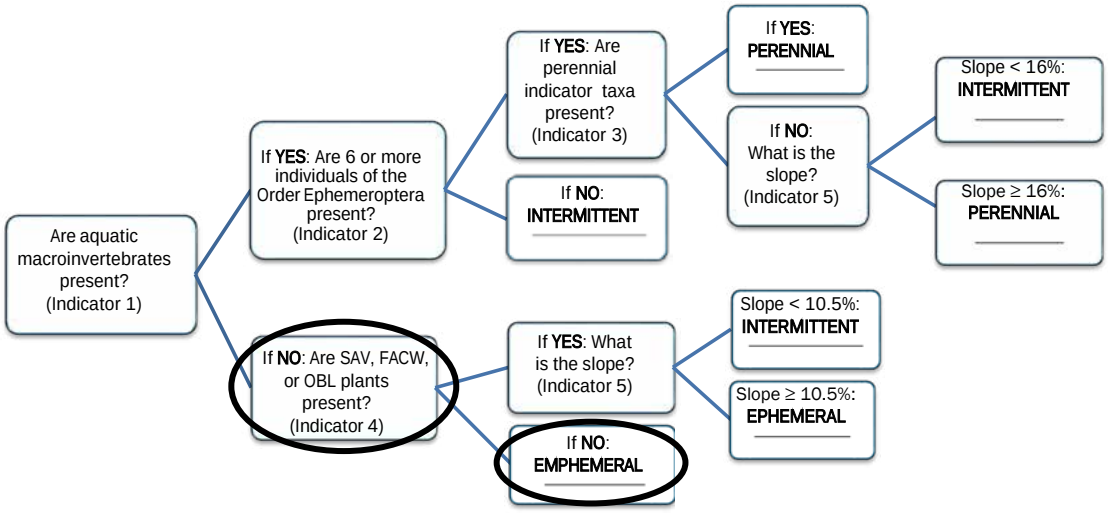
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	-2 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☒ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Natural drainage features.

Ancillary Information:

☐ Riparian Corridor

☒ Erosion and Deposition – silt/pebble/cobble deposition

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Danielski**
Address		Date	**04-12-17**
Waterway Name	**SD2106**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°32'20.88" N
Reach Boundaries			Long. 120°7'17.61" W
Precipitation w/in 48 hours (cm) 0.05	Channel Width (m) 2-3	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

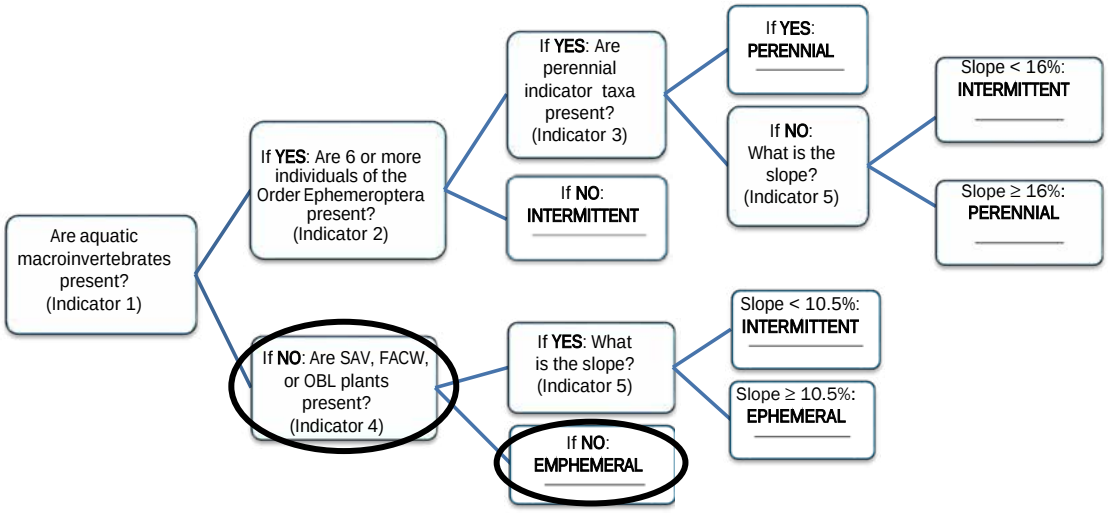
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	1-2 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☒ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Natural drainage feature bisected by road (no culvert) in study area.

Ancillary Information:

☐ Riparian Corridor

☒ Erosion and Deposition – pebble/cobble/boulder deposition

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Danielski**
Address		Date	**04-26-17**
Waterway Name	**SD3015**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°32'15.58" N
Reach Boundaries			Long. 120°7'24.24" W
Precipitation w/in 48 hours (cm) 0.23	Channel Width (m) 2	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

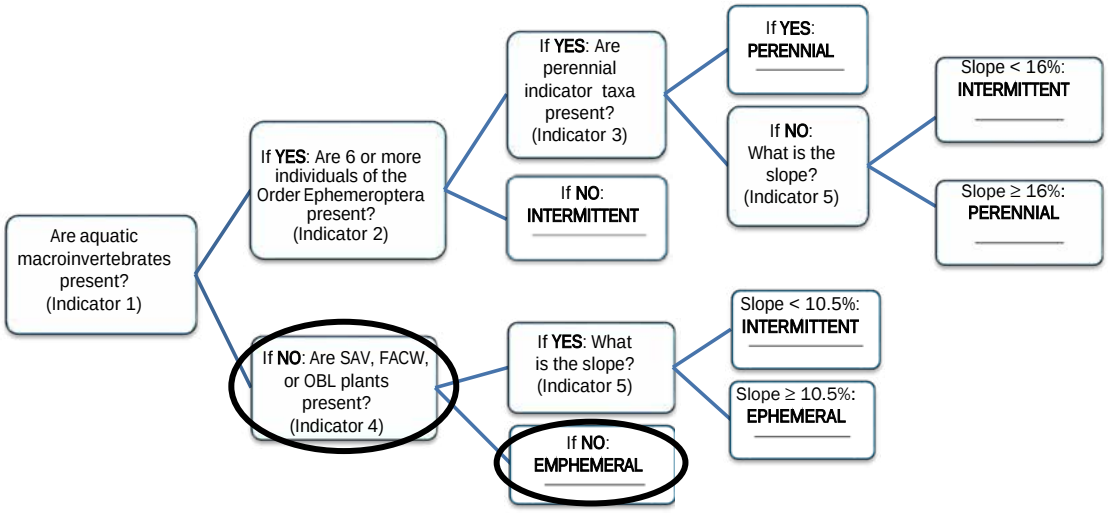
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	1-2 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☒ Natural or Anthropogenic Disturbance : Excavated drainage feature

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Roadside ditch. Does not connect to other waterways in the study area.

Ancillary Information:

☐ Riparian Corridor

☒ Erosion and Deposition – scour and sediment deposits

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**Danielski**
Address		Date	**04-27-17**
Waterway Name	**SD3052**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°33'17.54" N
Reach Boundaries			Long. 120°11'10.54" W
Precipitation w/in 48 hours (cm) 0.20	Channel Width (m) <1m	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

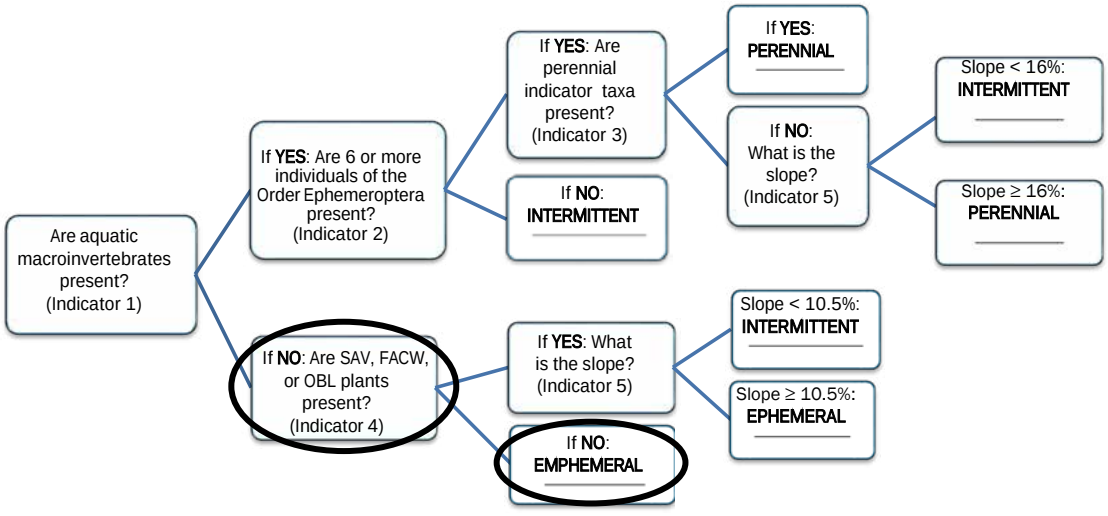
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	1 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☐ Natural or Anthropogenic Disturbance : Excavated drainage feature

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Drainage formed form stormwater discharge from road culvert.

Ancillary Information:

☐ Riparian Corridor

☒ Erosion and Deposition – scour, sediment deposits, and debris racking

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Streamflow Duration Field Assessment Form

Project # / Name	**Montague Wind Power Facility**	Assessor	**O'Neill**
Address		Date	**07-03-17**
Waterway Name	**SD5000 (previous ID S204)**	Coordinates at downstream end (ddd.mm.ss)	Lat. 45°33'39.19" N
Reach Boundaries			Long. 120°07'16.63" W
Precipitation w/in 48 hours (cm) 0	Channel Width (m) 6m	☐ Disturbed Site / Difficult Situation (Describe in "Notes")	

Observed Hydrology

% of reach w/observed surface flow 0

% of reach w/any flow (surface or hyporheic) 0

# of pools observed 0

Observations

Observed Wetland Plants (and indicator status):

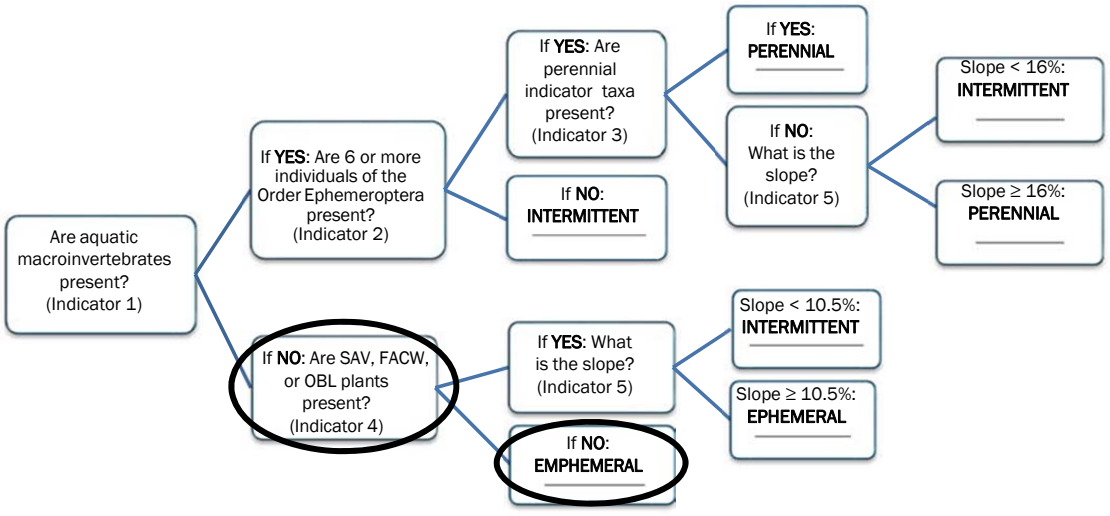
Observed Macroinvertebrates:

Taxon	Indicator Status	Ephemeroptera?	# of Individuals
None			

Indicators

1. Are aquatic macroinvertebrates present?	☐ Yes	☒ No
2. Are 6 or more individuals of the Order Ephemeroptera present?	☐ Yes	☒ No
3. Are perennial indicator taxa present? (refer to Table 1)	☐ Yes	☒ No
4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)	☐ Yes	☒ No
5. What is the slope? (In percent, measured for the valley, not the stream)	2 %	

Conclusions



Single Indicators:

☐ Fish

☐ Amphibians

Finding:

☒ Ephemeral

☐ Intermittent

☐ Perennial

Notes: (explanation of any single indicator co nclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☐ Natural or Anthropogenic Disturbance : Excavated drainage feature

☐ Other: _____

Additional Notes: (sketch of site, description of photos, comments on hydrological observations, etc.) Attach additional sheets as necessary.

Stream is a typical eastside dry wash. Well-defined bed and abnks. Rock and cobble bed. No evidence of recent flow. Channel is split at the southwest end, separated by a low, mostly vegetated bar. Adjacent vegetation consists f predominantly of cheatgrass with other mostly weedy species (*Convolvulus arvensis*, *Erodium cicutarium*, *Salsola kali*, *Lupinus lepidus*, *Erigeron poliospermos*, *Achillea millefolium*).

Ancillary Information:

☐ Riparian Corridor

☐ Erosion and Deposition

☐ Floodplain Connectivity

Observed Amphibians, Snake, and Fish:

Taxa	Life History Stage	Location Observed	Number of Individuals Observed

Appendix C. Ground Level Photographs

PP1000: Waterway (SD1000) looking N

PP1001: Waterway (SD1001) looking E

PP1002: Waterway (SD1002) looking N

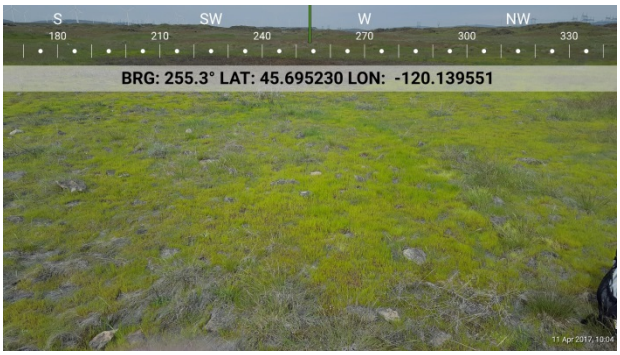
PP1003: SP1003 and NHD mapped waterway looking S. No waterway present.

PP1006: SP1005 looking N

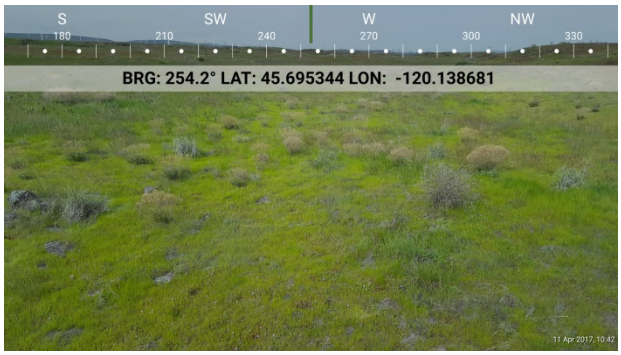
PP1008: SP1008 and SP1009 looking N

PP1011: SP1011 and SP1012 looking W

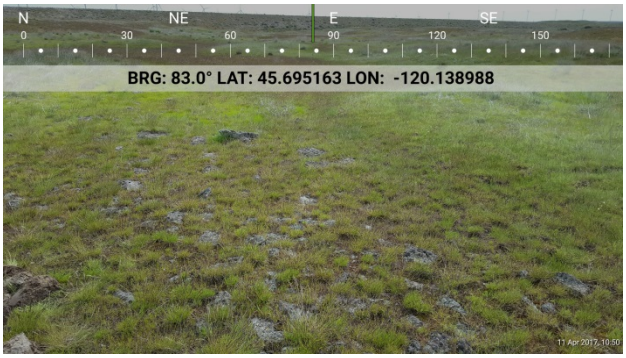
PP1014: SP1014 looking NE at wetland / upland boundary



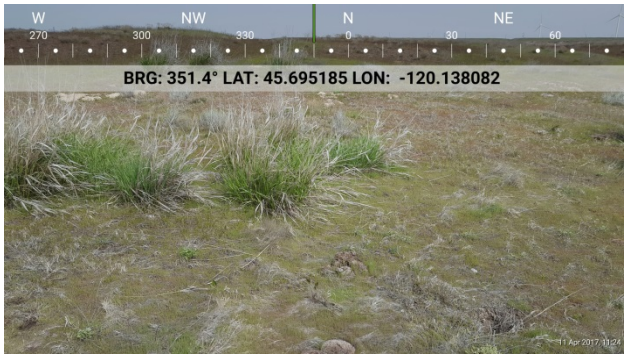
PP1017: SP1017 looking W into wetland



PP1019: SP1019 looking W

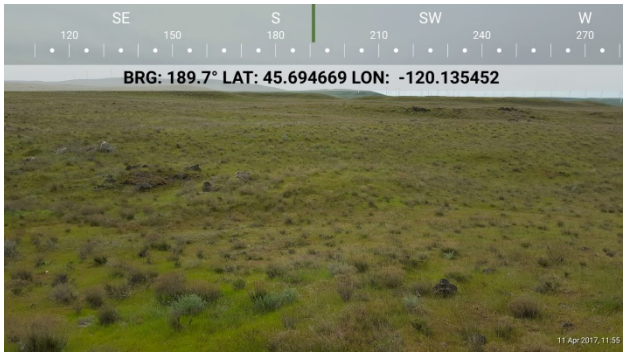


PP1020: SP1020 looking E



PP1021: SP1021 looking N into previously delineation wetland (W7)

PP1023: SP1023 looking S



PP1025: Representative upland looking S

PP1025A: Representative upland looking SE

PP1029: Representative upland looking E

PP1030: Representative upland looking SW

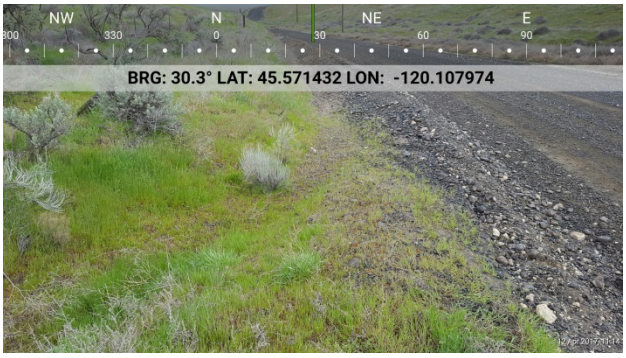
PP1031: Representative upland looking E

PP1032: NHD mapped waterway looking SW. No waterway observed.

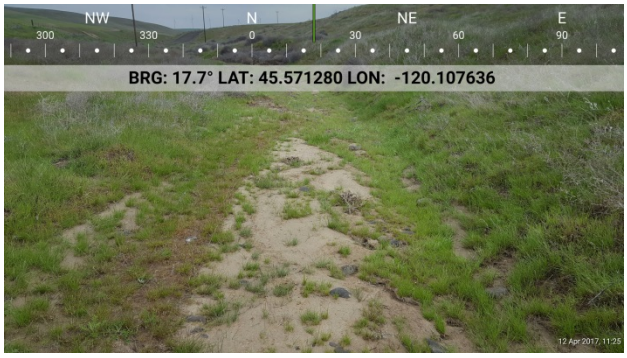
PP1034: SP1034 and NHD mapped waterway looking N. No waterway present.

PP1037: NHD mapped waterway looking N. No waterway present.

PP1039: Representative upland area looking NE



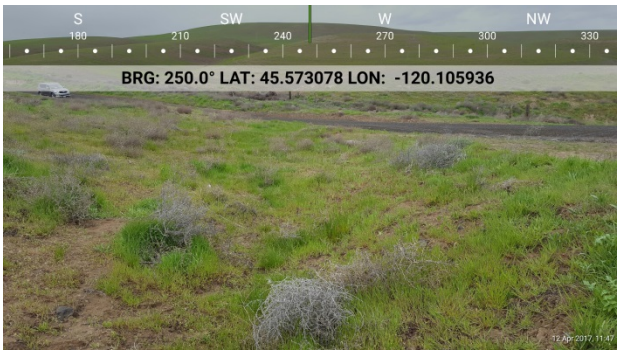
PP1042: Waterway (SD1042) looking NE



PP1043: Waterway (SD1043) looking N

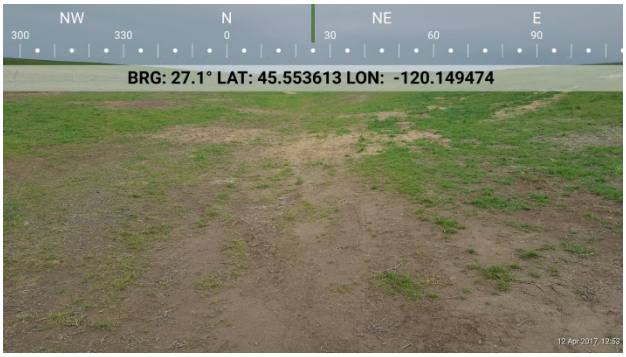
PP1044: Waterway SD1043 looking N

PP1044A: Confluence of waterways SD1041 and SD1043 looking NE



PP1045: Waterway (SD1045) looking W

PP1047: NHD mapped waterway looking N. No waterway present.



PP1050A: NHD mapped waterway looking NE. No waterway present.

PP1051: NHD mapped waterway looking SW. No waterway present

PP1052: Upland drainage feature looking NW. No waterway present.

PP2021: Waterway (SD2018) looking NW

PP2024: NHD mapped waterway looking S. No waterway present.

PP2026: NHD mapped waterway looking N. No waterway present.

PP2030: Waterway (SD2028) looking N

PP2033: Waterway (SD2028) looking E

PP2035: NHD mapped waterway looking S. No waterway present.

PP2037: NHD mapped waterway looking S. No waterway present.

PP2038: NHD mapped waterway looking SW. No waterway present.

PP2051: Representative upland area looking E

PP2053: Representative upland area looking W

PP2061: NHD mapped waterway looking S. No waterway present.

PP2063: Waterway (SD2063) looking NE

PP2067: Representative upland area looking N.

PP2071: NHD mapped waterway looking S. No waterway present in study area. Previously mapped waterway located outside study area.

PP2076: NHD mapped waterway looking NE. No waterway present.

PP2081: SP2080 and waterway (SD2106) looking NE

PP2086: NHD mapped waterway looking W. No waterway present.

PP2088: Representative upland area looking N

PP2097: Waterway (SD2096) looking E

PP2101: Representative upland area looking S

PP2103: NHD mapped waterway looking E. No waterway present.

PP2105: NHD mapped waterway looking SW. No waterway present.

PP3006: Waterway (SD3006) looking NE

PP3010: NHD mapped waterway looking N. No waterway present.

PP3014: Waterway (SD2106) looking S

PP3017: Roadside ditch (SD3017) looking W

PP3019: NHD mapped waterway looking N. No waterway present.

PP3021: Previously mapped roadside ditch that has been eliminated due to road maintenance activities (looking SW)

PP3026: NHD mapped waterway looking SSE. No waterway present.

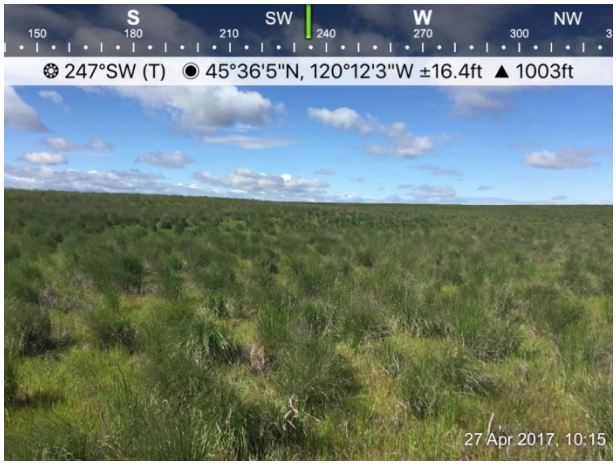
PP3030: NHD mapped waterway looking N. No waterway present.

PP3032: NHD mapped waterway looking E. No waterway present.

PP3034: NHD mapped waterway looking SW. No waterway present.

PP3037: NHD mapped waterway looking S. No waterway present.

PP3039: NHD mapped waterway looking S. No waterway present.



PP3041: NHD mapped waterway looking SW. No waterway present

PP3043: NHD mapped waterway looking SW. No waterway present

PP3049: NHD mapped waterway looking NE. No waterway present.

PP3052: Waterway (SD3052) looking SE

PP4002: NHD mapped waterway looking W. No waterway present.

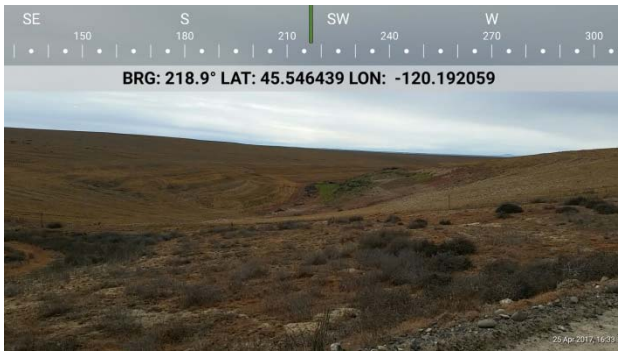
PP4004: NHD mapped waterway looking E. No waterway present.

PP4005: NHD mapped waterway looking SW. No waterway present.

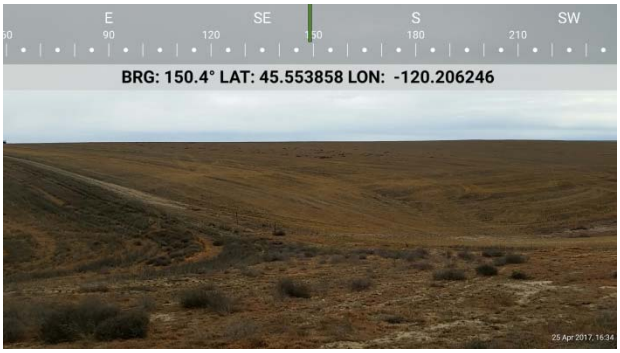
PP4006: NHD mapped waterway looking SE. No waterway present.

PP4011: NHD mapped waterway looking SW. No waterway present.

PP4006A: NHD mapped waterway looking SW. No waterway present.



PP4008: NHD mapped waterway looking SW. No waterway present.



PP4008A: NHD mapped waterway looking SE. No waterway present.

PP4010: NHD mapped waterway looking S. No waterway present.

PP5002: Waterway (SD5000) looking NE

Appendix D. Appendix D. WETS Table

WETS Table

WETS Station: ARLINGTON, OR								
Requested years: 1971 - 2000								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	41.2	29.7	35.5	1.40	0.83	1.70	5	2.5
Feb	46.7	31.7	39.2	1.02	0.69	1.22	4	1.7
Mar	56.7	36.8	46.8	0.76	0.40	0.93	3	0.2
Apr	65.6	42.1	53.9	0.61	0.22	0.71	1	0.0
May	74.7	49.2	61.9	0.67	0.35	0.82	2	0.0
Jun	82.2	55.7	69.0	0.35	0.11	0.39	1	0.0
Jul	90.8	61.4	76.1	0.17	0.08	0.19	1	0.0
Aug	90.0	61.2	75.6	0.30	0.08	0.29	1	0.0
Sep	80.0	52.1	66.0	0.39	0.12	0.39	1	0.0
Oct	65.4	42.2	53.8	0.62	0.32	0.73	2	0.1
Nov	49.8	35.9	42.8	1.24	0.71	1.51	4	0.9
Dec	41.1	30.0	35.5	1.44	0.73	1.77	4	2.1
Annual:					7.39	10.13		
Average	65.4	44.0	54.7	-	-	-	-	-
Total	-	-	-	8.98			29	7.4

GROWING SEASON DATES			
Years with missing data:	24 deg = 5	28 deg = 5	32 deg = 5
Years with no occurrence:	24 deg = 0	28 deg = 0	32 deg = 0
Data years used:	24 deg = 25	28 deg = 25	32 deg = 25
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	2/26 to 11/25: 272 days	3/22 to 11/4: 227 days	4/8 to 10/18: 193 days
70 percent *	2/18 to 12/3: 288 days	3/15 to 11/11: 241 days	4/3 to 10/23: 203 days
* Percent chance of the growing season occurring between the Beginning and Ending dates.			

STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1893	M0.78	M1.03	M0.51	0.97	1.21	0.11	M0.22	0.00	0.89	M2.27	M1.96	0.48	10.43
1894	M3.09	M0.89	M2.47	1.15	M1.13	0.70	0.13	T	0.36	1.19	0.25	0.90	12.26
1895	2.79	M0.21	0.25	0.50	0.61		0.60	0.09	0.80	0.00	0.41	1.52	7.78
1896	1.48	M0.43	0.45	0.47	0.95	0.12	0.03	0.16	0.06	0.26		M1.44	5.85
1897	1.21	M1.13	0.42	0.26	0.30	0.51	T	T	0.38	0.01	M1.39	2.79	8.40
1898	0.87	0.57	0.15	0.10	0.56	0.61	0.04	0.07	0.16	0.07	M1.12	1.01	5.33
1899	M2.33	1.23	0.23	0.27	0.58	0.09	0.00	0.59	0.49	1.51	1.52	1.29	10.13
1900	1.02	M0.17	0.47	0.65	0.15	0.52		M0.03	0.26	1.29			4.56
1901		2.79	0.44	0.15	0.50		T	0.02	2.		1.91	1.57	9.38

									00				
1902	0.93	3.41	0.25	M0.84	1.27	0.00	0.40	0.00	0.39	0.34	1.96	M1.37	11.16
1903	1.00	0.00	0.61	0.37	0.45	1.61	T		0.30	0.32	3.13	0.42	8.21
1904	0.95	2.68	1.93	0.66	0.07	0.22	0.00	T	0.20	0.50	0.56	1.61	9.38
1905	2.54	0.36	0.98	0.05	1.11	0.71	T	0.00	0.25		0.57	1.08	7.65
1906													
1907													
1908													
1909													
1910													
1911													
1912													
1913													
1914													
1915													
1916													
1917													
1918													
1919													
1920													
1921													
1922													
1923													
1924							0.03		T	0.24	0.72	2.01	M0.80	3.80
1925	0.89	1.10	0.17	0.74	1.19	0.02	0.02	T	0.43	0.05	1.28	1.16	7.05
1926	1.11	1.52	0.28	0.07	0.28	0.30	T	0.15	0.82	0.68	3.93	1.01	10.15
1927	2.54	2.01	0.69	T	0.67					M0.82	1.55	0.37	8.65
1928	2.05	0.16	1.09	1.16	0.03	0.14	0.01	T	0.22	0.40	1.09	1.63	7.98
1929	2.21	0.31	0.44	0.20	T	0.23	0.00	T	0.12	0.16	0.00	3.24	6.91
1930	1.80	1.13	0.26	0.20	MT	T	T	T	0.40	0.58	0.95		5.32
1931					MT	1.32	0.00	0.00	0.05			M2.36	3.73
1932	1.36	0.32	1.13	M0.52	1.32	0.33	T	T	0.00	0.99	1.59	1.07	8.63
1933	0.93	0.93	1.47	0.19	0.64	0.27	0.02	0.04			MT	2.71	7.20
1934	1.12	0.54	0.54	0.48	0.04	0.39	T	0.54	0.19	0.89	1.25	0.78	6.76
1935	0.34	0.30	0.31	0.62	0.17	1.15	0.11		0.12	0.40	0.57	1.77	5.86
1936	3.03	0.94	0.08	0.38	0.31	0.65	T	T	0.18	0.07	T	1.04	6.68
1937	1.06	0.42	1.45	1.04	0.25	1.26	0.08	0.23	0.36	0.82	1.68	2.09	10.74
1938	0.59	0.81	1.03	MT	0.03	1.56	0.05	0.01	0.09	1.08	0.52	0.56	6.33
1939	0.89	0.77	0.60	0.01	0.01	0.22	0.14	0.48	0.04	0.17	T	1.69	5.02
1940	1.38	3.67	1.08	0.85	0.17	0.04	0.19	0.00	0.69	2.89	1.71	0.81	13.48
1941	1.76	0.57	0.20	0.44	1.11	0.73	0.12	0.59	0.49	M0.88	M1.03	M0.92	8.84
1942	1.07	1.51	0.03	M0.25	0.59	M1.40	0.04	0.18	0.02	0.20	M2.46		7.75

1943	0.98	0.51	0.79	0.97	0.29	0.38	T	0.51	T	1.81	0.33	0.51	7.08
1944	0.50	0.74	0.46	M0.57	0.35	1.21	T	0.00	0.36	0.21	2.21	0.54	7.15
1945	1.21	1.47	1.06	0.73	1.94	T	T	0.03	0.30	0.64	1.62	2.74	11.74
1946	0.61	0.51	0.88	0.11	0.16	1.32	0.19	0.22	0.41	1.42	0.64		6.47
1947			0.77	0.28	0.15	0.92	1.29	0.11	0.78	M2.33	1.51	0.55	8.69
1948							0.51	0.21	0.37	0.32	M0.58	1.60	3.59
1949	0.33	1.48	1.03	0.16	0.08	0.14	0.00	M0.00	0.02	0.11	1.78	0.72	5.85
1950	3.19	0.61	1.00	0.31	0.16	1.48	0.00	0.00	T	M2.75	1.53	2.04	13.07
1951	1.78	1.88	1.13	0.45	0.36	1.07	0.10	0.21	0.65	0.75	1.60	1.49	11.47
1952	0.88	1.12	0.16	0.12	0.68	1.31	0.00	0.14	0.12	0.00	0.30	2.46	7.29
1953	3.47	1.05	0.53	0.68	1.56	0.51	0.00	0.46	0.14	0.19	1.77	1.12	11.48
1954	2.52	0.33	0.51	0.17	0.57	0.48	0.12	0.55	0.78	0.54	0.87	0.78	8.22
1955	0.44	0.38	0.31	0.89	0.44	0.13	0.56	0.00	0.38	0.56	2.93	2.42	9.44
1956	3.05	1.83	0.43	0.00	0.92	0.26	0.11	0.14	0.07	0.74	0.13	0.36	8.04
1957	0.71	0.58	3.15	0.99	0.89	0.03	0.28	0.07	0.83	1.40	0.63	1.16	10.72
1958	2.30	2.43	0.62	0.92	0.92	0.20	0.26	0.00	T	0.13	1.86	1.37	11.01
1959	2.88	1.05	0.78	0.27	0.10	0.20	T	T	0.72	0.43	0.28	0.41	7.12
1960	0.54	0.88	1.37	0.42	0.47	0.20	0.06	0.06	0.31	0.31	1.75	0.94	7.31
1961	1.09	3.36	1.68	0.64	1.15	0.67	0.19	0.07	0.07	0.17	1.37	1.57	12.03
1962	0.21	1.14	1.12	0.40	1.49	0.02	0.00	0.83	0.43	1.48	1.36	1.14	9.62
1963	0.65	1.08	0.66	2.08	0.62	0.03	0.38	0.07	0.46	0.23	1.17	1.30	8.73
1964	1.09	0.08	0.26	0.26	T	1.06	0.13	0.09	0.12	0.57	1.72	6.87	12.25
1965	1.26	0.06	0.53	0.38	0.35	1.29	0.03	0.34	0.61	0.14	1.64	0.64	7.27
1966	2.15	0.18	0.59	0.02	T	0.05	1.70	T	0.25	0.61	2.97	1.82	10.34
1967	1.04	0.01	0.30	1.05	0.21	0.36	0.00	0.00	0.13	0.72	0.62	0.50	4.94
1968	0.78	1.18	0.20	0.02	0.23	0.07	0.07	0.71	0.28	0.96	1.79	1.81	8.10
1969	1.57	0.50	0.31	0.54	0.60	0.67	T	0.00	0.40	0.30	0.27	2.15	7.31
1970	4.00	1.02	0.47	0.20	0.09	0.26	0.38	0.00	0.24	0.31	2.20	1.06	10.23
1971	1.36	0.38	1.22	0.57	0.75	0.49	0.13	0.11	1.36	0.67	1.15	1.50	9.69
1972	1.56	0.61	1.06	0.10	0.28	0.92	0.16	0.06	0.30	0.17	0.63	2.14	7.99
1973	1.45		0.18	0.09	0.25	0.03	0.00			M1.54	2.78	3.10	9.42
1974	0.98	0.67	1.01	0.97	0.07	0.05	0.17	0.00	0.01	0.34	0.61	1.23	6.11
1975	2.25	1.13	0.49	0.69	0.46	0.05	0.65	0.92	0.00	0.95	1.00	1.38	9.97
1976	0.94	0.53	0.55	0.67	0.07	0.01	0.13	0.79	0.01	0.19	0.18	0.22	4.29

1977	0.16	0.47	0.26	0.00	1.55	0.07	0.02	1.01	0.30	0.15	1.55	3.01	8.55
1978	2.40	1.21	0.40	0.87	0.38	0.25	0.91	0.61	0.26	0.02	0.85	0.65	8.81
1979	1.41	0.84	0.36	1.12	0.16	0.09	0.10	0.82	0.25	1.57	1.98	0.57	9.27
1980	2.11	1.47	0.35	0.45	0.91	0.86	T	0.20	0.07	0.55	1.00	2.36	10.33
1981	1.43	1.31	0.06	0.12	0.96	0.97	0.11	T	0.91	0.46	1.22	3.59	11.14
1982	1.01	0.59	0.59	1.33	0.66	0.70	0.00	M0.08	1.85	2.34	0.57	1.63	11.35
1983	1.13	2.00	2.43	0.35	1.05	0.14	0.25	0.15	0.48	0.35	2.46	2.23	13.02
1984	0.20	1.22	1.71	0.70	0.70	1.08	0.00	0.03	0.39	0.30	2.37	0.59	9.29
1985	0.16	1.04	0.43	0.07	0.27	0.81	T	0.12	0.67	M0.30	0.82	0.66	5.35
1986	2.17	1.51	0.94	0.20	0.36	0.08	0.45	0.02	0.94	0.45	0.78	1.24	9.14
1987	1.09	0.77	1.56	0.25	0.66	0.09	0.19	0.12	0.00	0.00	0.25	2.39	7.37
1988	1.35	0.00	1.34	3.46	0.51	0.29	0.04	0.00	0.24	0.00	1.95	0.34	9.52
1989	0.73	0.91	1.08	0.70	0.60	0.00	0.02	0.32	0.03	0.73	0.85	0.37	6.34
1990	1.53	0.11	0.38	0.77	1.31	0.07	0.08	1.77	0.00	1.12	0.74	0.56	8.44
1991	0.40	0.43	1.13	0.14	0.62	1.31	0.13	T	0.00	0.61	1.60	0.56	6.93
1992	0.59	1.24	0.28				0.51	0.43	0.45	0.57	0.85		4.92
1993		1.10	1.12	0.54	1.12	0.18	0.16	0.17	T	T	0.19	0.37	4.95
1994	1.04	1.01	0.11	0.08	1.41	0.10	0.30	0.00	0.05	1.49	0.42	0.72	6.73
1995	3.08							M0.00	0.95	0.37	1.82	2.15	8.37
1996	2.37	2.06	0.49	1.72	1.01	0.19	0.10	0.03	0.48	0.75	3.83	4.31	17.34
1997	1.91	0.93	1.24	0.68	0.17	0.57	0.08	0.10	0.65	1.37	0.65	0.44	8.79
1998	2.61	1.61	0.71	0.23	1.82	0.06	0.32	0.13	0.56	0.52	2.20	2.69	13.46
1999	1.36	1.11	0.17	0.02	0.42	T	0.00	0.36	0.00	0.70	1.19	0.47	5.80
2000	1.85	2.33	0.53	0.14	0.20	0.29	0.00	0.01	0.19	0.96	0.76	0.43	7.69
2001	0.56	0.40	0.74	0.55	0.11	0.43	0.24	0.18	0.10	0.85	1.82	1.17	7.15
2002	0.77	0.71	0.57	0.37	0.39	0.53	T	0.02	T	0.27	0.36	2.95	6.94
2003	2.25	0.76	0.77	0.78	0.22	0.00	0.00	0.74	0.05	0.50	0.51	2.25	8.83
2004	1.18	1.60	0.17	0.25	0.87	1.12	0.00	0.73	0.15	0.20	0.04	0.63	6.94
2005	0.50	0.11	0.73	0.69	0.88	0.13	0.09	0.03	0.86	0.59	1.38	4.48	10.47
2006	2.52	0.56	0.63	0.51	0.86	1.06	0.03	T	0.06	1.22	2.30	2.69	12.44
2007	0.50	0.82	0.43	0.66	0.17	0.70	T	0.41	0.32	0.77	1.62	1.24	7.64
2008	2.24	0.40	0.82	0.23	0.72	0.25	0.00	0.11	0.11	0.51	0.56	1.58	7.53
2009	1.53	1.09	0.97	0.21	0.85	0.11		0.07	0.07	0.83	0.54	1.50	7.77
2010	2.00	0.77	0.43	0.55	1.00	1.27	0.13	0.01	2.47	1.26	1.33	3.05	14.27
2011	0.60	0.38	1.99	0.70	1.34	0.95	0.08	T	0.	0.	0.76	0.59	8.01

									01	61			
2012	1.89	0.47	1.97	0.70	0.35	1.69	0.06	0.00	T	1.60	1.67	2.58	12.98
2013	0.31	0.06	0.81	0.52	1.48	0.83	0.00	0.22	0.77	0.78	0.47	0.51	6.76
2014	0.78	1.87	1.15	0.65	0.21	0.36	0.16	0.15	0.30	1.31	0.84	2.31	10.09
2015	0.96	1.43	0.53	0.22	0.73	0.02	0.00	0.07	T	0.20	1.30	2.84	8.30
2016	2.14	0.63	1.21	0.12	0.92	0.16	0.17	0.05	0.30	2.70	0.79	1.02	10.21
2017	1.43	1.89	1.63	M0.03									4.98
Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.													
Data missing for all days in a month or year is blank.													
Creation date: 2016-07-22													

Appendix E. Literature Cited

CH2M HILL.

2010 Montague Wind Power Facility Wetlands and Other Waters Delineation Report Gilliam County, Oregon. Prepared for Iberdrola Renewables, Inc.

DSL (Oregon Department of State Lands).

2008 Revised Approval of Wetland Delineation Report for Pebble Springs Wind Power Project LLC (corrects consulting firm), near Arlington, Gilliam County; T2N and 3N R21 and 22E Sec. 1-5, 8-13, 24 and 13-14, 23-26, 33-36 and 5-8, 18, Tax Lot (Figure 2); WD#07-0430; App. #44209. Letter dated January 10, 2008.

2010 Wetland Delineation Report for Gilliam County; Multiple townships and tax lots within large project area south of Arlington, Oregon; WD#10-0083; App. #44209. Letter dated June 28, 2010.

2012 Wetland Delineation Report for Baseline Wind Energy Facility, Gilliam County; T1N, 1S, 2S; R21E, 22E; Multiple Sections and Partial Tax Lots; WD#2011-0364. Letter dated May 18, 2012.

Environmental Laboratory for the U.S. Army Corps of Engineers.

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

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Nadeau, Tracie-Lynn

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Thorson, T.D., Bryce, S.A., Lammers, D.A., Woods, A.J., Omernik, J.M., Kagan, J., Pater, D.E., and Comstock, J.A.

2003 Ecoregions of Oregon (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000).

Accessed September 2010 online at http://www.epa.gov/wed/pages/ecoregions/or_eco.htm.

U.S. Army Corps of Engineers (USACE).

2005 Regulatory Guidance Letter (RGL) 05-05 Ordinary High Water Mark Identification. December 2005.

2009 Jurisdictional Determination: Corps No. NWP-2007-925. Portland District, Regulatory Branch. Letter dated May 29, 2009.

U.S. Fish and Wildlife Service (USFWS).

2017 NWI Mapper: https://www.fws.gov/wetlands/data/Mapper.html

U.S. Geologic Service (USGS)

2017a Topographic Maps, 7.5-minute for Quadrangles: Arlington, Horn Butte, Shutler Flat, Hickland Butte, Mikkalo, and Wolf Hollow: https://viewer.nationalmap.gov/basic/?basemap=b1&category=ustopo&title=US%20Topo%20Download. Accessed March 28, 2017.

2017b Hydrography: NHD Plus High Resolution National Hydrography Dataset: https://nhd.usgs.gov/ Accessed March 28, 2017.

Attachment J-2
DSL Concurrence on WD#2017-0111 Wetlands and Waterbodies Delineation Report, Montague Wind Power Facility (Phase 1)
(Report Dated July 10, 2017; Concurrence Dated October 26, 2017)

Oregon
Kate Brown, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregon.gov/dsl

October 26, 2017

Avandrid Renewables
Attn: Matt Hutchinson
1125 NW Couch St Suite 700
Portland, OR 97209

Re: WD # 2017-0111 Wetland Delineation Report for Montague Wind Power Facility
Gilliam County; Multiple Townships and Tax Lots Within Large Project Area South of Arlington

Dear Mr. Hutchinson:

The Department of State Lands has reviewed the wetland delineation report prepared by HDR Engineering Inc. for the site referenced above. Please note that the study areas include only portions of the tax lots (see the attached map). Based upon the information presented in the report, we concur with the wetland and waterway boundaries as mapped in Figures 5.0-5.23 of the report. Please replace all copies of the preliminary wetland map with these final Department-approved maps.

Within the study area, five wetlands (Wetlands W7, W1H, W1I, W1J, W1G totaling approximately 0.28 acres) and fifteen ephemeral waterways were identified. The wetlands are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in the wetlands or below the ordinary high water line (OHWL) of a waterway (or the 2 year recurrence interval flood elevation if OHWL cannot be determined). The ephemeral waterways are not regulated per OAR 141-085-0515(3); therefore, are not subject to current state Removal-Fill requirements.

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will review the report and make a determination of jurisdiction for purposes of the Clean Water Act at the time that a permit application is submitted. We recommend that you attach a copy of this concurrence letter to both copies of any subsequent joint permit application to speed application review.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. Please phone me at 503-986-5218 if you have any questions.

Sincerely,

Lauren Brown
Jurisdiction Coordinator

Approved by

Kathy Verble, CPSS
Aquatic Resource Specialist

Enclosures

ec: Leandra Cleveland, HDR Engineering Inc.
Gilliam Planning Department (Maps enclosed for updating LWI)
Jaimee Davis, Corps of Engineers
Heidi Hartman, DSL
Sarah Esterson, ODOE

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach this form to the front of an unbound report or include a hard copy of the completed form with a CD/DVD that includes a single PDF file of the report cover form and report (minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.** A single PDF attachment of the completed cover from and report may be e-mailed to **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail instructions on how to access the file from your ftp or other file sharing website. Fees can be paid by check or credit card. Make the check payable to the Oregon Department of State Lands. To pay the fee by credit card, call 503-986-5200.

☑ Applicant ☐ Owner Name, Firm and Address: Matt Hutchinson, Avandrid Renewables 1125 NW Couch Street, Suite 700 Portland, Oregon 97209	Business phone # 503.478.6317 Mobile phone # (optional) E-mail: matthew.hutchinson@avangrid.com
☐ Authorized Legal Agent, Name and Address: Same as applicant.	Business phone # Mobile phone # E-mail:

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: Matt Hutchinson Signature: [signature]

Date: Special instructions regarding site access:

Project and Site Information (using decimal degree format for lat/long., enter centroid of site or start & end points of linear project)

Project Name: Montague Wind Power Facility	Latitude: S: 45.704539 E: 45.151867 Longitude: S: -120.517339 E: -120.142036
Proposed Use: Construction of a wind power facility including turbines and access roads.	Tax Map # See next page for tax map #s
Project Street Address (or other descriptive location): Project site is located east and west of Highway 19 between Arlington, Oregon and Mikkalo, Oregon City: nearest city is Arlington, OR County: Gilliam	Township Range Section QQ Tax Lot(s) See next page Waterway: not applicable River Mile: not applicable NWI Quad(s): Shutler Flat, Hickland Butte, Mikkalo, Wolf Hollow Falls

Wetland Delineation Information

Wetland Consultant Name, Firm and Address: Leandra Cleveland, HDR Engineering, Inc. 1001 SW 5th Avenue Suite 1800 Portland, Oregon 97204	Phone # 360.975.6831 Mobile phone # 360.901.1410 E-mail: leandra.cleveland@hdrinc.com

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.

Consultant Signature: [signature] Date: 07/10/17

Primary Contact for report review and site access is ☑ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☑ Yes ☐ No | Study Area size: 6,848 acres | Total Wetland Acreage: 0.15 acres

Check Box Below if Applicable:	**Fees:**
☐ R-F permit application submitted	☐ Fee payment submitted $
☐ Mitigation bank site	☐ Fee ($100) for resubmittal of rejected report
☐ Wetland restoration/enhancement project (not mitigation)	☑ No fee for request for reissuance of an expired report
☐ Industrial Land Certification Program Site	
☑ Reissuance of a recently expired delineation (NOT ELIGIBLE REISSUANCE) Fee EFSC	
Previous DSL #10-0083 Expiration date June 2014	

Other Information:	Y	N	
Has previous delineation/application been made on parcel?	☑	☐	If known, previous DSL # 10-0083
Does LWI, if any, show wetland or waters on parcel?	☐	☑	

For Office Use Only

DSL Reviewer: LB Fee Paid Date: ___/___/___		DSL WD # 2017-0111
Date Delineation Received: 7/20/17	DSL Project #	DSL Site #
Scanned: ☐ Final Scan: ☐	DSL WN #	DSL App. #

Form Updated 01/03/2013

Township	Range	Section	Taxlots
1 North	20 East	1-2, 12	100, 800
1 North	21 East	1, 4-8, 12-17, 21-28, 34-36	100, 200, 300, 400, 401, 500, 800 , 802, 804, 805, 806, 900, 1000, 1002, 1100, 1500, 1900, 2000, 2002, 2100
1 North	22 East	5-8, 17-20, 28-33	500, 700, 800, 900, 1001, 1100, 1800, 1900, 2000, 2200, 2900, 2901, 2902
1 South	21 East	31-32	200
1 South	22 East	4-8, 17-18	500, 501, 502, 503, 1200
2 North	20 East	6	2800
2 North	21 East	1, 7-8, 17-18, 35-36	100, 101, 1600, 1701, 1704, 2100, 2500
2 North	22 East	13, 24-25, 31-33	1001, 1500, 2500, 2600, 2900
3 North	21 East	7, 36	503, 506

TaxMap Numbers		
01N20E0000-00100	01N22E0000-00900	01N22E0000-ROADS
01N20E0000-00800	01N22E0000-01001	01S21E0000-00200
01N21E0000-00100	01N22E0000-01100	01S21E0000-ROADS
01N21E0000-00200	01N22E0000-01800	01S22E0000-00500
01N21E0000-00300	01N22E0000-01900	01S22E0000-00501
01N21E0000-00400	01N22E0000-02000	01S22E0000-00502
01N21E0000-00401	01N22E0000-02200	01S22E0000-00503
01N21E0000-00500	01N22E0000-02900	01S22E0000-01200
01N21E0000-00800	01N22E0000-02901	01S22E0000-ROADS
01N21E0000-00802	01N22E0000-02902	02N20E0000-02800
01N21E0000-00804	01N22E0000-ROADS	02N21E0000-00100
01N21E0000-00805	01S21E0000-00200	02N21E0000-00101
01N21E0000-00806	01S21E0000-ROADS	02N21E0000-01600
01N21E0000-00900	01N22E0000-00500	02N21E0000-01701
01N21E0000-01000	01N22E0000-00700	02N21E0000-01704
01N21E0000-01002	01N22E0000-00800	02N21E0000-02100
01N21E0000-01100	01N22E0000-00900	02N21E0000-02500
01N21E0000-01500	01N22E0000-01001	02N21E0000-ROADS
01N21E0000-01900	01N22E0000-01100	02N22E0000-01001
01N21E0000-02000	01N22E0000-01800	02N22E0000-01500
01N21E0000-02002	01N22E0000-01900	02N22E0000-02500
01N21E0000-02100	01N22E0000-02000	02N22E0000-02600
01N21E0000-ROADS	01N22E0000-02200	02N22E0000-02900
01N22E0000-00500	01N22E0000-02900	02N22E0000-ROADS
01N22E0000-00700	01N22E0000-02901	03N21E0000-00503
01N22E0000-00800	01N22E0000-02902	03N21E0000-00506

Part same?

WD2011-0364 Baseline

WD2009-0413 Saddle Butte

WD2010-0351 Montague Wind

WD2007-0430 Pebble Springs

APP 33897

WD2005-0142 Leaning Juniper

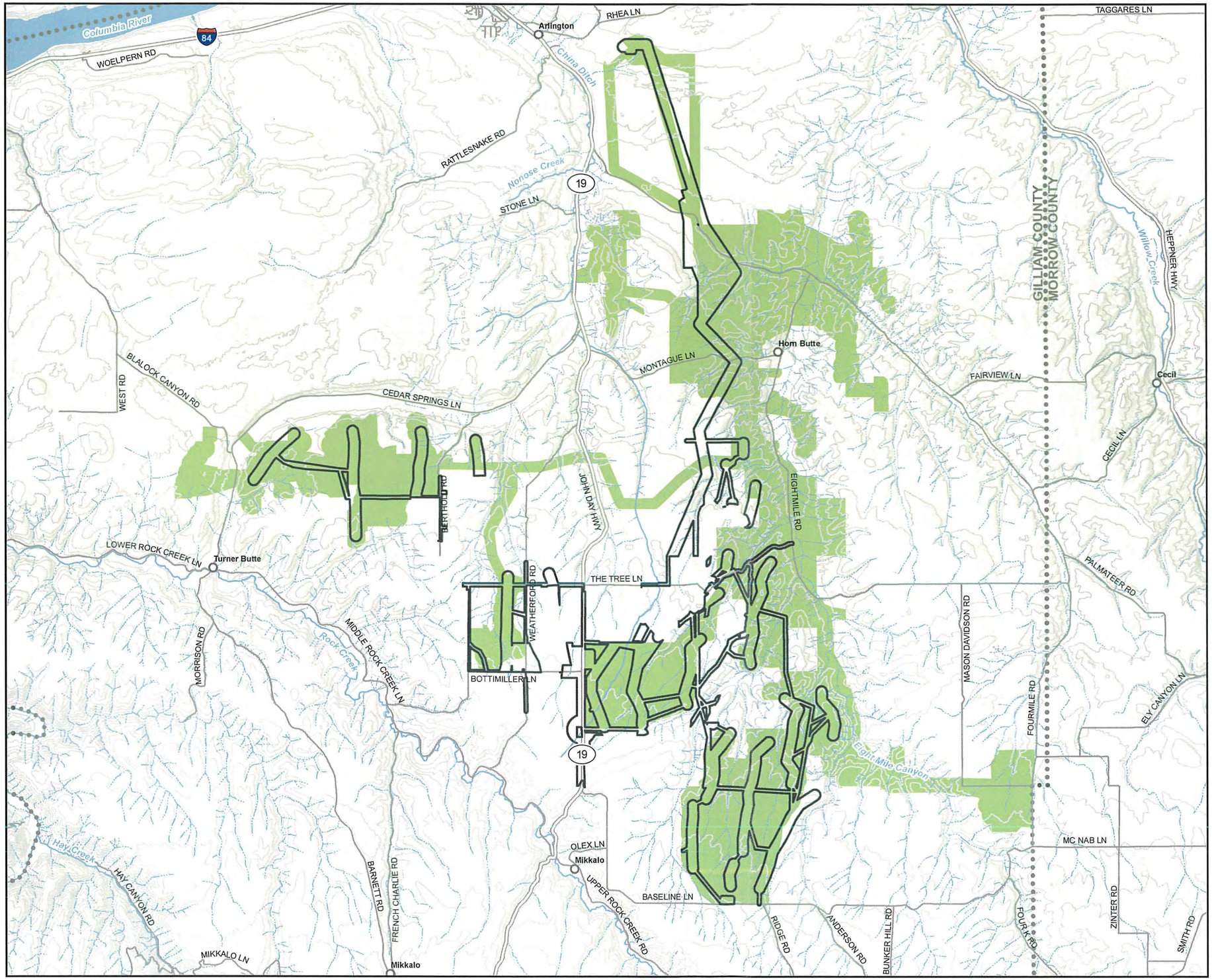
WD2007-0505 Rattlesnake Rd.

APP 37977

WD2008-0237

WD2010-0093 part same? YES

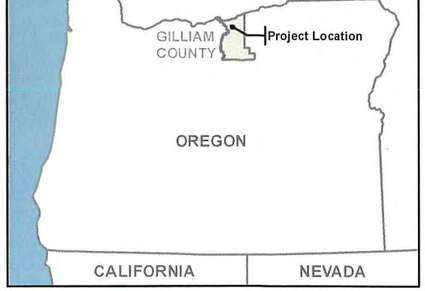
Figure 1
Wetland Survey
Project Location
Montague Wind Power Facility



Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area
- Populated Place
- Road
- Highway
- Water Body
- NHD Flowline
- Contour 100m
- County Boundary

Data Source: OR Spatial Data Library 2017, ESRI 2017
Basemap Source: ESRI Multi-Directional Hillshade



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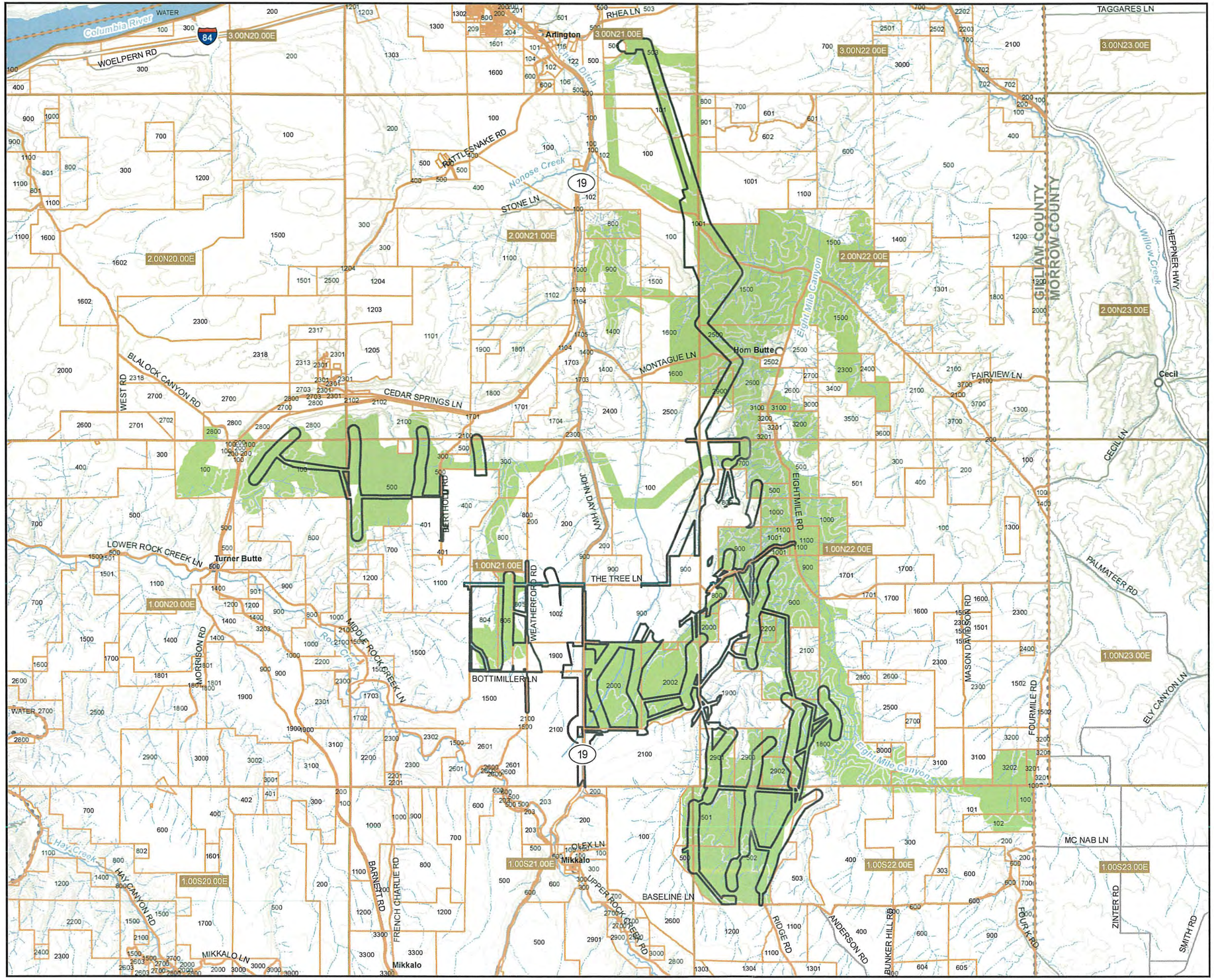
G:\GIS_Production\Projects\CH2M_Portland_42427\Mountague_I_II_Envir_Sup_10050603\7.2_Work_In_Progress\map_docs\mxd\Document\Wetland_Section\Montague_I\Project_Location.mxd

Figure 2
Wetland Survey
Tax Parcels
Montague Wind Power Facility



Legend

- 2017 Wetland Survey Corridor
- Montague JD 2010-0083 Survey Area
- Gilliam County Tax Parcels
- Township & Range
- Populated Place
- Road
- Highway
- Water Body
- NHD Flowline
- Contour 100m
- County Boundary

Data Source: Gilliam County (2017), OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI Multi-Directional Hillshade

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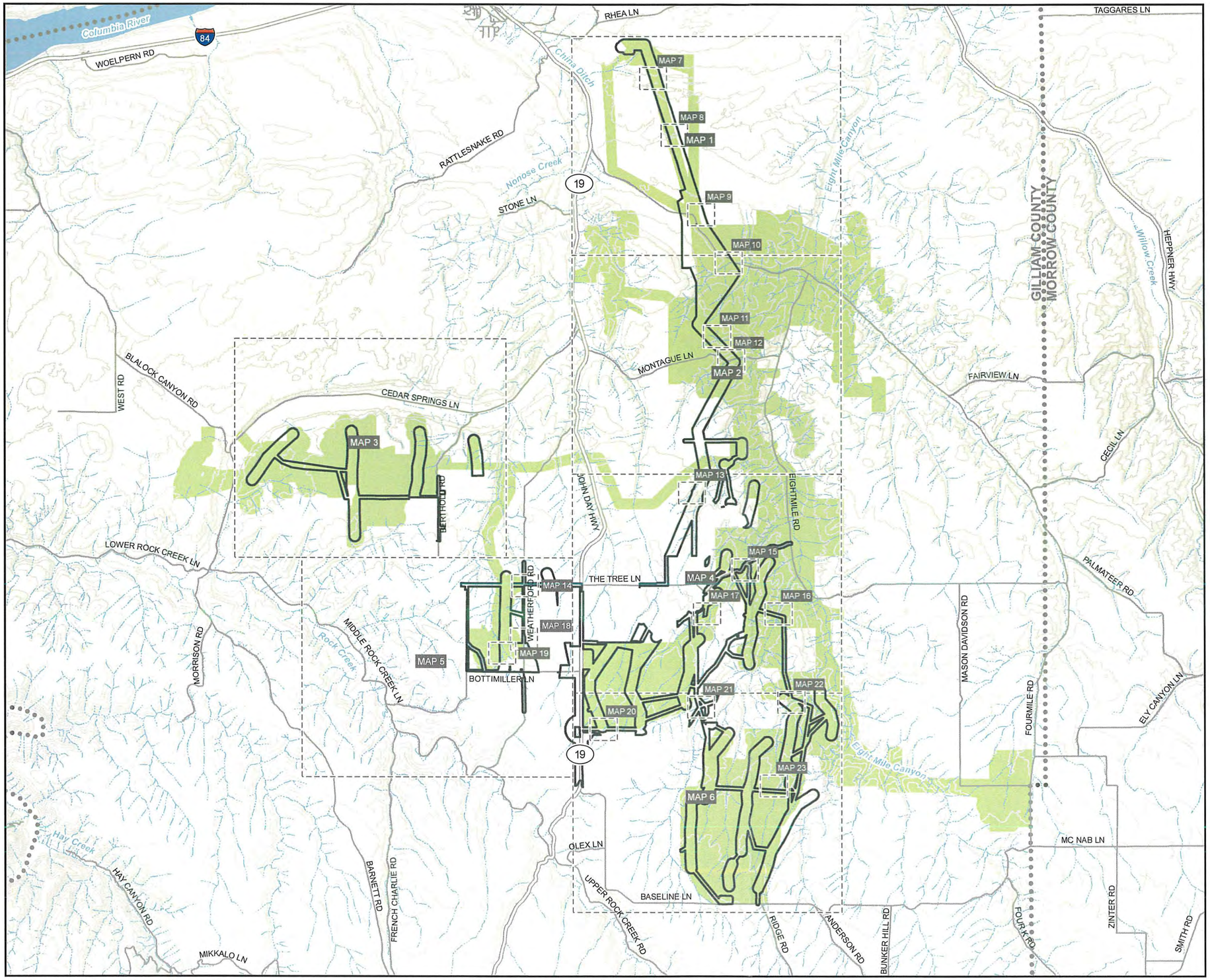

Figure 5.0
Wetland Survey
Wetland and Waterways Survey Overview
Montague Wind Power Facility

Legend

- Montague JD 2010-0083 Survey Area
- Wetland Survey Corridor
- Detail Map Index
- County Boundary
- Water body
- Contour 100 m

DSL WD # 2017-0111

Approval Issued 10-26-17

Approval Expires 10-26-22

Data Source: OR Spatial Data Library 2017, ESRI 2017
Basemap Source: ESRI Multi-Directional Hillshade

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Figure 5.1
Wetland Survey
Wetland and Waterways
Survey Detail Map 1
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

DSL WD # 2017-0111

Approval Issued 10-26-17

Approval Expires 10-26-22

* Previously surveyed wetland and ordinary high water delineated and concurred with by DSL under WD #2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)

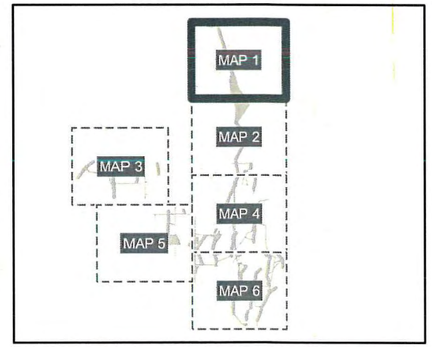

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Figure 5.2
Wetland Survey
Wetland and Waterways
Survey Detail Map 2
Montague Wind Power Facility

DSL WD # 2017-0111

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MAP 10
PP1003
SP1003
MAP 11
SD1002
PP1002
MAP 12
SD1001
SD1000
PP1001
PP1000
PP4004
PP4005
PP1032
PP3039
PP3037
PP3032
CEDAR SPRINGS LN
SHUTLER DR
MONTAGUE LN
JOHN DAY HWY
FOURMILE RD
EIGHTMILE RD
Eight Mile Canyon

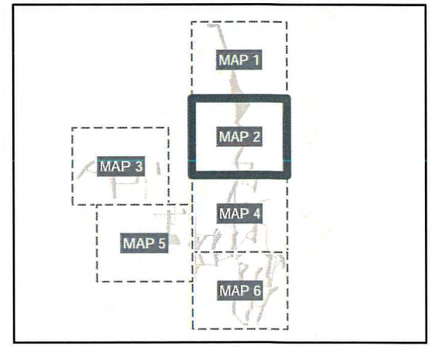
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)



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DSL WD # 2017-0111

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CEDAR SPRINGS LN

CEDAR SPRINGS LN

BERTHOLD RD

PP1031

PP1030

PP1029

PP1025A

PP3043

PP3041

Figure 5.3
Wetland Survey
Wetland and Waterways Survey Detail Map 3
Montague Wind Power Facility

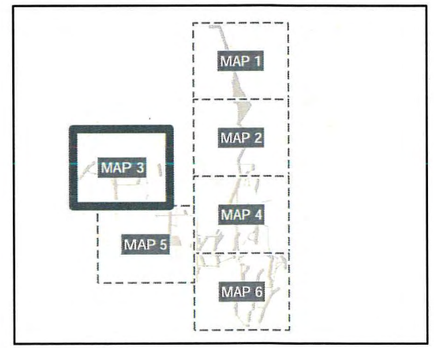
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)



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DSL WD # 2017-0111

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PP3032
PP1037
MAP 13
PP1034
SP1034
PP3026
PP3030
PP1039
PP3034
PP3036
PP1044
PP1045
SD1042
PP3021
MAP 15
SD1043
PP1043
SD1045
EIGHTMILE RD
Eightmile Canyon
JOHN DAY HWY
PP1047
THE TREE LN
SD5000
PP1052
PP1051
PP5002
MAP 17
PP3019
SD1054
MAP 16
PP2101
PP2103
PP2105
PP1050A
PP2037
PP2088
PP2086
MAP 22

Figure 5.4
Wetland Survey
Wetland and Waterways Survey Detail Map 4
Montague Wind Power Facility

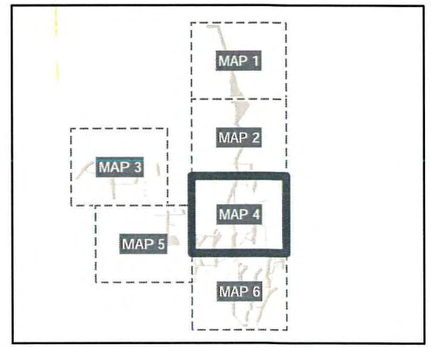
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)



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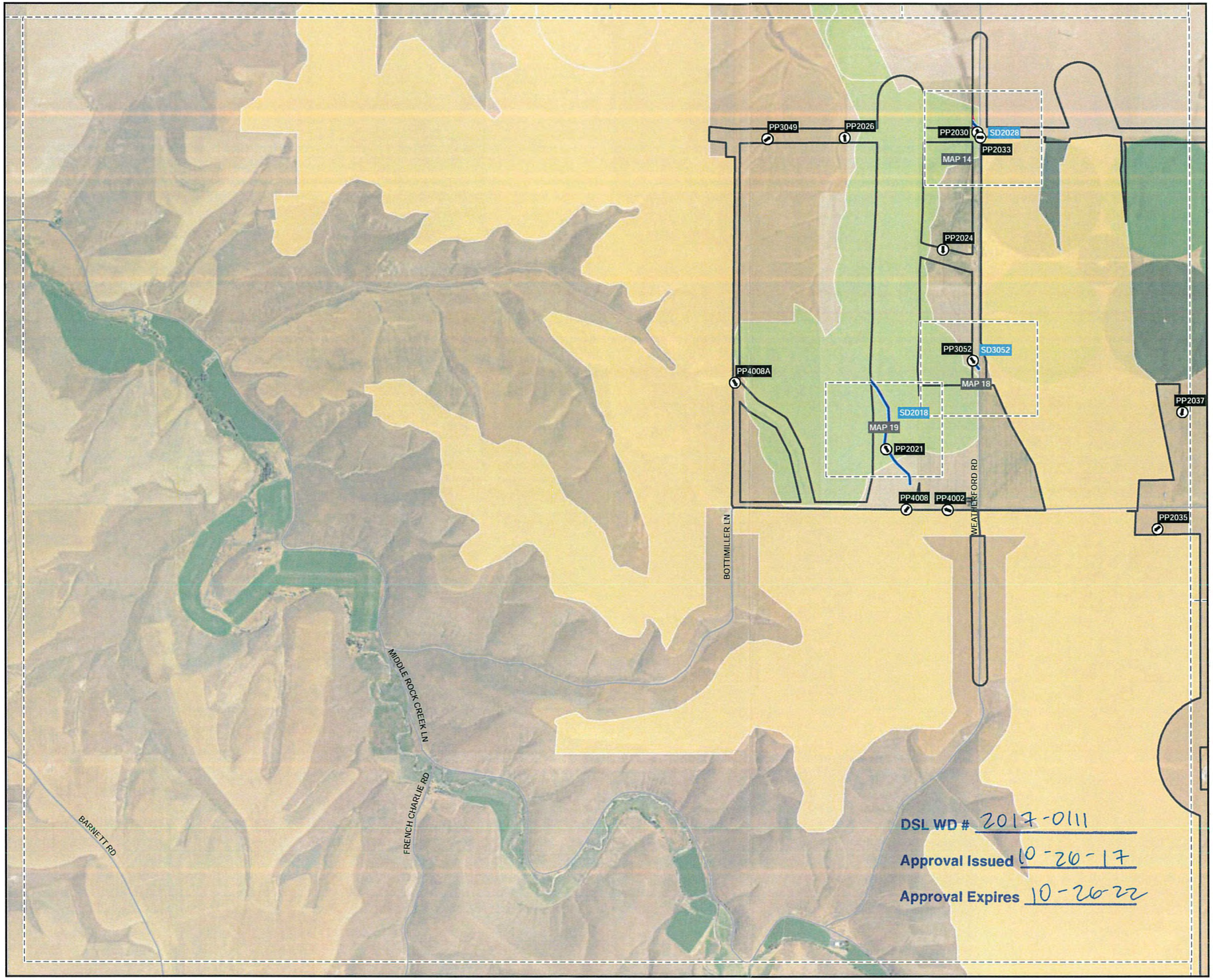

Figure 5.5
Wetland Survey
Wetland and Waterways
Survey Detail Map 5
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)

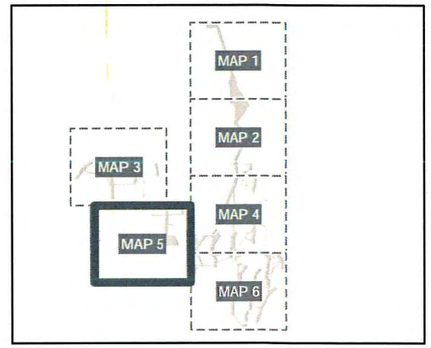

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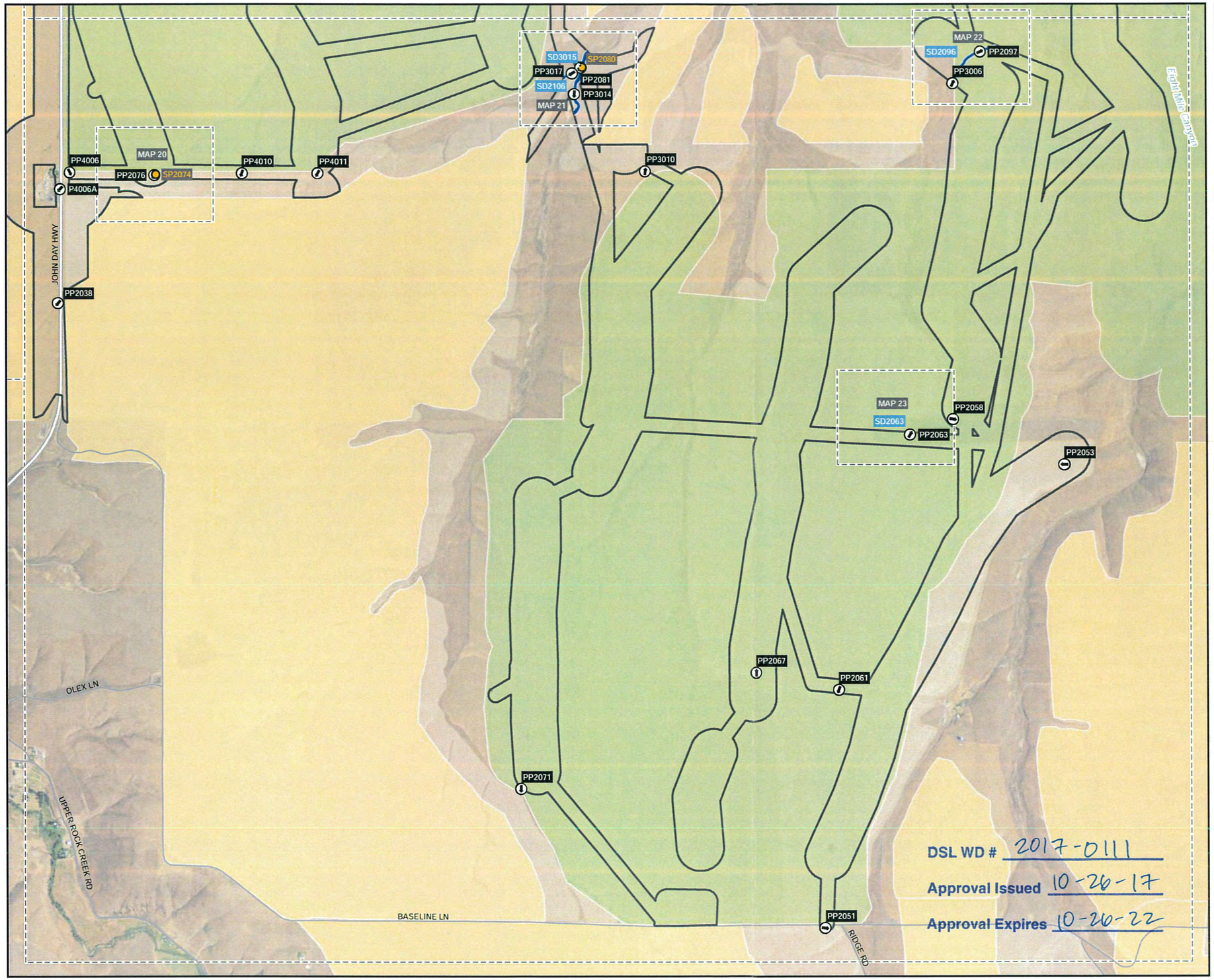
Figure 5.6
Wetland Survey
Wetland and Waterways
Survey Detail Map 6
Montague Wind Power Facility



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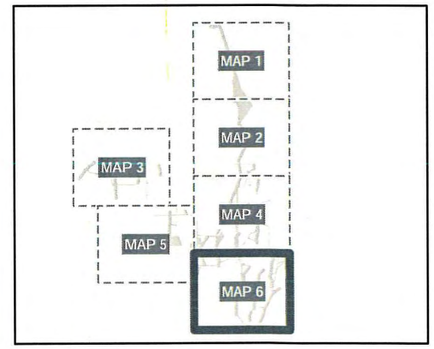
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Montague JD 2010-0083 Survey Area
- Baseline JD 2011-0364 Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June,2016)



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PP1019

SP1020

PP1020

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SP1022

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SP1021

PP1021

PP1023

SP1023

SP1016

SP1015

PP1014

SP1014

W1J

Figure 5.7
Wetland Survey
Wetland and Waterways Survey Map 7
Montague Wind Power Facility

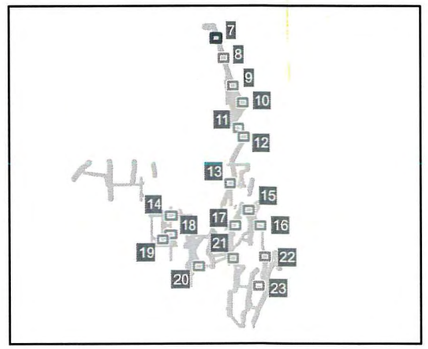
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Jurisdictional Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

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SP1012 SP1011 PP1011

SP1008 SP1009 PP1008

Figure 5.8
Wetland Survey
Wetland and Waterways
Survey Map 8
Montague Wind Power Facility

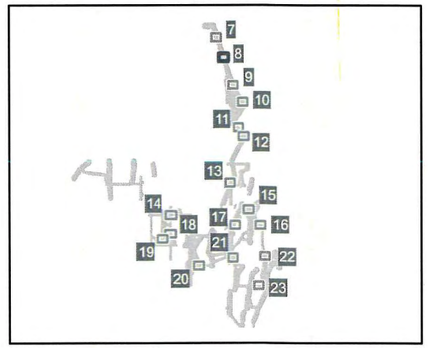
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

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PP1006

SP1005

EIGHTMILE RD

Figure 5.9
Wetland Survey
Wetland and Waterways Survey Map 9
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

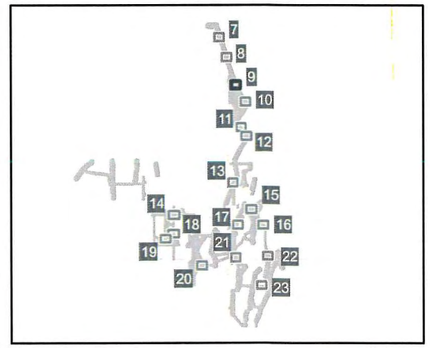

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Figure 5.10
Wetland Survey
Wetland and Waterways
Survey Map 10
Montague Wind Power Facility

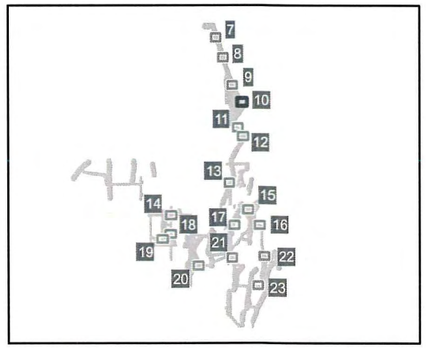
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- * Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017),
ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

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PP1002

SD1002

Figure 5.11
Wetland Survey
Wetland and Waterways Survey Map 11
Montague Wind Power Facility

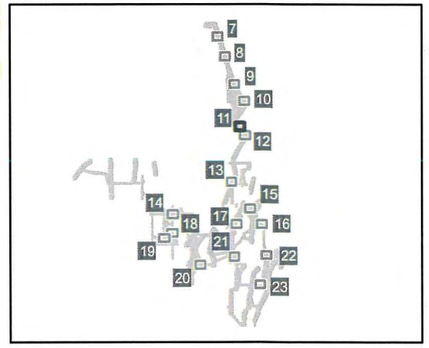
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified ~~Ordinary High Water~~ CENTER LINE
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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SD1001

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Figure 5.12
Wetland Survey
Wetland and Waterways Survey Map 12
Montague Wind Power Facility

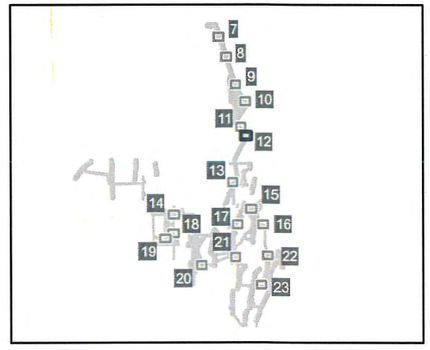
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified ~~Ordinary High Water~~ CENTER LINE
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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PP1034

SP1034

PP3026

Figure 5.13
Wetland Survey
Wetland and Waterways Survey Map 13
Montague Wind Power Facility

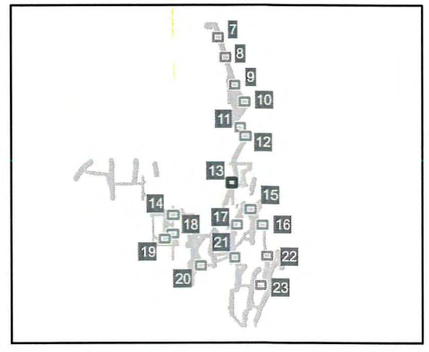
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- I Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017),
ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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FEATURE NO LONGER IN THIS AREA

PP2030

SD2028

PP2033

WEATHERFORD RD

Figure 5.14
Wetland Survey
Wetland and Waterways Survey Map 14
Montague Wind Power Facility

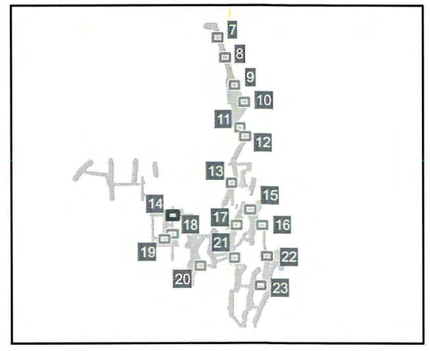
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified ~~Ordinary High Water~~ CENTER LINE
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

Approval Issued 10-26-17

Approval Expires 10-26-22

PP1045

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PP3021

PP1043

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Figure 5.15
Wetland Survey
Wetland and Waterways Survey Map 15
Montague Wind Power Facility

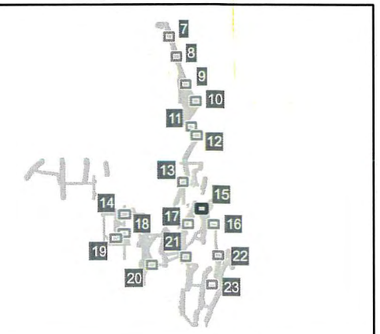
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified ~~Ordinary High Water~~ CENTER LINE
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

Approval Issued 10-26-17

Approval Expires 10-26-22

SD1054

Figure 5.16
Wetland Survey
Wetland and Waterways
Survey Map 16
Montague Wind Power Facility

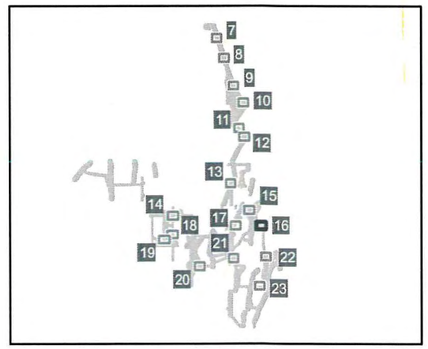
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified ~~Ordinary High Water~~ CENTER LINE
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

Approval Issued 10-26-17

Approval Expires 10-26-22

SD5000

PP5002

PP1051

Figure 5.17
Wetland Survey
Wetland and Waterways Survey Map 17
Montague Wind Power Facility

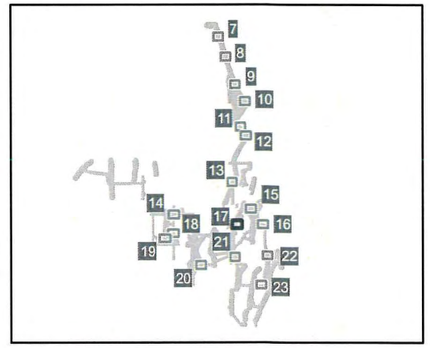
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

Approval Issued 10-26-17

Approval Expires 10-26-~~22~~

PP3052

SD3052

WEATHERFORD RD

Figure 5.18
Wetland Survey
Wetland and Waterways Survey Map 18
Montague Wind Power Facility

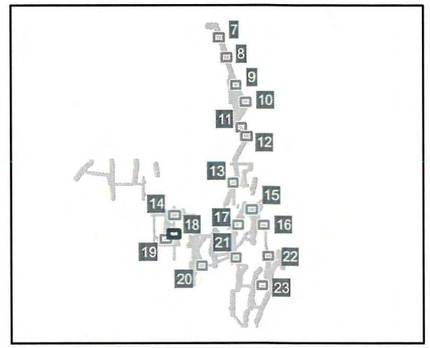
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified ~~Ordinary High Water~~ CENTER LINE
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

Approval Issued 10-26-17

Approval Expires 10-26-22

SD2018

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Figure 5.19
Wetland Survey
Wetland and Waterways
Survey Map 19
Montague Wind Power Facility

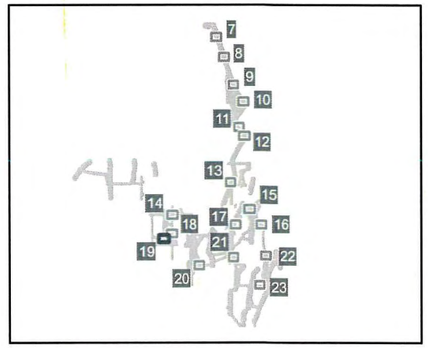
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified ~~Ordinary High Water~~ CENTER LINE
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

Approval Issued 10-26-17

Approval Expires 10-26-22

PP2076

SP2074

Figure 5.20
Wetland Survey
Wetland and Waterways Survey Map 20
Montague Wind Power Facility

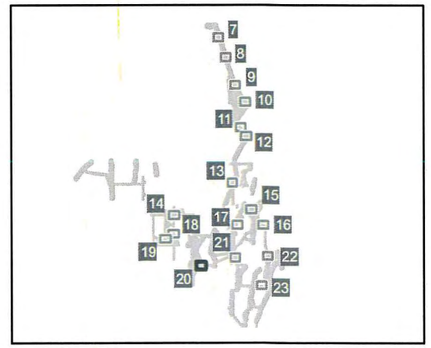
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

Approval Issued 10-26-17

Approval Expires 10-26-22

PP2081

SP2080

SD3015

PP3017

CENTER LINE

SD2106

PP3014

Figure 5.21
Wetland Survey
Wetland and Waterways Survey Map 21
Montague Wind Power Facility

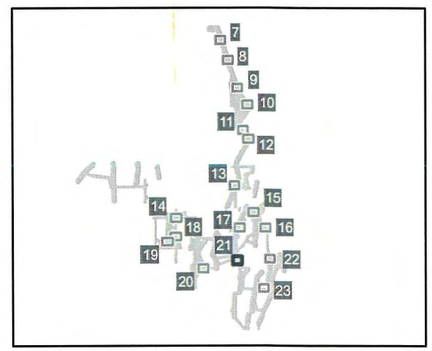
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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DSL WD # 2017-0111

Approval Issued 10-26-17

Approval Expires 10-26-22

PP2097

SD2096

PP3006

Figure 5.22
Wetland Survey
Wetland and Waterways Survey Map 22
Montague Wind Power Facility

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified ~~Ordinary High Water~~ CENTER LINE
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

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Approval Issued 10-26-17

Approval Expires 10-26-22

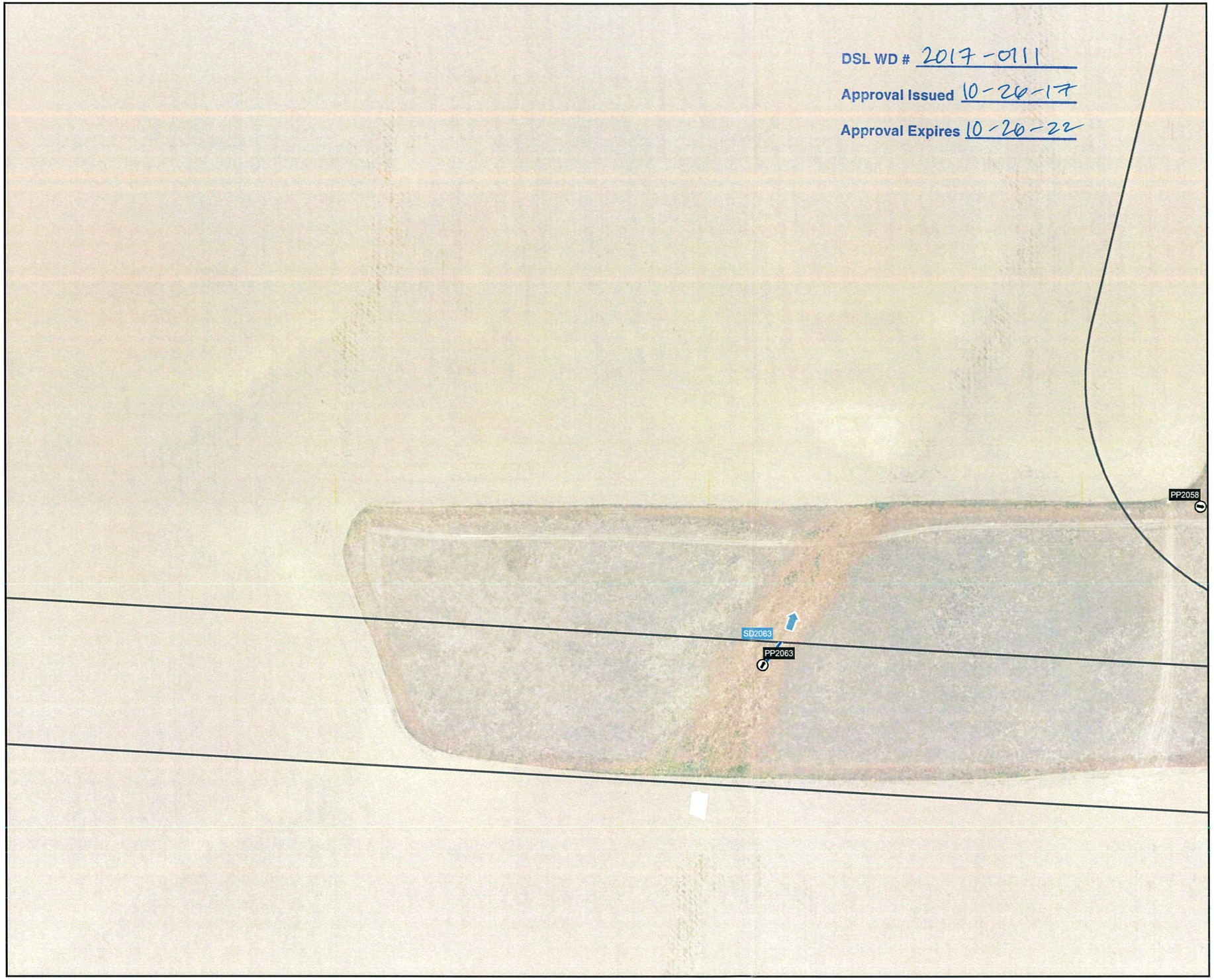


Figure 5.23
Wetland Survey
Wetland and Waterways Survey Map 23
Montague Wind Power Facility

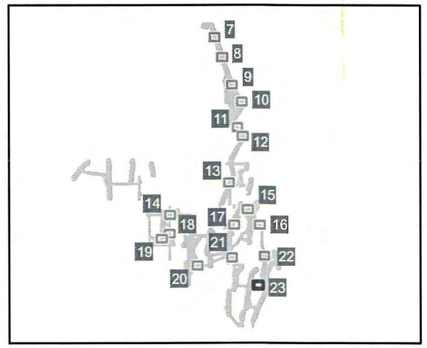
Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland*
- Previously Field Verified Ordinary High Water*
- Detail Map Index
- Features Extends Outside Survey Area

* Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0083.

Wetland data was mapped using a resource grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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Attachment J-3
DSL Concurrence on WD#2011-0364R: Supplemental Delineation Reissuance Report, Montague II Wind Power Facility (Report Dated July 7, 2017; Concurrence Dated February 28, 2019)

Oregon
Kate Brown, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregon.gov/dsl

February 28, 2019

Avangrid Renewables
Attn: Matt Hutchinson
1125 NW Couch St., Ste. 700
Portland, OR 97209

Re: WD # 2011-0364R Wetland Delineation Reissuance Report for Montague Wind Power Facility-Phase II; Gilliam County; Portions of Multiple TRS and Tax Lots Within Large Project Area South of Arlington, OR

Dear Mr. Hutchinson:

The Department of State Lands has reviewed the wetland delineation report prepared by Jacobs for the site referenced above. Please note that the study area includes only portions of the tax lots (see the attached maps and table). The study area for this reissuance includes a substantial portion of the WD2011-0364 study area plus some small additional areas due to a change in the overall project layout. Based upon the information presented in the report, and additional information submitted upon request, we concur with the waterway boundaries as mapped in Figures 5.1-5.9 of the report. Please replace all copies of the preliminary wetland maps with these final Department-approved maps.

Within the study area, no wetlands and five ephemeral channels were identified. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands or below the ordinary high-water line (OHWL) of the waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined). Ephemeral stream segments are not regulated by the State; therefore, they are not subject to current state Removal-Fill requirements.

This reissuance concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will determine jurisdiction for purposes of the Clean Water Act. We recommend that you attach a copy of this concurrence letter to both copies of any subsequent joint permit application to speed application review.

This reissuance concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of the original expiration unless new information necessitates a revision. The original concurrence expired May 18, 2017 and this reissuance concurrence will expire May 18, 2022. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the

legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. Please phone me at 503-986-5271 if you have any questions.

Sincerely,

Daniel Evans, PWS
Jurisdiction Coordinator

Approved by

Peter Ryan, PWS
Aquatic Resource Specialist

Enclosures

ec: Claudia Steinkoenig, Jacobs
Gilliam County Planning Department
Brad Johnson, Corps of Engineers
Heidi Hartman, DSL
Chase McVeigh-Walker, DOE, Chase.McVeigh-Walker@oregon.gov
Leandra Cleveland, HDR Engineering, Inc.

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: https://apps.oregon.gov/DSL/EPS/program?key=4.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.** A single PDF of the completed cover from and report may be e-mailed to: **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Contact and Authorization Information

☒ Applicant ☐ Owner Name, Firm and Address:
Matt Hutchinson, Avangrid Renewables
1125 NW Couch Street, Suite 700
Portland, oregon 97209

Business phone # (503) 478-6317
Mobile phone # (optional)
E-mail: matthew.hutchinson@avangrid.com

☐ Authorized Legal Agent, Name and Address (if different):

Business phone #
Mobile phone # (optional)
E-mail:

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: Matt Hutchinson **Signature:** Matt Hutchinson
Date: 2/23/19 Special instructions regarding site access: ____

Project and Site Information

Project Name: Montague Wind Power Facility

Latitude: S: 45.586072 E: 45.492275 Longitude: S: -120.245267 E: -12[illegible]
decimal degree - centroid of site or start & end points of linear project

Proposed Use:
Construction of a wind power facility including turbines and access roads.

Tax Map # See Attachment
Tax Lot(s)

Tax Map #
Tax Lot(s) See Attachment

Project Street Address (or other descriptive location):
Project site is located east and west of Highway 19 between Arlington, Oregon and Mikkalo, Oregon

Township Range Section QQ
Use separate sheet for additional tax and location information

City: nearest city is Arlington, OR County: Gilliam

Waterway: Not Applicable River Mile: Not Applicable

Wetland Delineation Information

Wetland Consultant Name, Firm and Address:
Claudia Steinkoenig, Jacobs Engineering
2020 SW 4th Avenue
Portland, Oregon 97201

Phone # (503) 736-4136
Mobile phone # (if applicable)
E-mail: claudia.steinkeonig@jacobs .com

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.
Consultant Signature: CPS Date: 01/31/2019

Primary Contact for report review and site access is ☒ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No | Study Area size: 3,320 Total Wetland Acreage: None

Check Applicable Boxes Below

☐ R-F permit application submitted
☐ Mitigation bank site
☐ Industrial Land Certification Program Site
☐ Wetland restoration/enhancement project (not mitigation)
☒ Previous delineation/application on parcel
If known, previous DSL # 2011-0364

☐ Fee payment submitted $ ____
☐ Fee ($100) for resubmittal of rejected report
☐ Request for Reissuance. See eligibility criteria. (no fee)
DSL # ____ Expiration date ____
☐ LWI shows wetlands or waters on parcel
Wetland ID code ____

For Office Use Only

DSL Reviewer: ____ Fee Paid Date: ____/____/____ DSL WD # ____

Date Delineation Received: ___/___/___ Scanned: ☐ Electronic: ☐ DSL App.# ____

Township	Range	Section	Taxlots
1 North	21 East	4-5, 7-9, 12-25, 27-30, 34-36	100, 200, 400, 401, 500, 700, 804, 900, 1002, 1100, 1101 , 1200, 1500, 1501, 1900, 2100
1 North	22 East	7, 18-19, 30	100, 200, 201, 203
1 South	21 East	2-3, 11	502, 1200
1 South	22 East	18	roads

TaxMap Numbers		
01N21E0000-00100	01N21E0000-01101	01S21E0000-00100
01N21E0000-00200	01N21E0000-01200	01S21E0000-00200
01N21E0000-00400	01N21E0000-01500	01S21E0000-00201
01N21E0000-00401	01N21E0000-01501	01S21E0000-00203
01N21E0000-00500	01N21E0000-01900	01S21E0000-ROADS
01N21E0000-00700	01N21E0000-02100	01S22E0000-00502
01N21E0000-00804	01N21E0000-ROADS	01S22E0000-01200
01N21E0000-00900	01N22E0000-00800	01S22E0000-ROADS
01N21E0000-01002	01N22E0000-01900	
01N21E0000-01100	01N22E0000-ROADS	

Figure 1
Wetland Survey
Project Location
Montague Wind Power Facility - Proposed Expansion

Legend

- Baseline JD 2011-0364 Survey Area
- 2017 Wetland Survey Corridor
- Populated Place
- Road
- Highway
- Water Body
- NHD Flowline
- Contour 100m
- County Boundary

Data Source: OR Spatial Data Library 2017, ESRI 2017
Basemap Source: ESRI Multi-Directional Hillshade

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Figure 2
Wetland Survey
Tax Parcels
Montague Wind Power Facility - Proposed Expansion

Legend

- Baseline JD 2011-0364 Survey Area
- 2017 Wetland Survey Corridor
- Gilliam County Tax Parcels
- Township & Range
- Populated Place
- Road
- Highway
- Water Body
- NHD Flowline
- Contour 100m
- County Boundary

Data Source: Gilliam County (2017), OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI Multi-Directional Hillshade

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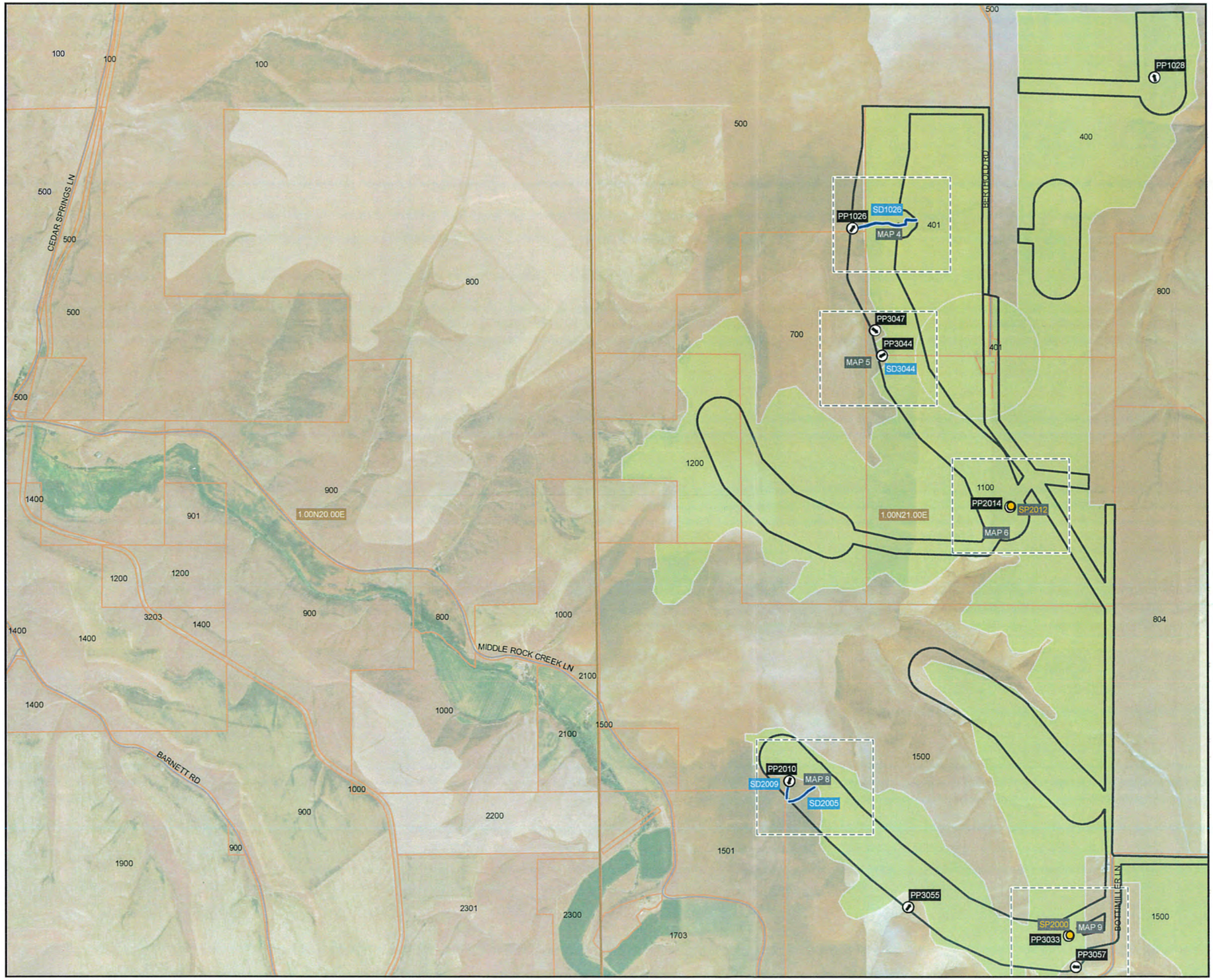

Figure 5.1
Wetland Survey
Wetland and Waterways
Survey Detail Map 1
Montague Wind Power Facility - Proposed Expansion

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Photo Point
- Detail Map Index
- Township & Range
- Gilliam County Tax Parcels
- Baseline JD 2011-0364 Survey Area

DSL WD # 2011-0364 R

Approval Issued 2-28-19

Approval Expires 5-18-22

Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

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Figure 5.2
Wetland Survey
Wetland and Waterways
Survey Detail Map 2
Montague Wind Power Facility - Proposed Expansion

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Photo Point
- Detail Map Index
- Township & Range
- Gilliam County Tax Parcels
- Baseline JD 2011-0364 Survey Area

DSL WD # 2011-0364 R

Approval Issued 2-28-19

Approval Expires 5-18-22

Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

Data Source: OR Spatial Data Library (2017), ESRI (2017)
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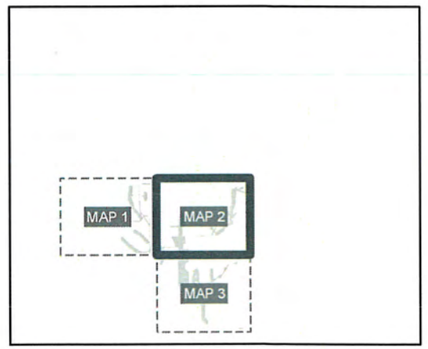

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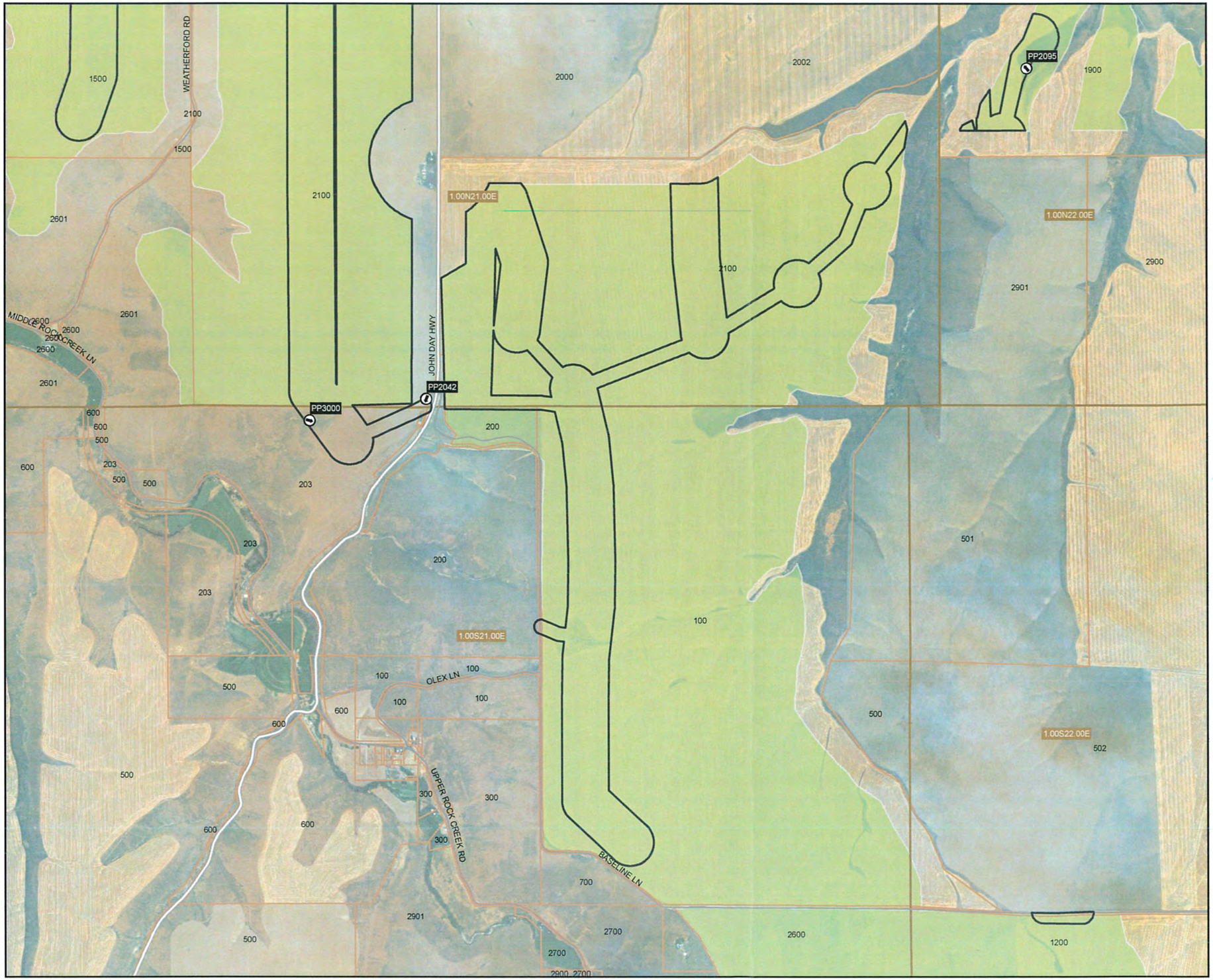

Figure 5.3
Wetland Survey
Wetland and Waterways Survey Detail Map 3

Montague Wind Power Facility - Proposed Expansion

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Photo Point
- Detail Map Index
- Township & Range
- Gilliam County Tax Parcels
- Baseline JD 2011-0364 Survey Area

DSL WD # 2011-0364R

Approval Issued 2-28-19

Approval Expires 5-18-22

Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

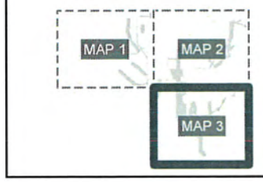

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Figure 5.4
Wetland Survey
Wetland and Waterways
Survey Map 4
Montague Wind Power Facility - Proposed Expansion

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Photo Point
- Detail Map Index
- Township & Range
- Gilliam County Tax Parcels

→ continues off study area

DSL WD # 2011-0364 R

Approval Issued 2-28-19

Approval Expires 5-18-22

Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

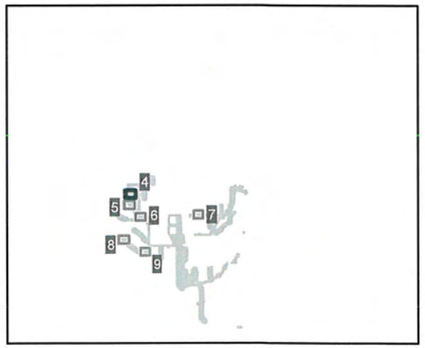

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Figure 5.5
Wetland Survey
Wetland and Waterways
Survey Map 5
Montague Wind Power Facility - Proposed Expansion

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Photo Point
- Detail Map Index
- Township & Range
- Gilliam County Tax Parcels

→ continues off study area

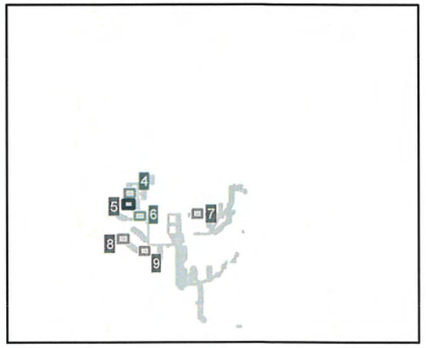
DSL WD # 2011-0364 R

Approval Issued 2-28-19

Approval Expires 5-18-22

Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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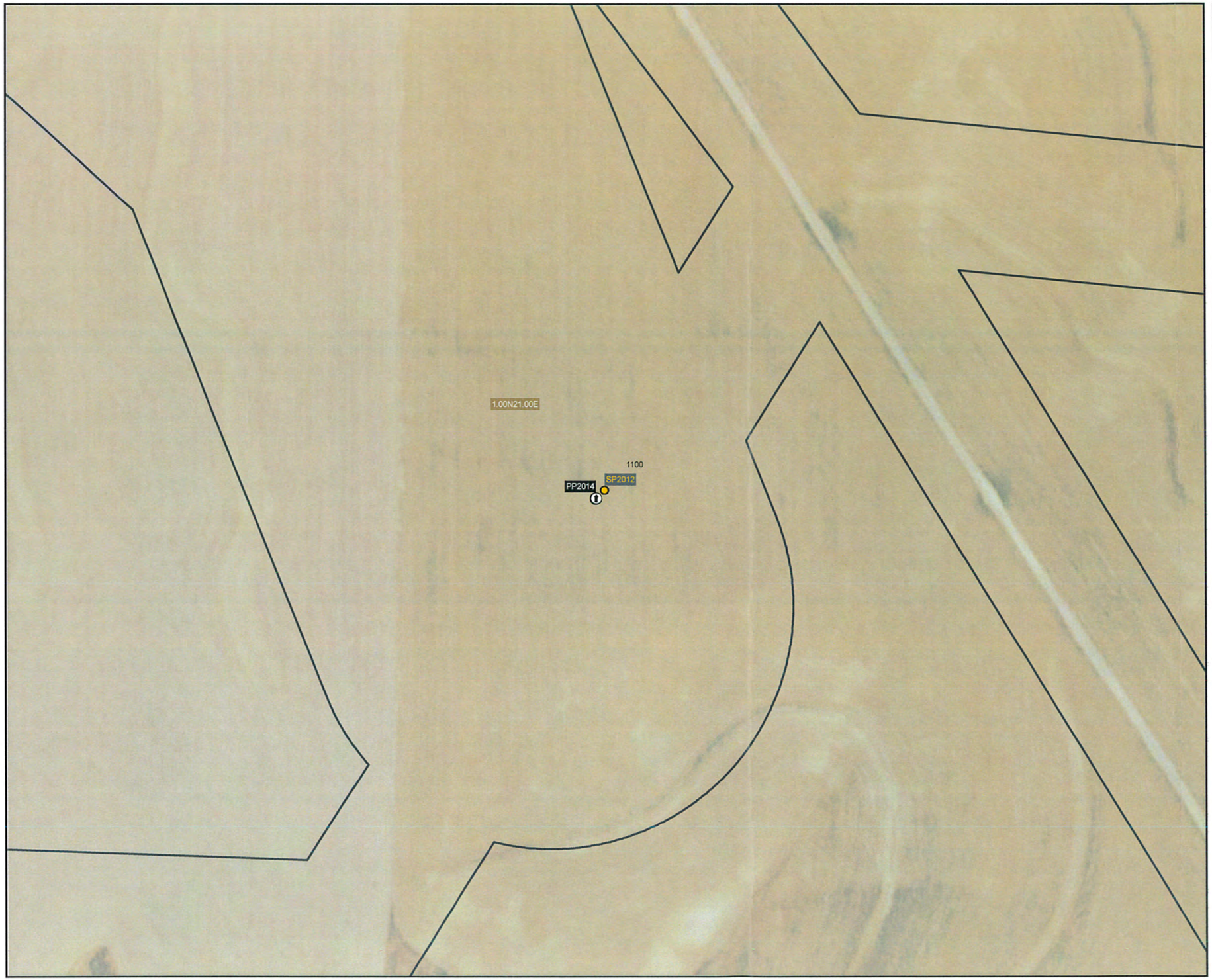

Figure 5.6
Wetland Survey
Wetland and Waterways
Survey Map 6

Montague Wind Power Facility - Proposed Expansion

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Photo Point
- Detail Map Index
- Township & Range
- Gilliam County Tax Parcels

DSL WD # 2011-0364R

Approval Issued 2-28-19

Approval Expires 5-18-22

Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

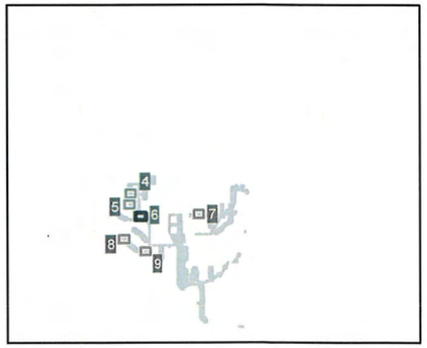

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Figure 5.7
Wetland Survey
Wetland and Waterways
Survey Map 7

Montague Wind Power Facility - Proposed Expansion

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Photo Point
- Detail Map Index
- Township & Range
- Gilliam County Tax Parcels

→ continues off study area

DSL WD # 2011-0364 R

Approval Issued 2-28-19

Approval Expires 5-18-22

Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

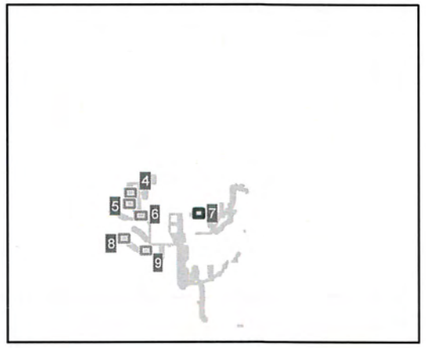

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Figure 5.8
Wetland Survey
Wetland and Waterways
Survey Map 8
Montague Wind Power Facility - Proposed Expansion

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Photo Point
- Detail Map Index
- Township & Range
- Gilliam County Tax Parcels

→ continues off study area

DSL WD # 2011-0364 R

Approval Issued 2-28-19

Approval Expires 5-18-22

Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)

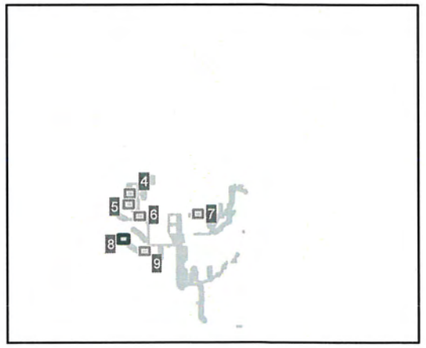

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Figure 5.9
Wetland Survey
Wetland and Waterways
Survey Map 9
Montague Wind Power Facility - Proposed Expansion

Legend

- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Photo Point
- Detail Map Index
- Township & Range
- Gilliam County Tax Parcels

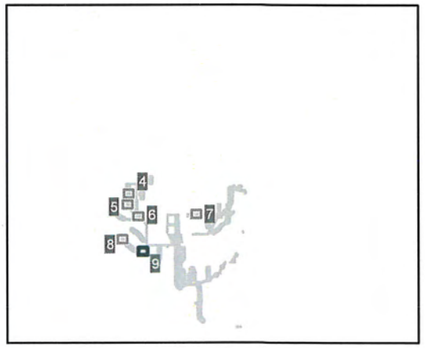
DSL WD # 2011-0364R

Approval Issued 2-28-19

Approval Expires 5-18-22

Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

Data Source: OR Spatial Data Library (2017), ESRI (2017)
Basemap Source: ESRI World Imagery - NAIP (June, 2016)



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Attachment J-4
DSL Concurrence on WD#2018-0597: 2018 Wetlands and Waterbodies Supplemental Delineation for Montague Wind Power Facility—Phase 1 (Report Dated October 2018; Concurrence Dated February 26, 2019)

Oregon
Kate Brown, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregon.gov/dsl

February 26, 2019

Avangrid Renewables
Attn: Matt Hutchinson
1125 NW Couch Street Suite 700
Portland, Oregon 97209

Re: WD #2018-0597 **Addendum**
Montague Wind Power Facility Phase 1,
Addendum to WD #2017-0111, Gilliam County;
Portions of Multiple TRS and tax lots within Large Project Area South of Arlington, OR

Dear Mr. Hutchinson:

The Department received a request on October 9, 2018 from CH2M (now Jacobs) to add an additional 673 acres to the delineation report study area (WD #2017-0111) that had received prior Department approval on October 27, 2017. We have reviewed the addendum prepared by CH2M for the site referenced above. Please note that the study areas include only portions of the tax lots (see the attached maps and table) Based upon the information presented in the report, and additional information submitted upon request, we concur with the waterway boundaries as mapped in revised Figures 5A-5H of the report. Please replace all copies of the preliminary wetland maps with these final Department-approved maps.

Within the expanded study area, six ephemeral waterways were identified. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in the wetlands or below the ordinary high-water line (OHWL) of a waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined). The ephemeral waterways are not regulated per OAR 141-085-0515(3); therefore, are not subject to current state Removal-Fill permit requirements.

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will review the report and decide jurisdiction for purposes of the Clean Water Act at the time that a permit application is submitted. We recommend that you attach a copy of this concurrence letter to both copies of any subsequent joint permit application to speed application review.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter, unless new information necessitates a revision. Circumstances under which the Department may change a

determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you again for having the site evaluated. Please phone me at 503-986-5271 if you have any questions.

Sincerely,

Daniel Evans, PWS
Jurisdiction Coordinator

Approved by

Peter Ryan, PWS
Aquatic Resource Specialist

Enclosures

ec: Claudia Steinkoenig, Jacobs
Gilliam County Planning Department
Brad Johnson, Corps of Engineers
Heidi Hartman, DSL
Joy Vaughan, ODFW
Chase McVeigh-Walker, ODOE

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: https://apps.oregon.gov/DSL/EPS/program?key=4.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.** A single PDF of the completed cover from and report may be e-mailed to: **Wetland_Delineation@dsl.state.or.us.** For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Contact and Authorization Information

☒ Applicant ☐ Owner Name, Firm and Address:
Matt Hutchinson, Avangrid Renewables, LLC
1125 NW Couch Street, Suite 700
Portland, Oregon 97209

Business phone # (503) 478-6317
Mobile phone # (optional)
E-mail: matthew.hutchinson@avangrid.com

☐ Authorized Legal Agent, Name and Address (if different):

Business phone #
Mobile phone # (optional)
E-mail:

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: Matt Hutchinson **Signature:** Matt Hutchinson

Date: ____ Special instructions regarding site access: ____

Project and Site Information

Project Name: Montague Wind Power Facility

Latitude: 45.704539 E:45.151867 Longitude: -120.517339 E-120.142
decimal degree - centroid of site or start & end points of linear project

Proposed Use:
Construction of a wind power facility including access roads.

Tax Map # See attached summary table.
Tax Lot(s)

Tax Map #
Tax Lot(s)

Project Street Address (or other descriptive location):
Project sites are located east of Highway19 south of Arlington, Oregon.

Township Range Section QQ
Use separate sheet for additional tax and location information

City: Nearest city is Arlington, OR. County: Gilliam

Waterway: not applicable River Mile: not applicable

Wetland Delineation Information

Wetland Consultant Name, Firm and Address:
Claudia Steinkoenig, CH2M (now Jacobs)
2020 SW 4th Avenue, Suite 300
Portland, OR 97219

Phone # (503) 736-4136
Mobile phone # (if applicable)
E-mail: claudia.steinkoenig@jacobs.com

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.
Consultant Signature: CNS Date: 10/3/2018

Primary Contact for report review and site access is ☒ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No Study Area size: 673 acres Total Wetland Acreage: 0.0000

Check Applicable Boxes Below

☐ R-F permit application submitted
☐ Mitigation bank site
☐ Industrial Land Certification Program Site
☐ Wetland restoration/enhancement project (not mitigation)
☒ Previous delineation/application on parcel
If known, previous DSL # WD # 2017-0111

☐ Fee payment submitted $ ____
☐ Fee ($100) for resubmittal of rejected report
☐ Request for Reissuance. See eligibility criteria. (no fee)
DSL # ____ Expiration date ____
☐ LWI shows wetlands or waters on parcel
Wetland ID code ____

For Office Use Only

DSL Reviewer: DE Fee Paid Date: ____/____/____ DSL WD # 2018-0597

Date Delineation Received: 10/9/18 Scanned: ☑ Electronic: ☐ DSL App.# ____

Township	Range	Section	Taxlots
1N	21E	1, 13-14, 24-26, 34	100, 900, 2000, 2002, 2100
1N	22E	6-8, 17-19, 28-33	700, 800, 900, 1001, 1800, 1900, 2000, 2900, 2901, 2902
1S	21E	12	500
1S	22E	4-8	500, 501, 502
2N	21E	25-26	1400, 1600
2N	22E	30-31	2500, 2600
3N	21E	26, 35-36	503

Tax Map Numbers

01N21E0000-00100

01N21E0000-00900

01N21E0000-02000

01N21E0000-02002

01N21E0000-02100

01N21E0000-ROADS

01N22E0000-00700

01N22E0000-00800

01N22E0000-00900

01N22E0000-01001

01N22E0000-01800

01N22E0000-01900

01N22E0000-02000

01N22E0000-02900

01N22E0000-02901

01N22E0000-02902

01S22E0000-00500

01S22E00001S22E0000-00502

01S22E0000-ROADS

02N21E0000-01400

02N21E0000-01600

02N21E0000-ROADS

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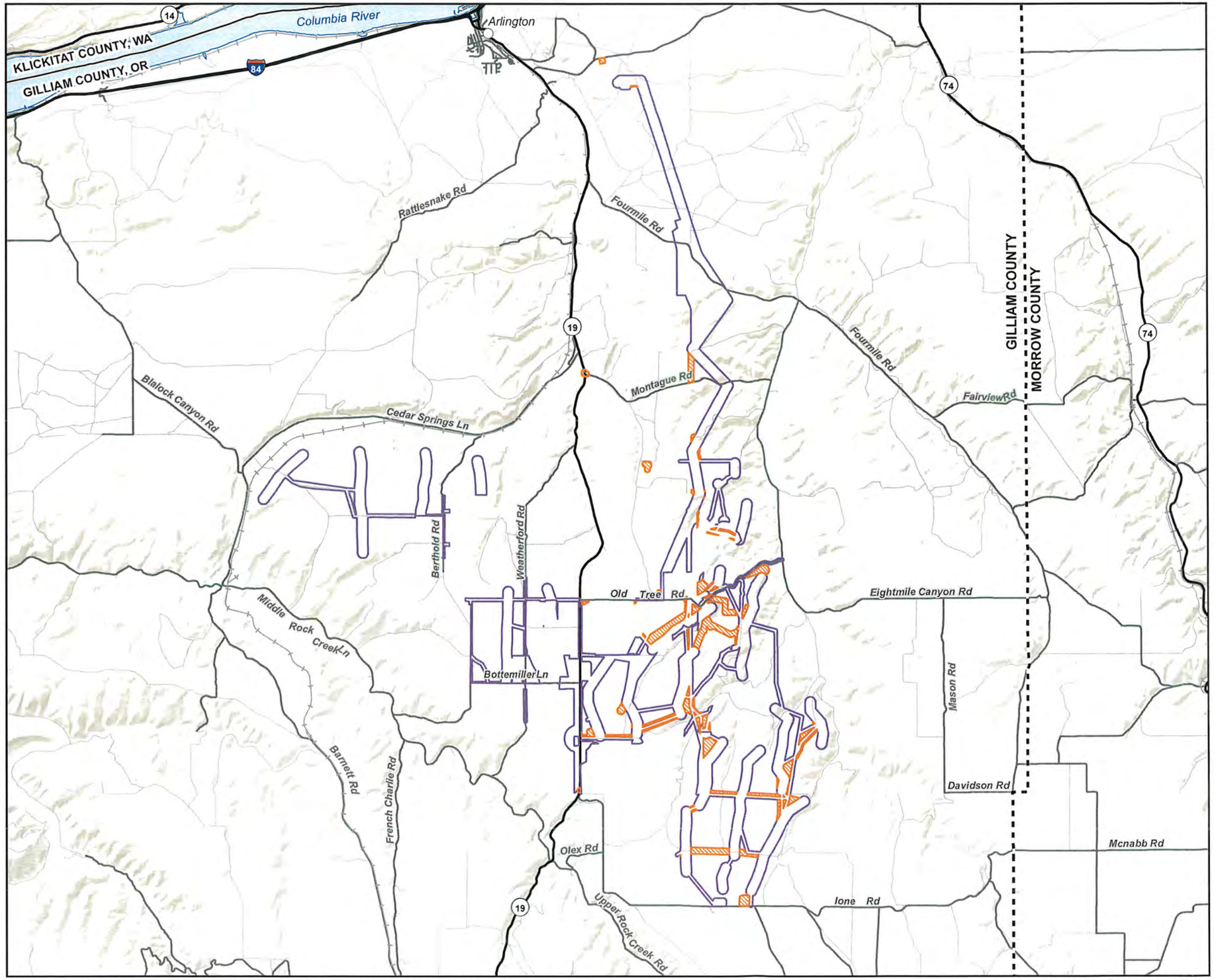
03N21E0000-ROADS 0-00501

Figure 1
Wetland Survey
Project Location
Montague Wind Power Facility - Phase 1



Legend

- 2018 Wetland Survey Corridor
- 2017 Wetland Survey Corridor (WD # 2017-0111 Concurred on October 26, 2017)

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line
- State Boundary
- County Boundary

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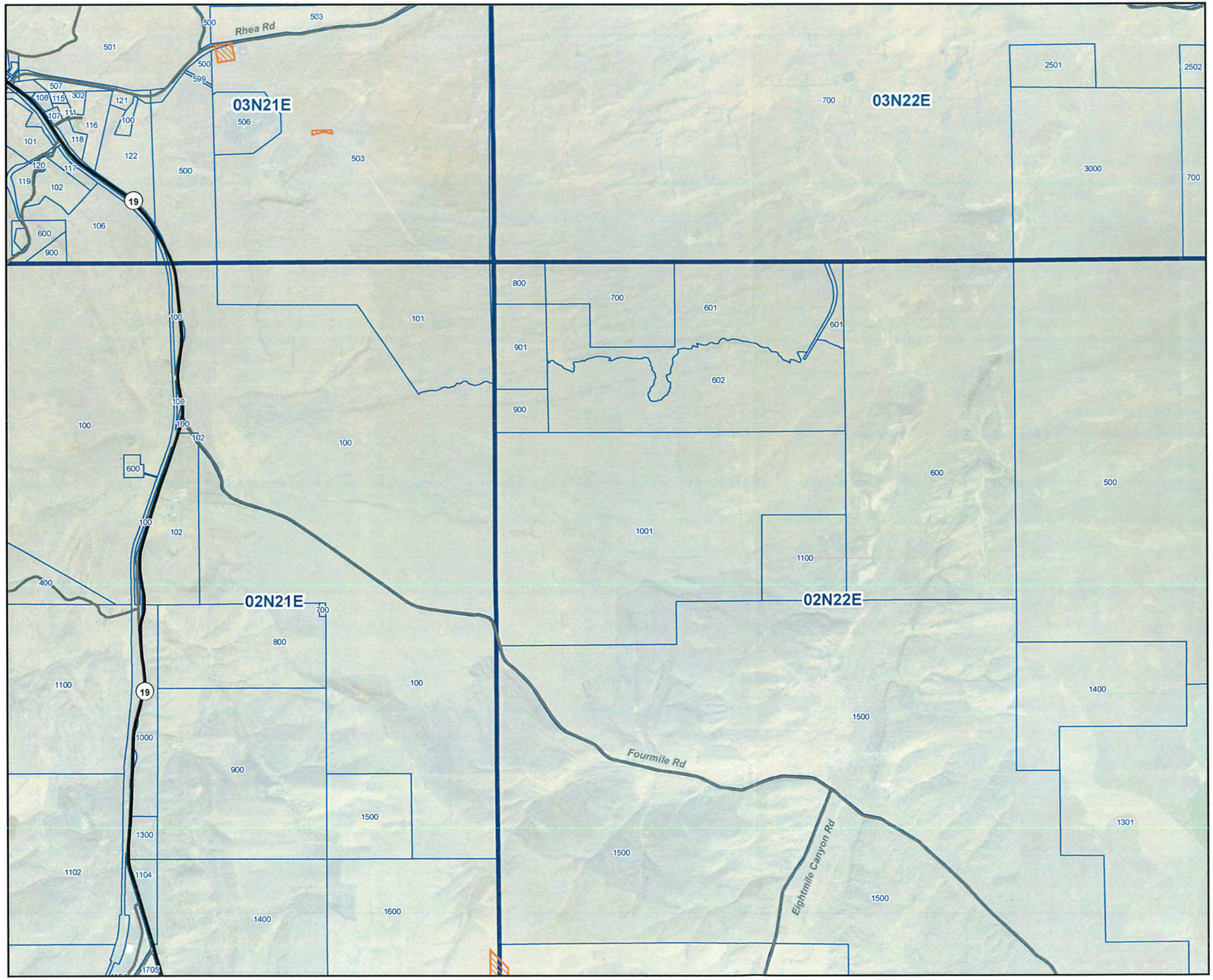
Basemap Source: ESRI World Terrain Base

Figure 2A
Wetland Survey
Tax Lots
Montague Wind Power Facility - Phase 1



Legend

- 2018 Wetland Survey Corridor
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

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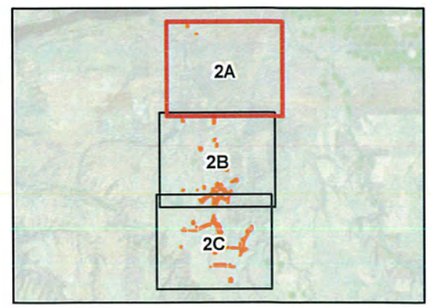

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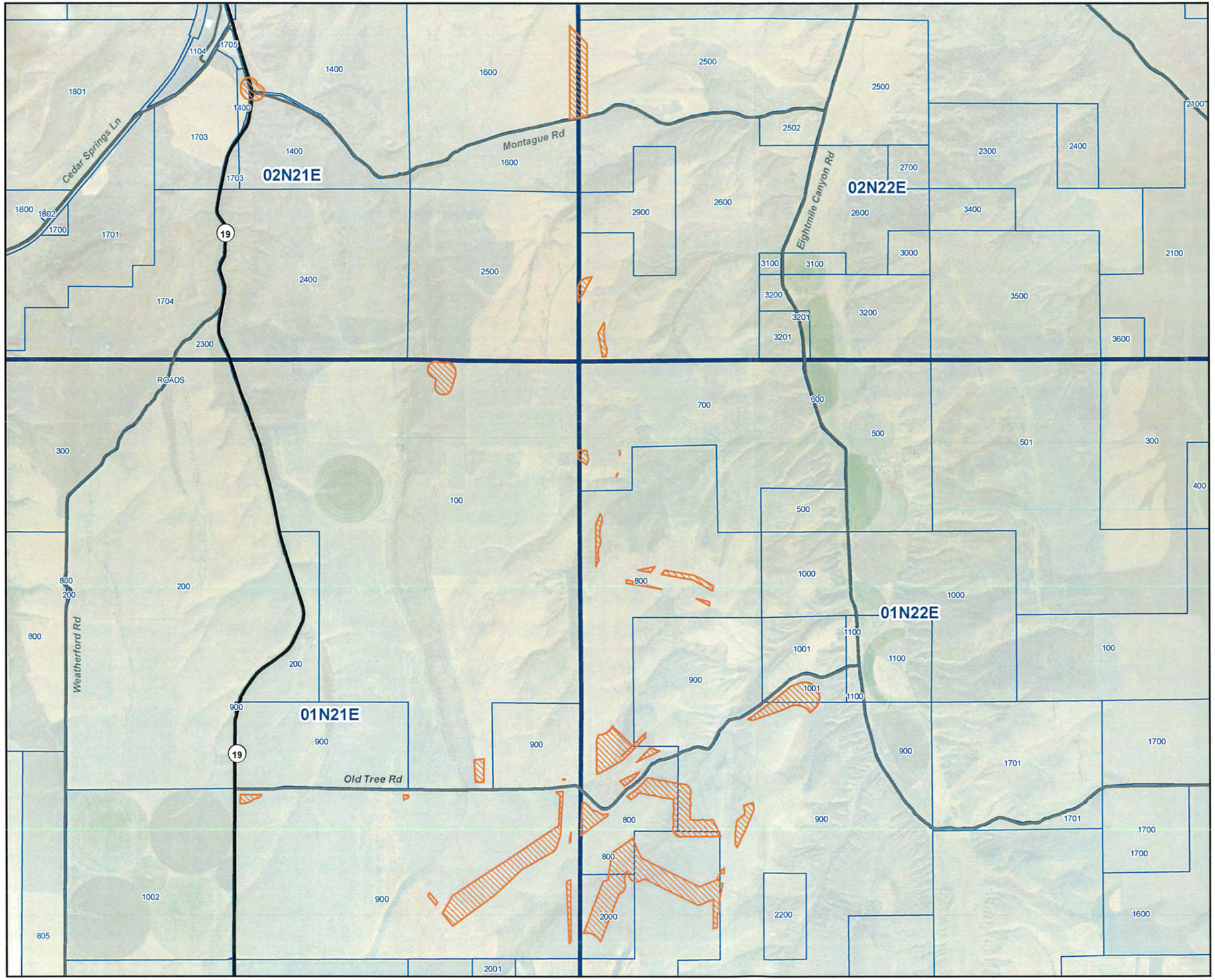
Basemap Source: ESRI World Imagery

Figure 2B
Wetland Survey
Tax Lots
Montague Wind Power Facility - Phase 1



Legend

- 2018 Wetland Survey Corridor
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

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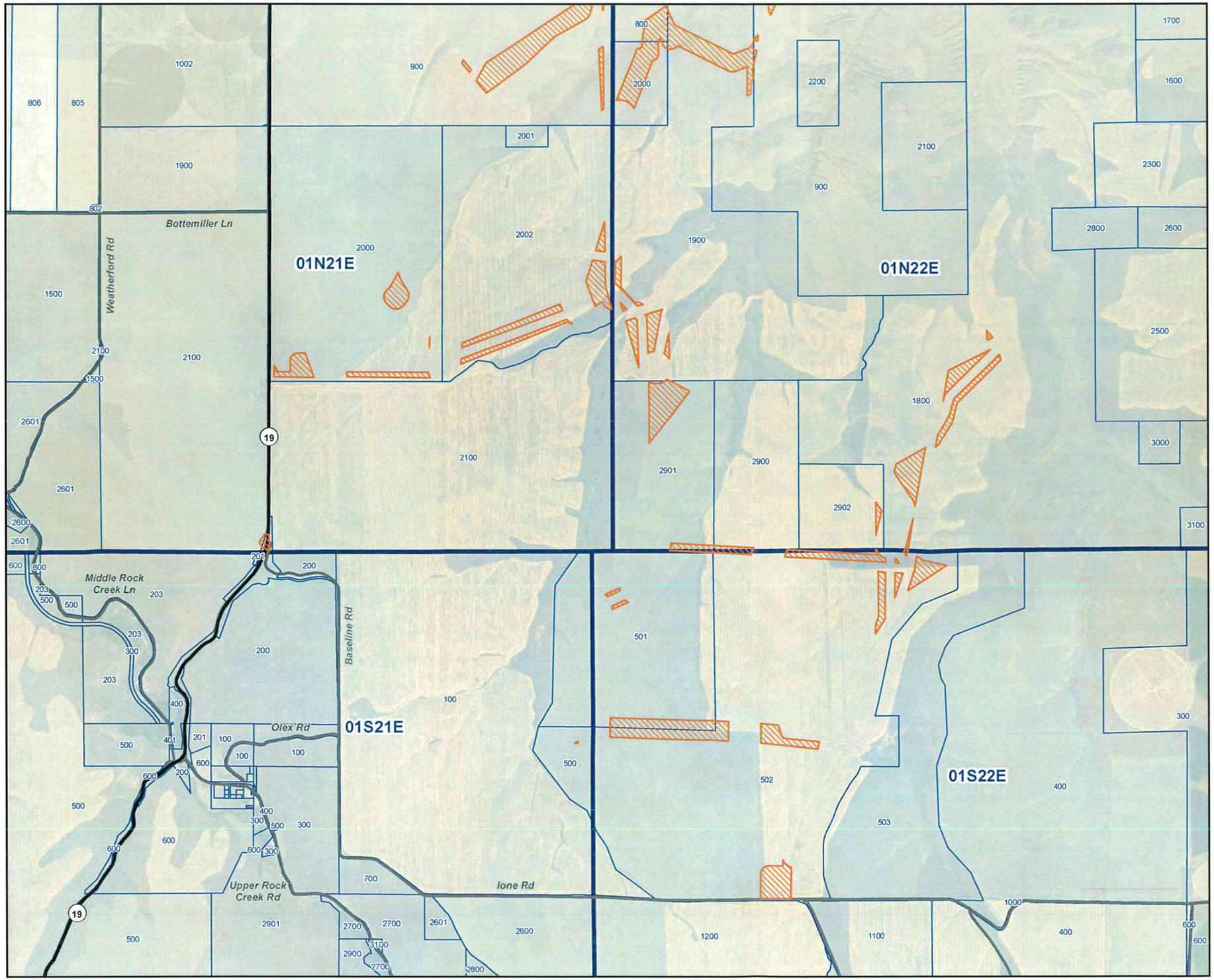
Basemap Source: ESRI World Imagery

Figure 2C
Wetland Survey
Tax Lots
Montague Wind Power Facility - Phase 1



Legend

- 2018 Wetland Survey Corridor
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

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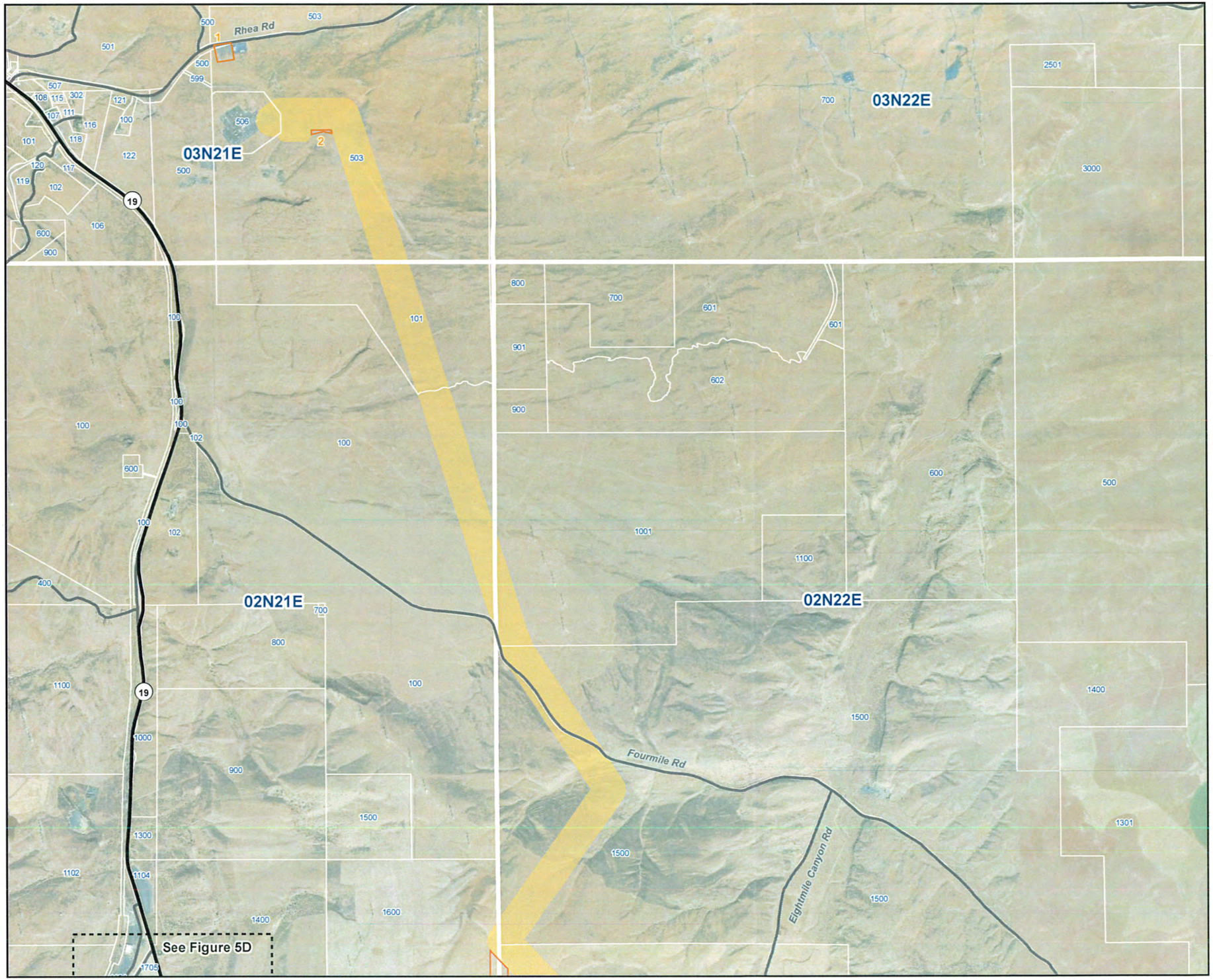
Basemap Source: ESRI World Imagery

Figure 5A
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 1



Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- 2017 Wetland Survey Corridor (WD # 2017-0111 Concurred on October 27, 2017)
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0597

Approval Issued 2-26-2019

Approval Expires 2-26-2024

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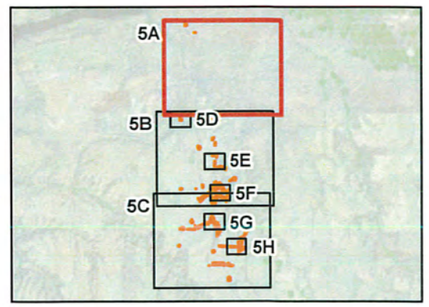

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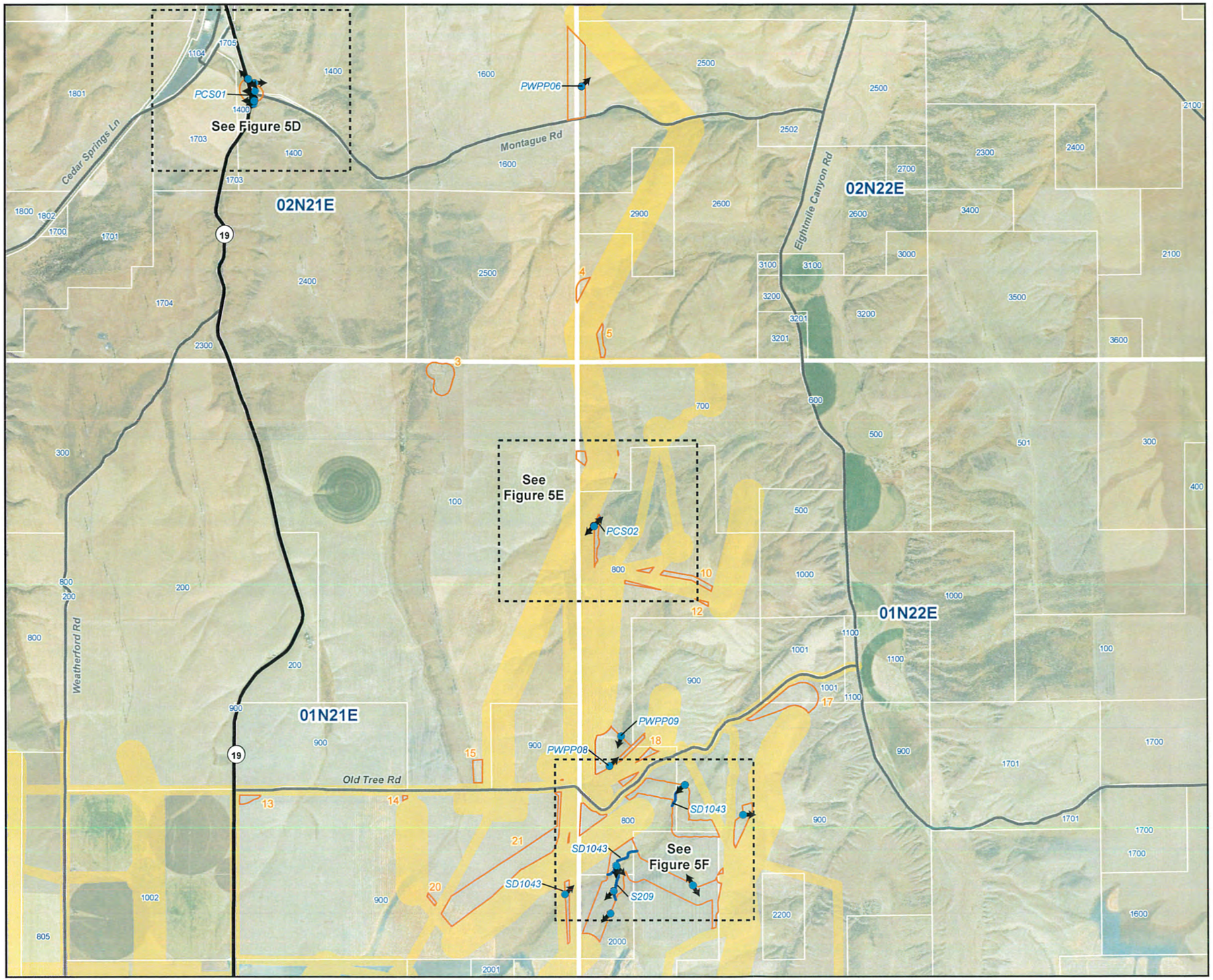
Basemap Source: ESRI World Imagery

Figure 5B
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 1



Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- 2017 Wetland Survey Corridor (WD # 2017-0111 Concurred on October 27, 2017)
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0597

Approval Issued 2-26-2019

Approval Expires 2-26-2024

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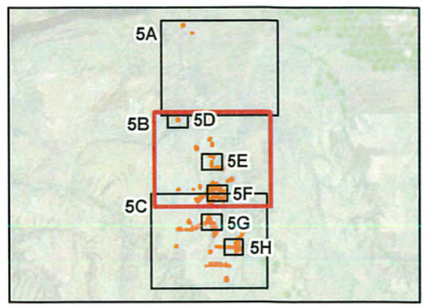

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Basemap Source: ESRI World Imagery

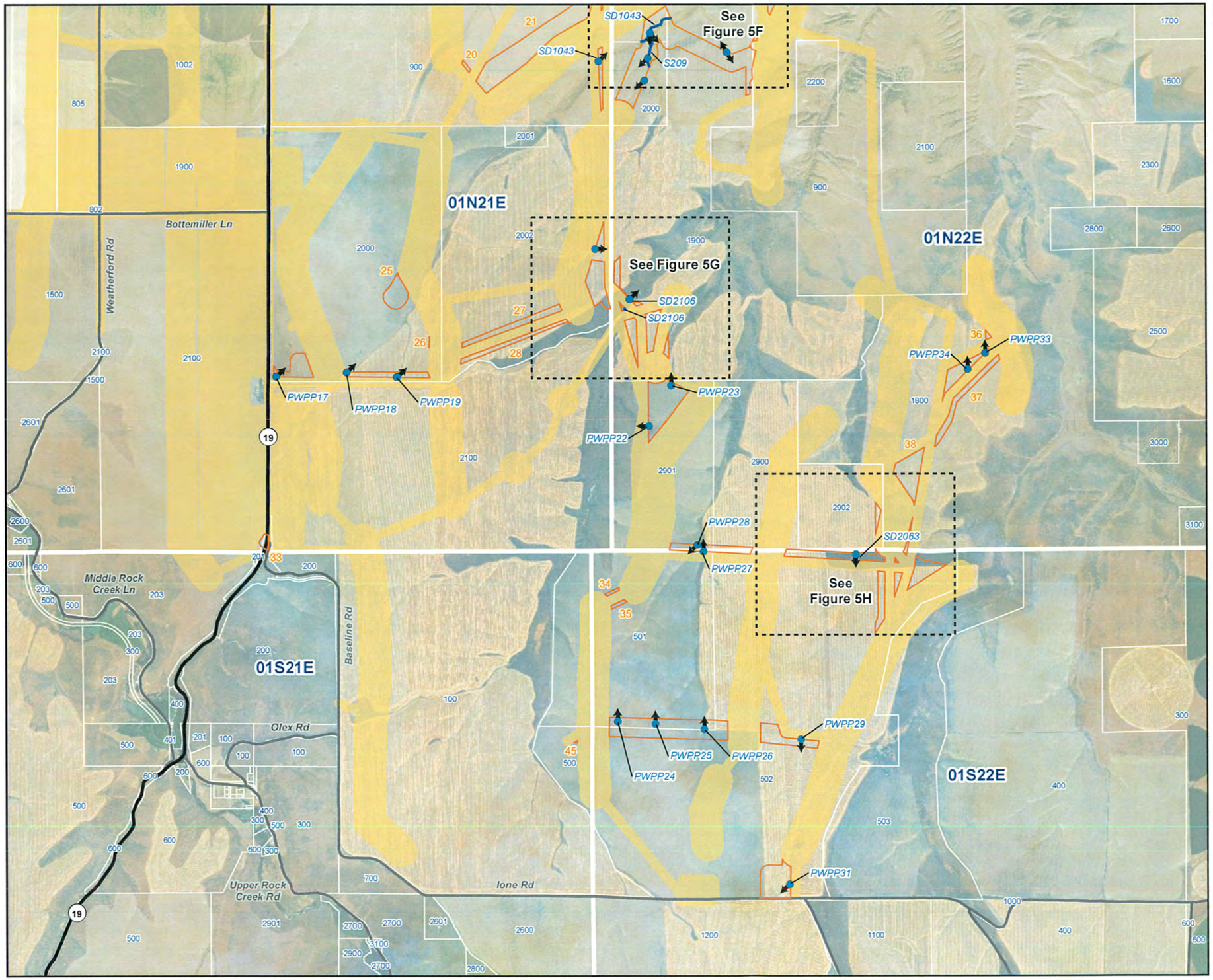

Figure 5C
Wetland Survey
Wetlands and Waterways
Survey Detail Map

Montague Wind Power Facility - Phase 1

Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- 2017 Wetland Survey Corridor (WD # 2017-0111 Concurred on October 27, 2017)
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0597

Approval Issued 2-26-2019

Approval Expires 2-26-2024

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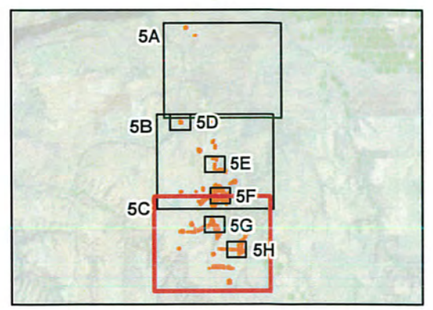

AVANGRID RENEWABLES

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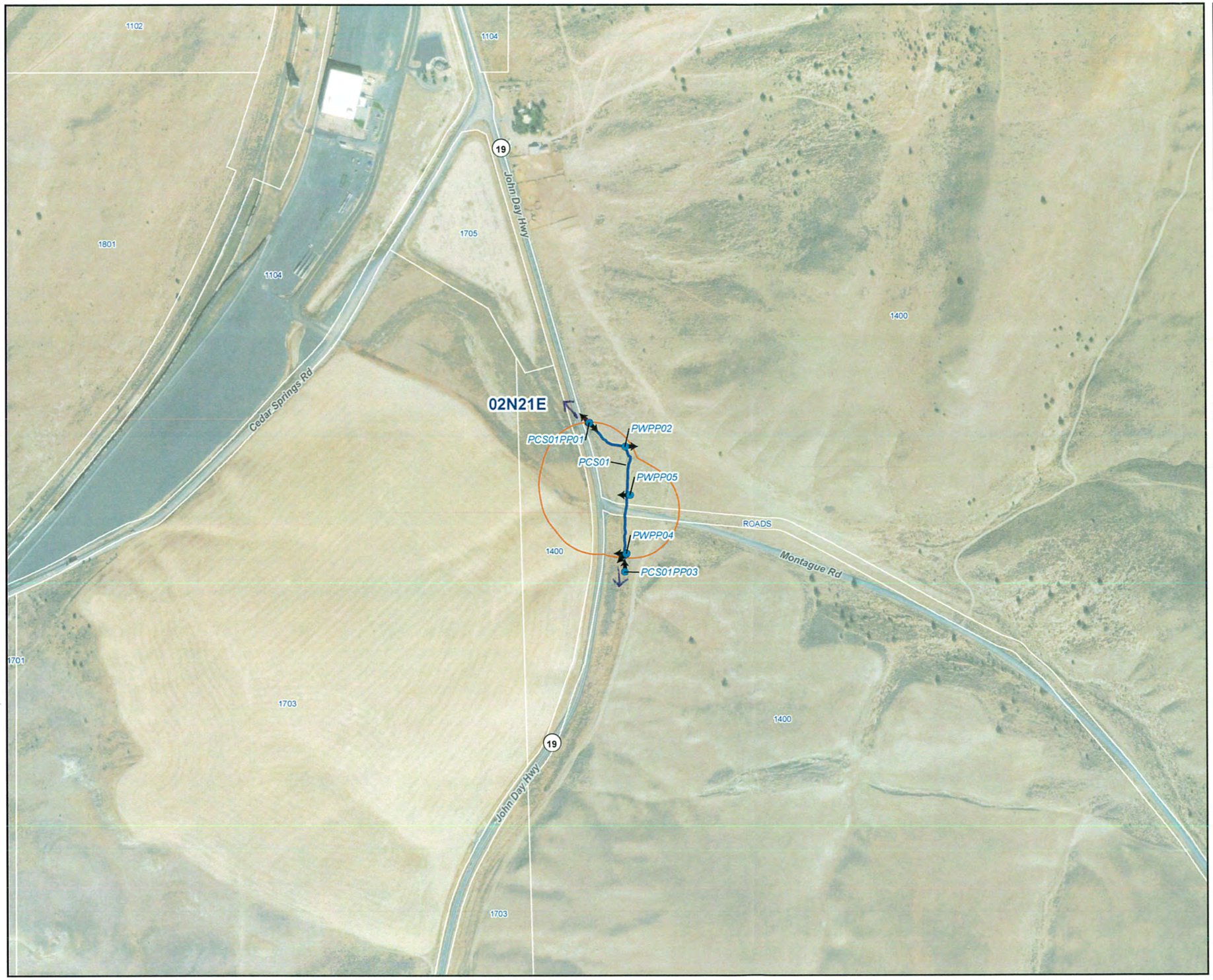
Basemap Source: ESRI World Imagery

Figure 5D
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 1



Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- 2017 Wetland Survey Corridor (WD # 2017-0111 Concurred on October 27, 2017)
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water
- → continues off study area

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0597

Approval Issued 2-26-2019

Approval Expires 2-26-2024

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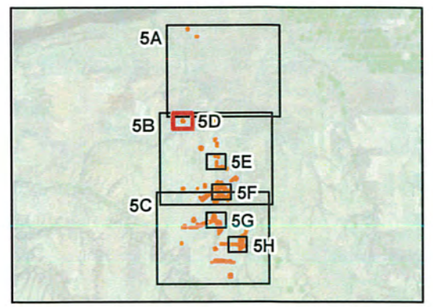

AVANGRID RENEWABLES

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Basemap Source: ESRI World Imagery

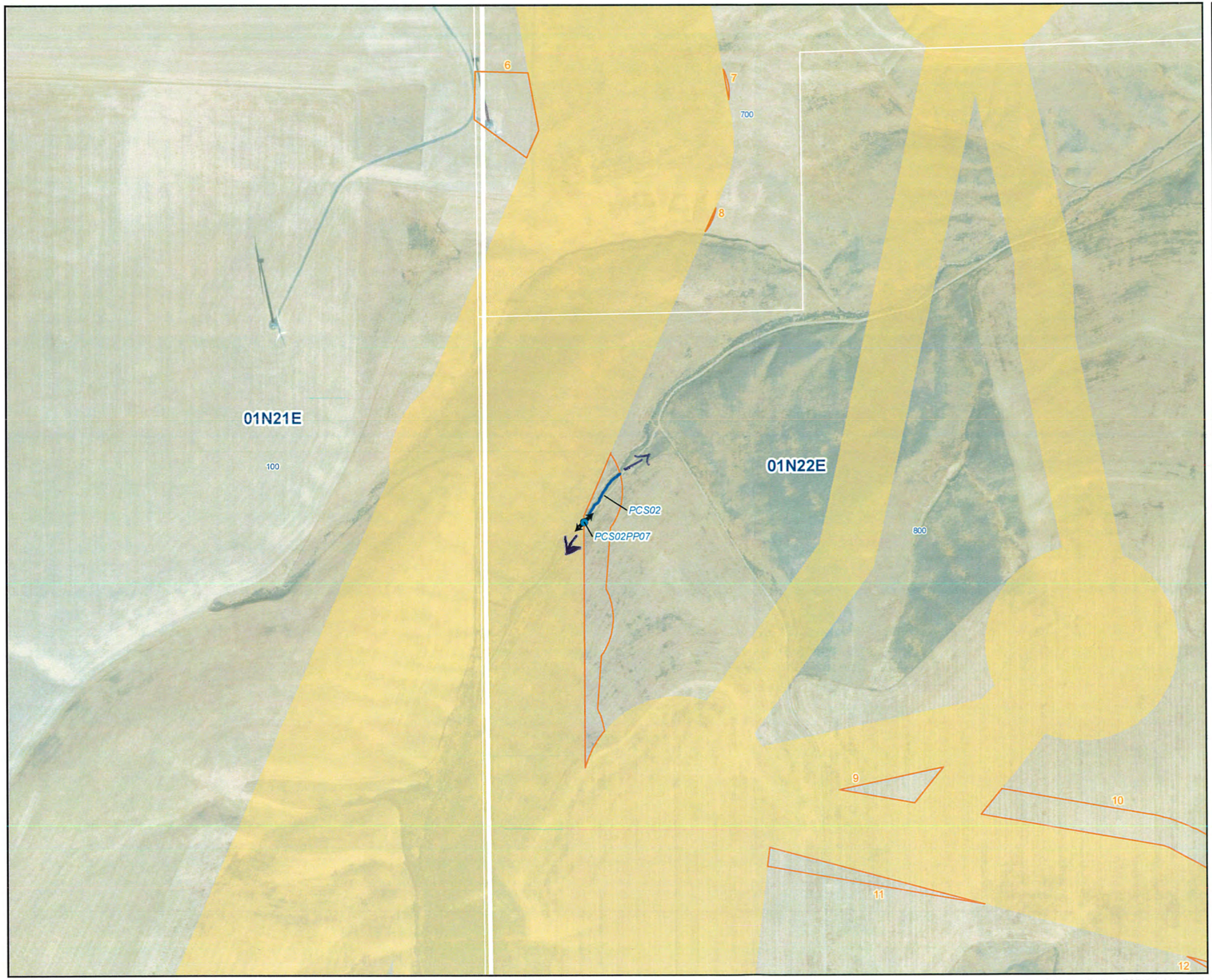

Figure 5E
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 1

Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- 2017 Wetland Survey Corridor (WD # 2017-0111 Concurred on October 27, 2017)
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water
- → continues off study area

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0597

Approval Issued 2-26-2019

Approval Expires 2-26-2024

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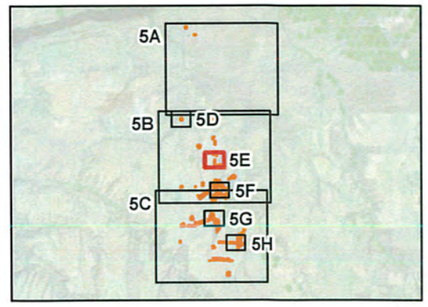

AVANGRID RENEWABLES

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Basemap Source: ESRI World Imagery

Figure 5F
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 1

Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- 2017 Wetland Survey Corridor (WD # 2017-0111 Concurred on October 27, 2017)
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water
- → continues off study area

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0597

Approval Issued 2-26-2019

Approval Expires 2-26-2024

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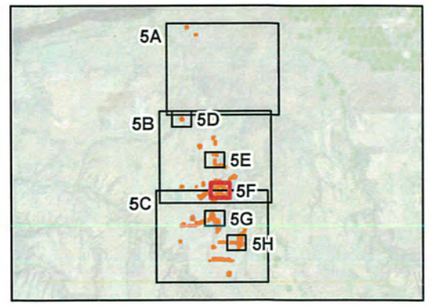

AVANGRID RENEWABLES

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Basemap Source: ESRI World Imagery

Figure 5G
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 1

Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- 2017 Wetland Survey Corridor (WD # 2017-0111 Concurred on October 27, 2017)
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water
- → continues off study area

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0597

Approval Issued 2-26-2019

Approval Expires 2-26-2024

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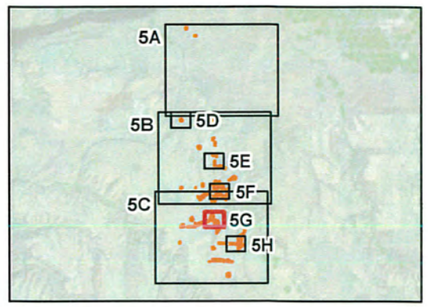

AVANGRID RENEWABLES

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Basemap Source: ESRI World Imagery

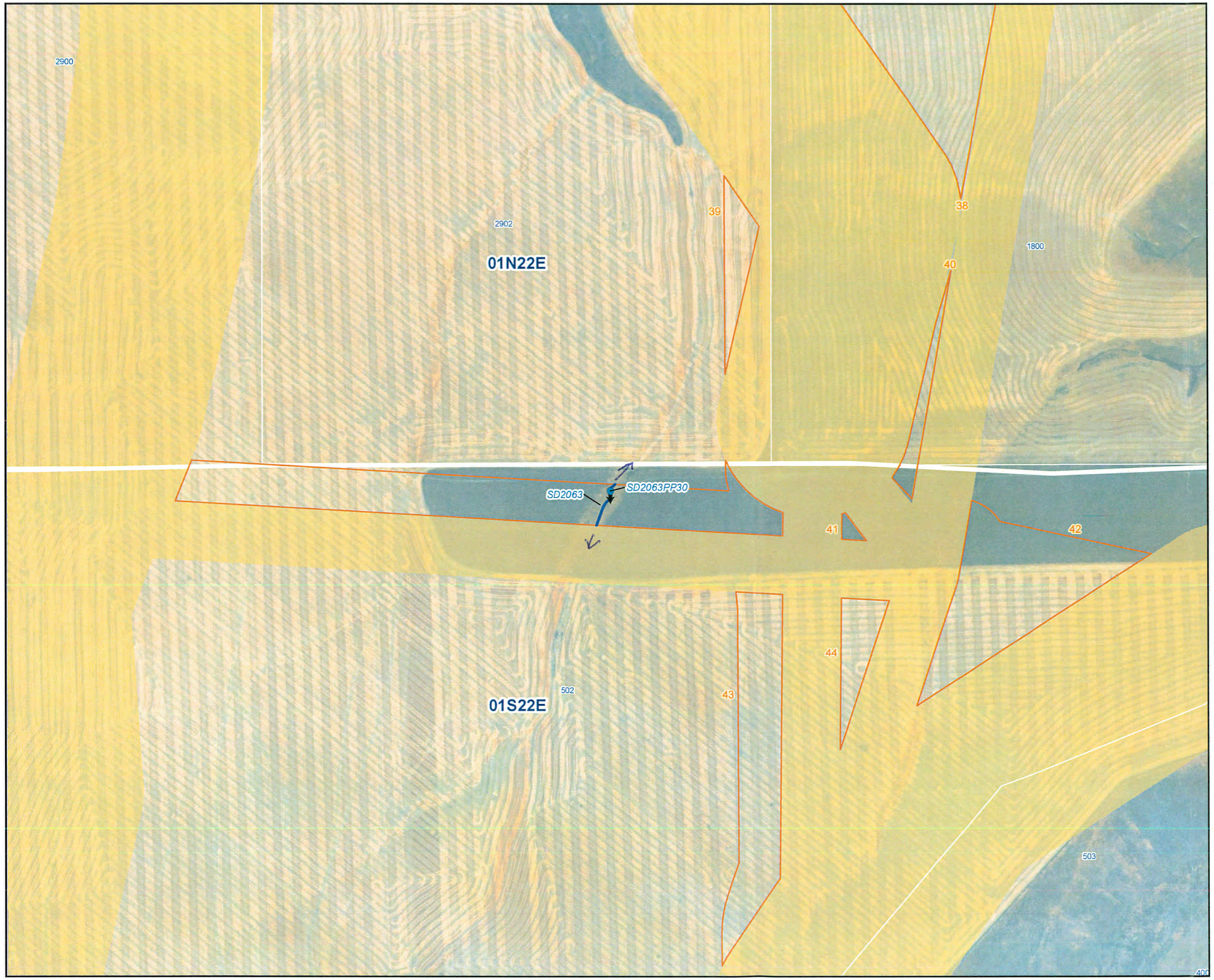

Figure 5H
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 1

Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- 2017 Wetland Survey Corridor (WD # 2017-0111 Concurred on October 27, 2017)
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water
- → continues off study area

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0597

Approval Issued 2-26-2019

Approval Expires 2-26-2024

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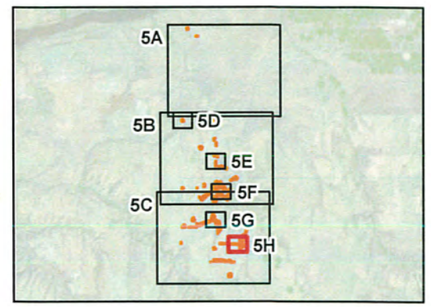

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Basemap Source: ESRI World Imagery

Attachment J-5
DSL Concurrence on WD#2018-0660: Wetlands and Waterbodies Supplemental Delineation for Montague Wind Power Facility—Phase 2 (Report Dated December 2018; Concurrence Dated March 5, 2019)

Oregon
Kate Brown, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregon.gov/dsl

March 5, 2019

Avangrid Renewables
Attn: Matt Hutchinson
1125 NW Couch Street Suite 700
Portland, Oregon 97209

Re: WD #2018-0660 **Addendum**
Montague Wind Power Facility Phase 2 (WD #2011-0364R),
Gilliam County; Portions of Multiple TRS and TL within Large Project Area South of Arlington;

Dear Mr. Hutchinson:

The Department received a request on December 12, 2018 from CH2M (now Jacobs) to add an additional 1,164 acres to the delineation report study area (WD #2011-0364R) that had received prior Department approval on February 28, 2019. We have reviewed the addendum prepared by CH2M for the site referenced above. Please note that the study areas include only portions of the tax lots (see the attached maps and table). Based upon the information presented in the report, and additional information submitted upon request, we concur with the waterway boundaries as mapped in revised Figures 5A-5E of the report. Please replace all copies of the preliminary wetland maps with these final Department-approved maps.

Within the expanded study area, one ephemeral waterway was identified. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in the wetlands or below the ordinary high-water line (OHWL) of a waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined). The ephemeral waterway is not regulated per OAR 141-085-0515(3); therefore, it is not subject to current state Removal-Fill permit requirements.

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will review the report and decide jurisdiction for purposes of the Clean Water Act at the time that a permit application is submitted. We recommend that you attach a copy of this concurrence letter to both copies of any subsequent joint permit application to speed application review.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you again for having the site evaluated. Please phone me at 503-986-5271 if you have any questions.

Sincerely,

Daniel Evans, PWS
Jurisdiction Coordinator

Approved by

Peter Ryan, PWS
Aquatic Resource Specialist

Enclosures

ec: Claudia Steinkoenig, Jacobs
Gilliam County Planning Department
Brad Johnson, Corps of Engineers
Heidi Hartman, DSL
Joy Vaughan, ODFW
Chase McVeigh-Walker, ODOE

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: https://apps.oregon.gov/DSL/EPS/program?key=4.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.** A single PDF of the completed cover from and report may be e-mailed to: **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Contact and Authorization Information

☒ Applicant ☐ Owner Name, Firm and Address:
Matt Hutchinson, Avangrid Renewables, LLC
1125 NW Couch Street, Suite 700
Portland, Oregon 97209

Business phone # (503) 478-6317
Mobile phone # (optional)
E-mail: matthew.hutchinson@avangrid.com

☐ Authorized Legal Agent, Name and Address (if different):

Business phone #
Mobile phone # (optional)
E-mail:

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: Matt Hutchinson **Signature:** Matt Hutchinson
Date: 12/12/18 Special instructions regarding site access: ____

Project and Site Information

Project Name: Montague Wind Power facility

Latitude: 45.704539 Longitude: -120.517339
decimal degree - centroid of site or start & end points of linear project

Proposed Use:
Construction of a wind power facility

Tax Map # See attached summary table
Tax Lot(s)

Project Street Address (or other descriptive location):
Project sites are located east and west of Highway 19 South of Arlington

Tax Map #
Tax Lot(s)

Township Range Section QQ
Use separate sheet for additional tax and location information

City: Arlington, Oregon County: Gilliam

Waterway: not applicable River Mile: not applicable

Wetland Delineation Information

Wetland Consultant Name, Firm and Address:
C. Steinkoenig, Jacobs (formerly CH2M)
2020 SW 4th Avenue, Suite 300
Portland, Oregon 97219

Phone # (503) 736-4136
Mobile phone # (if applicable)
E-mail: claudia.steinkoenig@jacobs.com

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.
Consultant Signature: CPS Date: 12/12/18

Primary Contact for report review and site access is ☒ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No Study Area size: 1,164 acres Total Wetland Acreage: 0.0000

Check Applicable Boxes Below

☐ R-F permit application submitted
☐ Mitigation bank site
☐ Industrial Land Certification Program Site
☐ Wetland restoration/enhancement project (not mitigation)
☒ Previous delineation/application on parcel
If known, previous DSL # WD#2011-0364

☐ Fee payment submitted $ ____
☐ Fee ($100) for resubmittal of rejected report
☐ Request for Reissuance. See eligibility criteria. (no fee)
DSL # ____ Expiration date ____
☐ LWI shows wetlands or waters on parcel
Wetland ID code ____

For Office Use Only

DSL Reviewer: C.S. Fee Paid Date: ____/____/____ DSL WD # 2014-0660

Date Delineation Received: 12/12/18 Scanned: ☐ Electronic: ☒ DSL App.# ____

PA 77411

Township	Range	Section	Tax Lots
1 North	21 East	4, 5, 6, 8, 13, 14, 15, 16, 17, 18, 21, 23, 27, 28, 29, 33, 34, 35	200, 400, 401, 500, 700, 804, 900, 1100, 1101, 1200, 1500, 2000, 2100
1 North	22 East	18, 19	800, 1900
1 South	21 East	2, 3	203
Tax Map Numbers			
01N21E0000-00200			
01N21E0000-00400			
01N21E0000-00401			
01N21E0000-00500			
01N21E0000-00700			
01N21E0000-00804			
01N21E0000-00900			
01N21E0000-01100			
01N21E0000-01101			
01N21E0000-01200			
01N21E0000-01500			
01N21E0000-02000			
01N21E0000-02100			
01N21E0000-ROADS			
01N22E0000-00800			
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01S21E0000-ROADS			

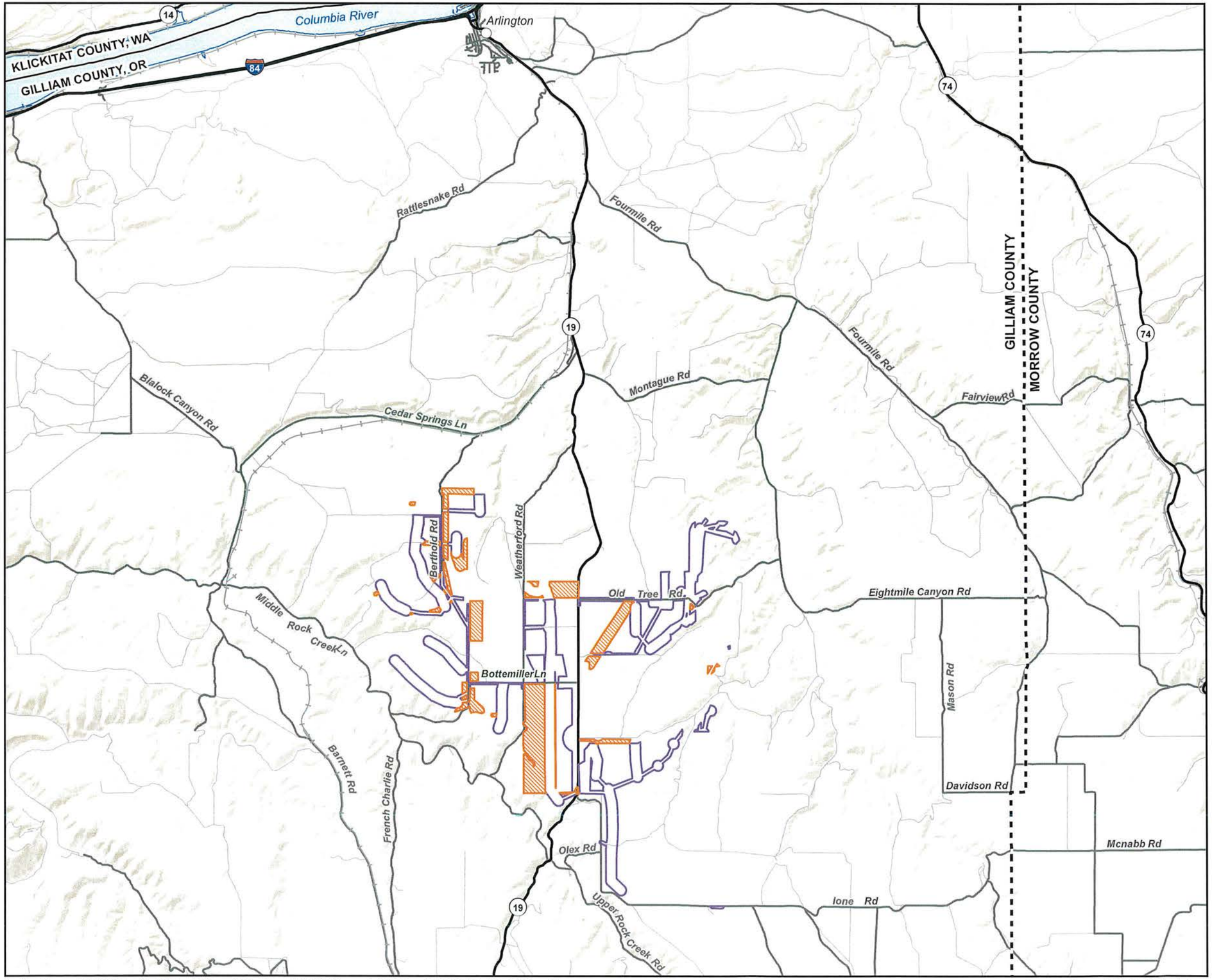

Figure 1
Wetland Survey
Project Location

Montague Wind Power Facility - Phase 2

Legend

- 2018 Wetland Survey Corridor
- WD2011-0364R Wetland Survey Corridor

Basemap Features

- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line
- State Boundary
- County Boundary

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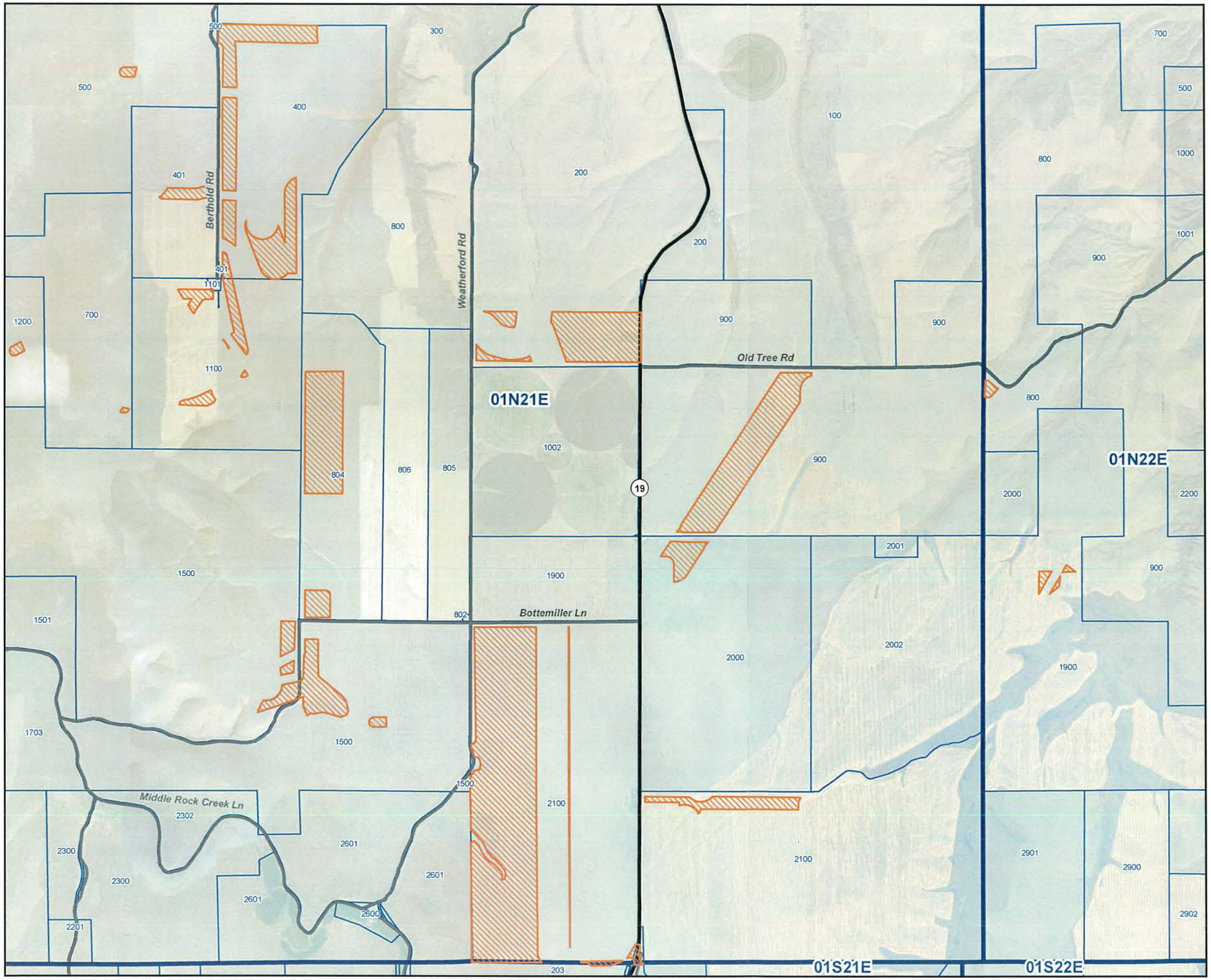
Basemap Source: ESRI World Terrain Base

Figure 2
Wetland Survey
Tax Lots
Montague Wind Power Facility - Phase 2



Legend

- 2018 Wetland Survey Corridor
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

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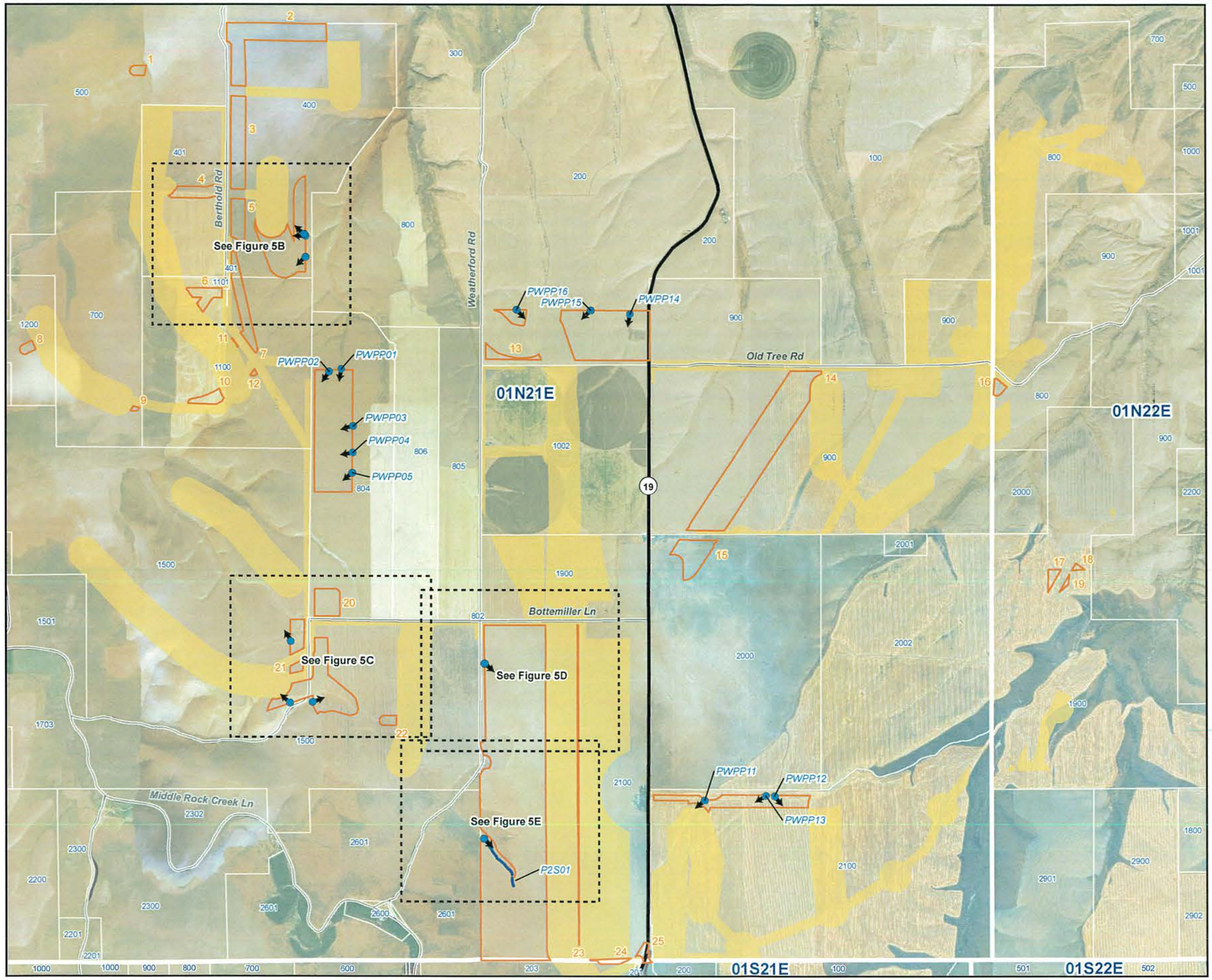
Basemap Source: ESRI World Imagery

Figure 5A
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 2



Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- WD2011-0364R Wetland Survey Corridor
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0664

Approval Issued 3-5-2019

Approval Expires 3-5-2024

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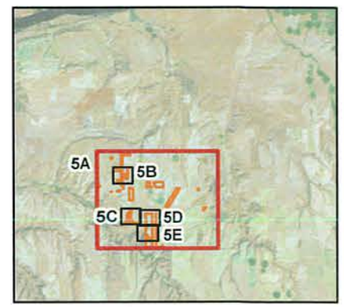

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Basemap Source: ESRI World Imagery

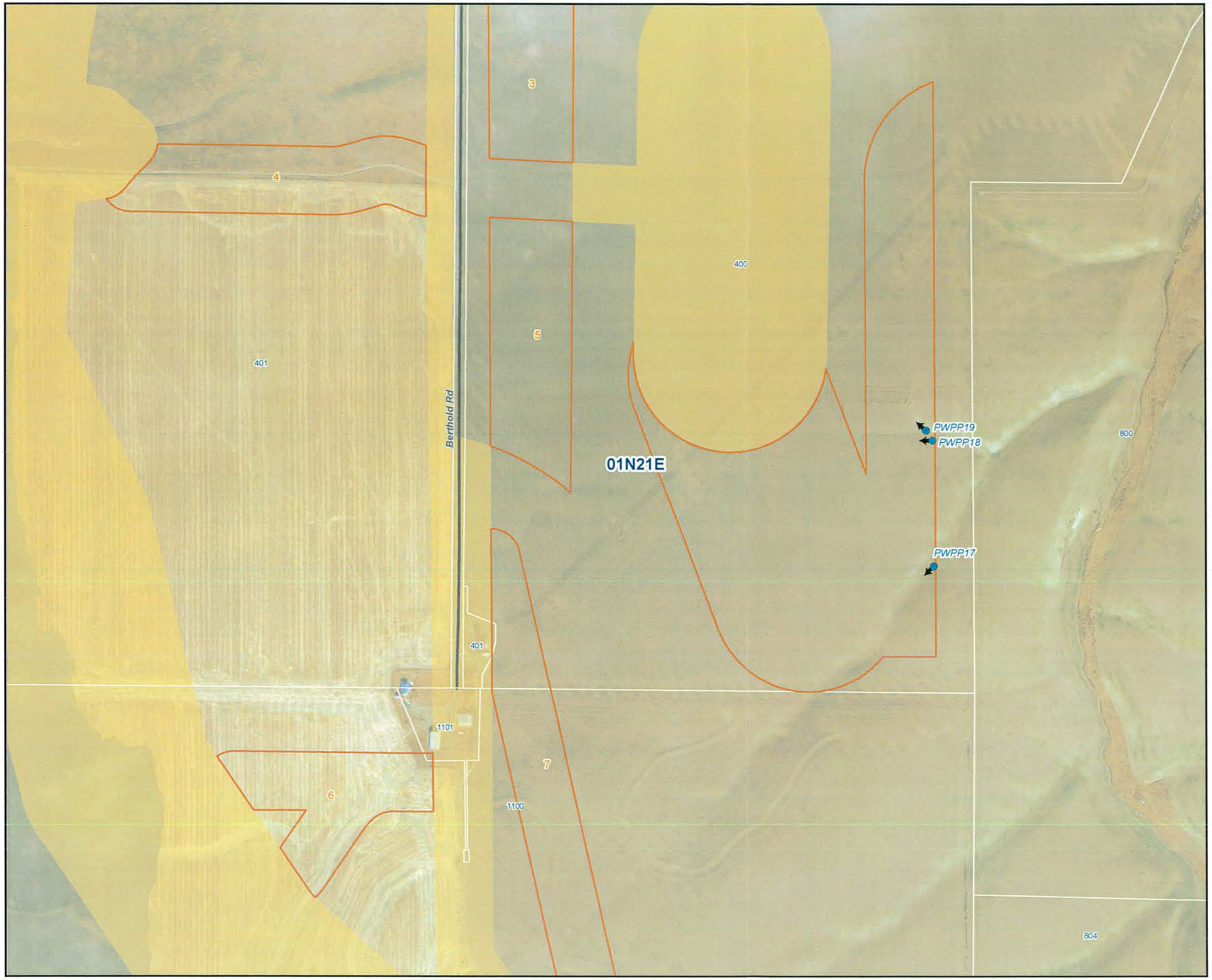

Figure 5B
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 2

Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- WD2011-0364R Wetland Survey Corridor
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water
- Water Feature Continues Outside of the Survey Corridor
- Flow Direction

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0660

Approval Issued 3-5-2019

Approval Expires 3-5-2024

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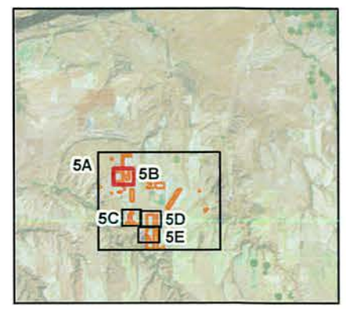

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Basemap Source: ESRI World Imagery

Figure 5C
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 2

Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- WD2011-0364R Wetland Survey Corridor
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water
- Water Feature Continues Outside of the Survey Corridor
- Flow Direction

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0660

Approval Issued 3-5-2019

Approval Expires 3-5-2024

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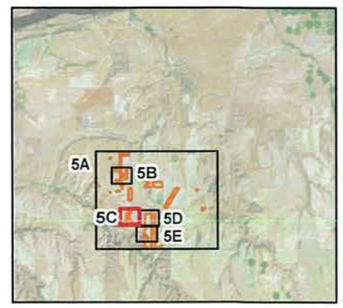

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Basemap Source: ESRI World Imagery

Figure 5D
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 2

Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- WD2011-0364R Wetland Survey Corridor
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water
- Water Feature Continues Outside of the Survey Corridor
- Flow Direction

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

DSL WD # 2018-0660

Approval Issued 3-5-2019

Approval Expires 3-5-2024

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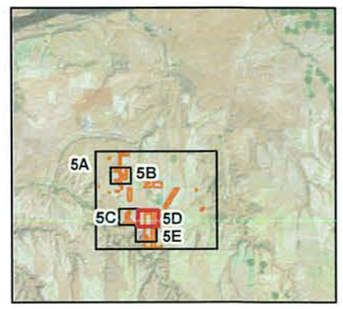

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Basemap Source: ESRI World Imagery

Figure 5E
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 2

Legend

- 2018 Wetland Survey Corridor
- 12 Study Area Unit Label
- WD2011-0364R Wetland Survey Corridor
- Public Land Survey System Township Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2018 Field Verified Ordinary High Water
- Water Feature Continues Outside of the Survey Corridor
- Flow Direction

Basemap Features

- Interstate/Highway
- Public Road

- Tax lot GIS data for Gilliam County downloaded on 10/18/2017.

- Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

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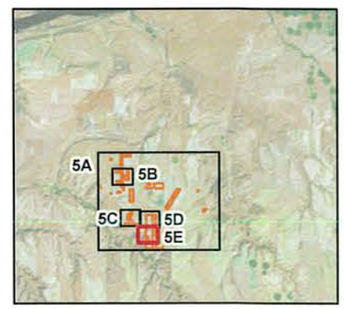

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Basemap Source: ESRI World Imagery