EXHIBIT J
WETLANDS
OAR 345-021-0010(1)(j)

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ATTACHMENTS

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

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J-1  Wetlands and Waters Phase 2 Design Scenario A: Detailed View
J-2  Wetlands and Waters Phase 2 Design Scenario B: Detailed View
J-3  Wetlands and Waters Phase 2 Design Scenario C: Detailed View
J-4  Wetlands and Waters Survey Coverage
J.1 INTRODUCTION

The Energy Facility Siting Council (EFSC; Council) previously approved construction of the 404-megawatt (MW) Montague Wind Power Facility (Facility) 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 345-11022-0000). 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. 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

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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. 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).

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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)
- *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)
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 (P2501, 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

<table>
<thead>
<tr>
<th>Waterway Reach ID</th>
<th>Flow Regime</th>
<th>Width at Widest Point (m)</th>
<th>Downstream Receiving Water</th>
<th>Preliminary Jurisdictional Determination USACE</th>
<th>Preliminary Jurisdictional Determination DSL</th>
</tr>
</thead>
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<tr>
<td>P2S01b</td>
<td>Ephemeral</td>
<td>1.2</td>
<td>Rock Creek</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>SD1026 (D5)c</td>
<td>Ephemeral</td>
<td>3.5</td>
<td>Rock Creek</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>SD1043 (S204)d</td>
<td>Ephemeral</td>
<td>1.2</td>
<td>Eightmile Canyon</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>SD1048c</td>
<td>Ephemeral</td>
<td>1.0</td>
<td>Eightmile Canyon</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>SD2005c</td>
<td>Ephemeral</td>
<td>2.0</td>
<td>Rock Creek</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>SD2009c</td>
<td>Ephemeral</td>
<td>2.0</td>
<td>Rock Creek</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>SD2018c</td>
<td>Ephemeral</td>
<td>1.5</td>
<td>Eightmile Canyon</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>SD2106c</td>
<td>Ephemeral</td>
<td>3.0</td>
<td>Eightmile Canyon</td>
<td>Yes</td>
<td>No</td>
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<td>SD3015c</td>
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<td>SD3044c</td>
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<td>&lt;1.0</td>
<td>Rock Creek</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

*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).


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


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


Natural Resources Conservation Service (NRCS). 2017a. *Precipitation Data from Climate Analysis for Wetlands (WETS) OR0265, Arlington*.


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
- 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
- Access Road
- Existing Shared LJIIB O&M Building
- Phase 2 Collector Substation
- Battery Storage System
- O&M Building
- Phase 2 (Features within the Approved and Proposed Expanded Site Boundary and Micrositing Corridor)
- Phase 2 (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

Basemap Source: ESRI USA Topo Maps

Baseline: 2,000 Feet
Feet
0 1,000 2,000 4,000

0 1 2 3 4

Baseline: 2,000 Feet
Feet
0 1,000 2,000 4,000

0 1 2 3 4

Mountaintops West's 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#2018-0057, WD#2018-0064R, WD#2019-0065)
- 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

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 Li’lB 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

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
- 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
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- 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

Basemap Source: ESRI USA Topo Maps

Feet
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 IJII O&M Building
- Proposed Turbine
- Meteorological Tower
- Phase 1 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

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

Basemap Source: ESRI USA Topo Maps

Feet
- 0
- 1,000
- 2,000
- 3,000
- 4,000

Base Map Features
- Interstate/Highway
- Public Road
- Other Road
- Major Railroad Line
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#2018-0057, WD#2017-0364R, WD#2018-0060)
- 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
- Proposed Turbine
- Meteorological Tower
- Phase 1 Substation
- Approved 230-kV Transmission Line
- 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

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 (ODS) (WD2017-0111, WD2018-0891, WD2011-0364R, WD2018-0660)
- 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

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#2018-0507, WD#2011-0364R, WD#2018-0660)
2017/2018 Field Verified Ordinary High Water
Previously Field Verified Ordinary High Water
Existing Shared LIIIB 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
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#2018-0507, WD#2017-0364R, WD#2018-0660)
- 2017/2018 Field Verified Ordinary High Water
- Previously Field Verified Ordinary High Water
- Existing Shared LJIIB O&M Building
- 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
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
- 2016 Wetland Survey Corridor
- Previously Surveyed for Wetlands
- Existing Shared LI&I B 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

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

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 form 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, 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:
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 #

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): Shuter 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:  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:

☐ 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

☑ Reissueance of a recently expired delineation
Previous DSL #10-0083  Expiration date: June 2014

Other Information:
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. # ________
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<td>2 North</td>
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<td>1, 7-8, 17-18, 35-36</td>
<td>100, 101, 1600, 1701, 1704, 2100, 2500</td>
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<tr>
<td>2 North</td>
<td>22 East</td>
<td>13, 24-25, 31-33</td>
<td>1001, 1500, 2500, 2600, 2900</td>
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<td>21 East</td>
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**TaxMap Numbers**

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Wetlands and Waterbodies Delineation

Avangrid Renewables
Montague Wind Power Facility
Gilliam County

July 10, 2017
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Introduction

HDR conducted a wetland and other waters of the United States 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 (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

<table>
<thead>
<tr>
<th>Month</th>
<th>Antecedent Precipitation (inches)</th>
<th>Average Precipitation (inches)</th>
<th>Percent of Average Recorded</th>
<th>30% chance less than or more than ranges for normal precipitation (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>1.43</td>
<td>1.40</td>
<td>102%</td>
<td>&lt;0.83 &gt;1.70</td>
</tr>
<tr>
<td>February</td>
<td>1.63</td>
<td>1.02</td>
<td>160%</td>
<td>&lt;0.69 &gt;1.22</td>
</tr>
<tr>
<td>March</td>
<td>1.63</td>
<td>0.76</td>
<td>214%</td>
<td>&lt;0.40 &gt;0.93</td>
</tr>
<tr>
<td>April</td>
<td>1.55</td>
<td>0.61</td>
<td>254%</td>
<td>&lt;0.22 &gt;0.71</td>
</tr>
<tr>
<td>May</td>
<td>0.81</td>
<td>0.67</td>
<td>121%</td>
<td>&lt;0.35 &gt;0.82</td>
</tr>
<tr>
<td>June</td>
<td>0.14</td>
<td>0.35</td>
<td>40%</td>
<td>&lt;0.11 &gt;0.39</td>
</tr>
</tbody>
</table>
Table 3-1. Summary of Antecedent and Average Precipitation between January 2017 and June 2017 in Arlington, Oregon

<table>
<thead>
<tr>
<th>Month</th>
<th>Antecedent Precipitation (inches)</th>
<th>Average Precipitation (inches)</th>
<th>Percent of Average Recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Water Year (Oct 1-June 30)</td>
<td>7.27</td>
<td>8.44</td>
<td>116%</td>
</tr>
</tbody>
</table>

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

In addition 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

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

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

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

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 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
- CONV FN
- 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

Privileged and Confidential
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

CONVERG
- R4SBC, Riverine, Intermittent, Streambed, Seasonally Flooded

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

Privileged and Confidential
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

- 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
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
- CONSERN
- 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

COURSES:
- 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
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

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

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

G:\GIS_Production\Projects\CH2M PORTLAND_42427\Montague_I_II\Envir_Sup_10050603\7.2 Work_In_Progress\map_docs\mxd\Document\Wetland_Section\Montague_I\NWI_Detail_24K.mxd

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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

Legend:
- 10: Clayey fine sandy loam, 0 to 2 percent slopes
- 10B: Clayey fine sandy loam, 2 to 5 percent slopes
- 11: Clayey fine sandy loam, 5 to 10 percent slopes
- 12: Clayey fine sandy loam, 10 to 20 percent slopes
- 13: Silt loam, 5 to 10 percent slopes
- 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 2 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

10-12 percent slope 12-24 percent slope 24-40 percent slope
13-20 percent slope 20-40 percent slope
14-25 percent slope 25-40 percent slope
15-30 percent slope 30-40 percent slope
16-35 percent slope 35-40 percent slope
17-40 percent slope

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

10: Kimberley fine sandy loam
12: Macneil silt loam, 0 to 5 percent slopes
13: Macneil fine sandy loam, 5 to 12 percent slopes
14: Krebs silt loam, 5 to 20 percent slopes
15: Krebs silt loam, 20 to 40 percent slopes
23: Olex silt loam, 0 to 5 percent slopes
24: Olex gravelly silt loam, 5 to 20 percent slopes
25: Olex gravelly silt loam, 20 to 40 percent slopes
32: Ritzville silt loam, 2 to 7 percent slopes
33: Ritzville silt loam, 20 to 40 percent north slopes
40: Sagehill fine sandy loam, 0 to 5 percent slopes
41: Sagehill fine sandy loam, 5 to 12 percent slopes
42: Sagehill fine sandy loam, 12 to 20 percent slopes
43: Sagehill fine sandy loam, 20 to 40 percent slopes
55: Warden silt loam, 0 to 5 percent slopes
56: Willis silt loam, 2 to 5 percent slopes
58: Xeric Torrifluvents, nearly level
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

108 - Krebs silt loam, 2 to 5 percent slopes
109 - Krebs silt loam, 5 to 12 percent slopes
110 - Chen silt loam, 1 to 5 percent slopes
111 - Chen silt loam, 5 to 12 percent slopes
112 - Chen silt loam, 12 to 20 percent slopes
113 - Chen gravelly silt loam, 2 to 5 percent slopes
114 - Chen gravelly silt loam, 5 to 12 percent slopes
115 - Chen gravelly silt loam, 12 to 20 percent slopes
116 - Chen 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
32E - Ritzville silt loam, 20 to 40 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

MAP 1
MAP 2
MAP 3
MAP 4
MAP 5
MAP 6

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

- Kimberley fine sandy loam
- Lickskillet very stony loam, 7 to 40 percent slopes
- Other gravelly soil series, 20 to 40 percent slopes
- Morello gravelly silt loam, 7 to 40 percent slopes
- Other gravelly soil series, 20 to 40 percent slopes
- Kimberley fine sandy loam, 7 to 40 percent slopes
- Other gravelly soil series, 20 to 40 percent slopes
- Montague fine sandy loam, 2 to 5 percent slopes
- Sagehill fine sandy loam, 2 to 5 percent slopes
- Sagehill fine sandy loam, 5 to 12 percent slopes
- Sagehill fine sandy loam, 12 to 20 percent slopes
- Sagehill fine sandy loam, 20 to 40 percent slopes
- Warden silt loam, 2 to 5 percent slopes
- Warden silt loam, 5 to 12 percent slopes
- Warden silt loam, 12 to 20 percent slopes
- Warden silt loam, 20 to 40 percent slopes
- Other gravelly soil series, 2 to 5 percent slopes
- Other gravelly soil series, 5 to 12 percent slopes
- Other gravelly soil series, 12 to 20 percent slopes
- Willows fine sandy loam, 2 to 5 percent slopes
- Willows fine sandy loam, 5 to 12 percent slopes
- Willows fine sandy loam, 12 to 20 percent slopes
- Willows fine sandy loam, 20 to 30 percent slopes
- Xeric Torrifluvents, nearly level

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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

MAP 5

- 12: Sandy loamy sand, 0 to 5 percent slopes
- 14B: Barren granitic sand, 6 to 20 percent slopes
- 14C: Barren granitic sand, 2 to 6 percent slopes
- 14D: Barren granitic sand, 2 to 6 percent slopes
- 14E: Barren granitic sand, 6 to 20 percent slopes
- 15: Kimberley fine sandy loam
- 15E: Lickskillet very stony loam, 7 to 40 percent slopes
- 21E: Lickskillet sand loam, 2 to 7 percent slopes
- 23: Lickskillet sand loam, 7 to 12 percent slopes
- 24E: Olex gravelly silt loam, 20 to 40 percent slopes
- 31C: Ritzville silt loam, 0 to 2 percent slopes
- 32A: Ritzville silt loam, 2 to 7 percent slopes
- 32B: Ritzville silt loam, 7 to 12 percent slopes
- 32C: Ritzville silt loam, 12 to 20 percent slopes
- 32D: Ritzville silt loam, 20 to 40 percent slopes
- 33E: Ritzville silt loam, 20 to 40 percent north slopes
- 34E: Ritzville silt loam, 20 to 40 percent south slopes
- 35E: Ritzville silt loam, 0 to 2 percent slopes
- 36E: Ritzville silt loam, 2 to 7 percent slopes
- 35F: Wrentham-Rock outcrop complex, 35 to 70 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

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

MAP 1
MAP 2
MAP 3
MAP 4
MAP 5
MAP 6

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

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

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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 
- Surveyed Wetland Index
- 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: ESRI World Imagery - NAIP (June 2016)
* 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 (2011), ESRI (2017)

Base map: ESRI World Imagery - NAP (June 2016)
Privileged and Confidential

Figure 5.3
Wetland Survey
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 - NAP* (June, 2016)
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 - NAP (June 2016)
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)
Base Map Source: ESRI World Imagery - NAP (June 2016)
The Wetland Survey and Waterways Survey Detail Map 6 for the Montague Wind Power Facility includes a legend indicating the following:

- **2017 Wetland Survey Corridor**
- **2017 Sample Point**
- **2017 Field Verified Ordinary High Water**
- **2017 Surveyed Wetland**
- ***Previously Surveyed Wetland**
- ***Previously Field Verified Ordinary High Water**
- **Detail Map Index**

The 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)

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

Montague JD 2010-0083 Survey Area
Baseline JD 2011-0364 Survey Area

0.25 Miles - 0.5 Miles - 1 Mile

Figure 5.6
Wetland Survey
Montague Wind Power Facility

Legend
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)
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 - NAP (June, 2016)
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)
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*
- *Previously Surveyed Wetland and Ordinary High Water delineated and concurred with as part of WD# 2010-0083.*

2017 Wetland Survey Corridor
2017 Sample Point
2017 Field Verified Ordinary High Water
2017 Surveyed Wetland
2017 Photo Point

*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)
`Privileged and Confidential`

**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)
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)
Base Map Source: ESRI World Imagery - NAIP (June, 2016)
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)
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)
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)

Base Map Source: ESRI World Imagery - NAIP (June, 2016)

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

Privileged and Confidential
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)

Base Map Source: ESRI World Imagery - NAP (June, 2016)
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

Note:
- 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)
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)
Base: 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 Extend 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)

Privileged and Confidential
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 ±0.3 m (1.0 ft).

Data Source: OR Spatial Data Library (2017), ESRI (2017)

Basemap Source: ESRI World Imagery - NAIP (June, 2016)
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)
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)
Appendix B. Delineation Data Forms

## Index of Delineation Data Forms

<table>
<thead>
<tr>
<th>2017 Sample Plot Number</th>
<th>Previous Wetland Name (Sample Plot Number)</th>
<th>Previous JD Number</th>
<th>Corresponding Figure Number</th>
</tr>
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<td>SP1003</td>
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<td>n/a</td>
<td>5.10</td>
</tr>
<tr>
<td>SP1005</td>
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<td>n/a</td>
<td>5.9</td>
</tr>
<tr>
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<td>n/a</td>
<td>5.8</td>
</tr>
<tr>
<td>SP1009</td>
<td>n/a</td>
<td>n/a</td>
<td>5.8</td>
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<tr>
<td>SP1011</td>
<td>n/a</td>
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<td>SP1012</td>
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<td>5.8</td>
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<td>2007-0430; 2010-0083</td>
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<td>SP1015</td>
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<td>2007-0430; 2010-0083</td>
<td>5.7</td>
</tr>
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<td>5.7</td>
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<td>2010-0083</td>
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<td>5.7</td>
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<td>n/a</td>
<td>5.7</td>
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<td>n/a</td>
<td>5.21</td>
</tr>
</tbody>
</table>
WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility
Applicant/Owner: Avangrid

City/County: ---/Gilliam
State: OR

Sampling Date: 04-10-17
Sampling Point: SP1003

Investigator(s): Leandra Cleveland; Maki Dalzell

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 ☑
(If needed, explain any answers in Remarks.)

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 ☑
Wetland Hydrology Present? Yes ☐ No ☑
Is the Sampled Area within a Wetland? Yes ☐ No ☑

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

VEGETATION – Use scientific names of plants.

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Dominance Test Worksheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree Stratum (Plot size: 30 ft)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
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<tr>
<td>3.</td>
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<tr>
<td>4.</td>
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<td></td>
</tr>
<tr>
<td>50% = , 20% =</td>
<td></td>
<td></td>
<td>= Total Cover</td>
<td></td>
</tr>
<tr>
<td>Sapling/Shrub Stratum (Plot size: 30 ft)</td>
<td>15</td>
<td>yes</td>
<td>UPL</td>
<td></td>
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<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3.</td>
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<tr>
<td>4.</td>
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<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 7.5, 20% = 3</td>
<td>15</td>
<td>= Total Cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herb Stratum (Plot size: 6 ft)</td>
<td>30</td>
<td>yes</td>
<td>FACU</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
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<td></td>
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<tr>
<td>3.</td>
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<td>6.</td>
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<td>8.</td>
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</tr>
<tr>
<td>50% = 47.5, 20% = 19</td>
<td>95</td>
<td>= Total Cover</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Woody Vine Stratum (Plot size: 6 ft)
1. | | | |
2. | | | |
50% = , 20% = | | | = Total Cover |
% Bare Ground in Herb Stratum | 2 |
% Cover of Biotic Crust | 0 |

Hydrophytic Vegetation Indicators:
☐ Dominance Test is >50%
☐ Prevalence Index is ≤3.01
☐ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation1 (Explain)

Remarks: 

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

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
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<td>10 YR 3/3</td>
<td>100</td>
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</tr>
</tbody>
</table>

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)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

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? Yes ☐ No ☑ Depth (inches): ______________

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks: ______________

US Army Corps of Engineers
### 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  
**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  
**Are Vegetation, Soil, or Hydrology significantly disturbed?** Yes  
**Are Vegetation, Soil, or Hydrology naturally problematic?** Yes  

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

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes</th>
<th>No</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

### VEGETATION – Use scientific names of plants.

#### Tree Stratum (Plot size: 30 ft)

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
<td></td>
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<td>3.</td>
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<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = , 20% = Total Cover

#### Sapling/Shrub Stratum (Plot size: 30 ft)

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
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<td>3.</td>
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<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = , 20% = Total Cover

#### Herb Stratum (Plot size: 6 ft)

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cardamine oligosperma</td>
<td>20</td>
<td>yes</td>
<td>FAC</td>
</tr>
<tr>
<td>2. Bromus tectorum</td>
<td>65</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>3. Poa secunda</td>
<td>15</td>
<td>no</td>
<td>FACU</td>
</tr>
</tbody>
</table>

50% = , 20% = Total Cover

#### Woody Vine Stratum (Plot size: 6 ft)

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
</table>

50% = , 20% = Total Cover

### Number of Dominant Species That Are OBL, FACW, or FAC:

- **A.**

### Total Number of Dominant Species Across All Strata:

- **B.**

### Percent of Dominant Species That Are OBL, FACW, or FAC:

- **A/B.**

### Prevalence Index Worksheet:

<table>
<thead>
<tr>
<th>Total % Cover of</th>
<th>Multiply by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBL species</td>
<td>x1 =</td>
</tr>
<tr>
<td>FACW species</td>
<td>x2 =</td>
</tr>
<tr>
<td>FAC species</td>
<td>x3 = 60</td>
</tr>
<tr>
<td>FACU species</td>
<td>x4 = 60</td>
</tr>
<tr>
<td>UPL species</td>
<td>x5 = 325</td>
</tr>
</tbody>
</table>

Column Totals: 100 (A) 445 (B)

### Summary of Findings

- Hydrophytic Vegetation Present? Yes  
- Is the Sampled Area within a Wetland? Yes

### Hydrophytic Vegetation Indicators:

-  
-  
-  

- Dominance Test is >50%
- Prevalence Index is ≤3.0
- Morphological Adaptations
- Problematic Hydrophytic Vegetation

### Remarks:

- Precipitation recorded for the study area is above average and normal.

US Army Corps of Engineers  
Arid West – Version 2.0
### SOIL

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17</td>
<td>10YR 4/2</td>
<td>100</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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

**Hydric Soil Indicators:** (Applicable to all LRRs, unless otherwise noted.)
- Histosol (A1)
- 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)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Depressions (F8)
- Vernal Pools (F9)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Deep 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)

**Indicators for Problematic Hydric Soils:**
- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (F2)
- Other (Explain in Remarks)

**Wetland Hydrology Indicators:**
- Surface Water Present? Yes ☑ No ☐
- Water Table Present? Yes ☑ No ☐
- Saturation Present? Yes ☑ No ☐
- Wetland Hydrology Present? Yes ☑ No ☐

**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): ______

**Remarks:** Soils Moist.

---

US Army Corps of Engineers

Arid West – Version 2.0
**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  
**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  
(If needed, explain any answers in Remarks.)

**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.**

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☑ No ☐ ☐</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes ☑ No ☐ ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes ☑ No ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes ☑ No ☐ ☐</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

---

**VEGETATION – Use scientific names of plants.**

**Tree Stratum** (Plot size: 30 ft)

<table>
<thead>
<tr>
<th>#</th>
<th>Species</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
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<tr>
<td>3.</td>
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<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% =  , 20% =  

= Total Cover

**Sapling/Shrub Stratum** (Plot size: 30 ft)

<table>
<thead>
<tr>
<th>#</th>
<th>Species</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Chrysothamnus viscidiflorus</td>
<td>5</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = 5, 20% = 1  

= Total Cover

**Herb Stratum** (Plot size: 6 ft)

<table>
<thead>
<tr>
<th>#</th>
<th>Species</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Poa secunda</td>
<td>30</td>
<td>yes</td>
<td>FACU</td>
</tr>
<tr>
<td>2.</td>
<td>Centaurea diffusa</td>
<td>15</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>3.</td>
<td>Cardamine oligosperma</td>
<td>15</td>
<td>yes</td>
<td>FAC</td>
</tr>
<tr>
<td>4.</td>
<td>Distichlis spicata</td>
<td>10</td>
<td>no</td>
<td>FAC</td>
</tr>
<tr>
<td>5.</td>
<td>Ceratoccephala testiculata</td>
<td>5</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>6.</td>
<td>Lomatium ambiguum</td>
<td>70</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>7.</td>
<td>Astragalus purshii</td>
<td>70</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = 77.5, 20% = 15  

= Total Cover

**Woody Vine Stratum** (Plot size: 6 ft)

<table>
<thead>
<tr>
<th>#</th>
<th>Species</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% =  , 20% =  

= Total Cover

**Remarks:**

---

**Hydrophytic Vegetation Indicators:**

[ ] Dominance Test is >50%

[ ] Prevalence Index is <3.01

[ ] Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)

[ ] Problematic Hydrophytic Vegetation (Explain)

**Hydrophytic Vegetation Present?**  
[ ] Yes  
[ ] No  
(If needed, explain any answers in Remarks.)

---

**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:  
  - OBL species  
  - FACW species  
  - FAC species  
  - UPL species  
- Multiply by:  
  - x1 =  
  - x2 =  
  - x3 = 75  
  - x4 = 120  
  - x5 = 125  

- Column Totals: 80 (A)  
  320 (B)

- Prevalence Index = B/A = 4.00

---

**Hydrophytic Vegetation**

- Present? Yes ☑ No ☐ ☐

---

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

**Remarks:**

US Army Corps of Engineers  
Arid West – Version 2.0
### SOIL

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6</td>
<td>10 YR 5/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-12</td>
<td>10 YR 4/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-16</td>
<td>10 YR 3/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)**
- **Redox Depressions (F8)**
- **Vernal Pools (F9)**

### Indicators for Problematic Hydric Soils

- **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):

<table>
<thead>
<tr>
<th>Type:</th>
<th>Depth (inches):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

**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.

### HYDROLOGY

#### Wetland Hydrology Indicators:

- **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 ☐

**Remarks:**

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

- US Army Corps of Engineers

Arid West – Version 2.0
WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility
City/County: --/Gilliam
Applicant/Owner: Avangrid
State: OR
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
WNI 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 [ ]
(If needed, explain any answers in Remarks.)

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

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes [ ] No [ ]</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes [ ] No [ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes [ ] No [ ]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes [ ] No [ ]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

VEGETATION – Use scientific names of plants.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 30 ft)</th>
<th>Absolute Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<td>2.</td>
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<td>3.</td>
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<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = ____, 20% = ____</td>
<td></td>
<td>= Total Cover</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>sapling/Shrub Stratum (Plot size: 30 ft)</th>
<th>Absolute Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ericameria nauseosa</td>
<td>20 yes UPL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Chrysothamnus viscidiflorus</td>
<td>10 yes UPL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 15, 20% = 6</td>
<td>30 = Total Cover</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Herb Stratum (Plot size: 6 ft)</th>
<th>Absolute Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Poa secunda</td>
<td>60 yes FACU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Achillea millefolium</td>
<td>T no FACU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Cardamine oligosperma</td>
<td>15 yes FAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Tragopogon dubius</td>
<td>T no UPL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6.</td>
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<tr>
<td>7.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 37.5, 20% = 15</td>
<td>75 = Total Cover</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 6 ft)</th>
<th>Absolute Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = ____, 20% = ____</td>
<td></td>
<td>= Total Cover</td>
<td></td>
</tr>
</tbody>
</table>

% Bare Ground in Herb Stratum 25
% Cover of Biotic Crust 0

<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 6 ft)</th>
<th>Absolute Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = ____, 20% = ____</td>
<td></td>
<td>= Total Cover</td>
<td></td>
</tr>
</tbody>
</table>

Hydrophytic Vegetation Present? Yes [ ] No [ ]

<table>
<thead>
<tr>
<th>Dominance Test Worksheet:</th>
<th>Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Number of Dominant Species Across All Strata: 4 (B)</td>
</tr>
<tr>
<td></td>
<td>Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prevalence Index Worksheet:</th>
<th>Multiply by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total % Cover of:</td>
<td>x1 = ______</td>
</tr>
<tr>
<td>OBL species</td>
<td>x2 = ______</td>
</tr>
<tr>
<td>FACW species</td>
<td>x3 = ______</td>
</tr>
<tr>
<td>FAC species</td>
<td>x4 = ______</td>
</tr>
<tr>
<td>FACU species</td>
<td>x5 = ______</td>
</tr>
<tr>
<td>UPL species</td>
<td>Column Totals: 105 (A)</td>
</tr>
<tr>
<td></td>
<td>Prevalence Index = B/A = 4.14 (B)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Indicators:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominance Test is &gt;50%</td>
</tr>
<tr>
<td>Prevalence Index is &lt;3.01</td>
</tr>
<tr>
<td>Morphological Adaptations (provide supporting data in Remarks or on a separate sheet)</td>
</tr>
<tr>
<td>Problematic Hydrophytic Vegetation (Explain)</td>
</tr>
</tbody>
</table>

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

Remarks:

US Army Corps of Engineers
Arid West – Version 2.0
### Profile Description:

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

<table>
<thead>
<tr>
<th>Depth</th>
<th>Color (moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-12</td>
<td>10 YR 3/2</td>
<td>100</td>
<td></td>
<td></td>
<td>SI</td>
<td></td>
</tr>
<tr>
<td>12-17</td>
<td>10 YR 3/2</td>
<td>100</td>
<td></td>
<td></td>
<td>SI, Sa</td>
<td></td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>

^4 Type: C= Concentration, D= Depletion, RM= Reduced Matrix, CS= Covered or Coated Sand Grains.

### Hydric Soil Indicators:

- 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)

### 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 [x] Depth (inches): __________
- Water Table Present? Yes ☐ No [x] Depth (inches): __________
- Saturation Present? (includes capillary fringe) Yes ☐ No [x] Depth (inches): __________

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
### Tree Stratum (Plot size: 30 ft)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Dominance Test Worksheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
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<td>8</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = , 20% = = Total Cover

### Sapling/Shrub Stratum (Plot size: 30 ft)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Dominance Test Worksheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chrysothamnus viscidiflorus</td>
<td>10</td>
<td>yes</td>
<td>UPL</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3</td>
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</table>

<table>
<thead>
<tr>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td>UPL</td>
</tr>
</tbody>
</table>

50% = 5, 20% = = Total Cover

### Herb Stratum (Plot size: 6 ft)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Poa secunda</td>
<td>15</td>
<td>yes</td>
<td>FACU</td>
</tr>
<tr>
<td>2</td>
<td>Festuca idahoensis</td>
<td>10</td>
<td>yes</td>
<td>FACU</td>
</tr>
<tr>
<td>3</td>
<td>Ceratocephala testiculata</td>
<td>10</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>4</td>
<td>Cardamine oligosperma</td>
<td>15</td>
<td>yes</td>
<td>FAC</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>FACU</td>
</tr>
<tr>
<td>10</td>
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<td>FACU</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>UPL</td>
</tr>
</tbody>
</table>

50% = 25, 20% = = Total Cover

### Woody Vine Stratum (Plot size: 6 ft)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = , 20% = = Total Cover

### Hydric Soil Present?

- Yes  ☑  No  ☐

### Remarks:

- Precipitation recorded for the study area is above average and normal.
### Profile Description:

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
<td>10YR 4/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-13</td>
<td>2.5Y 5/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Type:** C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.
- **Loc:** PL=Pore Lining, M=Matrix.

### Hydric Soil Indicators:

- **Histosol (A1)**
- **Histic Epipedon (A2)**
- **Black Histic (A3)**
- **Hydrogen Sulfide (A4)**
- **Stratified Layers (A5)**
- **1 cm Muck (A9)**
- **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)**
- **Redox Depressions (F8)**
- **Vernal Pools (F9)**

### Indicators for Problematic Hydric Soils:

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

### Restrictive Layer (if present):

- **Type:**
- **Depth (Inches):**
- **Hydric Soils Present?** Yes ☐ No ☒

### 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.

---

**HYDROLOGY**

### Wetland Hydrology Indicators:

- **Primary Indicators (minimum of one required; check all that apply):**
  - Surface Water (A1)
  - High Water Table (A2)
  - Saturation (A3)
  - Water Marks (B1)
  - Sediment Deposits (B2)
  - Drift Deposits (B3)
  - Surface Soil Cracks (B6)
  - Inundation Visible on Aerial Imagery (B7)
  - Water-Stained Leaves (B9)

- **Secondary Indicators (2 or more required):**
  - Salt Crust (B11)
  - Biotic Crust (B12)
  - Aquatic Invertebrates (B13)
  - Oxygenated 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)
  - 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?** Yes ☐ No ☒ Depth (inches): ____

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

### Remarks:

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

- 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.

---

US Army Corps of Engineers

Arid West – Version 2.0
### 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  
**Investigator(s):** Leandra Cleveland; Maki Dalzell  
**Section, Township, Range:** T2N R21E S1  
**Sampling Point:** SP1012  
**Landform (hillside, 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  
**Are Vegetation, Soil, or Hydrology significantly disturbed?** No  
**Are Vegetation, Soil, or Hydrology naturally problematic?** No  

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

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes</th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

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

### VEGETATION – Use scientific names of plants.

#### Tree Stratum  
(Plot size: 30 ft)

<table>
<thead>
<tr>
<th>1.</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
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<td>4.</td>
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</tr>
</tbody>
</table>

50% =  , 20% =  

### Sapling/Shrub Stratum  
(Plot size: 30 ft)

<table>
<thead>
<tr>
<th>Chrysothamnus viscidiflorus</th>
<th>20</th>
<th>yes</th>
<th>UPL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ericameria nauseosa</td>
<td>10</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = 15, 20% = 6  

### Herb Stratum  
(Plot size: 6 ft)

<table>
<thead>
<tr>
<th>Poa secunda</th>
<th>30</th>
<th>yes</th>
<th>FACU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Festuca idahoensis</td>
<td>40</td>
<td>yes</td>
<td>FACU</td>
</tr>
<tr>
<td>Ceratoccephala testiculata</td>
<td>5</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>Tieniatherum caput-medusae</td>
<td>5</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>Lithophragma glabrum</td>
<td>10</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

50% = 45, 20% = 18  

### Woody Vine Stratum  
(Plot size: 6 ft)

<table>
<thead>
<tr>
<th>1.</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% =  , 20% =  

### Domination Test Worksheet:

<table>
<thead>
<tr>
<th>Number of Dominant Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>That Are OBL, FACW, or FAC:</td>
</tr>
</tbody>
</table>

### Total Number of Dominant Species Across All Strata:

<table>
<thead>
<tr>
<th>Total Cover of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
</tr>
</tbody>
</table>

### Percent of Dominant Species That Are OBL, FACW, or FAC:

<table>
<thead>
<tr>
<th>Total Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACU species</td>
</tr>
<tr>
<td>FAC species</td>
</tr>
<tr>
<td>UPL species</td>
</tr>
</tbody>
</table>

### Prevalence Index worksheet:

Column Totals: 120 (A)  
Prevalence Index = B/A = 530 (B)  

### Hydrophytic Vegetation Indicators:

- Dominance Test is >50%  
- Prevalence Index is <3.01  
- Morphological Adaptations  
- Problematic Hydrophytic Vegetation

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

### Remarks:

**US Army Corps of Engineers**  
**Arid West – Version 2.0**
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc°</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17</td>
<td>10YR 4/1</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. °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)
- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

3Indicators 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)
- Secondary Indicators (2 or more required)
  - Salt Crust (B11)
  - Biotic Crust (B12)
  - Aquatic Invertebrates (B13)
  - 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)
  - 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 ☑

Remarks:
VEGETATION – Use scientific names of plants.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 20% =</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size: 30 ft)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 20% =</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Herb Stratum (Plot size: 6 ft)</th>
<th>Ventenata dubia</th>
<th>Poa secunda</th>
<th>Bromus tectorum</th>
<th>Lepidium densiflorum</th>
<th>Artemisia biennis</th>
<th>Erodium cicutarium</th>
<th>Cardaria draba</th>
<th>UPL species</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>75</td>
</tr>
<tr>
<td>2.</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3.</td>
<td>20</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>50% = 20% = Total Cover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>375</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 6 ft)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 20% = Total Cover</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| % Bare Ground in Herb Stratum | 0 |
| % Cover of Biotic Crust         | 0 |

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

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes</th>
<th>No</th>
<th>☑</th>
<th>☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>☑</td>
<td>No</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>☐</td>
<td>No</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>

Is the Sampled Area within a Wetland? | 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.

Hydrophytic Vegetation Indicators:
- Dominance Test is >50%
- Prevalence Index ≤3.01
- Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation7 (Explain)

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

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.

US Army Corps of Engineers Arid West – Version 2.0
### Profile Description:

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
<td>10YR 3/2</td>
<td>95</td>
<td>7.5YR 3/3</td>
<td>5</td>
<td>C</td>
<td>M</td>
<td>Sil</td>
<td></td>
</tr>
<tr>
<td>7-15</td>
<td>10YR 4/2</td>
<td>90</td>
<td>2.5YR 5/1</td>
<td>10</td>
<td>D</td>
<td>M</td>
<td>Sil</td>
<td></td>
</tr>
</tbody>
</table>

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

### Hydric Soil Indicators:

(Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulphide (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)

Hydric Soils Present? Yes ☑ No ☐

### Hydric Soils Present?

<table>
<thead>
<tr>
<th>Type</th>
<th>Depth (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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)

**Secondary Indicators (2 or more required)**

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Oxygenated Rhizospheres along Living Roots (C3)
- 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)

**Field Observations:**

- Surface Water Present? Yes ☑ No ☐
- Water Table Present? Yes ☑ No ☐
- Saturation Present? Yes ☑ No ☐

**Wetland Hydrology Present?**

Yes ☑ No ☐

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

**Remarks:**

US Army Corps of Engineers Arid West – Version 2.0
Summary of Findings – Attach site map showing sampling point locations, transects, important features, etc.

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes □ No ☑</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes □ No ☑</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes ☑</td>
<td></td>
<td>No □</td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes ☑</td>
<td></td>
<td>No □</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>2. ____</td>
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<tr>
<td>3. ____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>4. ____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
</tbody>
</table>

50% = ____  20% = ____  = Total Cover

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size: 30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>2. ____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>3. ____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>4. ____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>5. ____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
</tbody>
</table>

50% = ____  20% = ____  = Total Cover

<table>
<thead>
<tr>
<th>Herb Stratum (Plot size: 6 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ventenata dubia</td>
<td>40 □</td>
<td>Yes</td>
<td>UPL</td>
</tr>
<tr>
<td>2. Erodium cicutarium</td>
<td>T ☑</td>
<td>No</td>
<td>UPL</td>
</tr>
<tr>
<td>3. Poa secunda</td>
<td>50 ☑</td>
<td>Yes</td>
<td>FACU</td>
</tr>
<tr>
<td>4. Bromus tectorum</td>
<td>10 □</td>
<td>No</td>
<td>UPL</td>
</tr>
<tr>
<td>5. ____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>6. ____</td>
<td>____</td>
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</tr>
<tr>
<td>7. ____</td>
<td>____</td>
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<td>____</td>
</tr>
<tr>
<td>8. ____</td>
<td>____</td>
<td>____</td>
<td>____</td>
</tr>
</tbody>
</table>

50% = 60  20% = 20  = Total Cover

<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 6 ft)</th>
<th>Absolute % Cover</th>
<th>% Cover of Biotic Crust</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ____</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>2. ____</td>
<td>____</td>
<td>____</td>
</tr>
</tbody>
</table>

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:
  - 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:

- □ Yes  □ No  ☑ Hydropytic Vegetation Present?
- □ Yes  □ No  ☑ Hydropytic 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.

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
<td>10YR 3/2</td>
<td>95</td>
<td>7.5YR 3/3</td>
<td>5</td>
<td>C</td>
<td>M</td>
<td>SIL</td>
<td></td>
</tr>
<tr>
<td>7-15</td>
<td>10YR 4/2</td>
<td>90</td>
<td>2.5YR 5/1</td>
<td>10</td>
<td>D</td>
<td>M</td>
<td>SIL</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix.</th>
</tr>
</thead>
</table>

### 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)

- 1 cm Muck (A8) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in 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)

- **Secondary Indicators (2 or more required)**
  - Salt Crust (B11)
  - Biotic Crust (B12)
  - Aquatic Invertebrates (B13)
  - 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)
  - 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?** Yes ☑ No ☒ Depth (inches): __________

#### Wetland Hydrology Present? Yes ☑ No ☒

---

**Remarks:**

US Army Corps of Engineers

Arid West – Version 2.0
WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility
City/County: ----/Giliani
State: OR
Sampling Date: 04-11-17
Applicant/Owner: Avangrid
Investigator(s): Leandra Cleveland; Maki Dalzell
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
WNI 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 ☑ (If needed, explain any answers in Remarks.)
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 ☑
Wetland Hydrology Present? Yes ☐ No ☑
Is the Sampled Area within a Wetland? 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.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size:30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Hydrophytic Vegetation Indicators:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>50% = 20% =</td>
<td></td>
<td>= Total Cover</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size:30 ft)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>50% = 20% =</td>
<td></td>
<td>= Total Cover</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Herb Stratum (Plot size:6 ft)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ventenata dubia</td>
<td>20</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>2. Erodium cicutarium</td>
<td>10</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>3. Poa secunda</td>
<td>45</td>
<td>yes</td>
<td>FACU</td>
</tr>
<tr>
<td>4. Bromus tectorum</td>
<td>1</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>5. Lithophragma glabrum</td>
<td>15</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>6. Lepidium densiflorum</td>
<td>10</td>
<td>no</td>
<td>UPL</td>
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<td>7.</td>
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<td>8.</td>
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<tr>
<td>50% = 60% 20% = 20% =</td>
<td>100</td>
<td>= Total Cover</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Woody Vine Stratum. (Plot size:6 ft)</th>
<th></th>
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<tbody>
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<td>1.</td>
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<td>2.</td>
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<tr>
<td>50% = 20% =</td>
<td></td>
<td>= Total Cover</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>% Bare Ground in Herb Stratum</th>
<th>% Cover of Biotic Crust</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Hydrophytic Vegetation Indicators:
☐  Dominance Test is >50%
☐  Prevalence Index is ≤3.0¹
☐  Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐  Problematic Hydrophytic Vegetation¹ (Explain)

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>10YR 4/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-17</td>
<td>10YR 4/2</td>
<td>100</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Depth Matrix:**

1. **Redox Features**

- **Color (Moist):**
  - 10YR 4/2
  - 10YR 4/2

2. **%:**
  - 100
  - 100

3. **Type:**
  - Sil

4. **Loc:**
  - VGRSIL

5. **Texture:**
  - Sil

6. **Remarks:**
  - Sil

**Type:** C= Concentration, D= Depletion, RM= Reduced Matrix, CS= Covered or Coated Sand Grains.

**Location:** PL= Pore Lining, M= Matrix.

### Hydric Soil Indicators:

- **Histosol (A1)**
- **Sandy Redox (S5)**

**Indicators for Problematic Hydric Soils:**

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

### Wetland Hydrology Indicators:

- **Surface Water (A1)**
- Salt Crust (B11)

- **Water Marks (B1) (Riverine)**
- Sediment Deposits (B2) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)

**Secondary Indicators:**

- **Drift Deposits (B3) (Riverine)**
- Presence of Reduced Iron (C4)

- **Surface Soil Cracks (B6)**
- Recent Iron Reduction in Tilled Soils (C6)

- **Inundation Visible on Aerial Imagery (B7)**
- Thin Muck Surface (C7)

- **Water-Stained Leaves (B9)**
- Other (Explain in Remarks)

**Field Observations:**

- **Surface Water Present?** Yes ☐ No ☑
- **Water Table Present?** Yes ☐ No ☑
- **Saturation Present?** Yes ☐ No ☑

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

**Remarks:**

- US Army Corps of Engineers
- Arid West – Version 2.0
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.)

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

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☐ No ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes ☐ No ☐</td>
</tr>
</tbody>
</table>

Is the Sampled Area within a Wetland? 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.

<table>
<thead>
<tr>
<th>Tree Stratum</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<td>4.</td>
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</tr>
<tr>
<td>50% = 20% =</td>
<td></td>
<td></td>
<td>= Total Cover</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>50% = 20% =</td>
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<td></td>
<td>= Total Cover</td>
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</table>

<table>
<thead>
<tr>
<th>Herb Stratum</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ventenata dubia</td>
<td>60 yes</td>
<td>UPL</td>
<td></td>
</tr>
<tr>
<td>2. Erodium cicutarium</td>
<td>5 no</td>
<td>UPL</td>
<td></td>
</tr>
<tr>
<td>3. Poa secunda</td>
<td>15 no</td>
<td>FACU</td>
<td></td>
</tr>
<tr>
<td>4. Lithophragma glabrum</td>
<td>10 no</td>
<td>UPL</td>
<td></td>
</tr>
<tr>
<td>5. Ceratoccephala testiculata</td>
<td>1 no</td>
<td>UPL</td>
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<td>6.</td>
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<td>7.</td>
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<tr>
<td>50% = 45, 20% = 15</td>
<td></td>
<td></td>
<td>= Total Cover</td>
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</table>

<table>
<thead>
<tr>
<th>Woody Vine Stratum</th>
<th>Absolute % Cover</th>
<th>% Cover of Biotic Crust</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<td></td>
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<td>2.</td>
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</tr>
<tr>
<td>50% = 20% =</td>
<td></td>
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</tr>
<tr>
<td>% Bare Ground in Herb Stratum</td>
<td>10</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Dominance Test is &gt;50%</td>
</tr>
<tr>
<td>☐ Prevalence Index is ≤3.0</td>
</tr>
<tr>
<td>☐ Morphological Adaptations(1) (Provide supporting data in Remarks or on a separate sheet)</td>
</tr>
<tr>
<td>☐ Problematic Hydrophytic Vegetation(1) (Explain)</td>
</tr>
</tbody>
</table>

\(1\)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.

US Army Corps of Engineers
Arid West – Version 2.0
### Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
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</thead>
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</table>

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:
- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (F2)
- Other (Explain in Remarks)

### 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)
- **Secondary Indicators (2 or more required):**
  - 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)
  - 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

**Remarks:**

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

**US Army Corps of Engineers Arid West – Version 2.0**
WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility
Applicant/Owner: Avangrid
Investigator(s): Leandra Cleveland; Maki Dalzell
Landform (hillslope, terrace, etc.): Plateau
Subregion (LRR): B

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

VEGETATION – Use scientific names of plants.

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<td>4.</td>
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</tr>
</tbody>
</table>

50% = ______, 20% = ______

= Total Cover

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size: 30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
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<tr>
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</tbody>
</table>

50% = ______, 20% = ______

= Total Cover

<table>
<thead>
<tr>
<th>Herb Stratum (Plot size: 6 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
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<tbody>
<tr>
<td>1. Ventenata dubia</td>
<td>25</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>2. Lepidium densiflorum</td>
<td>10</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>3. Poa secunda</td>
<td>35</td>
<td>yes</td>
<td>FACU</td>
</tr>
<tr>
<td>4. Lithophragma glabrum</td>
<td>15</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>5. Bromus tectorum</td>
<td>15</td>
<td>no</td>
<td>UPL</td>
</tr>
</tbody>
</table>

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0%
- 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.

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

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☑ No ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes ☑ No ☐</td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes ☑ No ☐</td>
</tr>
</tbody>
</table>

Is the Sampled Area within a Wetland? 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.

US Army Corps of Engineers
Arid West – Version 2.0
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth (Inches)</th>
<th>Color (Moist)</th>
<th>Type</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17</td>
<td>2.5Y 4/3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Type: C= Concentration, D= Depletion, RM= Reduced Matrix, CS= Covered or Coated Sand Grains.

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)

Hydric Soils Present?  Yes  ☑  No  □

Restrictive Layer (if present):
- Type:  
- Depth (Inches):  
- Remarks:  

Indicators for Problematic Hydric Soils:

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

Hydric Soils Present?  Yes  ☑  No  □

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  □

Remarks:

US Army Corps of Engineers

Arid West – Version 2.0
WETLAND DETERMINATION DATA FORM – Arid West Region

Vegetation – Use scientific names of plants.

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Plot size</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Absolute</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree Stratum (Plot size: 30 ft)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Absolute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
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<td>3.</td>
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<tr>
<td>4.</td>
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<tr>
<td>50% = 25, 20% =</td>
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</tr>
<tr>
<td>Sapling/Shrub Stratum (Plot size: 30 ft)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Chrysothamnus viscidiflorus</td>
<td>5</td>
<td>yes</td>
<td>UPL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
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<tr>
<td>3.</td>
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<tr>
<td>4.</td>
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<td>5.</td>
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<td>50% = 25, 20% =</td>
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<tr>
<td>Herb Stratum (Plot size: 6 ft)</td>
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</tr>
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<td>1. Ventenata dubia</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2. Lepidium densiflorum</td>
<td>5</td>
<td>no</td>
<td>UPL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Poa secunda</td>
<td>30</td>
<td>yes</td>
<td>FACU</td>
<td></td>
<td></td>
<td></td>
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<td>4. Ceratocephala testiculata</td>
<td>1</td>
<td>no</td>
<td>UPL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Erodium cicutarium</td>
<td>10</td>
<td>no</td>
<td>UPL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Centaura diffusa</td>
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<td>no</td>
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<td></td>
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<tr>
<td>7.</td>
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</tr>
<tr>
<td>Woody Vine Stratum (Plot size: 6 ft)</td>
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<td></td>
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<tr>
<td>1.</td>
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<td>2.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>50% = 60, 20% =</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Bare Ground in Herb Stratum</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

Verification of wetland W11. 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.
### Profile Description:

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
<td>10YR 3/2</td>
<td>98</td>
<td>10YR 3/4</td>
<td>2</td>
<td>C</td>
<td>M</td>
<td>SIL</td>
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</tr>
<tr>
<td>7-16</td>
<td>10YR 4/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIL</td>
<td></td>
</tr>
</tbody>
</table>

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:

- 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)

### Restrictive Layer (if present):

- Type: 
- Depth (Inches): 
- Hydric Soils Present? Yes □ No ☒

### HYDROLOGY

#### 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)
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- Water-Stained Leaves (B9)

- Salt Crust (B11)
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- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
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- 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 Indicators:

- Surface Water Present? Yes ☒ No □ Depth (inches): 
- Water Table Present? Yes ☒ No □ Depth (inches): 

- Wetland Hydrology Present? Yes ☒ No □

#### Remarks:

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

Remarks:

US Army Corps of Engineers

Arid West – Version 2.0
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
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.

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☐ No ☑</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes ☐ No ☑</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes ☑ No ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes ☐ No ☑</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
<tr>
<td>2.</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
<tr>
<td>3.</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
<tr>
<td>4.</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
<tr>
<td>50% = ± 20% = ± = Total Cover</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size: 30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
<tr>
<td></td>
<td>±</td>
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<td>±</td>
<td>±</td>
<td>±</td>
</tr>
<tr>
<td>50% = ± 20% = ± = Total Cover</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Herb Stratum (Plot size: 6 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. ventenata dubia</td>
<td>40</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>Lepidium densiflorum</td>
<td>5</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>Poa secunda</td>
<td>35</td>
<td>yes</td>
<td>FACU</td>
</tr>
<tr>
<td>Ceratocephala testiculata</td>
<td>1</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>Erodium cicutarium</td>
<td>1</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>Lithophragma glabrum</td>
<td>10</td>
<td>no</td>
<td>UPL</td>
</tr>
<tr>
<td>Distichlis spicata</td>
<td>10</td>
<td>no</td>
<td>FAC</td>
</tr>
<tr>
<td>50% = ± 20% = ± = Total Cover</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 6 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
<tr>
<td>2.</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
<tr>
<td>50% = ± 20% = ± = Total Cover</td>
<td>±</td>
<td>±</td>
<td>±</td>
</tr>
</tbody>
</table>

| % Bare Ground in Herb Stratum      | ±                |
| % Cover of Biotic Crust            | ±                |

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:
OBL species ± x1 = ±
FACW species ± x2 = ±
FAC species ± x3 = ±
FACU species ± x4 = ±
UPL species ± x5 = ±
Column Totals: 100 (A) 445 (B)
Prevalence Index = B/A = 4.45

Hydrophytic Vegetation Indicators:
☐ Dominance Test is >50%
☐ Prevalence Index is ≤3.0
☐ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation7 (Explain)

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

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.

Hydrophytic Vegetation Present? Yes ☐ No ☐

Hydrophytic Vegetation

Remarks:

US Army Corps of Engineers Arid West – Version 2.0
**SOIL**

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type1</th>
<th>Loc2</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
<td>2.5Y 3/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SILO</td>
<td></td>
</tr>
<tr>
<td>7-16</td>
<td>10YR 4/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SILO</td>
<td></td>
</tr>
</tbody>
</table>

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 Epepedon (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)

**Indicators for Problematic Hydric Soils:**

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Reduced Dark Surface (F6)
- Redox Depressions (F8)
- Vernal Pools (F9)
- Redox Dark Surface (F6)
- Other (Explain in Remarks)

**Restrictive Layer (if present):**

- Type: 
- Depth (Inches): 

**Hydric Soils Present?** Yes ☒ No 

**Remarks:**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

- 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)

**Secondary Indicators (2 or more required):**

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Oxygenated Rhizospheres along Living Roots (C3)
- 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)

**Field Observations:**

- Surface Water Present? Yes ☒ No 
- Water Table Present? Yes ☒ No 
- Saturation Present? ☒

**Wetland Hydrology Present?** Yes ☒ No 

**Remarks:**

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

US Army Corps of Engineers

Arid West – Version 2.0
WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility
Applicant/Owner: Avangrid
Investigator(s): Leandra Cleveland; Maki Dalzell
City/County: -----/Gilliam
State: OR
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)
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 ☑ (If needed, explain any answers in Remarks.)
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.

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☐ No ☑</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes ☐ No ☑</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes ☐ No ☑</td>
<td>Prevalence Index =</td>
<td>B/A = 4.12</td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes ☐ No ☑</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hydrophytic Vegetation Indicators:
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0
- ☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation³ (Explain)

Remainders:
- 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.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>2.</td>
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<td>3.</td>
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<tr>
<td>4.</td>
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<tr>
<td>50% = ___ 20% = ___</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size: 30 ft)</th>
<th>50% = ___ 20% = ___</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Cover</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Herb Stratum (Plot size: 6 ft)</th>
<th>50% = 60, 20% = 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Distichlis spicata 20 yes FAC</td>
<td>120 = Total Cover</td>
</tr>
<tr>
<td>2. Bromus tectorum 5 no UPL</td>
<td></td>
</tr>
<tr>
<td>3. Secale cereale 10 no UPL</td>
<td></td>
</tr>
<tr>
<td>4. Lithophragma racemosum 5 no UPL</td>
<td></td>
</tr>
<tr>
<td>5. Ventenata dubia 25 yes FAC</td>
<td></td>
</tr>
<tr>
<td>6. Poa secunda 25 yes FACU</td>
<td></td>
</tr>
<tr>
<td>7. Distichlis spicata 20 yes FAC</td>
<td></td>
</tr>
<tr>
<td>8. Malva neglecta 5 no UPL</td>
<td></td>
</tr>
<tr>
<td>9. Lepidium densiflorum 5 no UPL</td>
<td></td>
</tr>
<tr>
<td>10. Centaurea diffusa 7 no UPL</td>
<td></td>
</tr>
<tr>
<td>11. Cynoglossum testiculata 1 no UPL</td>
<td></td>
</tr>
</tbody>
</table>

Woody Vine Stratum (Plot size: 5 ft)

<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 5 ft)</th>
<th>50% = ___ 20% = ___</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>50% = ___ 20% = ___</td>
<td>TotalCover</td>
</tr>
</tbody>
</table>

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks:

50% = 60, 20% = 24

Woody Vine Stratum (Plot size: 5 ft)

<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 5 ft)</th>
<th>50% = ___ 20% = ___</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>50% = ___ 20% = ___</td>
<td>TotalCover</td>
</tr>
</tbody>
</table>

Remainders:

Hydrophytic Vegetation 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.

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

**Sampling Point:** SP1021

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>% Color (Moist)</th>
<th>% Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>10YR 3/2</td>
<td>100</td>
<td></td>
<td></td>
<td>SIL</td>
<td></td>
</tr>
<tr>
<td>10-18</td>
<td>10YR 4/2</td>
<td>100</td>
<td></td>
<td></td>
<td>SIL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Depth Matrix**

- **Redox Features**
  - Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.
  - 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)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

**Indicators for Problematic Hydric Soils:**

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

**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)
  - 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?** Yes ☒ No ☐
- **Depth (inches):** 11

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

**Remarks:**

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

**US Army Corps of Engineers**

**Arid West – Version 2.0**
WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Montague Wind Power Facility
Applicant/Owner: Avangrid
Investigator(s): Leandra Cleveland; Maki Dalzell

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 ☑
Hydric Soil Present? Yes ☐ No ☑
Wetland Hydrology Present? Yes ☐ No ☑

Is the Sampled Area within a Wetland? 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)

1. ☐ 2. ☐ 3. ☐ 4. ☐

Absolute % Cover Dominant Species? Indicator Status

50% = ______ 20% = ______ = Total Cover

Sapling/Shrub Stratum (Plot size: 30 ft)

1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

OBL species x1 = ______
FACW species x2 = ______
FAC species x3 = ______
FACU species x4 = 120
UPL species 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
☐ Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation7 (Explain)

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 7 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

Remarks:

US Army Corps of Engineers Arid West – Version 2.0
SOIL

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
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<tbody>
<tr>
<td>0-17</td>
<td>10YR 3/3</td>
<td>100</td>
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<td>4-5</td>
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<td>5-6</td>
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<td>9-10</td>
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</tr>
</tbody>
</table>

Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 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 Sulfdie (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)

Indicators for Problematic Hydric Soils:

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

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)

Secondary Indicators (2 or more required)

- 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)

Field Observations:

- Surface Water Present? Yes ☐ No ☑ Depth (inches): ______
- Water Table Present? Yes ☐ No ☑ Depth (inches): ______
- Saturation Present? Yes ☐ No ☑ Depth (inches): ______

Wetland Hydrology Present? Yes ☐ No ☑

Remarks: Soils moist at 16 inches
### VEGETATION – Use scientific names of plants.

<table>
<thead>
<tr>
<th>Tree Stratum  (Plot size: 30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Dominance Test Worksheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<td>2.</td>
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<td>3.</td>
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<tr>
<td>4.</td>
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</tr>
<tr>
<td>50% = ___ 20% = ___</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum  (Plot size: 30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Dominance Test Worksheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<td>2.</td>
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<td>3.</td>
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<tr>
<td>4.</td>
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<tr>
<td>5.</td>
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</tr>
<tr>
<td>50% = ___ 20% = ___</td>
<td></td>
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<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Herb Stratum  (Plot size: 6 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Dominance Test Worksheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Erodium cicutarium</td>
<td>10</td>
<td>no</td>
<td>UPL</td>
<td></td>
</tr>
<tr>
<td>2. Lithophragma glabrum</td>
<td>15</td>
<td>yes</td>
<td>UPL</td>
<td></td>
</tr>
<tr>
<td>3. Bromus tectorum</td>
<td>25</td>
<td>yes</td>
<td>UPL</td>
<td></td>
</tr>
<tr>
<td>4. Lepidium perfoliatum</td>
<td>20</td>
<td>yes</td>
<td>FACU</td>
<td></td>
</tr>
<tr>
<td>5. Ventenata dubia</td>
<td>15</td>
<td>yes</td>
<td>UPL</td>
<td></td>
</tr>
<tr>
<td>6. Claytonia rubra</td>
<td>15</td>
<td>yes</td>
<td>UPL</td>
<td></td>
</tr>
<tr>
<td>7. Lepidium densiflorum</td>
<td>5</td>
<td>no</td>
<td>UPL</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% = 52.5 20% = 21</td>
<td>105</td>
<td></td>
<td>UPL</td>
<td></td>
</tr>
</tbody>
</table>

### Hydrophytic Vegetation Indicators:
- **Dominance Test is >50%**
- **Prevalence Index is <3.01**
- **Morphological Adaptations**
  - Provide supporting data in Remarks or on a separate sheet
- **Problematic Hydrophytic Vegetation**
  - Explain

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

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☐ No ☐</th>
<th>Hydric Soil Present?</th>
<th>Yes ☐ No ☐</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes ☐ No ☐</th>
<th>Wetland Hydrology Present?</th>
<th>Yes ☐ No ☐</th>
</tr>
</thead>
</table>

Remarks: Precipitation recorded for the study area is above average and normal.
### Profile Description:

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6</td>
<td>10YR 3/2</td>
<td>100</td>
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<td></td>
<td></td>
<td>Sil</td>
<td></td>
</tr>
<tr>
<td>6-18</td>
<td>10YR 4/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sil</td>
<td></td>
</tr>
</tbody>
</table>

1cm Muck (A9) (LRR D)

Depleted Dark Surface (A11)

Depleted Matrix (F3)

Redox Depressions (F8)

Vernal Pools (F9)

1cm Muck (A9) (LRR C)

2cm Muck (A10) (LRR B)

Reduced Vertic (F18)

Red Parent Material (TF2)

Other (Explain in Remarks)

### Hydric Soil Indicators:

((Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulphide (A4)
- Stratified Layers (A5) (LRR C)
- 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)
- Redox Depressions (F8)
- Vernal Pools (F9)

### Indicators for Problematic Hydric Soils:

1 cm Muck (A9) (LRR C)

2 cm Muck (A10) (LRR B)

Reduced Vertic (F18)

Red Parent Material (TF2)

Other (Explain in Remarks)

### 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)
- Secondary Indicators (2 or more required)

- 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)
- 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?: Yes ☑ No ☐ Depth (inches): ___
- Inundation Visible?: Yes ☑ No ☐ Depth (inches): ___
- Water Stained Leaves?: Yes ☑ No ☐ Depth (inches): ___

### Wetland Hydrology Present?: Yes ☑ No ☐

#### Remarks:

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

Remarks:

US Army Corps of Engineers Arid West – Version 2.0
**WETLAND DETERMINATION DATA FORM – Arid West Region**

**Project Site:** Montague Wind Power Facility  
**Applicant/Owner:** Avangrid  
**Sampling Date:** 04-12-17  

**Investigator(s):** Leandra Cleveland; Maki Dalzell  
**Subregion (LRR):** B  
**Lat.:** 45.591036  
**Long.:** -120.125311  
**Datum:** NAD83  
**Landform (hillside, terrace, etc.):** Hillside  
**Local relief (concave, convex, none):** concave  
**Slope (%):** 3  
**Soil Map Unit Name:** 55E, Warden silt loam, 20-40% slopes  
**NWI classification:** Upland  

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

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes</th>
<th>No</th>
<th>☒</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes</th>
<th>No</th>
<th>☒</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes</td>
<td>No</td>
<td>☒</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes</td>
<td>No</td>
<td>☒</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**VEGETATION – Use scientific names of plants.**

**Tree Stratum** (Plot size: 30 ft)

<table>
<thead>
<tr>
<th>#</th>
<th>Species</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Absolute</th>
<th>Dominant</th>
<th>Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
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<td>2.</td>
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<tr>
<td>3.</td>
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<td>4.</td>
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<tr>
<td>5.</td>
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<td></td>
</tr>
</tbody>
</table>

50% = ; 20% = Total Cover

**Sapling/Shrub Stratum** (Plot size: 30 ft)

<table>
<thead>
<tr>
<th>#</th>
<th>Species</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Absolute</th>
<th>Dominant</th>
<th>Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Salsola kalo</td>
<td>30</td>
<td>yes</td>
<td>UPL</td>
<td></td>
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<tr>
<td>2.</td>
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<td>3.</td>
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<tr>
<td>4.</td>
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<tr>
<td>5.</td>
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<td></td>
</tr>
</tbody>
</table>

50% = ; 20% = Total Cover

**Herb Stratum** (Plot size: 6 ft)

<table>
<thead>
<tr>
<th>#</th>
<th>Species</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Absolute</th>
<th>Dominant</th>
<th>Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Poa bulbosa</td>
<td>50</td>
<td>yes</td>
<td>FACU</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Ventenata dubia</td>
<td>15</td>
<td>no</td>
<td>UPL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Bromus secalinus</td>
<td>30</td>
<td>yes</td>
<td>UPL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Epilobium ciliatum</td>
<td>5</td>
<td>no</td>
<td>FACW</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
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<tr>
<td>6.</td>
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<tr>
<td>7.</td>
<td></td>
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<td>8.</td>
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<td></td>
</tr>
</tbody>
</table>

50% = ; 20% = Total Cover

**Woody Vine Stratum** (Plot size: 6 ft)

<table>
<thead>
<tr>
<th>#</th>
<th>Species</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
<th>Absolute</th>
<th>Dominant</th>
<th>Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = ; 20% = Total Cover

**Remarks:**

<table>
<thead>
<tr>
<th>% Bare Ground in Herb Stratum</th>
<th>% Cover of Biotic Crust</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Hydric Vegetation Indicators:**

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

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

**Hydrophytic Vegetation Present?**

Yes ☐ No ☒ ☒
### SOIL Sampling Point: SP1034

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>10YR 4/3</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIL</td>
<td></td>
</tr>
<tr>
<td>5-18</td>
<td>10YR 4/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIL</td>
<td></td>
</tr>
</tbody>
</table>

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

#### Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)
- 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)
- Redox Depressions (F8)
- Vernal Pools (F9)

#### Indicators for Problematic Hydric Soils:
- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

#### 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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)

<table>
<thead>
<tr>
<th>#</th>
<th>Species</th>
<th>% Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
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<td>3</td>
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<tr>
<td>4</td>
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</tbody>
</table>

50% = ______, 20% = ______ = Total Cover

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 OBL species x1 = ___
- Total % Cover of FACW species x2 = ___
- Total % Cover of FAC species x3 = ___
- Total % Cover of FACU species x4 = ___
- UPL species 25 = 125 (A/B)

Column Totals: 25 (A) 125 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is <3.01
- Morphological Adaptations (provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation (Explain)

Hydrophytic Vegetation Present? Yes ☒ No ☐

WOODY VINE STRATUM

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

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

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-19</td>
<td>10YR 3/3</td>
<td>100</td>
<td></td>
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</tr>
</tbody>
</table>

**Type:** C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  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)
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- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

**Indicators for Problematic Hydric Soils:**

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

**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)
- 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)

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? Yes [ ] No [ ] Depth (inches): __________
- Inundation Visible on Aerial Imagery? Yes [ ] No [ ] Depth (inches): __________

**Wetland Hydrology Present?** Yes [ ] No [ ]

**Remarks:**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available.
### 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  
**Investigator(s):** Lisa Danielski; Claudia Steinkoenig  
**Section, Township, Range:** T1N R22E S30  
**Landform (hillslope, terrace, etc.):** Hillside  
**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  
**Landform (hillslope, terrace, etc.):** Hillside  
**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 ☑  
**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.

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☑ No ☐</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes ☑ No ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes ☑ No ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes ☑ No ☐</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

### VEGETATION – Use scientific names of plants.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size:30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = ______, 20% = ______

**Sapling/Shrub Stratum (Plot size:30 ft)**

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size:30 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<td></td>
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<tr>
<td>2.</td>
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<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = ______, 20% = ______

**Herb Stratum (Plot size:6 ft)**

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size:6 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>2.</td>
<td>2</td>
<td>yes</td>
<td>UPL</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = 2.5, 20% = 1

**Woody Vine Stratum (Plot size:6 ft)**

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size:6 ft)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

50% = ______, 20% = ______

### 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:
  - OBL species ______ x1 = ______
  - FACW species ______ x2 = ______
  - FAC species ______ x3 = ______
  - FACU species ______ x4 = ______

- UPL species ______ x5 = 25 (A/B)
- Column Totals: ______ x5 = 25 (B)

**Prevalence Index = B/A = 5.00**

### Hydrophytic Vegetation Indicators:

- **Dominance Test is >50%**
- **Prevalence Index is <3.01**
- Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
- **Problematic Hydrophytic Vegetation** (Explain)

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

### Remarks:

Remarks:
### Profile Description:

**Sampling Point:** SP2080

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (Moist)</th>
<th>%</th>
<th>Type¹</th>
<th>Loc²</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>7.5YR 3/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>GrLS</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

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

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

- 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:²**

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (F2)
- Other (Explain in Remarks)

^²Indicators 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 ☐

**Remarks:**

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

US Army Corps of Engineers  Arid West – Version 2.0
## Appendix B2. SDAM Forms

### Index of SDAM Forms

<table>
<thead>
<tr>
<th>2017 Waterway Reach ID</th>
<th>Previous Waterway Name</th>
<th>Previous JD Number</th>
<th>Corresponding Figure Number</th>
</tr>
</thead>
<tbody>
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<td>SD1000</td>
<td>n/a</td>
<td>n/a</td>
<td>5.12</td>
</tr>
<tr>
<td>SD1001</td>
<td>S002</td>
<td>2010-0083</td>
<td>5.12</td>
</tr>
<tr>
<td>SD1002</td>
<td>S003</td>
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<td>5.11</td>
</tr>
<tr>
<td>SD1042</td>
<td>S206</td>
<td>2010-0083</td>
<td>5.15</td>
</tr>
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<td>S204</td>
<td>2010-0083</td>
<td>5.15</td>
</tr>
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<td>SD1045</td>
<td>S205</td>
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<td>5.15</td>
</tr>
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<td>5.16</td>
</tr>
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<td>SD2018</td>
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<td>n/a</td>
<td>5.19</td>
</tr>
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<td>SD2028</td>
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<td>SD2063</td>
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<td>n/a</td>
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<td>SD2096</td>
<td>S208</td>
<td>2010-0083</td>
<td>5.22</td>
</tr>
<tr>
<td>SD2106</td>
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<td>n/a</td>
<td>5.21</td>
</tr>
<tr>
<td>SD3015</td>
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<td>n/a</td>
<td>5.21</td>
</tr>
<tr>
<td>SD3052</td>
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<td>n/a</td>
<td>5.18</td>
</tr>
<tr>
<td>SD5000</td>
<td>S204</td>
<td>2010-0083</td>
<td>5.17</td>
</tr>
</tbody>
</table>
## Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #/ Name</th>
<th>Montague Wind Power Facility</th>
<th>Assessor</th>
<th>Cleveland; Dalzell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterway Name</td>
<td>SD1000</td>
<td>Coordinates at</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>downstream end</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dd.mm.ss)</td>
<td></td>
</tr>
<tr>
<td>Reach Boundaries</td>
<td></td>
<td>Lat. 45° 37'26.19”</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long. 120° 6'45.68”</td>
<td>W</td>
</tr>
<tr>
<td>Precipitation w/in 48 hours (cm)</td>
<td>0.13</td>
<td>Channel Width (m)</td>
<td>1.75</td>
</tr>
<tr>
<td>Observed Hydrology</td>
<td>% of reach w/observed surface flow</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of reach w/any flow (surface or hyporheic)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td># of pools observed</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Observed Wetland Plants</td>
<td>(and indicator status):</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>None. No plants present in channel.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observed Macroinvertebrates:</td>
<td>Taxon Indicator Status Ephemeroptera? # of Individuals</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicators</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Are aquatic macroinvertebrates present?</td>
<td>[ ] Yes [ ] No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Are 6 or more individuals of the Order Ephemeroptera present?</td>
<td>[ ] Yes [ ] No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Are perennial indicator taxa present? (refer to Table 1)</td>
<td>[ ] Yes [ ] No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)</td>
<td>[ ] Yes [ ] No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. What is the slope? (In percent, measured for the valley, not the stream)</td>
<td>2%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Conclusions

- **Are aquatic macroinvertebrates present?**
  - If **YES**: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)
  - If **NO**: Are SAV, FACW, or OBL plants present? (Indicator 4)

- **Are 6 or more individuals of the Order Ephemeroptera present?**
  - If **YES**: Are perennial indicator taxa present? (Indicator 3)
  - If **NO**: What is the slope? (Indicator 5)

- **What is the slope?** (In percent, measured for the valley, not the stream)
  - If **Slope < 16%**: INTERMITTENT
  - If **Slope ≥ 16%**: PERENNIAL

### Finding:

- **Ephemeral**
- **Intermittent**
- **Perennial**

### Single Indicators:

- Fish
- Amphibians
Notes: (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)

**Difficult Situation:**

- 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:**

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Life History Stage</th>
<th>Location Observed</th>
<th>Number of Individuals Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #: Name</th>
<th>Montague Wind Power Facility</th>
<th>Assessor</th>
<th>Cleveland; Dalzell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterway Name</td>
<td>SD1001 (previous name S002)</td>
<td>Coordinates at</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>downstream end</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(dd.mm.ss)</td>
<td></td>
</tr>
<tr>
<td>Reach Boundaries</td>
<td></td>
<td>Lat. 45° 37’27.18” N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long. 120° 6’37.26” W</td>
<td></td>
</tr>
<tr>
<td>Precipitation w/in 48 hours (cm)</td>
<td>0.13</td>
<td>Channel Width (m)</td>
<td>1.0</td>
</tr>
<tr>
<td>Observed Hydrology</td>
<td></td>
<td>% of reach w/observed surface flow 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of reach w/any flow (surface or hyporheic) 0</td>
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</tr>
<tr>
<td></td>
<td></td>
<td># of pools observed 0</td>
<td></td>
</tr>
<tr>
<td>Observed Wetland Plants</td>
<td></td>
<td>None. No plants present in channel.</td>
<td></td>
</tr>
<tr>
<td>Observed Macroinvertebrates:</td>
<td></td>
<td>Taxon</td>
<td>Indicator Status</td>
</tr>
<tr>
<td></td>
<td></td>
<td>None.</td>
<td></td>
</tr>
<tr>
<td>Indicators</td>
<td></td>
<td>1. Are aquatic macroinvertebrates present?</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Are 6 or more individuals of the Order Ephemeroptera present?</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Are perennial indicator taxa present? (refer to Table 1)</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. What is the slope? (In percent, measured for the valley, not the stream)</td>
<td>2%</td>
</tr>
<tr>
<td>Conclusions</td>
<td></td>
<td>Are aquatic macroinvertebrates present? (Indicator 1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Are perennial indicator taxa present? (Indicator 3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>What is the slope? (Indicator 5)</td>
<td></td>
</tr>
<tr>
<td>Finding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ephemeral</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intermittent</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perennial</td>
<td></td>
</tr>
</tbody>
</table>

**Single Indicators:**
- [ ] Fish
- [ ] Amphibians

**Finding:**
- [x] Ephemeral
- [ ] Intermittent
- [ ] Perennial
Notes: (explanation of any single indicator co inclusions, 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:

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Life History Stage</th>
<th>Location Observed</th>
<th>Number of Individuals Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #/ Name</th>
<th>Montague Wind Power Facility</th>
<th>Assessor</th>
<th>Cleveland; Dalzell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
<td>Date</td>
<td>04-10-17</td>
</tr>
<tr>
<td>Waterway Name</td>
<td>SD1002 (previous name S003)</td>
<td>Coordinates at downstream end</td>
<td>Lat. 45° 37'45.55” N</td>
</tr>
<tr>
<td>Reach Boundaries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precipitation w/in 48 hours (cm)</td>
<td>0.13</td>
<td>Channel Width (m)</td>
<td>3.0</td>
</tr>
</tbody>
</table>

### Observed Hydrology

| % of reach w/ observed surface flow | 0  |
| % of reach w/ any flow (surface or hyporheic) | 0  |
| # of pools observed | 0  |

### Observed Wetland Plants

None.

### Observed Macroinvertebrates:

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Indicator Status</th>
<th>Ephemeroptera?</th>
<th># of Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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

**Are aquatic macroinvertebrates present?**

- If **YES**: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)
- If **NO**: What is the slope? (Indicator 5)

**Are 6 or more individuals of the Order Ephemeroptera present?** (Indicator 2)

- If **YES**: Are perennial indicator taxa present? (Indicator 3)
- If **NO**: What is the slope? (Indicator 5)

**Are perennial indicator taxa present?** (Indicator 3)

- If **YES**: What is the slope? (Indicator 5)
- If **NO**: Is the slope intermittent? (Indicator 4)

**Are SAV, FACW, or OBL plants present?** (Indicator 4)

- If **NO**: What is the slope? (Indicator 5)
- If **YES**: Are intermittent? (Indicator 3)

**What is the slope?** (Indicator 5)

- If **Slope < 16%**: PERENNIAL
- If **Slope ≥ 16%**: INTERMITTENT

**Finding:**

- [ ] Ephemeral
- [ ] Intermittent
- [ ] Perennial

### Single Indicators:

- [ ] Fish
- [ ] Amphibians
Notes: (explanation of any single indicator conclusions, 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:

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Life History Stage</th>
<th>Location Observed</th>
<th>Number of Individuals Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 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)  
**Reach Boundaries:**

**Precipitation w/in 48 hours (cm):** 0.05  
**Channel Width (m):** 3

<table>
<thead>
<tr>
<th>% of reach w/observed surface flow</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of reach w/any flow (surface or hyporheic)</td>
<td>0</td>
</tr>
<tr>
<td># of pools observed</td>
<td>0</td>
</tr>
</tbody>
</table>

**Coordinates at downstream end:**

<table>
<thead>
<tr>
<th>Lat.</th>
<th>Long.</th>
</tr>
</thead>
<tbody>
<tr>
<td>45° 34'19.92&quot;</td>
<td>120°6'25.86&quot;</td>
</tr>
</tbody>
</table>

- **Disturbed Site / Difficult Situation (Describe in “Notes”):**

**Observed Hydrology**

<table>
<thead>
<tr>
<th>Observed Wetland Plants (and indicator status):</th>
<th>None.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed Macroinvertebrates:</td>
<td>Taxon</td>
</tr>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

**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 conclusions, 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

<table>
<thead>
<tr>
<th>Observed Amphibians, Snake, and Fish:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxa</td>
</tr>
<tr>
<td>------</td>
</tr>
</tbody>
</table>
# Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #/ Name</th>
<th>Montague Wind Power Facility</th>
<th>Assessor</th>
<th>Cleveland; Dalzell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
<td>Date</td>
<td>04-12-17</td>
</tr>
<tr>
<td>Waterway Name</td>
<td>SD1043 (previous name S204)</td>
<td>Coordinates at downstream end</td>
<td>Lat. 45° 34’.17.88” N Long. 120°6’26.38” W</td>
</tr>
<tr>
<td>Reach Boundaries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precipitation w/ in 48 hours (cm)</td>
<td>0.13</td>
<td>Channel Width (m)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>% of reach w/ observed surface flow</td>
<td>0</td>
<td>% of reach w/ any flow (surface or hyporheic)</td>
</tr>
<tr>
<td></td>
<td># of pools observed</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Observed Hydrology</td>
<td>Observed Wetland Plants (and indicator status):</td>
<td>None.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Observed Macroinvertebrates:</td>
<td>Taxon</td>
<td>Indicator Status</td>
</tr>
<tr>
<td></td>
<td>None.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>1. Are aquatic macroinvertebrates present?</td>
<td>□ Yes</td>
<td>□ No</td>
</tr>
<tr>
<td>Indicators</td>
<td>2. Are 6 or more individuals of the Order Ephemeroptera present?</td>
<td>□ Yes</td>
<td>□ No</td>
</tr>
<tr>
<td></td>
<td>3. Are perennial indicator taxa present? (refer to Table 1)</td>
<td>□ Yes</td>
<td>□ No</td>
</tr>
<tr>
<td></td>
<td>4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)</td>
<td>□ Yes</td>
<td>□ No</td>
</tr>
<tr>
<td></td>
<td>5. What is the slope? (In percent, measured for the valley, not the stream)</td>
<td>□</td>
<td>%</td>
</tr>
<tr>
<td>Conclusions</td>
<td>Finding:</td>
<td>□ Ephemeral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Intermittent</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Perennial</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Indicators:</td>
<td>□ Fish</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Amphibians</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Notes: (explanation of any single indicator conclusions, 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

<table>
<thead>
<tr>
<th>Observed Amphibians, Snake, and Fish:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxa</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
## Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #/ Name</th>
<th>Montague Wind Power Facility</th>
<th>Assessor</th>
<th>Cleveland; Dalzell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterway Name</td>
<td>SD1045 (previous name S205)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reach Boundaries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precipitation w/in 48 hours (cm)</td>
<td>0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Width (m)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinates at downstream end</td>
<td>Lat. 45°34'16.41&quot; N</td>
<td>Long. 120°6'17.76&quot; W</td>
<td></td>
</tr>
</tbody>
</table>

### Observed Hydrology
- % of reach w/observed surface flow: 0%
- % of reach w/any flow (surface or hyporheic): 0%
- # of pools observed: 0

### Observed Wetland Plants
- None.

### Observed Macroinvertebrates:
<table>
<thead>
<tr>
<th>Taxon</th>
<th>Indicator Status</th>
<th>Ephemeroptera?</th>
<th># of Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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 1/2 channel width)  □ Yes  □ No
5. What is the slope? (In percent, measured for the valley, not the stream)  <1%

### Conclusions

- Are aquatic macroinvertebrates present? (Indicator 1)
  - If YES: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)
    - If YES: Are perennial indicator taxa present? (Indicator 3)
    - If NO: What is the slope? (Indicator 5)
      - If YES: PERENNIAL
      - If NO: INTERMITTENT
  - If NO: EMPHEMERAL

- Are SAV, FACW, or OBL plants present? (Indicator 4)
- Are FACW, OBL, or SAV plants present? (Within 1/2 channel width)

### Finding:
- □ Ephemeral
- □ Intermittent
- □ Perennial

### Single Indicators:
- Fish
- Amphibians
**Notes:** (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)

**Difficult Situation:**
- **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

<table>
<thead>
<tr>
<th>Observed Amphibians, Snake, and Fish:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxa</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #/ Name</th>
<th>Montague Wind Power Facility</th>
<th>Assessor</th>
<th>Cleveland; Dalzell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
<td>Date</td>
<td>04-12-17</td>
</tr>
<tr>
<td>Waterway Name</td>
<td>SD1054 (previous name S008)</td>
<td>Coordinates at downstream end</td>
<td>Lat. 45°33’36.91” N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Long. 120°5’40.81” W</td>
</tr>
<tr>
<td>Reach Boundaries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precipitation w/in 48 hours (cm)</td>
<td>0.05</td>
<td>Channel Width (m)</td>
<td>2</td>
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<tr>
<td>Observed Hydrology</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>% of reach w/observed surface flow</td>
<td>0</td>
<td>% of reach w/any flow (surface or hyporheic)</td>
<td>0</td>
</tr>
<tr>
<td>Observed Wetland Plants</td>
<td>(and indicator status):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observed Macroinvertebrates:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxon</td>
<td>Indicator Status</td>
<td>Ephemeroptera?</td>
<td># of Individuals</td>
</tr>
<tr>
<td>1. Are aquatic macroinvertebrates present?</td>
<td>□ Yes</td>
<td>□ No</td>
<td></td>
</tr>
<tr>
<td>2. Are 6 or more individuals of the Order Ephemeroptera present?</td>
<td>□ Yes</td>
<td>□ No</td>
<td></td>
</tr>
<tr>
<td>3. Are perennial indicator taxa present? (refer to Table 1)</td>
<td>□ Yes</td>
<td>□ No</td>
<td></td>
</tr>
<tr>
<td>4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)</td>
<td>□ Yes</td>
<td>□ No</td>
<td></td>
</tr>
<tr>
<td>5. What is the slope? (In percent, measured for the valley, not the stream)</td>
<td>5 %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conclusions

Are aquatic macroinvertebrates present? (Indicator 1)

If YES: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)

If YES: Are perennial indicator taxa present? (Indicator 3)

If NO: What is the slope? (Indicator 5)

If YES: What is the slope? (Indicator 5)

If NO: Are SAV, FACW, or OBL plants present? (Indicator 4)

If YES: Are SAV, FACW, or OBL plants present? (Indicator 4)

If NO: Are SAV, FACW, or OBL plants present? (Indicator 4)

Finding: □ Ephemeral

□ Intermittent

□ Perennial

Single Indicators:

□ Fish

□ Amphibians
Difficult Situation:

- ☐ 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:

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Life History Stage</th>
<th>Location Observed</th>
<th>Number of Individuals Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #/ Name</th>
<th>Montague Wind Power Facility</th>
<th>Assessor</th>
<th>Danielski</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterway Name</td>
<td>SD2018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reach Boundaries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinates at downstream end (ddd.mm.ss)</td>
<td>Lat. 45° 33’3.47” N Long. 120°11’37.34” W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precipitation w/in 48 hours (cm)</td>
<td>0.13</td>
<td>Channel Width (m)</td>
<td>1.5</td>
</tr>
<tr>
<td>Disturbed Site / Difficult Situation (Describe in “Notes”)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Observed Hydrology

<table>
<thead>
<tr>
<th></th>
<th>% of reach w/observed surface flow</th>
<th>% of reach w/any flow (surface or hyporheic)</th>
<th># of pools observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Observed Wetland Plants (and indicator status):

None

#### Observed Macroinvertebrates:

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Indicator Status</th>
<th>Ephemeroptera?</th>
<th># of Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 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) [ ] %

#### Conclusions

- Are aquatic macroinvertebrates present? (Indicator 1)
- If NO: Are SAV, FACW, or OBL plants present? (Indicator 4)
- If NO: What is the slope? (Indicator 5)
- If YES: Are perennial indicator taxa present? (Indicator 3)
- If YES: What is the slope? (Indicator 5)
- If NO: What is the slope? (Indicator 5)
- If YES: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)

#### Single Indicators:

- Fish
- Amphibians

#### Finding:

- [ ] Ephemerale
- [ ] Intermittent
- [ ] Perennial
**Difficult Situation:**

- [ ] Prolonged Abnormal Rainfall / Snowpack
  - [ ] Below Average
  - [x] 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:**

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Life History Stage</th>
<th>Location Observed</th>
<th>Number of Individuals Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #/ Name</th>
<th>Montague Wind Power Facility</th>
<th>Assessor</th>
<th>Danielski</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterway Name</td>
<td>SD2028 (previous name S005)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reach Boundaries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinates at downstream end</td>
<td>Lat: 45° 34' 6.25&quot; N</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long: 120° 11' 9.38&quot; W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precipitation w/in 48 hours (cm)</td>
<td>0.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Width (m)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disturbed Site / Difficult Situation (Describe in &quot;Notes&quot;)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Observed Hydrology**

- % of reach w/observed surface flow: 0%
- % of reach w/any flow (surface or hyporheic): 0%
- # of pools observed: 0

**Observed Wetland Plants**

- Agrostis sp (FAC)

**Observed Macroinvertebrates:**

- Taxon: None
- Indicator Status: None
- Ephemeroptera: None
- # 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**

- Are aquatic macroinvertebrates present? (Indicator 1) [ ] Yes [ ] No
- Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2) [ ] Yes [ ] No
- Are perennial indicator taxa present? (Indicator 3) [ ] Yes [ ] No
- What is the slope? (Indicator 5) [ ] Yes [ ] No

**Finding:**

- Ephemeral
- Intermittent
- Perennial

**Single Indicators:**

- [ ] Fish
- [ ] Amphibians
Difficult Situation: 

- 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

<table>
<thead>
<tr>
<th>Observed Amphibians, Snake, and Fish:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxa</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #/ Name</th>
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<th>Assessor</th>
<th>Danielski</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Address</th>
<th></th>
<th>Date</th>
<th>04-11-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterway Name</td>
<td>SD2063</td>
<td>Coordinates at downstream end (dd.mm.ss)</td>
<td>Lat: 45° 31'0.96&quot; N Long: 120°5'41.44&quot; W</td>
</tr>
<tr>
<td>Reach Boundaries</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 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__ |

<table>
<thead>
<tr>
<th>Observed Wetland Plants (and indicator status):</th>
<th>Observed Macroinvertebrates:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrostis sp (FAC)</td>
<td>Taxon</td>
</tr>
<tr>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators</th>
<th>□ Yes</th>
<th>□ No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Are aquatic macroinvertebrates present?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Are 6 or more individuals of the Order Ephemeroptera present?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Are perennial indicator taxa present? (refer to Table 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Are FACW, OBL, or SAV plants present? (Within ½ channel width)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. What is the slope? (In percent, measured for the valley, not the stream)</td>
<td>1-2%</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions:

- Are aquatic macroinvertebrates present? (Indicator 1)
- Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)
- Are perennial indicator taxa present? (Indicator 3)
- What is the slope? (Indicator 5)

Finding:

- □ Ephemeral
- □ Intermittent
- □ Perennial

Single Indicators:

- □ Fish
- □ Amphibians
Difficult Situation:

- ☐ 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:

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Life History Stage</th>
<th>Location Observed</th>
<th>Number of Individuals Observed</th>
</tr>
</thead>
</table>
# Streamflow Duration Field Assessment Form

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

## Observed Hydrology

| % of reach w/ observed surface flow | 0 |
| % of reach w/ any flow (surface or hyporheic) | 0 |
| # of pools observed | 0 |

## Observed Wetland Plants

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Indicator Status</th>
<th>Ephemeroptera?</th>
<th># of Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Observed Macroinvertebrates:

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

### Are aquatic macroinvertebrates present? (Indicator 1)
- If YES: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)
  - If YES: Are perennial indicator taxa present? (Indicator 3)
  - If NO: What is the slope? (Indicator 5)
- If NO: Are SAV, FACW, or OBL plants present? (Indicator 4)
- If NO: EMPHEMERAL

### What is the slope? (Indicator 5)
- If YES: What is the slope? (Indicator 5)
- If NO: EMPHEMERAL

## Finding:
- □ Ephemeral
- □ Intermittent
- □ Perennial

### Single Indicators:
- □ Fish
- □ Amphibians
### Difficult Situation:
Describe situation. For disturbed streams, note extent, type, and history of disturbance.

- [ ] Prolonged Abnormal Rainfall / Snowpack
  - [ ] Below Average
  - [x] 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
- [x] Erosion and Deposition – silt/pebble/cobble deposition
- [ ] Floodplain Connectivity

### Observed Amphibians, Snake, and Fish:

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Life History Stage</th>
<th>Location Observed</th>
<th>Number of Individuals Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
# Streamflow Duration Field Assessment Form

## Project #/ Name
- **Montague Wind Power Facility**

## Assessor
- **Danielski**

## Address

## Waterway Name
- **SD2106**

## Reach Boundaries

## Precipitation within 48 hours (cm)
- **0.05**

## Channel Width (m)
- **2-3**

## Observations

### Observed Hydrology
- % of reach w/ observed surface flow: **0**
- % of reach w/ any flow (surface or hyporheic): **0**
- # of pools observed: **0**

### Observed Wetland Plants
- **(and indicator status):**

### Observed Macroinvertebrates:
- **Taxon**
- **Indicator Status**
- **Ephemeroptera?**
- **# of Individuals**

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Indicator Status</th>
<th>Ephemeroptera?</th>
<th># of Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

### 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 conclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation: 
- 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:

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Life History Stage</th>
<th>Location Observed</th>
<th>Number of Individuals Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
# Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #/ Name</th>
<th>Montague Wind Power Facility</th>
<th>Assessor</th>
<th>Danielski</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Waterway Name</td>
<td>SD3015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reach Boundaries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precipitation w/in 48 hours (cm)</td>
<td>0.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Width (m)</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disturbed Site / Difficult Situation</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Observed Hydrology**

- % of reach w/ observed surface flow: 0
- % of reach w/ any flow (surface or hyporheic): 0
- # of pools observed: 0

**Observed Wetland Plants**

- (and indicator status):

**Observed Macroinvertebrates:**

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Indicator Status</th>
<th>Ephemeroptera?</th>
<th># of Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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**

- Are aquatic macroinvertebrates present? (Indicator 1)
- If NO: Are SAV, FACW, or OBL plants present? (Indicator 4)
- If YES: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)
- If YES: What is the slope? (Indicator 5)

**Finding:**

- Ephemeral
- Intermittent
- Perennial

**Single Indicators:**

- Fish
- Amphibians
Notes: (explanation of any single indicator conclusions, 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

<table>
<thead>
<tr>
<th>Observed Amphibians, Snake, and Fish:</th>
<th>Taxa</th>
<th>Life History Stage</th>
<th>Location Observed</th>
<th>Number of Individuals Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
## Streamflow Duration Field Assessment Form

<table>
<thead>
<tr>
<th>Project #/ Name</th>
<th>Montague Wind Power Facility</th>
<th>Assessor</th>
<th>Danielski</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterway Name</td>
<td>SD3052</td>
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<tr>
<td>Reach Boundaries</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Coordinates at downstream end</td>
<td>Lat: 45° 33'17.54&quot; N</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long: 120°11'10.54&quot; W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precipitation w/in 48 hours (cm)</td>
<td>0.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel Width (m)</td>
<td>&lt;1m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disturbed Site / Difficult Situation (Describe in “Notes”)</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Observed Hydrology

- % of reach w/ observed surface flow: 0
- % of reach w/ any flow (surface or hyporheic): 0
- # pools observed: 0

### Observed Wetland Plants (and indicator status):

- None

### Observed Macroinvertebrates:

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Indicator Status</th>
<th>Ephemeroptera?</th>
<th># of Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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

- Are aquatic macroinvertebrates present?  (Indicator 1)  ✔ Yes  ❏ No
- Are 6 or more individuals of the Order Ephemeroptera present?  (Indicator 2)  ✔ Yes  ❏ No
- Are perennial indicator taxa present? (Indicator 3)  ✔ Yes  ❏ No
- What is the slope? (Indicator 5)  ✔ Yes  ❏ No

### Finding:

- ✔ Ephemeral
- ❏ Intermittent
- ❏ Perennial

### Single Indicators:

- ❏ Fish
- ❏ Amphibians
Notes: (explanation of any single indicator conclusions, 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 from 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:

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Life History Stage</th>
<th>Location Observed</th>
<th>Number of Individuals Observed</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
## Streamflow Duration Field Assessment Form

**Project # / Name** Montague Wind Power Facility

**Assessor** O’Neill

**Address**

**Waterway Name** SD5000 (previous ID S204)

**Coordinates at downstream end**
- Lat. 45°33'39.19” N
- Long. 120°07'16.63” W

**Reach Boundaries**

**Precipitation w/in 48 hours (cm)** 0

**Channel Width (m)** 6m

**Observed Hydrology**

- % of reach w/observed surface flow: 0
- % of reach w-any flow (surface or hyporheic): 0
- # of pools observed: 0

**Observed Wetland Plants**

(for and indicator status):

**Observed Macroinvertebrates:**
- Taxon
- Indicator Status
- Ephemeroptera?
- # of Individuals

<table>
<thead>
<tr>
<th>Observed Macroinvertebrates:</th>
<th>Taxon</th>
<th>Indicator Status</th>
<th>Ephemeroptera?</th>
<th># of Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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**

- Are aquatic macroinvertebrates present? (Indicator 1)
- If NO: Are SAV, FACW, or OBL plants present? (Indicator 4)
- If NO: What is the slope? (Indicator 5)
- If YES: Are 6 or more individuals of the Order Ephemeroptera present? (Indicator 2)
- If NO: What is the slope? (Indicator 5)
- If YES: Are perennial indicator taxa present? (Indicator 3)

**Slope**
- < 10.5%: INTERMITTENT
- ≥ 10.5%: EPHEMERAL
- < 15%: INTERMITTENT
- ≥ 15%: PERENNIAL

**Finding:** ☒ Ephemeral ☐ Intermittent ☐ Perennial

**Single Indicators:**
- ☐ Fish
- ☐ Amphibians
Notes: (explanation of any single indicator conclusions, 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 banks. 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 of 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

<table>
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<th>Observed Amphibians, Snake, and Fish:</th>
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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
<table>
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<th>Image</th>
<th>Description</th>
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<tr>
<td>PP1011: SP1011 and SP1012 looking W</td>
<td>PP1014: SP1014 looking NE at wetland / upland boundary</td>
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<td>PP1017: SP1017 looking W into wetland</td>
<td>PP1019: SP1019 looking W</td>
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<td>PP1020: SP1020 looking E</td>
<td>PP1021: SP1021 looking N into previously delineation wetland (W7)</td>
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<td>PP1023: SP1023 looking S</td>
<td>PP1025: Representative upland looking S</td>
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</table>
PP1025A: Representative upland looking SE

PP1030: Representative upland looking SW

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

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

PP1029: Representative upland looking E

PP1031: Representative upland looking E

PP1034: SP1034 and 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
# Wetlands and Waterbodies Delineation

## WETS Table

**WETS Station:** ARLINGTON, OR

**Requested years:** 1971 - 2000

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<th>Avg Min Temp</th>
<th>Avg Mean Temp</th>
<th>Avg Precip</th>
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### Growing Season Dates

- **Years with missing data:**
  - 24 days = 5
  - 32 days = 5
- **Years with no occurrence:**
  - 24 days = 0
  - 32 days = 0
- **Data years used:**
  - 24 days = 25
  - 32 days = 25

#### Probability

- 24°F or higher: 28°C or higher: 22°F or higher

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* Percent chance of the growing season occurring between the Beginning and Ending dates.

### Stats Table: total precipitation [inches]

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*Wetlands and Waterbodies Delineation*

Avangrid Renewables

*July 10, 2017*
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Notes: Data missing in any month have an "M" (e.g., Aug. 2014 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.

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.

2008 Regional Supplement to the Corps of Engineers Arid West Region (Version 2.0). Vicksburg, MS., U.S. Army Engineer Research and Development Center, ERDC/EL TR-08-28.

ESRI

HDR Engineering, Inc.

1984 Soil Survey of Gilliam County, Oregon. United States Department of Agriculture, Soil Conservation Service, in cooperation with Oregon Agricultural Experiment Station.

Nadeau, Tracie-Lynn

NRCS (Natural Resources Conservation Service).


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

U.S. Fish and Wildlife Service (USFWS).
- 2017 NWI Mapper: https://www.fws.gov/wetlands/data/Mapper.html

U.S. Geologic Service (USGS)
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)
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 form 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: Matt Hutchinson, Avandrid Renewables
1125 NW Couch Street, Suite 700
Portland, Oregon 97209

Authorized Legal Agent, Name and Address: Same as applicant.

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: 07/10/17

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 #

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

Waterway: not applicable River Mile: not applicable
NWI Quad(s): Shuttle Flat, Hickland Butte, Mikkalo, Wolf Hollow Falls

Wetland Consultant Name, Firm and Address:
Leandra Cleveland, HDR Engineering, Inc.
1001 SW 5th Avenue Suite 1800
Portland, Oregon 97204

Phone # 360.975.6631
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
Wetland/Waters Present? Yes

Check Box Below if Applicable:

R-F permit application submitted
Mitigation bank site
Wetland restoration/enhancement project (not mitigation)
Industrial Land Certification Program Site
Reissuance of a recently expired delineation
Previous DSL # Previous DSL # Expiration date June 2014

Other Information:
Has previous delineation/application been made on parcel? Yes
Does LWI, if any, show wetland or waters on parcel? No

For Office Use Only

DSL Reviewer: 1B Fee Paid Date: 7/10/17 DSL WD # 2017-0111
Date Delineation Received: 7/10/17 DSL Project # 
Scanned: Final Scan: 

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Figure 1
Wetland Survey
Project Location
Montague Wind Power Facility

Legend
- 2017 Wetland Survey Corridor
- Montague ID 2010-0999 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

Privileged and Confidential
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 100ft
- County Boundary

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

Privileged and Confidential

G:\GIS\Projects\Ches\Montague\4\Montague Tax Parcels.mxd
Wetland data was mapped using a resource-grade EOS Arrow 100 GPS with mapping accuracy of 50 cm (1.64 ft).

Data Sources:
- OR Spatial Data Library (2017)
- ESRI (2017)
- Basemap Source: ESRI World Imagery – NAIP (June 2016)
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)
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)
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 50cm (1.64 ft).

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

Approval Issued: 10-20-17
Approval Expires: 10-20-22

Privileged and Confidential
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 (Aero,2018)

Previously surveyed wetland and ordinary high water delineated and concurred with as part of WDI 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 - NAP (June, 2016)
Figure 5.8
Wetland Survey
Wetland and Waterways Survey Map 8
Montague Wind Power Facility

Legend
- 2017 Wetland Survey Center
- 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)
Privileged and Confidential

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

Legend
- 2017 Wetland Survey Center
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Surveyed Wetland
- 2017 Photo Point
- Previously Surveyed Wetland
- Previously Field Verified Ordinary High Water
- Features Extends Outside Survey Area

Previously surveyed wetland and ordinary high water delineated and concurred with as part of WD# 2010-0283.

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)

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)

Features Extends Outside Survey Area
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)
Figure 5.11
Wetland Survey
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

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)

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

Baseline Source: ESRI World Imagery - NAIP (June, 2016)
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)
Figure 5.14
Wetland Survey
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

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

Privileged and Confidential
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 Sources:
- OR Spatial Data Library (2017)
- ESRI (2017)

Base map Source: ESRI World Imagery – NAIP (June 2016)
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)
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)

Privileged and Confidential
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)
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)
Figure 5.20
Wetland Survey
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)
Base Map Source: ESRI World Imagery - NAIP (June, 2016)

AVANGRID
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)

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

Privileged and Confidential
Wetland Survey
Montague Wind Power Facility

Legend
- 2017 Wetland Survey Corridor
- 2017 Sample Point
- 2017 Field Verified Ordinay 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)
Attachment J-3
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 106, Salem, OR 97301-1279. A single PDF of the completed cover form and report may be e-mailed to: Wetland_Delineation@dls.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.

<table>
<thead>
<tr>
<th>Contact and Authorization Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant □ Owner Name, Firm and Address: Matt Hutchinson, Avangrid Renewables 1125 NW Couch Street, Suite 700 Portland, Oregon 97209</td>
</tr>
<tr>
<td>Business phone #: (503) 478-6317</td>
</tr>
<tr>
<td>Mobile phone #: (optional)</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:matthew.hutchinson@avangrid.com">matthew.hutchinson@avangrid.com</a></td>
</tr>
<tr>
<td>Authorized Legal Agent, Name and Address (If different):</td>
</tr>
<tr>
<td>Business phone #:</td>
</tr>
<tr>
<td>Mobile phone #: (optional)</td>
</tr>
<tr>
<td>E-mail:</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>Typed/Printed Name: Matt Hutchinson Signature: [Signature]</td>
</tr>
<tr>
<td>Date: 3/3/2019 Special instructions regarding site access:</td>
</tr>
</tbody>
</table>

<table>
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<th>Project and Site Information</th>
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<tbody>
<tr>
<td>Project Name: Montague Wind Power Facility</td>
</tr>
<tr>
<td>Latitude: S: 45.586072 E: 45.492275 Longitude: S: -120.245287 E: -100</td>
</tr>
<tr>
<td>Project Proposed Use: Construction of a wind power facility including turbines and access roads.</td>
</tr>
<tr>
<td>Tax Map #: See Attachment</td>
</tr>
<tr>
<td>Tax Lot(s):</td>
</tr>
<tr>
<td>Project Street Address (or other descriptive location): Project site is located east and west of Highway 99 between Arlington, Oregon and Middletown, Oregon</td>
</tr>
<tr>
<td>Township: Range: Section: Q0</td>
</tr>
<tr>
<td>Use separate sheet for additional tax and location information</td>
</tr>
<tr>
<td>City: nearest city is Arlington, OR County: Gilliam</td>
</tr>
<tr>
<td>Waterway: Not Applicable River Mile: Not Applicable</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Wetland Delineation Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetland Consultant Name, Firm and Address: Claudia Steinkoenig, Jacobs Engineering 2020 SW 4th Avenue Portland, Oregon 97201</td>
</tr>
<tr>
<td>Phone #: (503) 736-4139</td>
</tr>
<tr>
<td>Mobile phone #: (if applicable)</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:claudia.steinkoenig@jacobs.com">claudia.steinkoenig@jacobs.com</a></td>
</tr>
<tr>
<td>The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.</td>
</tr>
<tr>
<td>Consultant Signature: [Signature] Date: 01/31/2019</td>
</tr>
<tr>
<td>Primary Contact for report review and site access is □ Consultant □ Applicant/Owner □ Authorized Agent</td>
</tr>
<tr>
<td>Wetland/Waters Present?: □ Yes □ No Study Area size: 3,320 Total Wetland Acreage: √ one</td>
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<tr>
<td>□ R-F permit application submitted</td>
</tr>
<tr>
<td>□ Mitigation bank site</td>
</tr>
<tr>
<td>□ Industrial Land Certification Program Site</td>
</tr>
<tr>
<td>□ Wetland restoration/enhancement project (not mitigation)</td>
</tr>
<tr>
<td>□ Request for Reissuance. See eligibility criteria. (no fee)</td>
</tr>
<tr>
<td>□ Previous delineation/application on parcel</td>
</tr>
<tr>
<td>If known, previous DSL #: 2011-0364</td>
</tr>
<tr>
<td>□ LWI shows wetlands or waters on parcel</td>
</tr>
<tr>
<td>□ Wetland ID code</td>
</tr>
</tbody>
</table>

<table>
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<th>For Office Use Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL Reviewer: ______ Fee Paid Date: <strong><strong><strong>/</strong></strong></strong>/______ DSL WD #: ______</td>
</tr>
<tr>
<td>Date Delineation Received: <strong><strong><strong>/</strong></strong></strong>/______ Scanned: □ Electronic: □ DSL App #: ______</td>
</tr>
</tbody>
</table>

March 2018
<table>
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<tr>
<th>Township</th>
<th>Range</th>
<th>Section</th>
<th>Taxlots</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 North</td>
<td>21 East</td>
<td>4-5, 7-9, 12-25, 27-30, 34-36</td>
<td>100, 200, 400, 401, 500, 700, 804, 900, 1002, 1100, 1101, 1200, 1500, 1501, 1900, 2100</td>
</tr>
<tr>
<td>1 North</td>
<td>22 East</td>
<td>7, 18-19, 30</td>
<td>100, 200, 201, 203</td>
</tr>
<tr>
<td>1 South</td>
<td>21 East</td>
<td>2-3, 11</td>
<td>502, 1200</td>
</tr>
<tr>
<td>1 South</td>
<td>22 East</td>
<td>18</td>
<td>roads</td>
</tr>
</tbody>
</table>

**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 | 01S22E0000-ROADS |
| 01N21E0000-01100 | 01N22E0000-ROADS |                                |
Figure 5.4
Wetland Survey
Wetland and Waterways
Survey Map 4
Montague Wind Power Facility - Proposed Expansion

Legend
- 2017 Wetland Survey Center
- 2017 Sample Point
- 2017 Field Verified Ordinary High Water
- 2017 Photo Point
- Detail Map Index
- Township & Range
- Oktibbeha County Tax Parcels
- Continued 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)
Base Map Source: ESRI World Imagery - tile4P (June, 2019)
Figure 5.5
Wetland Survey
Wetland and Waterways
Survey Map 5
Montague Wind Power Facility - Proposed Expansion

Legend
- 2017 Wetland Survey Center
- 2017 Sample Point
- 2017 Field Verified Cerulean Warbler
- 2017 Photo Point
- Field Map Index
- Township & Range
- Otisville County Tax Parcels

Continues Off-Project

Approval Issued: 2-28-19
Approval Expires: 5-18-22

Field data points and ordnary high-water boundaries were mapped with sub-meter accuracy.

Data Source:
OR Spatial Data Library (2017)
ESRI (2017)
Base Map Source: ESRI World Imagery, NAIP (Line, 2016)

0 100 200 400 Feet
Figure 5.6
Wetland Survey
Wetland and Waterways
Survey Map 6
Montague Wind Power Facility - Proposed Expansion

Legend
- 2017 Wetland Survey Corridor
- 2017 Field-Verified Centenary High Water
- 2017 Photo Point
- 
- Detailed Map Index
- Ownership & Range
- Gilliam County Tax Parcels

DSL WD # 2011-0364R
Approval Issued 2-28-19
Approval Expires 5-18-22

Field data points and ordnary high water boundaries were mapped with sub-meter accuracy.

Data Source: OR Spatial Data Library (2012), Esri (2017)
Basemap Source: Esri World Imagery - NADP (Image, 2016)

AWANGRID
RENEWABLES
Figure 5.7
Wetland Survey
Wetland and Waterways
Survey Map 7
Montague Wind Power Facility - Proposed Expansion

Legend

Field data points and ordinary high-water boundaries were measured with sub-meter accuracy.

Approval Issued: 2-28-19
Approval Expires: 5-18-22

Data Source: QRS Spatial Data Library (2012), Esri (2017), Bioscience Source: Esri World Imagery - NAIP (June, 2019)

Privileged and Confidential

AWANGRİD RENEWABLES
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
[Other legend items]

Field data points and ordinary high water boundaries were mapped with sub-meter accuracy.

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

Enclosures

c: Claudia Steinkoenig, Jacobs
   Gilliam County Planning Department
   Brad Johnson, Corps of Engineers
   Heidi Hartman, DSL
   Joy Vaughan, ODFW
   Chase McVeigh-Walker, ODOE

Approved by

Peter Ryan, PWS
Aquatic Resource Specialist
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?kev=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 form 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.

<table>
<thead>
<tr>
<th>Contact and Authorization Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Applicant  ■ Owner Name, Firm and Address: Business phone # (503) 478-6317</td>
</tr>
<tr>
<td>Matt Hutchinson, Avangrid Renewables, LLC  Mobile phone # (optional)</td>
</tr>
<tr>
<td>1125 NW Couch Street, Suite 700  E-mail: <a href="mailto:matthew.hutchinson@avangrid.com">matthew.hutchinson@avangrid.com</a></td>
</tr>
<tr>
<td>Portland, Oregon 97209</td>
</tr>
<tr>
<td>□ Authorized Legal Agent, Name and Address (if different): Business phone #</td>
</tr>
<tr>
<td>□</td>
</tr>
<tr>
<td>□</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Date: Special instructions regarding site access:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project and Site Information</th>
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<tbody>
<tr>
<td>Project Name: Montague Wind Power Facility</td>
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<tr>
<td>Latitude: 45.704539E</td>
</tr>
<tr>
<td>decimal degree - centroid of site or start &amp; end points of linear project</td>
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<tr>
<td>Proposed Use:  Construction of a wind power facility including access roads.</td>
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<td>Tax Map # See attached summary table.</td>
</tr>
<tr>
<td>Tax Lot(s)</td>
</tr>
<tr>
<td>Tax Map #</td>
</tr>
<tr>
<td>Tax Lot(s)</td>
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</tr>
<tr>
<td>Range</td>
</tr>
<tr>
<td>Section</td>
</tr>
<tr>
<td>QQ</td>
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<tr>
<td>Use separate sheet for additional tax and location information.</td>
</tr>
<tr>
<td>Waterway: not applicable</td>
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<tr>
<td>River Mile: not applicable</td>
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<table>
<thead>
<tr>
<th>Wetland Delineation Information</th>
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<tbody>
<tr>
<td>Wetland Consultant Name, Firm and Address: Claudia Steinkoeng, CH2M (now Jacobs)</td>
</tr>
<tr>
<td>2020 SW 4th Avenue, Suite 300  Phone #: (503) 736-4136</td>
</tr>
<tr>
<td>Portland, OR 97219  Mobile phone #: (if applicable)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>E-mail: <a href="mailto:claudia.steinkoeng@jacobs.com">claudia.steinkoeng@jacobs.com</a></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.</td>
</tr>
<tr>
<td>Consultant Signature:</td>
</tr>
<tr>
<td>Date: 10/3/2018</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary Contact for report review and site access is</th>
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</thead>
<tbody>
<tr>
<td>□ Consultant  ■ Applicant/Owner  □ Authorized Agent</td>
</tr>
<tr>
<td>Wetland/Waters Present?  ■ Yes  □ No</td>
</tr>
<tr>
<td>Study Area size: 673 acres  Total Wetland Acres: 0.0000</td>
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<tr>
<th>Check Applicable Boxes Below</th>
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<tbody>
<tr>
<td>□ R-F permit application submitted</td>
</tr>
<tr>
<td>□ Mitigation bank site</td>
</tr>
<tr>
<td>□ Industrial Land Certification Program Site</td>
</tr>
<tr>
<td>□ Wetland restoration/enhancement project (not mitigation)</td>
</tr>
<tr>
<td>□ Previous delineation/application on parcel</td>
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<tr>
<td>If known, previous DSL #: WD # 2017-0111</td>
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<tr>
<td>□ Fee payment submitted $</td>
</tr>
<tr>
<td>□ Fee ($100) for resubmittal of rejected report</td>
</tr>
<tr>
<td>□ Request for Reissuance. See eligibility criteria. (no fee)</td>
</tr>
<tr>
<td>DSN #:</td>
</tr>
<tr>
<td>Expiration date</td>
</tr>
<tr>
<td>□ LWI shows wetlands or waters on parcel</td>
</tr>
<tr>
<td>Wetland ID code:</td>
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</table>

For Office Use Only

<table>
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<tr>
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<tbody>
<tr>
<td>Fee Paid Date:</td>
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<tr>
<td>Date Delineation Received: 10/9/18</td>
</tr>
<tr>
<td>Scanned:</td>
</tr>
<tr>
<td>Electronic:</td>
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<td>DSL App. #:</td>
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March 2018
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<td>100, 900, 2000, 2002, 2100</td>
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<td>1N</td>
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<td>6-8, 17-19, 28-33</td>
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<td>21E</td>
<td>12</td>
<td>500</td>
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<tr>
<td>1S</td>
<td>22E</td>
<td>4-8</td>
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<tr>
<td>2N</td>
<td>21E</td>
<td>25-26</td>
<td>1400, 1600</td>
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<tr>
<td>2N</td>
<td>22E</td>
<td>30-31</td>
<td>2500, 2600</td>
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<td>3N</td>
<td>21E</td>
<td>26, 35-36</td>
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**Tax Map Numbers**

01N21E0000-00100  
01N21E0000-00900  
01N21E0000-02000  
01N21E0000-02002  
01N21E0000-02100  
01N21E0000-ROADS  
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01N22E0000-00800  
01N22E0000-00900  
01N22E0000-01001  
01N22E0000-01800  
01N22E0000-01900  
01N22E0000-02000  
01N22E0000-02900  
01N22E0000-02901  
01N22E0000-02902  
01S22E0000-00500  
01S22E00001S22E0000-00502  
01S22E0000-ROADS
Figure 5D
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 1

Legend
- 2018 Wetland Survey Corridor
- 2017 Wetland Survey Corridor
(KD # 2017-0111 Consumed on October 27, 2017)
- Public Land Survey System
- Township Range Boundary
- Gillam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2016 Field Verified Ordinary High Water
  - Tax lot GIS data for Gillam County downloaded on 10/18/2017.
  - Field data points and ordinary high water boundaries were
    mapped with sub-meter accuracy.

DSL WD #: 2018-0547
Approval Issued: 2-26-2019
Approval Expires: 2-26-2019

[Map and diagrams showing field data and survey details]
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)
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

cc: 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

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Contact and Authorization Information

Applicant ☐ Owner Name, Firm and Address: Matt Hutchinson, Avangrid Renewables, LLC 1125 NW Couch Street, Suite 700 Portland, Oregon 97209

Authorized Legal Agent, Name and Address (if different): Business phone # (503) 478-6317
Mobile phone # (optional): E-mail: matthew.hutchinson@avangrid.com

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: 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

City: Arlington, Oregon County: Gilliam

Waterway: not applicable River Mile: not applicable

Wetland Delineation Information

Wetland Consultant Name, Firm and Address: C. Steinkeoenig, Jacobs (formerly CH2M) 2020 SW 4th Avenue, Suite 300 Portland, Oregon 97219

Phone # (503) 736-4136
Mobile phone # (if applicable): E-mail: claudia.steinkeoenig@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: ☑ 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 ☐ Fee payment submitted $ ______
☐ Mitigation bank site ☐ Fee ($100) for resubmittal of rejected report
☐ Industrial Land Certification Program Site ☐ Request for Reissuance. See eligibility criteria. (no fee)
☐ Wetland restoration/enhancement project ☐ DSL # ______ Expiration date ______
(omit mitigation)
 ☐ Previous delineation/application on parcel
(If known, previous DSL # WDI#2011-0364)
☐ LWI shows wetlands or waters on parcel
☐ Wetland ID code ______

For Office Use Only

DSLReviewer: [Signature] Fee Paid Date: 1/1/18 DSL WD #: 2017-0160
Date Delineation Received: 12/12/18 Scanned: ☐ Electronic: ☑ DSL App.# ______

March 2018
<table>
<thead>
<tr>
<th>Township</th>
<th>Range</th>
<th>Section</th>
<th>Tax Lots</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 North</td>
<td>21 East</td>
<td>4, 5, 6, 8, 13, 14, 15, 16, 17, 18, 21, 23, 27, 28, 29, 33, 34, 35</td>
<td>200, 400, 401, 500, 700, 804, 900, 1100, 1101, 1200, 1500, 2000, 2100</td>
</tr>
<tr>
<td>1 North</td>
<td>22 East</td>
<td>18, 19</td>
<td>800, 1900</td>
</tr>
<tr>
<td>1 South</td>
<td>21 East</td>
<td>2, 3</td>
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**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
- 01N22E0000-01900
- 01S21E0000-00203
- 01S21E0000-ROADS
Figure 5C
Wetland Survey
Wetlands and Waterways
Survey Detail Map
Montague Wind Power Facility - Phase 2

Legend
- 2018 Wetland Survey Corridor
- Study Area Unit Label
- YD2011-0364R Wetland Survey Corridor
- Public Land Survey System
- Townships Range Boundary
- Gilliam County Tax Lot Boundary
- Field Data Point and Photo Direction
- 2015 Field Verified Ordinary High Water
- Water Feature Continues Outside of the Survey Corridor
- Flow Direction
- Basemap Features
  - Interstate Highway
  - Public Road

- Tax lot G/S data for Gilliam County downloaded on 12/18/2017.
- 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

Basemap Source: ESRI World Imagery