

Exhibit J

Wetlands and Other Jurisdictional Waters

**Wheatridge Renewable Energy Facility East
April 2023**

**Prepared for
Wheatridge East Wind, LLC**

Prepared by



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Acronyms and Abbreviations

ASC	Application for Site Certificate
Certificate Holder	Wheatridge East Wind, LLC
Code of Federal Regulations	CFR
Council	Energy Facility Siting Council
EPA	U.S. Environmental Protection Agency
Facility	Wheatridge Renewable Energy Facility East
MW	megawatt
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
ODSL	Oregon Department of State Land
O&M	operations and maintenance
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
RFA 1	Request for Amendment 1
USACE	U.S. Army Corps of Engineers
WOS	Waters of the State
WOUS	Waters of the United States

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1.0 Introduction

The Wheatridge Renewable Energy Facility East (Facility) is an approved, but not yet constructed, wind energy generation facility consisting of up to 66 turbines and related or supporting facilities with a peak generating capacity of up to 200 megawatts (MW), to be located in an Approved Site Boundary of approximately 4,582 acres on over 42,000 acres of leased land in Morrow and Umatilla counties, Oregon. As part of Request for Amendment (RFA) 1 to the Facility Site Certificate, Wheatridge East Wind, LLC (Certificate Holder) is proposing to expand wind power generation at the Facility to provide the opportunity for increased power capacity and availability. This includes expanding the Site Boundary and micro-siting corridors, increasing the peak generating capacity by adding more and newer turbines, changing the intraconnection routes, and extending the construction date. See the RFA 1's Division 27 document (*Request for Amendment #1 for the Wheatridge Renewable Energy Facility East*) for a more detailed summary of the proposed changes.

This Exhibit J was prepared to meet the submittal requirements in Oregon Administrative Rules (OAR) 345-021-0010(1)(j). Analysis in this exhibit incorporates and/or relies on reference information, analysis, and findings found in the Application for Site Certificate (ASC), previous RFAs, and Oregon Department of Energy Final Orders to demonstrate that the Facility, as modified by RFA 1, continues to comply with applicable Site Certificate conditions and the standard in OAR 345-021-0010(1)(j)

2.0 Analysis Area

The Analysis Area for wetland and other jurisdictional waters is the area within the Amended Site Boundary (Figure J-1). The Amended Site Boundary is defined in detail in Exhibits B and C and is shown on Figure J-1.

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

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

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

3.1 Definitions

3.1.1 Federal

Waters of the United States (WOUS) are defined in 33 Code of Federal Regulations (CFR) 36 328.3(a)(1-7) as:

1. *All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
2. *All interstate waters including interstate wetlands;*
3. *All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:*
 - a) *Which are or could be used by interstate or foreign travelers for recreational or other purposes; or*
 - b) *From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or*
 - c) *Which are used or could be used for industrial purpose by industries in interstate commerce;*
4. *All impoundments of waters otherwise defined as WOUS under the definition;*
5. *Tributaries of waters identified in paragraphs (a) (1) through (4) of this section;*
6. *The territorial seas; and*
7. *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section.*

Wetlands are defined federally in 33 CFR § 328.3(b) as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.”

3.1.2 State

Oregon Revised Statutes (ORS) 196.800(14) defines Waters of the State (WOS) more broadly than federal WOUS. Specifically, WOS include “all natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and non-navigable bodies of water in this state and those portions of the ocean shore, as defined in ORS 390.605, where removal or fill

activities are regulated under a state-assumed permit program as provided in 33 United States Code 1344(g) of the Federal Water Pollution Control Act, as amended.”

The Oregon Department of State Land’s (ODSL) definition of wetlands mirrors the federal definition; see OAR 141-085-0510 (101).

3.2 Jurisdictional Versus Non-Jurisdictional Waters

Not all wetlands and streams are within the jurisdiction of state or federal regulation, and not all waters falling within the state’s jurisdiction fall under federal jurisdiction. For the proposed Facility, several jurisdictional distinctions are important to estimate impacts only to jurisdictional wetlands and other waters. These include determinations related to the following:

- Ephemeral streams, which generally are not under state jurisdiction and are evaluated on a case-by-case basis for federal jurisdiction, as distinct from perennial and intermittent (USACE 2005, USACE 2008).
- Artificially created roadside and farm ditches, which are considered WOS if they contain food or game fish and are connected to WOS (OAR 141-085-0515(8)) and WOUS if they connect to other WOUS and are not ephemeral (EPA and USACE 2011).

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

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

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

Based on the definitions of jurisdictional waters given above, intermittent streams are likely to be jurisdictional under federal regulations if they have physical characteristics such as discernible banks, evidence of sustained surface flow for at least three consecutive months of the year, and a surface water connection to other WOUS.

3.3 Desktop Study

Prior to field work, Tetra Tech conducted a desktop study of potentially jurisdictional wetlands and other waters to assist in planning for field delineations. Site-specific literature and Geographic Information System map layers reviewed as part of the desktop study included:

- National Wetland Inventory (NWI) maps (USFWS 2022a);

- Hydric Soils List for Morrow County and Umatilla County, Oregon (NRCS 2022a);
- The Natural Resources Conservation Service (NRCS) Soil Surveys of Morrow and Umatilla County in Oregon (NRCS 2022b);
- United States Geological Survey National Hydrography Dataset (NHD) (USGS 2022), which provided the location of potential streams; and
- Google Earth (2022), Morrow County and Umatilla County, Oregon.

3.4 Delineation of Wetlands and Other Water Features

Field investigations for the delineation of wetlands and other waters included pedestrian surveys within the Analysis Area. Tetra Tech conducted the field delineation on July 22, 2022, October 18–26, 2022, and November 8–17, 2022. The desktop wetlands and water data were used to focus the delineations as necessary.

3.4.1 Methods

Delineations utilized techniques published in the 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (USACE 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008), and OARs for wetland delineations (141-090-0005 through 141-090-0055; ODSL 2001).

During the delineation efforts, each waterbody encountered was examined for wetland characteristics consistent with WOS definitions (see Section 3.1.2), and this evidence was documented using standard field data sheets. The location and extent of each waterbody (regardless of its characteristics) was mapped with Global Positioning System technology. Upland plots were also established at some survey locations with mapped NWI features to confirm that the site did not meet wetland criteria. Streams were characterized using the Oregon Streamflow Duration Assessment Method (Nadeau 2015).

3.4.2 Results

Using the methodology above, 20 wetlands and 227 other water features were delineated and documented within the Analysis Area. Table J-1 summarizes the potentially jurisdictional WOS delineated within the site boundary by water type classification and the projected infrastructure impacts. Many ephemeral streams that were delineated in the Analysis Area flow into jurisdictional waterways and are presumed to be state jurisdictional; therefore, they are included in Table J-1. Not all features that were delineated will be impacted by the proposed Facility.

Table J-1. Summary of Delineated Wetlands and Other Water Features

Type of Water	Number of Features	Acres
Emergent Wetland	11	0.99
Riverine Wetland	9	31.16
Vernal Pool	13	0.93
Total Wetlands	33	33.08
Perennial Stream	2	1.76
Intermittent Stream	6	0.69
Ephemeral Stream	238	8.85
Total Other Water Features	246	11.30

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

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

Delineated wetlands and other waters were overlaid with proposed Facility components and areas of impact and are reflected in Figures J-2 and J-3. The Certificate Holder has provided the initial Facility layouts prior to review of delineated wetlands and non-wetland waters. Analysis of the proposed Facility layouts indicates that some wetlands and non-wetland waters will be impacted both temporarily and permanently.

4.1 Avoidance and Minimization

The Certificate Holder has provided two initial Facility layout options that have not yet been adjusted to reflect avoidance and minimization of impacts to jurisdictional waters. The Certificate Holder will review and adjust the two options based on data provided by Tetra Tech following completion of the Wetland Delineation Report (Attachment J-1). Avoidance and minimization are to be determined after site layout is adjusted based on data Tetra Tech has presented and efforts will be focused on avoiding WOS.

4.2 Continued Assessment of Impacts

The Certificate Holder will continue to adjust the location of components of the proposed Facility to avoid and minimize impacts to WOS to the extent practicable. Certain areas along the southeasternmost turbine corridors were not accessible for surveys during the field effort, in addition a few parcels were not accessible due to landowner approval. These areas will be surveyed prior to construction once access has been obtained. Wetlands or streams identified in these areas are expected to be avoided by construction or its impacts mitigated.

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

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

Tables J-2 and J-3 detail the wetland and non-wetland waters within the Analysis Area that are WOS and are currently impacted by the proposed Facility layout options. No perennial streams will be impacted by either option of the proposed Facility layout, although wetlands, intermittent streams, and ephemeral streams that flow into jurisdictional waters and have been determined to be WOS will be impacted by both options. Figures J-2 and J-3 present the impacts outlined in the tables below.

Table J-2. Summary of Impacts to Features (Option A)

Type of Water	Number of Permanent Impact Sites	Permanent (Acres)	Number of Temporary Impact Sites	Temporary (Acres)	Number of Features Impacted
Ephemeral Stream	3	0.002	77	0.373	77
Intermittent Stream	0	N/A	2	0.03	2
Emergent Wetland	1	0.007	6	0.159	5
Riverine Wetland	3	0.013	12	1.318	5
Vernal Pool	3	0.116	5	0.204	5
Total	10	0.138	102	2.084	94

Table J-3. Summary of Impacts to Features (Option B)

Type of Water	Number of Permanent Impact Sites	Permanent (Acres)	Number of Temporary Impact Sites	Temporary (Acres)	Number of Features Impacted
Ephemeral Stream	3	0.002	78	0.36	75
Intermittent Stream	0	N/A	2	0.03	2
Emergent Wetland	1	0.007	6	0.16	6
Riverine Wetland	4	0.017	13	2.86	5
Vernal Pool	3	0.116	5	0.20	5
Total	11	0.142	104	3.62	93

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

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

As stated below in Section 6.0, the proposed Facility will require a Removal-Fill Permit and therefore this requirement is not applicable.

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

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

The proposed Facility will require a Removal-Fill Permit due to adverse impacts to WOS. Within the Analysis Area, there are two named fish-bearing streams, Butter Creek and Little Butter Creek. Many delineated intermittent and ephemeral streams within the Analysis Area are hydrologically connected to these fish-bearing streams or riverine wetlands and are WOS as defined under OAR 141-085-0510. Due to these WOS being impacted by both of the Facility layout options, the Certificate Holder will be applying for a joint permit through ODSL. The volume of removal and fill to features will be provided with the Joint Permit Application (Attachment J-2).

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

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

The Certificate Holder will work to avoid impacts to WOS within the proposed Facility upon review of wetlands and non-wetlands waters data presented by Tetra Tech. Impacted sites will be mitigated for based on a mitigation and monitoring plan to be established by the Applicant alongside Tetra Tech. In addition to a mitigation and monitoring plan, this section describes avoidance and minimization measures that will be used during construction.

7.1 Avoidance and Minimization

The Certificate Holder will work to avoid potential construction impacts of the proposed Facility. Impacts to wetlands and other waters will be adjusted and continue to be avoided during Facility design to the extent practicable. Avoidance and minimization measures include the following:

- The proposed locations of turbine pads and transmission towers will be micro-sited, wherever possible, to avoid wetlands and their buffers.
- Underground collector lines and access roads are to be routed around wetlands and waters that do not span the entire width of the right-of-way.
- To avoid new road construction, existing roads leading to proposed turbine locations have been used for construction and maintenance purposes to the extent possible.
- To the extent practicable, necessary road widening will take place on the side of the road that does not have an adjacent jurisdictional wetland or other water.

Indirect impacts to wetlands and other waters will be avoided and minimized by employing Best Management Practices for erosion and sediment control listed in the National Pollutant Discharge Elimination System permit required for the proposed Facility and the accompanying Erosion and Sediment Control Plan (Exhibit I, Attachment I-1).

7.2 Environmental Training

The following measures will be implemented during construction to avoid impacts:

- The Certificate Holder will develop an environmental awareness course for the construction contractors that will provide information on the sensitive wetland and stream resources present onsite, the exclusion flagging/signing, permit requirements, and other environmental issues.
- Construction site personnel will be required to attend the environmental awareness course in conjunction with hazard and safety training prior to working on-site. The Certificate Holder's construction contractor will maintain a list of on-site construction personnel who have received the training.

8.0 References

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Figures

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Attachment J-1. Wetland Delineation Report

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**Attachment J-2 Joint Permit Application
(PENDING)**

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