Exhibit Q

Threatened and Endangered Species

Wheatridge Renewable Energy Facility East
May 2023

Prepared for
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Acronyms and Abbreviations

ASC	Application for Site Certificate
BESS	battery energy storage system
Certificate Holder	Wheatridge East Wind, LLC
Facility or WREFE	Wheatridge Renewable Energy Facility East
GIS	Geographic Information Systems
MW	megawatt
NOAA Fisheries	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
O&M	operations and maintenance
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
OESA	Oregon Endangered Species Act
ORBIC	Oregon Biodiversity Information Center
ORS	Oregon Revised Statutes
RFA	Request for Amendment
USFWS	U.S. Fish and Wildlife Service
WAGS	Washington ground squirrel
WREFI	Wheatridge Renewable Energy Facility
WREFII	Wheatridge Renewable Energy Facility II
WREFIII	Wheatridge Renewable Energy Facility III

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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 micrositing 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 Q was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-021-0010(1)(q). 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 approval standard in OAR 345-022-0070. OAR 345-022-0070 requires that:

> *To issue a site certificate, the Council, after consultation with appropriate state agencies, must find that:*
>
> > *(1) For plant species that the Oregon Department of Agriculture has listed as threatened or endangered under ORS 564.105(2), the design, construction and operation of the proposed facility, taking into account mitigation:*
> >
> > > *(a) Are consistent with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3); or*
> > >
> > > *(b) If the Oregon Department of Agriculture has not adopted a protection and conservation program, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and*
> >
> > *(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as threatened or endangered under ORS 496.172(2), the design, construction and operation of the proposed facility, taking into account mitigation, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species.*

The approved Facility resulted from a Site Certificate and facility division approved in the Final Order on the RFA 1 to the Site Certificate[1] for Wheatridge Renewable Energy Facility II (WREFII).

[1] Final Order on Request for Amendment 1 to the Site Certificate for the Wheatridge Renewable Energy Facility II (November 2020)

The Final Order imposed three conditions (PRE-TE-01, PRE-TE-02 and PRE-TE-03) intended to avoid potential impacts to threatened and endangered species.[2] Under this RFA 1, the changes proposed will not compromise the Certificate Holder's ability to comply with these conditions, although revisions to Site Certificate condition PRE-TE-01 are proposed in the Division 27 document to clarify survey needs. These revisions were developed in coordination with the Oregon Department of Fish and Wildlife (ODFW) and the Oregon Department of Energy (ODOE). No new conditions or other modifications to conditions are needed for protection of listed species.

1.1 Analysis Area

In accordance with OAR 345-001-0010(35)(a), the Analysis Area for threatened and endangered plant and animal species is the area within and extending five miles from the Amended Site Boundary (Figure Q-1). The Amended Site Boundary is inclusive of portions of the Approved Site Boundary. A portion of the Amended Site Boundary is designated as the amended micrositing corridor, where proposed Facility components may be located.

1.2 Agency Consultation

Consultation and coordination with personnel from ODFW and the United States Fish and Wildlife Service (USFWS) prior to the ASC regarding the presence on and use of areas within the Approved Site Boundary by threatened and endangered plant and wildlife species can be found in the ASC's Exhibit Q (Wheatridge 2015). Consultation and coordination with ODFW and ODOE with respect to modifications to the Facility proposed in this RFA are summarized in Exhibit P of this RFA. Consultation and coordination with the Oregon Department of Agriculture (ODA) included a conference call on November 2, 2022, as summarized below.

- ODA described the status of the Laurence's milkvetch (*Astragalus collinus* var. *laurentii*) seed collection at the WREFII, and the seed banking and related research underway as developed under the Exception Request #1 to Condition PRE-TE-03. The ODA-prepared monitoring report will be available in 2023.
- The Certificate Holder discussed potentially expanding the ODA research efforts, via an Exception Request, if impacts to Laurence's milkvetch are anticipated at the proposed Facility.
- ODA agreed to continue the discussion about mitigation after the impacts to Laurence's milkvetch are assessed at the proposed Facility.

[2] Final Order on Application for the Wheatridge Wind Energy Facility (April 2017)

2.0 Identification of Species – OAR 345-021-0010(1)(q)(A)

OAR 345-021-0010(1)(q) Information about threatened and endangered plant and animal species that may be affected by the proposed facility, providing evidence to support a finding by the Council as required by OAR 345-022-0070. The applicant must include:

OAR 345-021-0010(1)(q)(A) Based on appropriate literature and field study, identification of all threatened or endangered species listed under ORS 496.172(2) and ORS 564.105(2) that may be affected by the proposed facility.

Identification of state-listed or candidate species that might be affected by the proposed Facility involved a combination of literature review and the familiarity of the Certificate Holder's environmental team with the region. Field studies were then designed to verify the presence/absence of such species within the Analysis Area.

2.1 Desktop Review

The Certificate Holder used a variety of sources to identify state threatened and endangered plant and animal species that may be affected by the proposed Facility. Sources included online databases and coordination with ODA and ODFW (see Section 1.2). Additionally, the Certificate Holder coordinated with the ODFW and the USFWS prior to the ASC, regarding the presence and use of the proposed Facility by sensitive species (see Section 1.2).

The Certificate Holder reviewed habitat and range information for special-status plant and animal species known to occur in Morrow and Umatilla counties and the Columbia Plateau to develop a list of special-status species that had the potential to occur within the Analysis Area. Species were eliminated from consideration if their habitat was absent from the Analysis Area, or their range did not overlap with the Analysis Area. The Certificate Holder also reviewed special-status species information recorded during surveys at the adjacent Wheatridge Renewable Energy Facilities I, II, and III (WREFI, WREFII, WREFIII respectively) and at the proposed Wagon Trail Solar Project (Wheatridge 2015, Wheatridge 2019a, Wheatridge East 2022).

In addition to reviewing publicly available sources, the Certificate Holder submitted a request to the Oregon Biodiversity Information Center (ORBIC) to obtain site-specific records of special-status species occurrences and sensitive habitats within 10 miles of the Amended Site Boundary (ORBIC 2022a, ORBIC 2022b). Aerial photographs, National Wetlands Inventory data (USFWS 2022a) and the National Hydrography Dataset (USGS 2018) were reviewed to identify any potential changes to habitats within the Analysis Area since the ASC was submitted. The Certificate Holder also reviewed ODFW habitats mapped during surveys for the adjacent WREFI, WREFII, and WREFIII facilities and the Wagon Trail Solar Project; the extent of these surveys partially overlaps with the proposed Facility's location (Wheatridge 2015, Wheatridge 2019a, Wheatridge East 2022).

Based on the review of existing data, two species listed as state threatened or endangered were identified as having the potential to occur within the Analysis Area (Table Q-1). These included one mammal and one vascular plant species, both of which were subsequently documented during field

surveys (see Section 3.0). No state-listed fish have the potential to occur within the Analysis Area (ORBIC 2022b, StreamNet 2022).

One species, Northern wormwood (*Artemisia campestris* var*. wormskioldii*; state endangered), was initially considered for inclusion in Exhibit Q but excluded because it is not known or expected to occur within the Analysis Area. Northern wormwood's range is restricted to basalt, compacted cobble, and sand on the banks of the Columbia River, and it is believed to be extirpated in Oregon. (ODA 2022a).

Table Q-1. State Listed Species with Potential to Occur within the Analysis Area

Scientific Name	Common Name	Federal Status[1]	State Status[2]	Occurrence within Analysis Area	Potential Habitat within the Amended Site Boundary
Mammals					
Urocitellus washingtoni	Washington ground squirrel	–	E	Yes (ORBIC, ASC Exhibit Q)	Yes
Plants					
Astragalus collinus var. *laurentii*	Laurence's milkvetch	SOC	T	Yes (ORBIC, ASC Exhibit Q)	Yes

Sources: ODA 2022a, ODA 2022b, ODFW 2021a, ODFW 2021b, ORBIC 2021, ORBIC 2022a, ORBIC 2022b, Oregon Flora 2022a, Oregon Flora 2022b, Oregon Flora 2022c and USFWS 2022b, Wheatridge 2015.

1. SOC = Species of Concern.

2. T = Threatened, E = Endangered.

Although candidate plant species are not included in the Threatened and Endangered Species Standard (OAR 345-022-0070) or the requirements of OAR 345-021-0010(1)(q), a list of candidate plant species with potential to occur at the proposed Facility are included here as requested by ODOE (2013) and considering Condition PRE-FW-03 which requires that the Certificate Holder flag all environmentally sensitive areas as restricted work zones, including areas with candidate plant species.

Based on range maps, and although ORBIC had no record of them within the Analysis Area, four ODA candidate plant species were initially identified as having potential for occurrence at the proposed Facility: dwarf evening-primrose (*Eremothera* [*Cammisonia] pygmaea*), disappearing monkeyflower (*Erythranthe* [*Mimulus] inflatula [evanescens]*), hepatic monkeyflower (*Erythranthe* [*Mimulus] jungermannioides*), and sessile mousetail (*Myosurus sessilis*)(Wheatridge 2015, ORBIC 2022b). No candidate plant species were documented during surveys for the approved Facility in 2011, 2012, 2013, or 2018. Surveys in 2022 did not target these candidate species' habitats and occurred after the identification period for most of these species.

Dwarf evening-primrose can be found on dry plains and slopes with unstable soils or on gravel in steep talus, dry washes, banks and roadcuts between approximately 500 and 2,000 feet in elevation (Oregon Flora 2022b). This species is known from Umatilla County but not Morrow County (ORBIC

2023). Surveys in 2011-2013 included the entirety of the amended micrositing corridors addressed in this RFA 1 in Umatilla County and did not detect this species. As a result, impacts to this species are not anticipated as a result of the proposed Facility and it is not discussed further.

Disappearing monkeyflower occurs in habitats typically associated with wetlands and waters (i.e., moist, heavy gravel that is inundated in early spring) (Wheatridge 2015). This species is not currently known to occur in Morrow or Umatilla counties and was not detected during surveys in the Analysis Area (ORBIC 2023, Wheatridge 2015). As a result, impacts to this species are not anticipated as a result of the proposed Facility and it is not discussed further.

Hepatic monkeyflower and sessile mousetail are known to occur in Umatilla County but not Morrow County according to ORBIC (2023), although Oregon Flora (2023) identifies hepatic monkeyflower occurrences in both Umatilla County and Morrow County. These species are found in habitats typically associated wetlands and waters and/or cliffs (i.e., basalt crevices in seepage zones of vertical cliffs and canyon walls for hepatic monkeyflower, and vernal pools and alkali flats for sessile mousetail) (Wheatridge 2015). As described above, surveys in 2011-2013 included the entirety of the amended micrositing corridors addressed in this RFA 1 in Umatilla County and did not detect these species. As a result, impacts to these species are not anticipated as a result of the proposed Facility and are not discussed further.

2.2 Field Surveys

The Certificate Holder conducted field surveys in 2022 to evaluate the potential presence of state-listed species in the Amended Site Boundary. The purpose of these surveys was to update and to supplement surveys completed for the ASC (see Exhibit P). Survey methods and results are described in detail in the reports attached to the ASC (Wheatridge 2015) and Exhibit P, Attachment P-1. The 2022 survey reports detail the methods and findings of Washington ground squirrel (WAGS; *Urocitellus washingtoni*) surveys and botanical surveys (Laurence's milkvetch) that are summarized in this exhibit. Field survey reports are included in Attachment P-1 of Exhibit P of this RFA.

2.2.1 Wildlife

The Certificate Holder previously conducted WAGS surveys in the Analysis Area in 2011-2013 prior to applying for and receiving the initial Site Certificate. Additional surveys were conducted in the Facility's vicinity in 2018 (Wheatridge 2019a), 2019 (Wheatridge 2019b), 2020 (Tetra Tech 2021a), and 2021 (Tetra Tech 2021b; see Exhibit P, Figure P-2). The Certificate Holder conducted WAGS surveys to support RFA 1 in 2022, described here. WAGS field surveys involved a team of surveyors walking linear transects spaced 165 to 230 feet apart within the WAGS Survey Area, documenting and mapping WAGS and their sign. The WAGS Survey Area included 1,000-foot buffers on the amended micrositing corridors in potential WAGS habitat. Approximately 8,502 acres of the potential habitat, which was only a portion that required survey per Condition PRE-TE-01, was surveyed in 2022. Potential habitat included non-agricultural habitats and non-developed lands. WAGS surveys were conducted in spring 2022. Surveys occurred between April 17 and April

29, 2022; May 4 and May 15, 2022; and May 20 and May 29, 2022, in two phases, spaced 2 weeks apart. See Figure Q-2 for a depiction of areas that have been surveyed in relation to the amended micrositing corridors.

The surveys generally followed methodology developed in the *Status and Habitat Use of the WAGS on State of Oregon Lands* (Morgan and Nugent 1999). During the protocol surveys, potential habitat was surveyed twice during the survey period; surveys were conducted at least 2 weeks apart. The second phase of surveys included transects either offset from or perpendicular to the first phase transects to increase coverage by traveling in between the transect paths walked during the first phase of surveys. Subsequently, a single round of surveys, conducting in area that were not previously surveyed, was conducted late in the season to better inform the Certificate Holder on locations to potentially avoid, without assuming a lack of presence of WAGS. For details on the WAGS survey methods and results, see the 2022 Washington Ground Squirrel Survey Report (Exhibit P, Attachment P-1).

The Certificate Holder will continue to conduct surveys as needed, including in areas associated with the amended micrositing corridor where access was not previously available and in areas that were added to the micrositing corridor following surveys in spring 2022. The area remaining to be surveyed is estimated to be approximately 23,030 acres. However, significant portions of that acreage encompass development alternatives considered for maximum impact and a smaller area would actually be constructed.

2.2.2 Plants

The Certificate Holder performed special status plant surveys in 2011, 2012, 2013, 2018, 2019, and 2022. The area covered during the surveys is summarized in Table P-1 and Figure P-2 of Exhibit P. For complete survey methods employed and results of surveys in 2011, 2012, and 2013, see Attachment P-1 of the ASC (Wheatridge 2015). Surveys performed in 2022 are detailed below.

In 2022, special status plant surveys were conducted within an approximately 2,028-acre Botanical Survey Area, which encompassed the amended micrositing corridor that was under consideration at the time of surveys (i.e., during the summer of 2022), limited to the areas that were accessible at the time of the surveys, were suitable for rare plants (i.e., not cultivated), and could be surveyed within the target species' identification period in 2022 (i.e., through the end of July; see Attachment P-1 of Exhibit P). An additional 7,802 acres thus remains to be surveyed in 2023. The Botanical Survey Area included buffers on proposed Facility wind infrastructure (500-foot buffers on each side of turbine strings and 150-foot buffers on each side of transmission lines, access roads, collector lines, substations, BESS and operations and maintenance (O&M) facilities [i.e., the micrositing corridor]) as proposed prior to surveys, and excluded active agricultural fields because they do not support target species, resulting in a variable 300- to 1,000-foot-wide corridor. See Figure Q-3 for a depiction of areas that have been surveyed within the micrositing corridor.

Surveyors used the Intuitive Controlled survey method to locate plants. This method incorporates meandering transects that traverse the survey area, and that target the full array of major

vegetation types, aspects, topographical features, habitats, and substrate types. While enroute, the surveyors search for target species, and when the surveyors arrive at an area of high potential habitat (that was defined in the pre-field review or encountered during the field visit), they conduct a complete survey for the target species. Complete surveys include an examination of 100 percent of the habitat.

Field surveys were scheduled to coincide with the best identification period for the one target species with potential to occur within the 2022 Botanical Survey Area: Laurence's milkvetch. For details on the plant survey methods and results, see the 2022 Botanical Survey Report (Exhibit P, Attachment P-1). The Certificate Holder will continue to conduct surveys as needed, including in areas associated with the micrositing corridor that are granted access where access was not previously available, and in areas that were added to the micrositing corridor following surveys in 2022.

3.0 Occurrence and Potential Adverse Effects – OAR 345-021-0010(1)(q)(B)

OAR 345-021-0010(1)(q)(B) For each species identified under (A), a description of the nature, extent, locations and timing of its occurrence in the analysis area and how the facility might adversely affect it.

3.1 Wildlife

One state-listed wildlife species was found to have the potential to occur within the Analysis Area based on desktop analysis: WAGS (state endangered species). WAGS was found to occur within the Analysis Area during Facility surveys (Attachment P-1).

3.1.1 Washington Ground Squirrel

WAGS are small, diurnal ground squirrels that spend much of the year (on average, July through February) underground (Sherman and Shellman Sherman 2005). Occurrence of WAGS is limited primarily to shrub-steppe and grassland habitats in parts of the Columbia Plateau ecoregion. In Oregon, occurrences are limited to the Columbia Basin at elevations up to 984 feet (300 meters) south of the Columbia River, east of the John Day River, and west of Milton-Freewater (Morgan and Nugent 1999). More information on the life history of WAGS is provided in the 2022 WAGS Survey Report (Exhibit P, Attachment P-1).

Current and potential threats to the continued survival of the species include habitat loss from the conversion of habitat to agricultural use, residential use, infrastructure project development and other forms of development; as well as habitat fragmentation, recreational shooting, genetic isolation and drift, predation, disease, drought and invasive weeds on forage quality and quantity (USFWS 2010).

3.1.1.1 Occurrence

Two WAGS occurrences, associated with surveys performed in 1979 and 2013, were recorded within the Analysis Area (ORBIC 2022a, b, Carlson et al. 1980, Gerhardt and Anderson 2014). ORBIC occurrences are buffered to protect the location of the rare plant or animal, so the exact location and extent of the colonies are unknown. One polygon overlaps the central portion of the Amended Site Boundary along Big Butter Creek Road. The second polygon overlaps the western part of the Amended Site Boundary along County Road 735. Both element occurrence records were initially reported in 1979 and last observed in 2013. The Certificate Holder also reviewed previous WAGS surveys (Gerhardt and Anderson 2014), which indicated that WAGS were present in the vicinity of the Amended Site Boundary. Neither of these occurrences overlapped with colonies documented during field surveys.

Five active WAGS colonies were recorded during WAGS surveys in 2022, primarily south of Big Butter Creek Road and east of Little Butter Creek Road (Figure Q-4; see also Exhibit P, Attachment P-1). Colony acreages within the 2022 WAGS Survey Area ranged from 0.12 acres to 2.29 acres and totaled approximately 4 acres within the 2022 WAGS Survey Area. The majority of colonies were confirmed active by the detection of alarm calls associated with burrows and identification of scat characteristic of this species. Colonies consisted of 12 to 110 burrows, with an average of 45 burrows. The recorded colonies were located in bunchgrass (i.e., perennial grassland) habitats.

Common grass species recorded at active colonies included Sandberg bluegrass (*Poa secunda* ssp. *secunda*) and bulbous bluegrass (*Poa bulbosa*). For colonies with shrubs, the dominant species recorded were rubber rabbitbrush (*Ericameria nauseosa*) and green rabbitbrush (*Chrysothamnus viscidiflorus*). The two dominant forbs recorded in the colonies were western yarrow (*Achillea millefolium*) and redstem stork's bill (*Erodium cicutarium*).

3.1.1.2 Potential Adverse Effects

Vehicles and equipment used during construction activities, as well as O&M vehicles, could cause direct mortality of WAGS by collision on roadways as many of the colonies are located near existing primary or secondary dirt roads. No other direct adverse effects are expected, as all ground-disturbing activities will avoid active WAGS colonies and the 785-foot buffer around colonies in potentially suitable WAGS habitat (Figure Q-5). Existing and stream channels are not depicted within the 785-foot buffers on Figure Q-5 because they are not considered suitable WAGS habitat. Also, the permanent impacts associated with the transmission/overhead collector line poles are included in Exhibit Q figures. No poles will be placed in active WAGS colonies or in the 785-foot buffer in potentially suitable habitat, though overhead transmission lines may cross the 785-foot buffer while avoiding any surface disturbance in Category 1 habitat.

Potential indirect adverse effects from construction outside of active WAGS colonies and buffers, but within potentially suitable WAGS habitat, includes temporary and permanent loss and modification of unoccupied habitat that could result in decreased cover, food availability, and dispersal opportunities should WAGS move into these areas. These indirect impacts are primarily

reflected in impacts to Category 2 WAGS habitat because proposed Facility development in these areas could limit movement and dispersal for existing colonies. Category 2 WAGS habitat is identified as an additional 4,136-foot buffer of suitable ground squirrel habitat on Category 1 WAGS habitat, except where there are habitat barriers to dispersal.

As described in the Final Order, construction and operation of the Facility will result in permanent and temporary loss of WAGs habitat[3]. Impact calculations in this RFA include permanent and temporary impact acreages for Option A and Option B, respectively, as defined in the Division 27 document. Facility dirt and gravel roads are not anticipated to result in barriers to dispersal, as ground squirrels cross dirt and gravel roads, thus limiting the effects of Facility-related habitat fragmentation. There are limited permanent impacts to Category 2 WAGS habitat (i.e., 122.7 acres of permanent habitat loss; Table Q-2). Permanent impacts will be minimal and mitigated for as described in the Draft Habitat Mitigation Plan (Exhibit P, Attachment P-2). The temporary impacts to Category 2 habitat (i.e., 16.2 acres) will be minimal and short term due to the revegetation and noxious weed control measures described in the Draft Noxious Weed Control Plan (Exhibit P, Attachment P-3) and Draft Revegetation Plan (Exhibit P, Attachment P-4).

Table Q-2. Temporary and Permanent Impacts to Category 1 and 2 WAGS Habitat

Habitat Subtype	Category 1 Temporary Impacts (Acres)[1]	Category 1 Permanent Impacts (Acres)[1]	Option A Category 2 Temporary Impacts (Acres)[1]	Option A Category 2 Permanent Impacts (Acres)[1]	Option B Category 2 Temporary Impacts (Acres)[1]	Option B Category 2 Permanent Impacts (Acres)[1]
Exotic Annual Grassland	–	–	<0.1	0.7	<0.1	0.7
Native Perennial Grassland	–	–	16.2	121.4	16.2	121.5
Rabbitbrush/Snakeweed Shrub-steppe	–	–	–	0.5	–	0.5
TOTAL	–	–	**16.2**	**122.7**	**16.2**	**122.7**
1. Numbers may not sum correctly due to rounding; "– " means no impact while <0.1 means greater than zero but less than 0.05 acres impact.						

This species may experience slightly increased raptor predation pressure as a result of increased perching and nesting structures provided by the proposed Facility transmission line. However, this effect does not appear to be large enough to cause long-term effects resulting in abandonment of colonies as thriving colonies have been found adjacent to existing transmission lines (Tetra Tech 2011, 2014).

[3] Final Order on Application for the Wheatridge Wind Energy Facility (April 2017)

3.2 Plants

One state-listed plant species was found to have the potential to occur within the Analysis Area based on desktop analysis: Laurence's milkvetch (state threatened species). Laurence's milkvetch was found to occur within the Analysis Area during Facility surveys (Table Q-3).

Table Q-3. Plant Blooming Period, Occurrence, and Likelihood of Adverse Effects

Species	Blooming/ Identification Period[1]	Potential for Occurrence within Analysis Area				Potential Adverse Effects[2]
		Potential Habitat within Amended Site Boundary	ORBIC Records (Analysis Area)	ORBIC Records (Amended Site Boundary)	Observed during Surveys?	
Laurence's milkvetch	Late May - August	Yes	Yes	No	Yes	Yes

1. Peak blooming period (ODA 2022c, Oregon Flora 2022b).
2. Potential for adverse effects not considering avoidance, minimization, and mitigation measures.

3.2.1 Laurence's Milkvetch

Laurence's milkvetch is listed as a state threatened species under OESA. This 4 to 20-inch-tall taprooted perennial is in the pea (*Fabaceae*) family and occupies sandy or rocky soils overlying basalt on dry slopes of the Columbia Plateau in northern Oregon (ODA 2022c). Laurence's milkvetch blooms from May to August and develops pendulant seed pods from late May to August that are required for identification (ODA 2022c). Threats to Laurence's milkvetch include habitat loss due to agricultural development, grazing, road maintenance activities, competition from exotic weeds, and seed predation by insects (ODA 2022c).

3.2.1.1 Occurrence

Eleven occurrences of Laurence's milkvetch were documented during surveys performed in 2022 (Figure Q-6). Following guidance from NatureServe (2020), observations within one kilometer of each other were assigned to the same occurrence.

Sixty-five observations (i.e., isolated individuals or groupings of individuals) were recorded within the 2022 Botanical Survey Area and six were recorded outside the 2022 Botanical Survey Area (Attachment P-1). Observations ranged from 1 to approximately 10,000 plants and occupied between 0.01 and 13 acres each. Observations were primarily located within perennial grassland (native and non-native) and were present throughout much of the 2022 Botanical Survey Area, typically occupying upper slopes, on open, dry sites. Plants were found to occur on slopes facing all compass directions, on slight to moderate slopes (0 – 45 degrees), and in loamy soils, ranging from rocky and gravelly loam to sandy loam.

Almost all observations included individuals with fruit present, which are required to differentiate this variety from similar species and varieties that occur in the area. A few solitary vegetative plants were tentatively identified as Laurence's milkvetch, as the species was present in the general area. Frequently associated species included the perennial grasses bluebunch wheatgrass (*Pseudoroegneria spicata*), Idaho fescue (*Festuca idahoensis*), bulbous bluegrass, and Sandberg's bluegrass; the annual grasses cheatgrass (*Bromus tectorum*) and an unidentified brome (*Bromus* sp.); the forbs common yarrow (*Achillea millefolium*) and yellow salsify (*Tragopogon dubius*); and the shrubs gray rabbitbrush (*Ericameria nauseosa*) and green rabbitbrush.

Plants were found in loamy soils, ranging from rocky and gravelly loam to sandy loam. Basalt outcrops were common as well as sparsely vegetated talus slopes although they did not dominate the landscape. Many observations were found in perennial grassland habitat with a high proportion of native species; however, many of these areas were also impacted by grazing and non-native plants. Occurrences were also located in highly disturbed habitat, where non-native annual and perennial grasses, such as cheatgrass and bulbous bluegrass, were common. These areas included locations near farm roads between cultivated fields, as well as a few locations where plants were observed growing directly in cattle trails. Grazing was present throughout the 2022 Botanical Survey Area and off-road vehicle use was evident near multiple observations. Plants were not observed in former agricultural land. However, in the northern portion of the 2022 Botanical Survey Area, one occurrence was identified just west of previously cultivated areas used for grazing in recent years (Figure Q-6).

3.2.1.2 Potential Adverse Effects

Besides the 11 occurrences from the 2022 surveys noted above, there are eight known occurrences from the ORBIC database and three from surveys from recent projects, making a total of 22 known occurrences of Laurence's milkvetch within the Analysis Area (Figure Q-7). Note that multiple plant groupings were often assigned to the same occurrence. Only one of the previously known occurrences of Laurence's milkvetch occurred within the Amended Site Boundary (Occurrence E-1; Figure Q-7), and also overlaps one of the occurrences from the 2022 surveys.

Four of the 11 occurrences of Laurence's milkvetch observed during the 2022 surveys are within the disturbance footprint (Figures Q-8.0 to Q-8.4). Temporary and permanent impacts on each occurrence (i.e., direct impact acreages) plus temporary and permanent impacts to a 100-foot buffer around those occurrences (i.e., indirect impact acreages) and an additional three occurrences are provided in Table Q-4, with the same impacts expected from Option A and Option B. The remaining occurrences are more than 100 feet away any from proposed disturbances.

Table Q-4. Permanent Impacts to Laurence's Milkvetch

Occurrence ID	Permanent Direct Impacts	Temporary Direct Impacts
3	No Impact	0.39
7	No Impact	0.41
8	No Impact	0.22
10	0.53	2.11
TOTAL	**0.53**	**3.13**
Note: Numbers may not sum correctly due to rounding		

Potential adverse effects during construction and operations could include loss of habitat and direct mortality as a result of vegetation clearing for roads, towers, and construction areas. Direct impacts could include removal of individual plants, the seed bank, habitat and/or habitat of pollinators. Indirect impacts could include degradation and fragmentation of habitat that is not currently occupied (e.g., within 100 feet of occurrences), potential for establishment of noxious weeds and invasive plants, potential for wildland fire, or a change in vegetation community as a result of construction.

Dust deposition on plants during construction and from transport along access roads through occupied habitat could affect photosynthesis, respiration, transpiration, and reproduction, which could negatively impact productivity of Laurence's milkvetch and possibly the structure of the plant community within its habitat (Farmer 1993; Trombulak and Frissell 2000).

The proposed Facility disturbance footprint was overlain on the GIS polygons of Laurence's milkvetch occurrences delineated during surveys conducted in 2022. It is anticipated that some plants will be directly removed due to construction and operation of the proposed Facility, with 0.53 acres of permanent impacts and 3.13 acres of temporary impacts due to construction activities.

A portion of one occurrence will be permanently impacted (Occurrence 10; see Table Q-4 and Figure Q-8.4). Occurrence 10 has approximately 10,007 known individuals and is approximately 13.5 acres. Of this, 0.53 acres would be directly affected, which is approximately 0.1 percent of the total known acres of range-wide occurrences compiled from recent data (collected from 2008 to 2021; Tetra Tech 2019a, 2019b, and 2020), as well as Laurence's milkvetch occurrences mapped during 2022 surveys for the proposed Facility. This estimate does not exclude plants that may have been removed or impacted from previous exception requests and other permitted activities in the area that may have impacted this species.

Portions of four occurrences will be temporarily impacted, including Occurrence 10, as described above, as well as Occurrences 3, 7 and 8. While the entirety of those occurrences include the following individuals and acreages (Occurrence 3: 205 individuals covering 2.17 acres; Occurrence 7: 366 individuals covering 2.67 acres; and Occurrence 8: 295 individuals covering 2.01 acres), the sum of direct temporary impacts to these occurrences would be a portion of the occurrences totaling 3.13 acres. Impacts to habitat connectivity for pollinators will be minimal due to the

minimal direct impacts. The potential adverse effects will be avoided and/or minimized by the measures discussed in Section 4.

In addition, the remaining 7,802 acres of the Analysis Area will be surveyed in 2023, as applicable, and there is potential that these surveys will identify additional populations of Laurence's milkvetch. The Certificate Holder will similarly redesign the Facility to the extent feasible to minimize permanent and temporary impacts. Any unavoidable impacts would be mitigated in a similar manner as described below.

In summary, the proposed Facility design has avoided direct impacts to seven out of 11 Laurence's milkvetch occurrences documented during surveys. The remaining four occurrences will be directly impacted (one permanently and temporarily and three temporarily) and mitigated as described below. Potential indirect adverse effects include loss of potentially suitable but currently unoccupied habitat.

4.0 Avoidance and Mitigation – OAR 345-021-0010(1)(q)(C)

OAR 345-021-0010(1)(q)(C) For each species identified under (A), a description of measures proposed by the applicant, if any, to avoid or reduce adverse impact.

4.1 Wildlife

Based on the results of the 2022 WAGS surveys, the Certificate Holder has revised the location of proposed Facility infrastructure in order to avoid active WAGS colonies and their associated 785-foot buffers in suitable habitat (i.e., Category 1 habitat), and minimized impacts to Category 2 habitat where feasible. Additional pre-construction surveys are needed to achieve complete coverage of a 1,000-foot buffer of proposed Facility ground disturbance as represented by the Micrositing Corridor (Exhibit P, Attachment P-1; Figure Q-2). The Certificate Holder will conduct pre-construction surveys to determine the current boundaries of colonies that were mapped during the 2022 surveys if they are still in the vicinity of proposed Facility disturbance footprint, as well as survey suitable habitat within 1,000 feet of ground disturbing activity that was not accessible to survey during the 2022 survey period. Protocol-level surveys will be conducted in areas not surveyed in 2022; in areas surveyed in 2022, the Certificate Holder will conduct a pre-construction survey per Condition PRE-TE-01[4] and update the colony boundaries and the associated Category 1 and 2 buffers. Surveys will occur in the active squirrel season (March 1 to May 31) prior to construction commencement. The Certificate Holder will ensure that these sensitive areas are correctly marked with exclusion flagging and avoided during construction.

Some of these Category 1 WAGS buffers overlap with current primary and secondary roads within the Amended Site Boundary. A total of 8,502 acres were surveyed to protocol in 2022. An additional 23,030 acres of potentially suitable WAGS habitat will be surveyed, as applicable, during pre-

[4] Revisions to Site Certificate condition PRE-TE-01 are proposed in the Division 27 document to clarify survey needs; these revisions were developed in coordination ODFW and ODOE as described in Exhibit P.

construction WAGS surveys (though significant reductions in survey area would occur depending upon final design of the proposed Facility) in 2023, including 686 acres that were surveyed only once in 2022 (i.e., not to protocol).

- Newly discovered WAGS colonies will be avoided by 785 feet as feasible and any Category 2 habitat affected by temporary or permanent disturbance will be mitigated according to Conditions PRE-TE-01 and PRE-TE-02 and consistent with the ODFW Fish and Wildlife Habitat Mitigation Policy.
- Areas that contain buffers overlapping existing roads during construction will be flagged as feasible to ensure no vehicles or construction equipment inadvertently travel off those roads and damage Category 1 habitat.
- No access road improvements would impact Category 1 WAGS habitat.
- The Certificate Holder will also enforce speed limits for proposed Facility personnel and contractors to minimize the risk of vehicle collisions with WAGS during construction and through O&M activities near Category 1 habitat.
- The Certificate Holder will flag Category 1 habitat near proposed temporary and permanent impacts to ensure avoidance.
- The Certificate Holder will employ a construction monitor(s) familiar with WAGS to ensure appropriate measures such as the flagging and speed limits discussed above are implemented to avoid disturbance to WAGS and Category 1 WAGS habitat.
- As described in Exhibit P, the Certificate Holder will also develop a proposed Facility-specific worker environmental training program during construction and operation that includes information on WAGS such as restrictions, protection measures, individual responsibilities associated with the proposed Facility, and the consequences of non-compliance. All employees and contractors working in the field will be required to attend the environmental training session prior to working on site.
- In addition, the Certificate Holder has implemented during design and will continue to implement during construction and operation, fire risk minimization measures as described in Exhibit V that will minimize impacts to WAGS and suitable WAGS habitat.

4.2 Plants

In order to minimize impacts to individuals of Laurence's milkvetch, the Certificate Holder will implement the following minimization measures, in consultation with ODOE and ODA.

4.2.1 Flag and Avoid

- The Certificate Holder will minimize the disturbance footprint in areas of occupied Laurence's milkvetch habitat, to the extent possible.

- The construction footprint will be flagged and vehicles and personnel will be kept within the construction disturbance limits.
- The work zone for any turbines or other proposed Facility components within 100 feet of known milkvetch occurrences will be restricted to that area outside of the documented Laurence's milkvetch occurrence, to the extent possible, and those occurrences will be flagged.
- Any non-emergency maintenance within or adjacent to known occupied Laurence's milkvetch habitat will be conducted during the spring or fall to avoid impacts to flowering and fruiting plants, as well as to pollinators during flowering.
- The Certificate Holder will also develop a Facility-specific worker environmental training program during construction and operation that includes information on Laurence's milkvetch such as restrictions, protection measures, individual responsibilities associated with the proposed Facility, and the consequences of non-compliance. All employees and contractors working in the field will be required to attend the environmental training session prior to working on site.

4.2.2 Noxious Weed Control

Noxious weeds and invasive plant species are listed as a threat to this species (ODA 2022c). Control of noxious weeds in the areas to be revegetated within and adjacent to occupied Laurence's milkvetch habitat will follow the noxious weed control plan developed for the proposed Facility (see Exhibit P, Attachment P-3). Special considerations for weed control adjacent to occupied habitat includes prioritizing mechanical treatment methods. If herbicides are used, the manufacturer's guidelines will be followed to establish a buffer area around confirmed individuals of Laurence's milkvetch in which herbicides must not be used.

Vehicle wash stations - including a pressure washer and water tank -- will be placed in proximity to main access points by occupied Laurence's milkvetch habitat to minimize the introduction of noxious weeds or other invasive plant species by construction vehicles. Vehicles will be washed prior to entering these areas.

4.2.3 Soil Salvage, Seedbank Preservation, and Fugitive Dust Control

During construction of temporary features, the Certificate Holder will excavate and store soils by soil horizon, so that soils could be replaced and restored appropriately including replacing topsoil on the surface as described in the Draft Revegetation Plan (Exhibit P, Attachment P-4). This will not only help preserve the soil seedbank of Laurence's milkvetch, but will also allow for soil conditions favorable for germination of Laurence's milkvetch and other native plant species, as well as provide soil conditions conducive to revegetation efforts. Water trucks will be used during construction to limit the amount of fugitive dust per the proposed Facility's National Pollutant Discharge Elimination System 1200-C permit. Fugitive dust could affect photosynthesis, respiration,

transpiration, and reproduction, which could negatively impact productivity of Laurence's milkvetch and possibly the structure of the plant community within its habitat (Farmer 1993, Trombulak and Frissell 2000).

4.2.4 Revegetation

The Applicant will consult with ODA on revegetation, weed treatment, and restoration for areas in proximity to occurrences of Laurence's milkvetch, as described in the Draft Revegetation Plan (Exhibit P, Attachment P-4).

4.2.5 Summary

To minimize potential impacts to known Laurence's milkvetch populations, the Certificate Holder will conduct pre-construction surveys and flag the boundaries of the Laurence's milkvetch populations prior to construction in areas located near proposed disturbance and access roads to reduce impacts during construction. Facility speed limits will also be in place in these areas (and throughout the Amended Site Boundary) to minimize the effects of dust on adjacent plant populations and water trucks will be used during construction to mitigate fugitive dust. In compliance with condition CON-FW-03, the Certificate Holder will employ a qualified environmental professional to provide environmental training to all personnel prior to working onsite.[5] Training will include information on sensitive species potentially present onsite, precautions to avoid injuring or destroying wildlife or sensitive wildlife habitat, exclusion areas, permit requirements and other environmental issues.

The Certificate Holder will conduct additional surveys prior to construction for listed plants within the appropriate survey season in potential habitat proposed to be impacted where access was previously not available. In the event that infrastructure changes or new Laurence's milkvetch are discovered, the same minimization measures described above will be implemented. Site-specific revegetation, noxious weed control, topsoil salvaging, and soil stabilization methods will be implemented for all areas disturbed by construction or maintenance activities, as further described in the Draft Revegetation Plan (Exhibit P, Attachment P-4). Finally, prior to construction, the Certificate Holder will have a fire control plan (Wildfire Mitigation Plan, Exhibit V, Attachment V-1), approved by Umatilla and Morrow counties, in place that will be implemented throughout the life of the proposed Facility that will minimize impacts to rare plants and their associated habitats.

[5] Final Order on Application for the Wheatridge Wind Energy Facility (April 2017)

5.0 Protection and Conservation Program Compliance– OAR 345-021-0010(1)(q)(D)

OAR 345-021-0010(1)(q)(D) For each plant species identified under (A), a description of how the proposed facility, including any mitigation measures, complies with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3).

The ODA establishes protection and conservation programs for selected species listed as threatened or endangered under the OESA. Because no such programs apply to any species with the potential to occur within the Analysis Area, no additional information is required under this provision.

6.0 Potential Impacts to Plants, Including Mitigation Measures – OAR 345-021-0010(1)(q)(E)

OAR 345-021-0010(1)(q)(E) For each plant species identified under paragraph (A), if the Oregon Department of Agriculture has not adopted a protection and conservation program under ORS 564.105(3), a description of significant potential impacts of the proposed facility on the continued existence of the species and on the critical habitat of such species and evidence that the proposed facility, including any mitigation measures, is not likely to cause a significant reduction in the likelihood of survival or recovery of the species.

After avoidance and minimization measures have been implemented, some potential impacts to a state threatened plant species will remain. The Certificate Holder will, through micrositing and redesign, avoid all impacts to plants, if feasible. If the Certificate Holder is unable to avoid impacts, then PRE-TE-03(iv) will be followed.

In 2020, the Certificate Holder performed a range-wide occurrence analysis for the Wheatridge West Wind Energy Project (Tetra Tech 2020). The number of occurrences for this analysis were identified based on a 0.62-mile separation distance of the combined available data, as described in NatureServe (2004). The combined data in Tetra Tech 2020 indicated 25 known extant range-wide occurrences (IPC 2018, ORBIC 2018, Tetra Tech 2019a, Wheatridge 2015), The 25 known extant occurrences include three occurrences discovered during surveys conducted for the Wheatridge West facility (Tetra Tech 2019a, Wheatridge 2015). Additional data from 2017-2019 are publicly available (Tetra Tech 2019b). Results from the current 2022 surveys include 11 more documented occurrences, as described above (Figure Q-7). The original range-wide population estimate was approximately 8,700 individuals (Tetra Tech 2020). Inclusion of results from Tetra Tech (2019b), as well as the most recent 2022 survey results, where an estimated 14,465 individual plants were observed (Attachment P-1 of Exhibit P of this RFA), results in a range-wide estimate of approximately 23,997 individuals. If less reliable data from before 2008 are removed from this

analysis, the range-wide estimate of known individuals (Figure Q-7) remains approximately 23,587 individuals.

The number of individuals of Laurence's milkvetch potentially impacted by construction of the proposed Facility was estimated based on the total count of plants in each occurrence and the percentage of that occurrence within the disturbance footprint. Based on this calculation, approximately 469 individuals will be directly impacted by construction of the proposed Facility. This amounts to approximately 3 percent of the individuals documented by the Certificate Holder in 2022. As noted above, the current range-wide population estimate for Laurence's milkvetch, based on recent, reliable data, is approximately 23,587 individuals. Impacts to approximately 489 individuals from construction of the proposed Facility will amount to impacts of approximately 2 percent of the range-wide population of Laurence's milkvetch. Similarly, impacts to 3.66 acres of occupied Laurence's milkvetch habitat from construction and operation of the proposed Facility will result in impacts to approximately 0.7 percent of the 521.01 acres of known occupied habitat range-wide. Surveys of 7,802 acres of additional suitable habitat would likely result in observations of additional occurrences, which would increase the percentage estimate of range-wide impact.

However, the range-wide estimates of total population size and occupied acres are conservative as older occurrences have been omitted and the survey areas for many of the known occurrences are limited (e.g., public road rights-of way, proposed development projects) and did not map or census the entire extent of occurrences. Thus, the estimates of percent range-wide impact are similarly conservative. Even before factoring in mitigation, the proposed Facility would not cause the subspecies to go extinct.

Potentially suitable, but currently unoccupied, habitat will also be impacted. Temporary and permanent habitat loss will be mitigated for according to a Laurence's Milkvetch Mitigation Plan, to be developed in coordination with ODA and ODOE prior to construction. The Certificate Holder will request an avoidance exception through ODOE. Minimization measures will include flagging and avoidance, noxious weed control, soil salvage, seedbank preservation, and fugitive dust control, and revegetation. Mitigation measures may include seed collection and research on enhancing Laurence's milkvetch recovery efforts. Mitigation actions would occur prior to or in conjunction with habitat-disturbing activities and provide the intended benefits for the duration of the proposed Facility.

7.0 Potential Impacts to Animals, Including Mitigation Measures – OAR 345-021-0010(1)(q)(F)

OAR 345-021-0010(1)(q)(F) For each animal species identified under (A), a description of significant potential impacts of the proposed facility on the continued existence of such species and on the critical habitat of such species and evidence that the proposed facility, including any mitigation measures, is not likely to cause a significant reduction in the likelihood of survival or recovery of the species.

The Certificate Holder will avoid impacts to WAGS colonies and associated Category 1 habitat identified during 2022 field surveys, as well as any additional colonies identified prior to construction, as previously described in Section 5.1, as feasible. As a result, construction, operation, and maintenance of the proposed Facility is not expected to result in a significant reduction in the likelihood of survival or recovery of WAGS.

8.0 Monitoring – OAR 345-021-0010(1)(q)(G)

OAR 345-021-0010(1)(q)(G) The applicant's proposed monitoring program, if any, for impacts to threatened and endangered species.

8.1 Wildlife

The Certificate Holder will implement a WAGS post-construction monitoring program as described in the Draft Wildlife Monitoring and Mitigation Plan (Exhibit P, Attachment P-5).[6] Monitoring will be of any known colonies and will be completed on the same schedule as the raptor nest monitoring for the proposed Facility, per Condition PRE-TE-02. The monitoring surveys will include returning to the known colonies to determine occupancy and the extent of the colony as well as a general explanation of the amount of use at the colony. If the colony is not found within the known boundary of the previously recorded location a survey 500 feet out from the known colony will be conducted to determine if the colony has shifted over time. Any new colonies that are located during other monitoring activities, such as raptor nest monitoring surveys, will be documented and the extent of those colonies should be delineated as well. These newly discovered colonies will also be included in any future WAGS monitoring activities. (see Exhibit P, Attachment P-5).

8.2 Plants

No post-construction monitoring is currently proposed for listed plant species.

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[6] Final Order on Application for the Wheatridge Wind Energy Facility (April 2017)

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Figures

Wheatridge Renewable Energy Facility East

Figure Q-1
Analysis Area for Threatened and Endangered Species

MORROW AND UMATILLA COUNTIES, OR

- Amended Site Boundary
- Analysis Area (5-mile buffer)
- County Boundary
- City/Town
- Interstate Highway
- US Highway
- State Highway
- County Highway

TETRA TECH

NEXTera ENERGY RESOURCES

Reference Map

Nolin

Echo

Umatilla County

Morrow County

Ione

Lexington

Heppner

84
30
395
320
578
207
735
813
602
74
206

1:200,000

WGS 1984 UTM Zone 11N

0 1 2 4 6 8 Miles

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Wheatridge Renewable Energy Facility East

Figure Q-2 Washington Ground Squirrel (WAGS) Survey Areas

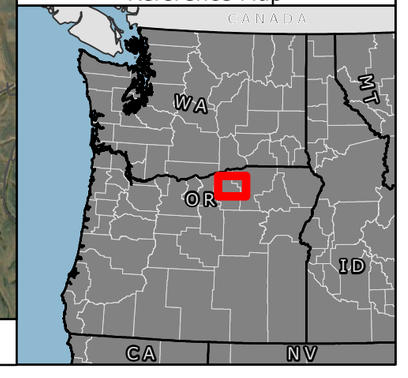
MORROW AND UMATILLA COUNTIES, OR

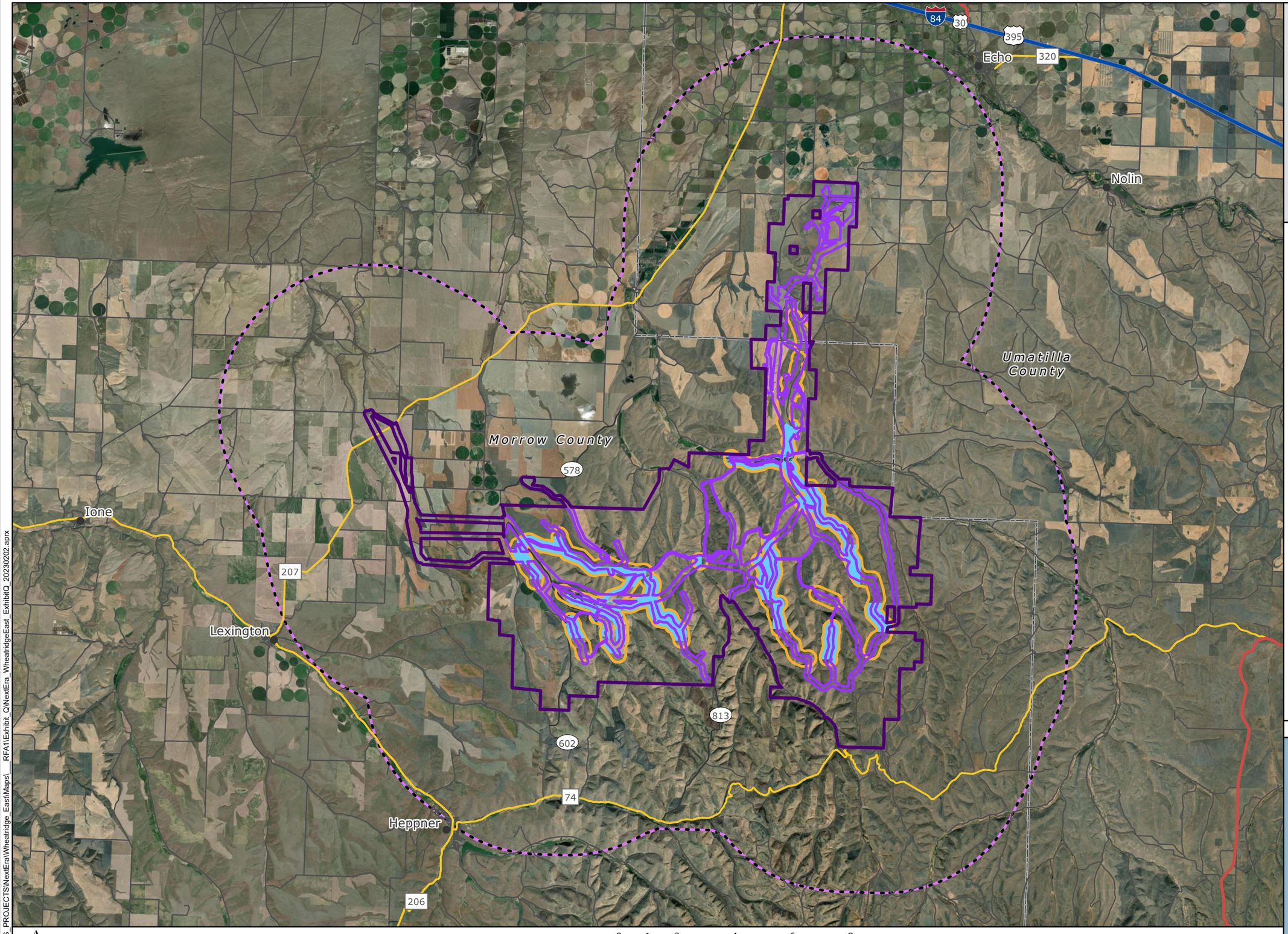
- Amended Site Boundary
- Amended Wind Micrositing Corridors
- Analysis Area (5-mile buffer)
- WAGS Survey Corridor (2022)
- WAGS Survey Area (2022)
- County Boundary
- City/Town
- Interstate Highway
- US Highway
- State Highway
- County Highway
- Local Roads

TETRA TECH

NEXTera ENERGY RESOURCES

Reference Map





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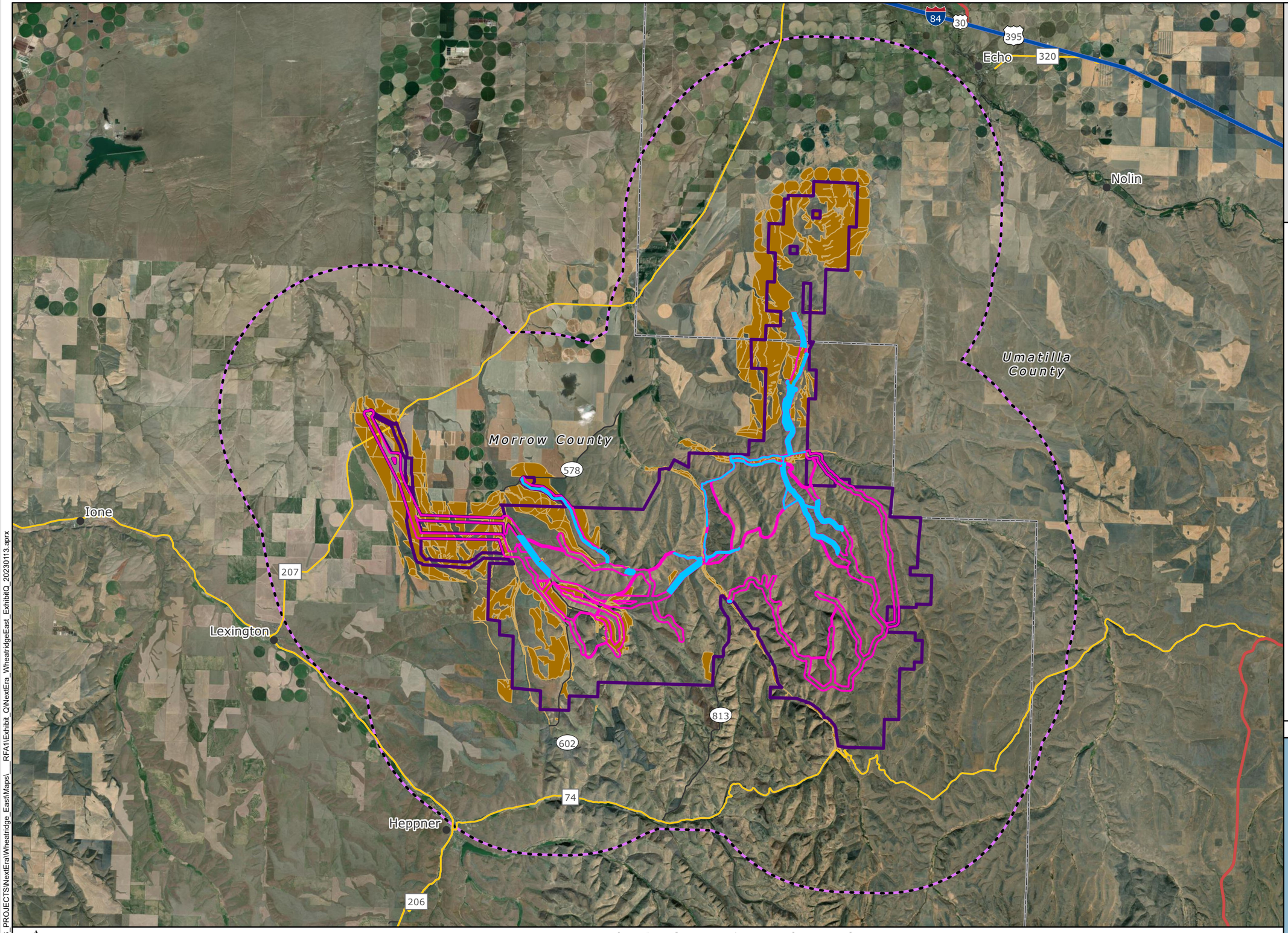
Wheatridge Renewable Energy Facility East

Figure Q-3 Rare Plants Survey Areas

MORROW AND UMATILLA COUNTIES, OR



- Amended Site Boundary
- Analysis Area (5-mile buffer)
- Category 6 Habitat
- Rare Plants Survey Corridor (2022)
- Rare Plants Survey Area (2022)
- County Boundary
- City/Town
- Interstate Highway
- US Highway
- State Highway
- County Highway

TETRA TECH

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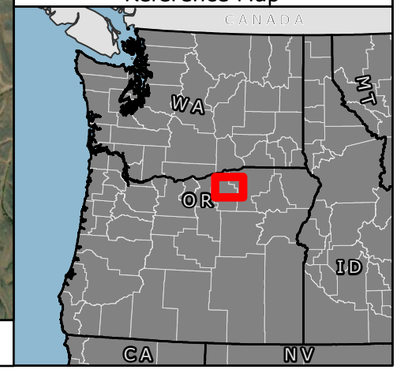
Reference Map



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