Request for Amendment No. 6 to the Site Certificate for the Golden Hills Wind Project

Prepared for

The Oregon Energy Facility Siting Council

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Prepared and Submitted by

Golden Hills Wind Farm, LLC

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Acronyms and Abbreviations

APLIC	American Power Line Interaction Committee
ASC	Application for Site Certificate
BPA	Bonneville Power Administration
Certificate Holder	Golden Hills Wind Farm, LLC
CRMP	Cultural Resources Management Plan
DOGAMI	Oregon Department of Geology and Mineral Industries
EFSC or Council	Oregon Energy Facility Siting Council
Facility	Golden Hills Wind Project
Golden Hills	Golden Hills Wind Farm, LLC
Guidelines	Oregon Columbia Plateau Ecoregion Wind Energy Siting and Permitting Guidelines
HMRP	Habitat Mitigation and Revegetation Plan
IRS	Internal Revenue Service
kV	kilovolt
met	meteorological
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O&M	operations and maintenance
OAR	Oregon Administrative Rule
OCTA	Oregon-California Trails Association
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ORBIC	Oregon Biodiversity Information Center
ORS	Oregon Revised Statutes
PPA	power purchase agreement
PSE	Puget Sound Energy

RFA	Request for Amendment
SCCP	Sherman County Comprehensive Plan
SCZO	Sherman County Zoning Ordinance
SHPO	State Historic Preservation Office
Site Certificate	Fifth Amended Site Certificate
WMMP	Wildlife Monitoring and Mitigation Plan

Section 1. Introduction

1.1 Project Summary and Request

Golden Hills Wind Farm, LLC (Golden Hills or the Certificate Holder) holds the Fifth Amended Site Certificate (Site Certificate)[1] for the construction and operation of the Golden Hills Wind Project (Facility) in Sherman County, Oregon. As approved, the Facility is a wind energy facility with a maximum capacity of 400 megawatts comprising up to 125 wind turbines within a Site Boundary of approximately 29,500 acres. Golden Hills files this Request for Amendment (RFA) 6 seeking approval from the Oregon Energy Facility Siting Council (EFSC or Council) to (1) extend the construction completion deadline, (2) change the micrositing corridor and facility layout within the existing Site Boundary, and (3) revise some of the cultural resources conditions to clarify the language and reaffirm the intent of the Council in the condition language of the Site Certificate. These proposed changes are described more fully in Section 3.0 below. Golden Hills began construction of the Facility before June 18, 2020, starting with the construction of the operation and maintenance (O&M) building. This RFA 6 is triggered by Oregon Administrative Rule (OAR) 345-027-0350(3) because the Certificate Holder seeks to extend the construction completion deadline (Proposed Change 1). It is also triggered by OAR 345-027-0350(4)(c) because the proposed changes could require modifications to an existing site certificate condition to address the micrositing corridor modifications (Proposed Change 2) and revised cultural resource and fish and wildlife conditions (Proposed Change 3).

1.2 Extend Construction Deadline under OAR 345-027-0385

> *OAR 345-027-0385 Request for Amendment to Extend Construction Deadlines.*
>
> *(1) The certificate holder may request an amendment to the site certificate to extend the deadlines for beginning or completing construction of the facility, or portion/phase of the facility, that the Council has approved in a site certificate or an amended site certificate by submitting a preliminary request for amendment in accordance with OAR 345-027-0360. The preliminary request for amendment must include an explanation of the need for an extension and must be submitted to the Department before the applicable construction deadline, but no earlier than the date twelve months before the applicable construction deadline.*

The Certificate Holder is requesting an amendment to the Site Certificate to extend the deadline for completing construction of the Facility. The Certificate Holder is submitting this RFA 6 in accordance with OAR 345-027-0360 before the applicable construction deadline of (June 18,

1 The Site Certificate has previously been amended five times: to extend the construction deadlines, update the Facility design, account for changes in Golden Hill's parent ownership and change the approved turbine dimensions.

2021) and no earlier than 12 months before the applicable construction deadline. The proposed reason for the request is provided in Section 3.1.3.

(2) A preliminary request for amendment received by the Department within the time allowed under section (1) of this rule to extend the deadlines for beginning and completing construction suspends expiration of the site certificate or amended site certificate until the Council acts on the request for amendment. If the Council denies the extension request after the applicable construction deadline, the site certificate is deemed expired as of the applicable construction deadline specified in the site certificate or amended site certificate.

The Certificate Holder understands this rule.

(3) If the Council grants an amendment under this rule, the Council must specify new deadlines for beginning or completing construction that are the later of:

(a) Three years from the deadlines in effect before the Council grants the amendment; or

(b) Following a contested case proceeding conducted pursuant to OAR 345-027-0371, two years from the date the Council grants the amendment.

The Facility was approved prior to October 24, 2017. Therefore, this rule does not apply.

(4) For requests for amendment to the site certificate received under this rule to extend construction deadlines for facilities or portions of the facility the Council may not grant more than two amendments to extend the deadline for beginning construction of a facility or a phase of a facility.

This is a request to extend the construction completion date, not the beginning date, and the Facility was approved prior to October 24, 2017. Therefore, this rule does not apply.

(5) For requests for an amendment to the site certificate to extend construction deadlines for facilities, or portions/phases of facilities, not yet in construction, but already approved for construction in the site certificate or amended site certificate prior to October 24, 2017:

(a) Sections (1) and (2) of this rule apply;

(b) Sections (3) and (4) of this rule do not apply;

The Facility was approved prior to October 24, 2017. Therefore, Sections (3) and (4) do not apply.

(c) When considering whether to grant a request for amendment for a deadline extension made under this section, the Council must consider how many extensions it has previously granted; and

This is the fourth request for a construction completion deadline extension. The First Amended Site Certificate extended the deadline for completing construction of the Facility from June 18, 2015 to June 18, 2017. The Second Amended Site Certificate extended the deadline for completing construction June 18, 2018. The Third Amended Site Certificate extended the deadline for completing construction to June 18, 2021.

(d) If a request for amendment for a deadline extension made under this section is granted, the Council must specify new deadlines for beginning or completing construction that are not more than two years from the deadlines in effect before the Council grants the amendment.

The Certificate Holder requests the construction completion deadline be December 31, 2022, or an 18-month extension.

Section 2. Certificate Holder Information – OAR 345-027-0360(1)(a)

OAR 345-027-0360(1) To request an amendment to the site certificate required by OAR 345-027-0350(3) or (4), the certificate holder must submit a written preliminary request for amendment to the Department that includes the following:

OAR 345-027-0360(1)(a) The name of the facility, the name and mailing address of the certificate holder, and the name, mailing address, email address and phone number of the individual responsible for submitting the request;

Certificate Holder:

Golden Hills Wind Farm, LLC
1125 NW Couch Street, Suite 700
Portland, OR 97209

Individual Submitting Request:

Matt Hutchinson
Senior Permit Manager
Avangrid Renewables, LLC
1125 NW Couch Street, Suite 700
Portland, OR 97209
(503) 478-6317
matthew.hutchinson@avangrid.com

Section 3. Detailed Description of the Proposed Changes – OAR 345-027-0360(1)(b)

OAR 345-027-0360(1)(b) A detailed description of the proposed change, including:

Golden Hills seeks Council approval of three changes to the approved Facility and Site Certificate:

- **Proposed Change 1**: **Extension of Facility Construction Completion Deadline.** Golden Hills began construction of the Facility before June 18, 2020, the deadline for the start of construction. Currently, the deadline for the completion of construction is June 18, 2021. Golden Hills expects to complete construction by December 2021; however, given a variety factors described in more detail below, Golden Hills is seeking to extend the construction completion deadline to December 31, 2022, eighteen months from the current construction completion deadline.
- **Proposed Change 2**: **Amend Facility Micrositing Corridor (within Site Boundary).** Golden Hills has identified design refinements where minor changes to the location of relating or supporting facilities and associated micrositing corridors could reduce impacts or are necessary to comply with Site Certificate conditions. These modifications will help make underground collection routes between turbines shorter, allow for better alignment of access roads with ongoing agricultural operations, and reduce portions of the collector routes into a single corridor. In total, Golden Hills seeks to add 534 acres to the existing micrositing corridor within the Facility Site Boundary. Golden Hills also requests to remove 85 acres from the existing micrositing corridor. No change to the Site Boundary is proposed and all turbines will remain within existing approved micrositing corridors.
- **Proposed Change 3**: **Revised Cultural Condition Language.** Golden Hills seeks to revise certain conditions related to cultural resources to clarify the language and reaffirm the intent of the Council to avoid significant impacts on cultural resources that are eligible or unevaluated for listing on the National Register of Historic Places (NRHP). Golden Hills also seeks to amend Condition GEN-FW-04 to consider American Power Line Interaction Committee (APLIC) guidance to allow for the use of the most appropriate design tool to limit bird/power line electrocutions and collisions. The above suggested condition revisions are consistent with other recently approved site certificates (e.g., Bakeoven Solar).

3.1 Effect of Proposed Changes on the Facility – OAR 345-027-0360(1)(b)(A)

(A) A description of how the proposed change affects the facility;

The proposed changes allow the Facility to move from the pre-construction to construction phase and become a commercially operational renewable energy facility thereby fulfilling the intended objective of the Facility as approved in the original Site Certificate approval and subsequent amendments by the Council. The proposed changes are typical to the final stages of wind facility siting and construction. Moreover, the Facility will be constructed and operated substantially in the same manner as approved by the Council, which imposed conditions, as necessary.

3.1.1 Proposed Change 1 Extension of Construction Completion Deadline

Golden Hills seeks an extension of construction completion deadline from June 18, 2021 to December 31, 2022. Facility construction is targeted for completion in December 2021 but because of current circumstances, Golden Hills requests an 18-month extension in case of further construction delays. The Certificate Holder intends to begin commercial operation by December 2021 and is assuming a 12-month continuous construction schedule. As such, the Certificate Holder will satisfy all remaining preconstruction filing requirements by January 2021 (Table 1).[2]

There may be a slowdown of work if unforeseen circumstances delay completion of the Facility, but the Certificate Holder has no plans to phase the remaining construction on the schedule defined by the power purchase agreement (PPA; i.e., December 2021).

Table 1. Construction Schedule

Construction Schedule	2020			2021				2022			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Phase 1 O&M construction	1/										
Phase 2 BOP construction					2/		3/				
Contingency period											4/

1. Construction start date = June 18, 2020
2. Approved construction completion date = June 18, 2021
3. Planned construction completed date = December 31, 2021
4. Requested construction completion date = December 31, 2022.

The delay in construction completion is needed for the following reasons:

- **Commercial Operational Date Defined by Power Purchase Agreement**. The Certificate Holder has executed a PPA with Puget Sound Energy (PSE) for the power generated by the

[2] Consistent with past precedence, the Certificate Holder may comply with the construction commencement condition by starting construction consistent with ORS 469.300(6) on a portion or initial phase of the Facility. If construction of the Facility is phased, the Certificate Holder is only required to comply with the preconstruction conditions applicable to the initial phase in order to activate the Site Certificate. Currently, several preconstruction conditions (PRE-RT-01, PRE-HC-03, CON-FW-01) account for phasing. In addition, phased construction was accounted for in the Final Order of the ASC discussion of retirement estimates: "This amount will be prorated as needed to account for phased construction or construction of something less than the total facility."

Facility (https://www.pse.com/press-release/details/puget-sound-energy-and-avangrid-renewables). In this agreement, PSE has defined the operational date for the Facility as December 31, 2022. Therefore, the Certificate Holder needs a delay to the construction completion deadline to align with its PPA. It is not economically feasible to bring the project online earlier because PSE would not purchase power earlier than the date specified in the PPA.

- **Timing of Interconnection.** Golden Hills interconnects to Bonneville Power Administration's (BPA) transmission network at the Schoolhouse Substation. After finalizing the Interconnection Agreement, BPA recently determined that interconnecting the Facility would require more upgrades on BPA's system than previously considered. For the interconnection of the Facility, BPA will install a single span of conductor on the Biglow Canyon-John Day No. 1 transmission line at the Biglow Canyon Substation, add additional shunt capacitors at the John Day Substation, and address line impairments on the Klondike Schoolhouse-John Day No 1 transmission line.

  BPA has reinitiated its National Environmental Policy Act and Section 106 review process for a larger scope of work. BPA's scope of work does not change the Council's previous findings on the Facility because the interconnection point is the same. BPA's environmental review is underway, and it has not yet released a determination on Section 106. BPA's permitting process and subsequent upgrade activities may delay interconnection of the Facility until December 31, 2022. BPA has also slowed work on new projects as part of its response to COVID-19[3]. The Certificate Holder is working with BPA to maintain the overall project schedule, but a change the construction completion deadline is needed to align with a possible delayed interconnection date.

- **Extension of Production Tax Credit.** In May 2020, the Internal Revenue Service (IRS) issued new guidance that extended the safe harbor requirements on how wind projects can qualify for the production tax credits by 1 year. This change in guidance was a consequence of the global pandemic [4] and allows certain wind projects an extra year to come online and receive the same level of tax credits. The Certificate Holder still plans on beginning commercial operation of the Facility by the end of 2021 but requests a delay in the construction deadline so the project could still qualify for production tax credits under the new IRS guidance if there are unforeseen delays.

[3] "During this time, BPA will stop or delay construction and maintenance work unless that work is critical and time sensitive for system reliability or safety." BPA Press Release dated March 16, 2020, https://www.bpa.gov/news/newsroom/Pages/BPAs-recent-actions-in-responding-to-COVID-19.aspx

[4] "Treasury Department and the IRS recognize that the COVID-19 pandemic is causing delays in the development of certain facilities eligible for the PTC." IRS Notice 2020-41, https://www.irs.gov/pub/irs-drop/n-20-41.pdf

- **Potential Equipment and Workforce Delays Due to COVID-19**. The global pandemic has raised concerns about delays in equipment delivery and workforce in many industries, including the energy sector. Suppliers have notified the Certificate Holder of possible delays in equipment delivery due to pandemic-related supply chain issues. Oregon Governor Brown has labeled the energy sector as essential workers, and a flexible work environment – free of near-term construction deadlines – is a reasonable consideration for adapting to changing conditions. The Certificate Holder is not making a specific claim of construction completion delay due to the COVID-19 pandemic at this time, but seeks to modify the construction completion deadline to allow for future unforeseen circumstances.

3.1.2 Proposed Change 2 Amend Micrositing Corridor (within Site Boundary)

Golden Hills seeks to add approximately 534 acres of micrositing corridor primarily for related and supporting facilities and temporary impacts for the final layout modifications primarily for related and supporting facilities (Table 2). Golden Hills also proposes to remove approximately 85 acres of micrositing corridor that, after more detailed engineering review, do not provide siting areas that minimize impacts.

Table 2. Area Comparison

Description	Approved	Proposed Additions	Proposed Removal
Site Boundary	29,500 acres	No change	No change
Micrositing Corridor	6,820 acres	534 acres	85 acres
Transmission Corridor	200-foot-wide siting corridor for approximately 5 miles	No change[1]	No change
1. Additional temporary workspace for transmission line included in amended micrositing corridors, permanent facilities within previously approved corridor.			

The amended micrositing corridors provide for a layout that reduces impacts to farming practices and natural resources. The new areas of micrositing corridor not only account for areas where there may be proposed facilities, but also provide a buffer around the proposed construction work areas to provide conservative survey areas to ensure there are no sensitive resources near areas to be developed. Additionally, the new micrositing corridor includes contingency areas where proposed facilities are located at the edge of the approved micrositing corridors. These contingency areas may not be disturbed during constructions but were included in the survey areas for new corridors to ensure that construction does not result in new significant adverse impacts. Thus, the 534 acres added by the request will not all be disturbed by construction, but rather 10 to 20 percent of this area will have permanent facilities (i.e. access roads or buried collector lines) and associated construction impacts. Impacts in new corridors are offset by removing 85 acres of approved areas from the micrositing corridor.

The Facility's final layout includes 51 turbines plus 8 alternate turbine locations that may be used as back-up locations if there are issues during construction with primary turbine locations. The alternative turbine locations are pending Federal Aviation Administration approvals; however, the proposed amended corridors accounts for related and supporting facilities to support alternate turbine locations. All turbines (primary and alternative turbines) will be in the previously approved micrositing corridors. There will be no change to the substation or transmission line locations, which will be within the previously approved micrositing corridors. No changes to the Site Boundary are proposed.

In summary, the Certificate Holder is requesting to amend the micrositing corridor areas for the following purposes and as shown on Figure 2:

- Road or Collector Line Realignment to Minimize Disturbance—These realignments would result in reduced disturbance areas compared to the approved alignment corridors because they provide: more direct and/or consolidated routes (see Figures 2.3, 2.4, 2.5, 2.6, 2.10, and 2.11) avoid ditches and natural features such as streams, wetlands and steep slopes (see Figures 2.2, 2.3, 2.6, 2.7, 2.11, and 2.15). In addition, consolidating the collector line temporary work area reduces the temporary impact acres.
- Road Realignment due to Consultation with Landowners and to Minimize Property Impacts — Additionally, Condition PRE-LU-02 requires the Certificate Holder to consult with affected landowners in the design and construction of private access roads to minimize the division of existing farm units, use existing farm accesses and follow property lines. Therefore, realigning some roads was necessary to comply with the Site Certificate (see Figures 2.2, 2.3, 2.4, 2.10, 2.11, 2.12, and 2.15).
- Relocate Met Tower for Final Design—Due to the final siting of turbines, which considered engineering, constructability, natural resource considerations, and the necessary distance between the turbines and the meteorological (met) towers, one met tower is slightly outside the existing micrositing corridors (see Figure 2.2).
- Turbine Temporary Laydown Areas—To facilitate construction activities, temporary laydown areas are proposed at the base of each wind turbine. In some areas, these laydown areas may require additional space outside the existing micrositing corridor (see Figures 2.2, 2.5, 2.10, and 2.15) although the turbine and turbine pad will be within the existing micrositing corridors.
- Additional Disturbance Area Adjacent to Facilities—For some facilities, such as the O&M facility and substation, additional temporary disturbance area is needed for construction (see Figure 2.3 and Figure 2.6).
- 230-kilovolt (kV) Transmission Line Temporary Disturbance—Per GEN-MC-13, the 230-kV transmission line corridor is 200 feet wide which the transmission line will be sited in. However, temporary disturbance and access requirements during construction require workspace outside the siting corridor (see Figures 2.6, 2.7, and 2.8).

The final turbine layout is proposed in the central and southern portions of the Site Boundary: therefore, approximately 4,139 acres of micrositing corridor in the northern portions of the Site Boundary will not be used by the Facility. These areas of the micrositing corridor that currently are not identified for final micrositing are primarily north of Oregon Route 206, closest to the Columbia River, and the easternmost micrositing corridors closest to the Deschutes River (see Figure 2). This unused areas accounts for about 60 percent of approved micrositing corridors, whereas the proposed corridor additions only increase the micrositing area by about 8 percent. Consistent with the Oregon Columbia Plateau Ecoregion Wind Energy Siting and Permitting Guidelines (Guidelines), all new micrositing areas are adjacent to and are almost entirely in between the existing micrositing corridors (Columbia Plateau Ecoregion Taskforce 2008). Although the micrositing corridor area will be expanded, the actual footprint of the Facility will not exceed the maximum approved footprint for the facilities as identified in the Site Certificate (ODOE 2018a). The Certificate Holder has been developing a final layout that minimizes land use and environmental impacts consistent with the intent of the Site Certificate and Site Certificate Conditions. The Facility will be sited primarily in the middle and southern portion of the Site Boundary.

3.1.3 Proposed Change 3: Revised Condition Language

Golden Hills proposes to revise seven cultural conditions (see Attachment 1, Red-lined Site Certificate). The conditions have internal inconsistencies and do not clearly reflect Council's intent for avoiding, minimizing and mitigation potential impacts to cultural resources under OAR 345-022-0090 (EFSC Historic, Cultural, and Archaeological Resources Standard). To clarify unclear language in the original site certificate conditions related to cultural resources, address results of recent cultural resources surveys, and reconcile the Facility's final design with former micrositing corridors, Golden Hills proposes changes to the conditions. In consideration of the recent cultural resource survey results and analyses, these revisions do not change previous impact significance analyses in Exhibit S of the Application for Site Certificate. The clarification is needed so that the Site Certificate conditions can be implemented as intended by Council including during construction.

Golden Hills also proposes to amend Condition GEN-FW-04 to consider all American Power Line Interaction Committee (APLIC) guidance to allow for the use of most appropriate design tool to limit bird/power line electrocutions and collisions. Therefore, RFA 6 proposes to amend this condition to remove the obligation of anti-perching devices and add the requirement to install spiral markers over Grass Valley Canyon.

3.2 Applicable Laws and Council Rules – OAR 345-027-0360(1)(b)(B)

OAR 345-027-0360(1)(b)(B) a description of how the proposed change affects those resources or interests protected by applicable laws and Council standards, and

The Certificate Holder has followed the intent of the micrositing and final design guidelines of the Guidelines (September 29, 2008) that state:

> *….After the project is permitted, the turbines and other project facilities are sited within the micrositing corridors identified. These facilities may be located slightly outside the micrositing corridors if they have been adequately surveyed for biological and cultural resources before construction. Final project feature locations should comply with all applicable permit conditions.*
>
> *….Final wind project design should be an iterative process that should involve considerations and trade-offs between engineering, constructability, and natural resource considerations. Final wind project design should consider biological resource surveys, resource agency input, and associated permit conditions such as avoidance criteria. For instance, final location of wind project facilities may be limited by topography, meteorology and geotechnical considerations.*

In this instance, Golden Hills has determined that the proposed changes will allow the Facility to be designed and constructed in a manner with less impacts to interests protected by applicable laws and Council standards. All areas of temporary and permanent disturbance have been surveyed including as required for pre-construction compliance, which is the same due diligence that informs development of the micrositing corridors. Overall, the proposed changes are insubstantial because they do not propose any new or additional facilities, meet all Site Certificate conditions except for extending the deadline completion date and amending cultural conditions for clarity, and are consistent with the Guidelines.

Section 6 provides a detailed assessment of how the proposed changes affect those resources or interests protected by applicable laws and Council standards.

3.3 Location of the Proposed Change – OAR 345-027-0060(1)(b)(C)

OAR 345-027-0360(1)(b)(C) the specific location of the proposed change, and any updated maps and/or geospatial data layers relevant to the proposed change.

Figure 1 shows an overview of the Facility Site Boundary, micrositing corridor, and areas proposed to be added and removed. Figure 2 is a mapbook showing the specific location of the proposed changes and the purpose for the proposed change.

Section 4. Division 21 Requirements – OAR 345-027-0060(1)(c)

OAR 345-027-0360(1)(c) References to any specific Division 21 information that may be required for the Department to make its findings.

All exhibits of the Application for Site Certificate and subsequent amendments that provide Division 21 information are hereby incorporated by reference. No specific Division 21 information is necessary for the Department to make its findings for RFA 6.

Section 5. Site Certificate Revisions – OAR 345-027-0360(1)(d)

OAR 345-027-0360(1)(d) The specific language of the site certificate, including conditions, that the certificate holder proposes to change, add or delete through the amendment.

The red-lined Site Certificate (Attachment 1) provides the specific language that Certificate Holder proposes to change through RFA 6.

Section 6. Other Standards and Permits – OAR 345-027-0360(1)(e)

OAR 345-027-0360(1)(e) A list of all Council standards and other laws, including statutes, rules and ordinances, applicable to the proposed change, and an analysis of whether the facility, with the proposed change, would comply with those applicable laws and Council standards. For the purpose of this rule, a law or Council standard is "applicable" if the Council would apply or consider the law or Council standard under OAR 345-027-0375(2); and

This section provides an annotated list of the standards and other laws, including statutes, rules and ordinances, applicable to the proposed change, and an analysis of whether the facility, with the proposed change, would comply with those applicable laws and Council standards.

The Council standards relevant to RFA 6 include Division 22 (General Standards for Siting Facilities) and Division 24 (Specific Standards for Siting Facilities). The Facility is a wind power generating facility. Therefore, Division 23, which applies to non-generating facilities, does not apply. Similarly, inapplicable provisions of Division 24 (e.g., standards applicable to gas plants, gas storage, non-generating facilities) are not discussed.

6.1 Division 22 Standards

The Certificate Holder provides an evaluation of compliance with the Division 22 standards below.

6.1.1 General Standard of Review

When reviewing RFA 6, the Council will find that Golden Hills continues to comply with the requirements of the Oregon energy facilities siting statutes in Oregon Revised Statutes (ORS) 469.300 to 469.570 and ORS 469.590 to 469.619, as well as the standards adopted by the Council pursuant to ORS 469.501. The Facility will continue to provide an overall public benefit that outweighs any adverse effects to a particular resource or interest protected by the applicable standards. The following sections provide the analysis required for the Council to determine that the proposed changes do not affect Golden Hills' compliance with the standards and requirements set forth under the General Standard of Review or ability to construct and operate the Facility consistent with the terms and conditions of the Site Certificate (ORS 469.430). Golden Hills has the organizational expertise to implement the proposed changes without compromising the Council's ongoing conclusions under this standard or any other applicable standard. Therefore, based on the foregoing, and review and compliance with the applicable Site Certificate conditions (Table 3), the Council may find that the Facility, as proposed, will continue to comply with the requirements of OAR 345-022-0000.

Table 3. Evaluation of the General Standard of Review

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
GEN-MC-01: Changes to site certificate	No	RFA 6 is requesting changes to the Site Certificate as provided in OAR Chapter 345, Division 27.
GEN-MC-02: Adherence to applicable rules and permits	No	The Facility, with the proposed changes, can comply with these conditions.
GEN-MC-03: Site certificate construction duration	No	
GEN-MC-04: Restoration to non-hazardous condition	No	
GEN-MC-05: Binding commitments of site certificate	No	
GEN-MC-06: Vegetation restoration	No	
GEN-MC-07: Avoid human safety danger	No	

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
GEN-MC-08: Oregon Department of Geology and Mineral Industries (DOGAMI) notification	No	
GEN-MC-09: DOGAMI and State Building Codes Division notification	No	
GEN-MC-10: Transfer of ownership	No	The proposed changes do not include a transfer of ownership.
GEN-MC-11: Cease construction or operation	No	The proposed changes do not affect compliance with this condition.
GEN-MC-12: Transmission line safety program	No	There will be no changes to the 230-kV transmission line that affect compliance with this condition.
GEN-MC-13: Transmission line approved corridor	No	One of the proposed changes is to update Facility mapping to identify the 200-foot corridor. The Facility, with the proposed changes, can comply with this condition.
GEN-MC-14: Site certificate compliance plan	No	The Facility, with the proposed changes, can comply with these conditions.
GEN-MC-15: Certificate holder reporting requirements	No	
GEN-MC-16: Correspondence records	No	
GEN-MC-17: Incident notification	No	
GEN-MC-18: Significant impact report	No	
PRE-MC-01: Construction rights for the site	No	
PRE-MC-02: Bond of letter of credit submission	No	The proposed changes do not substantially change the decommissioning estimate submitted to the Oregon Department of Energy (ODOE) for RFA 3. This condition will be complied with as part of pre-construction.
CON-MC-01: Construction duration requirements	No	As noted in the Introduction, the Facility is in the pre-construction phase. Construction began by June 18, 2020.
OPR-MC-01: Legal description of the site	No	Because this Site Certificate condition for a legal description of the site is for after construction, it implicates anticipated layout shifts through all

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
		phases of the project. The Facility, as proposed, will comply with this condition.
RET-MC-01: Retirement due to cease of construction or operation	No	The proposed changes do not affect compliance with these conditions because they are reflective of the final layout.
RET-MC-02: Forced final retirement plan due to cease of construction or operation	No	
GEN-DC-01: Construction commencement	No	As noted above, the Facility is in the pre-construction phase. Construction began by June 18, 2020.
GEN-DC-02: Construction completion	Yes	RFA 6 proposes to change the construction completion date to December 31, 2022.
PRE-DC-01: Turbine specifications	No	The proposed changes do not include changes to the approved turbine specifications.
PRE-DC-02: Habitat surveys and assessments	No	This condition requires habitat and sensitive resource surveys prior to construction for areas that will be affected by Facility components. This condition provides for flexibility in layout by providing a pre-construction condition based on the final layout and disturbance areas for surveys similar to what was completed for the initial micrositing corridor designation. Therefore, layout changes for related or supporting facilities are intrinsic to the Site Certificate.
PRE-DC-03: Non-construction activity reporting	No	The proposed changes to the Facility layout do not affect compliance with this condition.
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.		

6.1.2 Organizational Expertise

The Council previously found that Golden Hills "continues to have the ability to construct, operate, and retire the facility, as amended, in compliance with Council standards and all

existing Site Certificate conditions, as required by the Organizational Expertise standard (ODOE 2018b, pp. 25)." Golden Hills is wholly owned by Pacific Wind Development, LLC, a subsidiary of Avangrid Renewables, LLC, and its organizational expertise was described in RFA 4. The Council has previously found that third parties must either have any necessary permits or have a reasonable likelihood of obtaining any necessary permits. The proposed changes do not affect this prior finding (ODOE 2017, pp. 29). There have been no changes to Golden Hills' organizational expertise that would impact prior findings. Golden Hills has the organizational expertise to implement the proposed changes, without compromising the Council's ongoing conclusions under this standard. The proposed changes are not implicated in any conditions related to the Organization Standard. Therefore, based on the foregoing, the Council will can find the Facility, as proposed, would continue to comply with OAR 345-022-0010.

6.1.3 Structural Standard

OAR 345-022-0020 authorizes the Council to issue a Site Certificate without making findings with respect to the Structural Standard, but the rules also authorize the Council to impose Site Certificate conditions based on the requirements of OAR 345-022-0020. The Council adopted Site Certificate conditions to address the potential for seismic and non-seismic geologic hazards at the Facility, and has found that "the conditions currently imposed in the Site Certificate to address the Structural Standard ensure issues related to that standard are fully addressed" (ODOE 2017, pp. 31). The proposed changes move temporary laydown yards off of steep slopes, reduce the cable length in areas of steep slope, and route roads off of steep slopes (see Figure 2). Golden Hills has completed a site-specific geotechnical investigation and provided the report to the Oregon Department of Geology and Mineral Industries for review per condition PRE-SS-01.

Golden Hills' ability to design, engineer, and construct the Facility to avoid dangers to human safety is not affected by the proposed changes. Turbines will be located within the previously approved micrositing corridor, where potential geological and soil hazards have already been evaluated and approved by the Council. All proposed changes will be within the Site Boundary. The Council has responded to previous structural concerns raised by the public by incorporating Conditions PRE-SS-01 to PRE-SS-03 and Condition GEN-SS-01 into the Site Certificate (see Table 4), and these conditions continue to ensure that Golden Hills meets the requirements of the Structural Standard. Therefore, based on the foregoing, and review and compliance with the applicable Site Certificate conditions (Table 4), the Council may find that the Facility with the proposed changes would continue to comply with OAR 345-022-0020.

Table 4. Evaluation of the Structural Standard

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
GEN-SS-01: State Building Code compliance	No	The Facility with proposed changes will comply with this condition as documented through pre construction compliance.
PRE-SS-01: DOGAMI protocol and report	No	This condition is site specific; therefore, it provides flexibility for siting in the Site Certificate prior to construction. The Facility with proposed changes will comply with this condition as part of pre construction compliance.
PRE-SS-02: Non-seismic hazard avoidance	No	One of the proposed changes is to move laydown areas away from steep slopes to comply with these conditions. Therefore, the Facility with proposed changes will comply with these conditions.
PRE-SS-03: Setbacks to avoid slopes	No	
1. Would proposed changes: Impair ability to comply with condition, require new condition, or require change to existing condition.		

6.1.4 Soil Protection

The Council previously found that the Facility complies with the Soil Protection Standard (ODOE 2017, pp. 33). The proposed changes make no changes that would alter the basis for the Council's earlier findings. The Council has previously considered both 1,522 acres of temporary impacts (ODOE 2009, pp. 79) and 141 acres of permanent impacts (ODOE 2009, pp. 125) in the Final Order on the Application and 1,069 acres of temporary impacts and 132 acres of permanent impacts (ODOE 2017, pp. 32) in the Final Order on Amendment 3. Although Golden Hills is requesting new and wider micrositing corridors in some areas, this does not increase the anticipated temporary or permanent impact acreage than previously reviewed by the Council because, overall, the Facility will have a smaller footprint. The proposed changes will reduce lengths of collector systems and roads, and as a result the amount of soil disturbance will be minimized.

Habitat surveys completed in 2020 confirm that most of the Site Boundary continues to be used for dry-land wheat farming (Attachment 2). Current (October 2020) Natural Resources Conservation Service soils maps data were reviewed for the Site Boundary and Micrositing Corridors (existing and amended); see Figure 3. The soil types are the same as those identified in Exhibit I of the Application for Site Certificate (ASC) and consist primarily of five General

Soil Units: Walla Walla-Anderly, Wato Anders, Wrentham-Lickskillet-Rock Outcrop, Lickskillet-Nansene, and Mikkalo-Ritzville. In addition, the Certificate Holder has submitted to ODOE a Geotechnical Engineering Report that has been reviewed by and updated to address DOGAMI. The report provides detail on the geotechnical investigations to inform Facility construction and consists of geotechnical borings (hollow-stem auger drilling), standard penetration tests, bulk soil sampling, rock coring, geophysical testing, laboratory testing, and geotechnical review of the proposed and alternate wind turbine locations. This program of geotechnical investigation was selected to accurately and efficiently evaluate the strength, compressibility, stiffness, and density characteristics of the soil and rock at the project site. The report will inform the development for support of foundation design for wind turbines and site ancillary structures, including permanent met towers, the project substation, transmission line, O&M facility, access roadways, laydown areas, and underground collection trenches.

Site Certificate conditions (Conditions GEN-SP-01, CON-SP-01, CON-SP-02, OPR-SP-01, OPR-SP-02 [see Table 3]) require Golden Hills to construct the Facility in compliance with an erosion and sediment control plan satisfactory to the Oregon Department of Environmental Quality (ODEQ), as per the requirements of a National Pollutant Discharge Elimination System (NPDES) permit. Golden Hills has obtained an NDPES 1200-C permit from the ODEQ for the construction activities that are currently underway. The proposed changes do not impair Golden Hills' ability to implement erosion control measures summarized in the Final Order (ODOE 2009, pp. 78) or required by the Facility's NPDES permit.

The Sherman County Weed Control Ordinance No. 15-03-2001 was adopted in 2001 and is still in effect. On August 6, 2020 via email, Golden Hills provided the Department a list of noxious weeds and state/county classifications, along with a map of noxious weeds observations in the project area (Attachment 3). This information is current and the findings do not impact the requirements of Condition PRE-SP-01 that requires preparation of a Noxious Weed Control Plan. The Certificate Holder has also executed a contract with the Sherman County Weed Department for control of noxious weeds consistent with the County's weed control ordinance and priorities.

The proposed changes do not change any of the conclusions under the Soil Protection Standard, which the Council has already approved under the Site Certificate. Therefore, based on the foregoing, and review and compliance with the applicable Site Certificate conditions (Table 5), the proposed changes will not result in a significant adverse impact and the Council can find that the Facility, as proposed, would continue to comply with OAR 345-022-0030.

Table 5. Evaluation of the Soil Protection Standard

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
GEN-SP-01: ESCP compliance	No	This condition will apply to the final layout the same as previously layouts.
PRE-SP-01: Noxious weed control plan	No	The proposed changes do not affect compliance with this condition.
CON-SP-01: Salvaged topsoil	No	
CON-SP-02: Wash down areas	No	
OPR-SP-01: Inspection of roads	No	The proposed changes include a more efficient arrangement of facility components and moving the laydown areas from slopes thereby potentially reducing related erosion.
OPR-SP-02: Prevention of run-off from blade-washing	No	The proposed changes do not include any changes to the turbines. Therefore, the Facility with proposed changes will comply with this condition.
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.		

6.1.5 Land Use

The Council previously concluded that the Facility complied with the Land Use Standard (ODOE 2009, pp. 78). In its evaluation of the Facility under the Land Use Standard (OAR 345-022-0030), the Council considered the applicable substantive criteria of Sherman County's comprehensive plan and land use ordinances. There have been no modifications to the Sherman County Zoning Ordinance (SCZO) (adopted 1994 and amended in 2003) or the Sherman County Comprehensive Plan (SCCP) (adopted in 1994 and amended in 2007) since RFA 5 in 2018.

The Council previously found that the Facility would be consistent with the general criteria of the SCZO and the proposed changes do not affect this finding (see Table 6; ODOE 2009, pp. 40).

Table 6. Sherman County Applicable Substantive Criteria

Section	Title	Effect of Proposed Change
SCZO		
Section 3.1	***Exclusive Farm Use, F-1***	

Section	Title	Effect of Proposed Change
Section 3.1(1)	General Purpose	**No change.** The proposed changes minimize impacts agricultural operations and do not result in encroachment of incompatible uses.
Section 3.1(2)	Uses Permitted	**No change.** The proposed changes are associated with the approved wind energy facility which is allowed in the F-1 zone as a conditional use.
Section 3.1(3)	Conditional Uses Permitted	**No change.** See above.
Section 3.1(4)	Dimensional Standards/Setbacks	**No change.** RFA 6 will not create a new farm parcel and will meet all applicable yard setbacks for buildings**.**
Section 3.7	***Natural Hazard Combining Zone***	
Section 3.7(1)	Purpose	**No change**. Correspondence with Sherman County Planning Director Georgia Macnab for both RFA 5 and pre-construction compliance confirms the Facility is not in the Natural Hazard zone.
Section 3.7(3)	Conditional Uses	
Section 3.7(4)	Permit for Use or Development in Natural Hazard Zone	
Section 3.7(5)	Application Requirements for Use in Natural Hazard Zone	
Section 3.7(6)	Standards for Building Construction in Natural Hazard Zone	
Section 3.7(7)	Standards for Access Route in Natural Hazard Zone	
Article 4	***Supplemental Provisions***	
Section 4.9	Compliance with and Consideration of State and Federal Agency Rules and Regulations	**No change.** The proposed changes do not affect compliance with State or Federal regulations as discussed throughout RFA 6.
Section 4.13	Additional Conditions to Development Proposals	**No change.** The proposed changes do not affect compliance with the Site Certificate conditions relative to impacts to the transportation network.
Article 5	***Conditional Uses***	
Section 5.2	General Criteria	**No change.** The proposed changes do not affect compliance with applicable Local, State or Federal regulations as discussed throughout RFA 6.
Section 5.8	Standards Governing Specific Conditional Uses.	**No change.** The proposed changes are necessary so that the Facility can be constructed with a minimum impact on the surroundings and with consideration for natural or aesthetic values and farmland impacts.

Section	Title	Effect of Proposed Change
Sherman County Ordinance		
Ordinance No. 39-2007	Setback Ordinance for Wind Power Generation Siting	**No change.** All turbines will be sited in the previously approved turbine micrositing corridors and no changes to turbine dimensions are being requested as part of RFA 6.
Transportation System Plan (2015 Update)		
Section 7	Rural Road Design Standards	**No change.** The Facility, as proposed, will comply with Site Certificate Condition PRE-LU-01 which requires facility related roads to be constructed in accordance with applicable Sherman County road design standards, including the Transportation System Management Plan.
SCCP		
Section VIII, Planning Process and Citizen Involvement	Goal I: Policy I, II	**No change.** Public and Agency outreach has occurred at all stages of Facility development as documented through the ASC and amendment processes.
Section XI, Physical Characteristics	Goal I: Qualify of the Physical Environment	**No change.** The proposed changes do not affect Golden Hills' ability to comply with its NPDES permit or other erosion control measures.
	Goal II: Natural Hazards	**No change.** Golden Hills will continue to avoid placing turbines and the laydown areas in Natural Hazards Combining Zones.
	Goal III: Aggregate Resources	**No change.** The proposed changes will not impact the aggregate resources of Sherman County.
	Goal IV: Groundwater Resources	**No change.** The proposed changes will not impact the aggregate resources of Sherman County.
	Goal IV: Land Management	**No change.** The proposed changes are sited within agricultural lands.
	Goal VI: Landscape	**No change.** The proposed changes do not include new facilities, and will not impact rock outcroppings, trees, the John Day River Canyon, or the Deschutes River Canyon.
	Goal VII: Fish and Wildlife	**No change.** The proposed change does not affect Golden Hills' ability to avoid sensitive habitat (i.e., Category 1 habitat). See Sections 6.18 and 6.1.9 for more information on wildlife impacts.
	Goal XIII: Plant and Animal Diversity	**No change.** Golden Hills is not expected to significantly affect any listed endangered or threatened species, or adversely affect fish and wildlife species or habitat. Due to the lack of habitat for listed species in the Site Boundary, this conclusion is the same regardless of the proposed changes.

Section	Title	Effect of Proposed Change
Section XII	Social Characteristics Goal I, Policy I, IX, X; Goal II, Policy XI, XII	**No change.** There are 10 issues related to social services under this section. The Facility will be consistent with this goal which related to the Public Services Standard, described in Section 3.13. Overall, the proposed changes do not affect the Council's previous finding.
Section XIV	Goal I Economic Base and Viability of Agricultural	**No change.** The Facility will support the local economy by diversifying income sources while maintaining agricultural as the primary use. The proposed changes will minimize impacts to farmland.
SCCP Section XV	Energy Goal I, Policy I	**No change.** Regardless of whether the proposed changes, the Facility supports the development of renewable energy in the county.
SCCP Section XVI	Land Use Goal I, Policy IV	**No change.** Golden Hills does not propose to change the location of the Facility. It is entirely located on Exclusive Farm Use zoned land. The proposed changes will be within the existing Site Boundary.

Local Standards and Plans

SCZO Section 5.8.20.2 applies to the Facility and requires that there be no significant interference with accepted farming practices on adjacent lands devoted to farm use. Some of the proposed changes to the micrositing corridors are intended to reduce impacts to farmland by realigning or consolidating access roads and collector lines in coordination with landowners (see Figure 2), and temporary construction laydown and staging areas are being sited to minimize disturbance to farming operations including unnecessarily dividing fields (see Figure 2).

Golden Hills will follow Condition PRE-LU-03, which limits placement of aboveground facilities within 50 feet from any property line, or within 50 feet from the right-of-way of any arterial or major collector road. These are intended to satisfy Sherman County's setbacks for land zoned as Exclusive Farm Use. Golden Hills is in the process of designating haul routes for turbine delivery, and is consulting with the Sherman County Road Department on needed intersection improvements. Golden Hill has drafted a road use agreement with Sherman County to repair damage to county roads caused by construction in a manner consistent with Conditions PRE-LU-12 and PRE-LU 13. Golden Hills has also executed a contract with the Sherman County Weed Department for control of noxious weeds consistent with the County's weed control ordinance and priorities.

The Council may rely on its earlier findings to support a finding that the proposed changes in RFA 6 comply the applicable substantive criteria from the SCZO.

- There is no forest use within the Site Boundary only farm use. The lands devoted to farm use in Sherman County are used primarily for cultivation of wheat, barley with some grazing of livestock, and farming related and accessory uses. The Facility will only remove a maximum of approximately 50 acres from farm use, as amended. Accepted farming activities will continue on the farm parcels where the facility structures would be located. The lease payments to landowners will exceed historic revenue from the land being displaced and will provide a stable revenue source to farm owners.
- The impact of the facility will not force a significant change in accepted farm practices or significantly increase the cost of farm practices, for the following reasons:
- Condition PRE-LU-02 requires the Certificate Holder to consult with affected landowners in the design and construction of private access roads to minimize the division of existing farm units.
- Facility access roads and other facilities will be constructed and maintained by the Certificate Holder such that the cost burden for maintenance does not fall upon the farm or ranch owners.
- Facility access roads improved or developed for the Facility could benefit agricultural users of land through improved access to farm fields and resulting lower fuel costs.
- While some increase in traffic is anticipated during construction, the temporary increase in the level of traffic will not significantly impact level of service on local roads. Therefore, construction traffic will not interfere with harvest time activities such as tractor movement between fields or trucks delivering agricultural products to market.
- The Certificate Holder has executed a weed control plan with the Sherman County Weed Department to reduce the risk of weed infestation in cultivated land and the associated cost to the farmer for weed control.
- Construction and operation of the Facility could cause changes in routes of access to fields and changes in the pattern of cultivation, seeding, fertilizing and harvesting near the turbines and access roads. To minimize this, the Certificate Holder is consulting with the landowners, to minimize obstacles to farming in cultivated fields (facility components around which the farmer would have to plow, plant, and harvest) (see Figure 2).
- Construction vehicles will use previously disturbed areas including existing roadways and tracks. The width of new permanent roadways will be the minimum consistent with safe use. Underground communication and electrical lines will be buried within the area disturbed by temporary road widening to the extent practicable, and turbine foundations will abut roadways as closely as possible while still meeting all setbacks.

- When practical, temporary construction yards and laydown areas will be located within existing disturbed areas or the future footprint of permanent structures (see Figures 2.3 and 2.5).
- Upon completion of construction, the Certificate Holder will restore temporarily disturbed areas to their pre-construction condition pre the Revegetation Plan (Condition GEN-FW-01).

Directly Applicable State Statues and Administrative Rules

The Facility was originally approved in 2009. The Final Order on the Application for Site Certificate (May 15, 2009) ("Final Order ASC") specifies that OAR 660-033-0130(37) became effective on January 2, 2009. ODOE found that the new rule applied to the Facility but in an abundance of caution made findings under the "old" rule and the "new" rule (Final Order ASC, pp. 61-73). The Final Order noted that the original site boundary had Class IIc soils (see Figure 4) and therefore was analyzed under OAR 660-033-0130(37)(a) as well as (37)(b) (arable land, see Figure 5). Final Order on Amendment 3 (Feb. 2017) ("Final Order 3") addressed OAR 660-033-0130(37) when the Council found that the Facility, as amended, complied with OAR 660-033-0130(37), consistent with the findings in the Final Order ASC (Final Order 3, p. 45). Final Order on Amendment 5 (Oct. 2018) ("Final Order 5") addressed OAR 660-033-0130(37) but focused on the Facility's potential impact to arable and nonarable land (it did not realize high value farmland under -0130(37)(a)). It was silent as to high-value farmland (Final Order 5, pp. 47-49).

The expanded micrositing corridor in this RFA 6 totals adds 534 acres to the existing micrositing corridor. The new micrositing corridor area has a combination of high value farmland (296 acres), arable land (492 acres), and nonarable land (41 acres); see Table 7. Therefore, OAR 660-033-0130(37)(a) and (b) apply. The facility components within the new expanded micrositing corridor primarily include underground collector lines and access road and total approximately 5.4 acres of permanent impacts. ODOE may look to the findings in the Final Order ASC and Final Order 5 to make findings that the Facility, as modified, will comply with OAR 660-033-0130(37)(a) and (b).

Table 7. Golden Hills High-Value Farmland, Arable and Non-Arable Land

Category	Existing Micrositing Corridor (Acres)	Existing Micrositing Corridor (%)	New Areas of Micrositing Corridor (Acres)	New Areas of Micrositing Corridor (%)	Micrositing Corridor to be Removed (Acres)	Micrositing Corridor to be Removed (%)	Total Micrositing Corridor (Acres)	Total Micrositing Corridor (%)	Site Boundary (Acres)	Site Boundary (%)
High-value farmland - soils[1]	4,727.29	70	285.10	53	44.22	52	5,012.39	69	13,536.29	46
High-value farmland - water right[2]	4.80	0	0.28	0	0.00	0	5.08	0	163.24	1
High-value farmland - AVA[3]	634.96	9	45.93	9	6.99	8	680.89	9	2,116.50	7
High-value lands/high-value soils (merged all 3 HVFs). No overlap.	4,826.61	72	296.18	55	45.50	53	5,122.79	70	14,250.48	48
Arable[4]	6,606.35	98	492.47	92	78.03	91	7,098.82	98	27,348.92	93
Non-arable	131.19	2	41.83	8	7.54	9	173.02	2	2,059.52	7

1. High-value farmland designations per ORS 195.300(10)(a)
2. High-value farmland designations per ORS 195.300(10)(c)
3. High-value farmland designations per ORS 195.300(10)(f)
4. Arable includes Class I-IV soils, cultivated land regardless of soil class, and high-value lands and soils.

Impacts on Agricultural Operations

As stated above, the Certificate Holder is coordinating with the landowners of the subject properties to minimize impacts to agricultural operations thus the need for some areas of the proposed micrositing corridors changes in this RFA 6. The Certificate Holder has minimized the number of turbines needed thereby limited the division of field by the turbines strings and the access roads. Figure 2 shows in detail where roads have been realigned and other facilities consolidated or layout adjustments made to minimize impacts.

Soil Erosion or Loss

The Certificate Holder will comply with the terms of its NPDES permit and the associated Erosion and Sediment Control Plan (Condition GEN-SP-01). The underlying soil types within the new micrositing corridor area are the same as the soils in the existing micrositing area (see Figure 3). Therefore, the erosion potential at the site remains the same as previously considered. The Council previously found the Facility would not result in unnecessary soil erosion and OAR 660-033-0130(37)(b)(B) and (C) were met. ODOE may look to Final Order ASC, pp. 69-70, to reach the same conclusions for this RFA 6. ODOE may also rely on the erosion potential evaluation presented in the ASC Exhibit I.

Soil Compaction

During construction, the Certificate Holder shall salvage approximately 3 feet of topsoil and stockpile this topsoil in windrows, wherever temporary impacts will occur in cultivated areas. The Certificate Holder shall protect the windrows with plastic sheeting or mulch. Upon removal of the temporary features, the certificate holder shall cultivate the subsoil to a depth of at least 12 inches (except where bedrock prohibits achieving this depth) and then redistribute the salvaged topsoil to match adjacent grades (Condition CON-SP-01). After construction, the Certificate Holder will implement the following best practices for site stabilization on agricultural lands:

- Operational access roads to turbines will be graveled and constructed of an appropriate rock base to ensure long-term durability and minimize rutting and erosion.
- Turbine pads will be designed to stabilize fill/cut slopes with rock or other methods.
- Culverts installed along access roads will be designed to accommodate the 100-year storm event to minimize erosion. Golden Hills has completed hydrology modeling for proposed access roads and identify three locations were runoff from 100-year storm event could reach maximum depth of 0.15 foot at each location (see Attachment 4 Hydrology Report).
- The substation and O&M buildings locations have no modelled water depths during a 100-year storm event, and the surfaces can be graded to safely convey rainfall to minimize erosion.

Weed Control

The Certificate Holder has executed an agreement with the Sherman County Weed Master for control of noxious weeds for the Facility to ensure the noxious weed ordinance and county and landowner concerns are addressed.

Almost all facilities are located on agricultural lands that will remain actively farmed by the underlying landowner. Regular herbicide treatment by the landowner will provide for long-term weed control on farmed areas near project facilities.

The Certificate Holder will contract with the Sherman County Weed Master on an annual basis for herbicide spraying of project access roads and turbine pads. Herbicide treatments on non-agricultural areas will follow measures outlined in the revegetation plan.

Conclusion and Compliance with Existing Site Certificate Conditions

For the reasons provided above, the proposed changes comply with (1) all applicable substantive criteria from the SCZO and SCCP and (2) directly applicable state laws and rules, and therefore satisfy the Land Use Standard. The proposed changes do not change any of the conclusions under the Land Use Standard, which the Council has already approved under the Site Certificate with conditions (see Table 8). Therefore, the proposed changes do not affect the Facility's compliance with OAR 345-022-0040.

Table 8. Evaluation of the Land Use Standard

Land Use Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
GEN-LU-01: County road equipment storage	No	The proposed changes do not affect compliance with this condition.
GEN-LU-02: Transmission line stability	No	The proposed changes do not include changes to the transmission line alignment. Therefore, the proposed changes do not affect compliance with this condition.
PRE-LU-01: Road design plans	No	Relocating the O&M building complies with this condition by providing safe access.
PRE-LU-02: Private access road consultation	No	The proposed changes include access road changes to minimize agricultural field impacts consistent with this condition.

Land Use Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
PRE-LU-03: Aboveground facility setbacks	No	This condition references final design denoting that design changes are intrinsic in the Site Certificate. Therefore, the facility with proposed changes will meet this condition.
PRE-LU-04: Collector lines within Natural Hazard zones	No	Per a letter from Georgia Macnab, Sherman County Planning Director, there are no Natural Hazards overlay zones in the micrositing corridors.
PRE-LU-05: County concurrence with SCZO Article 3.7.5(e)	No	
PRE-LU-06: Staging area avoidance of Natural Hazard zones	No	
PRE-LU-07: Road stabilization in Natural Hazard zones	No	
PRE-LU-08: Final design maps with infrastructure locations	No	The proposed changes include access road changes to minimize agricultural field impacts consistent with this condition. Additionally, this condition implicates that layout changes are inherent to the site certificate.
PRE-LU-09: Farm Management Easement records	No	The proposed changes will be within the Site Boundary on tax lots previously identified for wind energy development. The Facility with proposed changes complies with this condition.
PRE-LU-10: Special Farm Assessment removal	No	
PRE-LU-11: Assignment of rural addresses	No	
PRE-LU-12: Road inspection and consultation with County	No	The Certificate Holder has and will coordinate with the County for County Road Use. The proposed changes do not affect compliance with this condition.
PRE-LU-13: County Road Master permitting	No	
PRE-LU-14: Setback requirements for final turbine locations	No	The proposed changes do not include changes to the turbine micrositing corridors.
CON-LU-01: Farming equipment access	No	The proposed changes do not affect compliance with this condition.
OPR-LU-01: Impacts to cultivated land	No	The proposed changes were developed in consideration of compliance with this condition.

Land Use Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
OPR-LU-02: Coordinates of turbines and infrastructure	No	The Facility, with proposed changes, can comply with this condition. In addition, the condition states that layout changes are intrinsic to the Site Certificate: "…certificate holder shall provide to the Department and to the Sherman County Planning Director, a summary of as-built changes in the facility compared to the original plan, if any."
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.		

6.1.6 Protected Areas

The Council previously found that the Facility is not located in or near any of the protected areas listed in OAR 345-022-0040, and that "the facility, as amended, is not likely to result in significant adverse impacts to any protected area, and complies with the Protected Areas Standard (ODOE 2017, pp. 35)." The proposed changes fall within the study area previously analyzed for the Site Certificate, and there have been no new protected areas added to OAR 345-022-0040 (Table 9; ArcGIS 2020, BLM 2020a, BLM 2020b, Google Earth 2019, National Wild and Scenic Rivers System 2020, NOAA 2020, ODFW 2020a, ODFW 2020b, Oregon State Parks 2020, OSU 2020a, OSU 2020b, OSU 2020c, OSU 2020d, OSU 2020e, USFWS 2020a, USGS 2018, WDFW 2020a, WDFW 2020b).

Table 9. Protected Areas Inventory

Protected Areas within 20 Miles of Site Boundary		Direction and Distance from Facility (miles)	Resources Used to Confirm Status
Type	Area Name		
National Parks OAR 345-022-0040(1)(a)	None	N/A	Google Earth 2019, USGS 2018
National Monuments OAR 345-022-0040(1)(b)	None	N/A	Google Earth 2019, USGS 2018
Wilderness Areas OAR 345-022-0040(1)(c)	None	N/A	ArcGIS 2020, Google Earth 2019, USGS 2018

Protected Areas within 20 Miles of Site Boundary		Direction and Distance from Facility (miles)	Resources Used to Confirm Status
Type	**Area Name**		
National & State Wildlife Refuges OAR 345-022-0040(1)(d)	John Day Wildlife Refuge	East, 5.3	Google Earth 2019, USFWS 2020a
National Coordination Areas OAR 345-022-0040(1)(e)	None	N/A	Google Earth 2019, USGS 2018
Fish Hatcheries OAR 345-022-0040(1)(f)	Goldendale Hatchery	Northwest, 12.5	Google Earth 2019, ODFW 2020b, WDFW 2020
National Recreation and Scenic Areas OAR 345-022-0040(1)(g)	Columbia River Gorge National Scenic Area	West, 2.7	Google Earth 2019, USGS 2018
State Parks & Waysides OAR 345-022-0040(1)(h)	Maryhill State Park	North, 1.0	Google Earth 2019, USGS 2018
	Deschutes River State Recreation Area	West, 4.3	Google Earth 2019, USGS 2018
	Heritage Landing (Deschutes)	West, 5.4	Google Earth 2019, USGS 2018
	JS Burres State Recreation Site/BLM Cottonwood Facility	Southeast, 6.8	Google Earth 2019, USGS 2018
	Goldendale Observatory State Park	North, 11.8	Google Earth 2019, USGS 2018
	Columbia Hills (Horsethief Lake) State Park	Northwest, 14.0	Google Earth 2019, USGS 2018
	Brooks Memorial State Park	North, 19.7	Google Earth 2019, USGS 2018
	Doug's Beach State Park	Northwest, 19.9	Google Earth 2019, USGS 2018
State Natural Heritage Areas OAR 345-022-0040(1)(i)	Columbia Hills Natural Area Preserve	Northwest, 11.7	Google Earth 2019, OSU 2020a
	Badger Gulch Natural Area Preserve	Northeast, 15.6	Google Earth 2019, OSU 2020a
State Estuarine Sanctuaries OAR 345-022-0040(1)(j)	None	N/A	Google Earth 2019, NOAA 2020
Scenic Waterways/ Wild & Scenic Rivers	Deschutes Federal Wild and Scenic River	West, 2.3	Google Earth 2019, National Wild and Scenic Rivers System 2020, Oregon State Parks 2020

Protected Areas within 20 Miles of Site Boundary		Direction and Distance from Facility (miles)	Resources Used to Confirm Status
Type	**Area Name**		
OAR 345-022-0040(1)(k)	Deschutes State Scenic Waterway	West, 2.4	Google Earth 2019, National Wild and Scenic Rivers System 2020, Oregon State Parks 2020
	John Day Federal Wild and Scenic River	East, 5.2	Google Earth 2019, National Wild and Scenic Rivers System 2020, Oregon State Parks 2020
	John Day State Scenic Waterway (Parrish Creek to Tumwater Falls)	East, 5.3	Google Earth 2019, National Wild and Scenic Rivers System 2020, Oregon State Parks 2020
	Lower Klickitat Federal Wild and Scenic River	Northwest, 16.2	Google Earth 2019, National Wild and Scenic Rivers System 2020, Oregon State Parks 2020
Experimental Areas (Rangeland Resources Program) OAR 345-022-0040(1)(l)	None	N/A	Google Earth 2019, OSU 2020b, OSU 2020c, OSU 2020e
Agricultural Experimental Stations OAR 345-022-0040(1)(m)	Columbia Basin Agriculture Research Center (Moro)	Southwest, 0.4	Google Earth 2019, OSU 2020b, OSU 2020c
Research Forests OAR 345-022-0040(1)(n)	None	N/A	Google Earth 2019, OSU 2020d
Bureau of Land Management (BLM) Areas of Critical Environmental Concern OAR 345-022-0040(1)(o)	None	N/A	BLM 2020a, BLM 2020b, Google Earth 2019
BLM Research Natural Areas and Outstanding Natural Areas OAR 345-022-0040(1)(o)	None	N/A	BLM 2020a, BLM 2020b, Google Earth 2019
State Wildlife Areas and Management Areas OAR 345-022-0040(1)(p)	Lower Deschutes Wildlife Area	Southwest, 1.8	Google Earth 2019, ODFW 2020a, USGS 2018
	Klickitat Wildlife Area	Northwest, 16.6	Google Earth 2019, USGS 2018, WDFW 2020b

There will be no change to predicted noise levels, transport or haul routes, water use or wastewater disposal, or visual impacts from the proposed changes than what was previously reviewed by the Council in RFA 5. Hence, the proposed changes do not change any of the conclusions under the Protected Areas Standard for the Facility, which the Council has already approved under the Site Certificate, but with no specifically related Site Certificate conditions. Therefore, the proposed changes do not affect the Council's previous finding on Protected Areas; thus, the Council may find the Facility, as proposed, continues to comply with OAR 345-022-0050.

6.1.7 Retirement and Financial Assurance

The Council previously found that Golden Hills would meet the Retirement and Financial Assurance Standard. The proposed changes do not substantially change the decommissioning estimate submitted to the ODOE for RFA 3 (Golden Hills Wind Farm, LLC 2015).

Habitat surveys completed in 2020 (Attachment 2) confirm that most of the Site Boundary continues to be used for dry-land wheat farming. Additionally, there have been no changes to soils (see soils Section 6.1.4) or other site attributes that would change the restoration/decommissioning tasks and actions necessary to restore the site to a useful, nonhazardous condition. The Facility is being sited to minimize restoration efforts that will be required such as siting around field contouring and through coordination with landowners (Condition PRE-LU-08). As identified in Exhibit W of the ASC, the Certificate Holder will use the following measures to restore the site at retirement of the facility:

- Remove turbines, towers, and blades using cranes and other conventional equipment. Recyclable and reusable materials will be recycled and reused to the extent practical. Other materials will be disposed of in accordance with all applicable federal, state, and local laws in nearby landfills.
- Remove concrete foundations to a minimum of three feet below the ground level, and grade adjacent soils to cover, so that tilling and farming can resume. Concrete would be disposed of at a landfill or buried on the property at least three feet below the ground level, with the landowners' permission.
- Remove roads, unless the farmer(s) desire to have the road remain on their property. Gravel would be removed by standard equipment and used for another project or disposed of in accordance with all federal, state, and local laws. Areas beneath removed roads would be disked or tilled to restore compacted soils to farmable condition.
- Underground collector lines would be abandoned in place, at least 3 feet below the ground level.
- Remove transformers and other substation equipment and recycle or reuse these materials to the extent practical. Remove gravel for reuse in another project or dispose of at a local landfill. Areas beneath removed substations would be disked or tilled to restore compacted soils to farmable condition.

- The O&M building would be demolished using conventional equipment. Recyclable and reusable materials would be recycled and reused to the extent practical. Other materials will be landfilled in accordance with all federal, state, and local laws. Areas beneath the removed O&M facilities would be disked or tilled to restore compacted soils to farmable condition.
- Overhead transmission lines may be transferred to another entity for power transmission.

Golden Hills will rely on Condition PRE-RT-01 to post a bond in an amount based on the final design. A retirement cost table for the final design consistent with the terms of Condition PRE-RT-01 and including updated unit costs of the tasks and actions necessary for site restoration/decommissioning has been provided to ODOE as part of preconstruction (Attachment 5). Attachment 5 provides the estimate, in current dollars (Q4 2020), of the total and unit costs of restoring the site to a useful, non-hazardous condition. The site restoration cost estimate was prepared by the Certificate Holder's consultant, Tetra Tech. The scope of work and individual tasks were established using professional experience, in collaboration with the Certificate Holder's s engineering staff and contractors. Production rates were based on professional knowledge and published standards, including review of "RS Means," a construction cost estimating software. Labor and equipment rates were obtained based on U.S. Department of Labor wage determinations. Typical industry standards were applied including for overhead and fee. The Council may find that the no additional contingencies (Department Project Management or Future Development) are necessary because of the following conditions that account for the intent of those contingencies:

- Condition PRE-RT-01: The certificate holder shall adjust the amount of each bond or letter of credit on an annual basis....
- Condition RET-RT-01: Two years before closure of the energy facility, the certificate holder shall submit to the Department a proposed final retirement plan for the facility and site, pursuant to OAR 345-027-0110, including: (c) A detailed cost estimate, a comparison of that estimate with the dollar amount secured by a bond or letter of credit and any amount contained in a retirement fund, and a plan for assuring the availability of adequate funds for completion of retirement.
- Condition GEN -MC-11: Provides that If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, non-hazardous condition. After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan.

Furthermore, as noted in RFA 6, the Certificate Holder has executed a PPA with PSE for the power generated by the Facility (https://www.pse.com/press-release/details/puget-sound-

energy-and-avangrid-renewables). Golden Hills asserts that a PPA is the legally binding agreement between Golden Hills and PSE. Substantial due diligence is conducted before entering into the PPA to ensure reliable power. Such due diligence typically include third-party evaluation of the energy resource, ability to deliver energy through the grid to its point of use, ability for the Certificate Holder to secure permits, the ability for the Certificate Holder to obtain financing, and the credit worthiness of the company building the energy generation facility. The PPA defines the amount of energy that PSE is purchasing, the duration of the contract, the purchase price, any ancillary services. The PPA provides Golden Hills with certainty that if the project is built and operated consistent with the PPA, there would be a guaranteed revenue stream for the duration of the PPA. Because of this guaranteed rate of return, the risk of Golden Hills defaulting during the PPA term is extremely low. PSE has considerable interest in the facility's success over the PPA term, as they are using the renewable energy to serve their retail customers.

Therefore, based on the foregoing, and review and compliance with the applicable Site Certificate conditions (Table 10), the proposed changes will not result in a significant adverse impact not previously reviewed by the Council and the Council may find the Facility, as proposed, continues to comply with OAR 345-022-0060.

Table 10. Evaluation of the Retirement and Financial Assurance Standard

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
GEN-RT-01: Restoration protection	No	The proposed changes do not affect compliance with these conditions, which are generally reflective of the submitted as-builts and standard spill procedures.
PRE-RT-01: Letter of credit	No	
OPR-RT-01: Hazardous spill procedures	No	
OPR-RT-02: Lack of remediation for spill procedures	No	
RET-RT-01: Retirement due to cease of construction or operation	No	
RET-RT-02: Final retirement plan submittal	No	
RET-RT-03: Compliance with applicable statutes if bond elected	No	
RET-RT-04: Actual cost payment to restore site	No	
RET-RT-05: Forced final retirement plan due to cease of construction or operation	No	
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.		

6.1.8 Fish and Wildlife Habitat

The Council previously found that the Facility complies with the Fish and Wildlife Habitat Standard. The proposed changes will not affect the Council's prior findings regarding the Facility's consistency with the Fish and Wildlife Habitat Standard because the proposed changes will be within the Site Boundary and will not result in a change to the affected habitat types. Pre-construction surveys have been completed for the Facility including proposed changes. Prior to conducting field surveys, a desktop assessment of habitat within the Survey Area was conducted using aerial photography, topographic maps, and Oregon Department of Fish and Wildlife (ODFW) Big Game habitat data (ODFW 2013). These sources were used to confirm and update, as appropriate, habitat types compared to the mapped habitat types previously approved for the Facility, and to address any gaps in available data prior to confirmation in the field (ODOE 2009, ODFW 2013). Habitat within the amended micrositing corridor areas is mostly Category 6 (approximately 85 percent), which is similar to existing micrositing corridors (Attachment 2 Habitat Survey which includes Oregon Biodiversity Information Center [ORBIC] review).Habitat within the amended micrositing corridor areas is mostly Category 6 (approximately 85 percent), which is similar to existing micrositing corridors (Attachment 2 Habitat Survey, which includes ORBIC review). The Certificate Holder has field verified that there is no Category 1 habitat within the new micrositing corridor and no Category 1 habitat that will be impacted by the Facility, which is consistent with Condition PRE-FW-04 for avoidance of high-quality habitat. Limited areas of Category 2 habitat were identified within the new micrositing corridor based on post-field data processing for wetlands and waters and overlap with ODFW Mule Deer Winter Range (Attachment 2 Figure 1, Table 1). Temporary and permanent impacts to Category 2 habitat are anticipated to be less than identified in the Final Order of the ASC (0.91 acres permanent impact, 25.08 acres temporary impact; ODOE 2009) but likely greater than the impacts in the Final Order for RFA 3 (0.0017 acres permanent impact, 2.90 acres temporary impact; ODOE 2017). To account for micrositing, in RFA 5, the Council administratively amended Condition PRE-FW-04 (IV.M.9) to accurately reference the final Habitat Mitigation and Revegetation Plan versus Table 1 of Final Order on Amendment 3 that would include final acreage impacts determined during final facility design (ODOE 2018). Per PRE-DC-02 and PRE-FW-02, habitat impacts will be addressed in the final Habitat Mitigation and Revegetation Plan (HMRP).

Final habitat impacts will be tabulated in the HMRP, and are expected to be at least 50 percent less than previously approved habitat impacts (i.e., approximately 58 acres of total permanent impact verses 132 acres, as approved).Implementation of the HMRP (Conditions GEN-FW-01 and PRE-FW-01) and Wildlife Monitoring and Mitigation Plan (WMMP; Condition OPR-FW-01) will adequately offset habitat impacts following the ODFW's habitat mitigation policy. Overall, the Facility with the proposed changes, as shown on Figure 2, is appropriately sited in agricultural fields with low potential for wildlife habitat, and in a manner consistent with the

Guidelines. The Certificate Holder reviewed the status of species listed (ORBIC) in Table 6 of RFA 5 and found no change to status or known occurrence of species with the potential to occur within the Site Boundary (see also Attachment 2 Habitat Survey; Golden Hills Wind Farm, LLC 2018, ODFW 2019, ORBIC 2019, ORBIC 2020). Because there will be no change to the Site Boundary, there is no change to the Council's previous conclusion that the Facility complies with the Fish and Wildlife Habitat Standard. Therefore, based on the foregoing, and review and compliance with the applicable Site Certificate conditions (Table 11), the proposed changes will not result in a significant adverse impact and the Council may find that the Facility, as proposed, would continue to comply with OAR 345-022-0070.

Table 11. Evaluation of the Fish and Wildlife Habitat Standard

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
GEN-FW-01: Restoration under HMRP	No	The HMRP will reflect the final design layout and associated disturbance areas. Therefore, the Facility as proposed will comply with this condition.
GEN-FW-02: Met tower guy wires	No	The Facility as proposed will comply with these conditions.
GEN-FW-03: Category 3 tree habitat	No	
GEN-FW-04: Avian Power Line Interaction Committee transmission line guideline adherence	No	RFA 6 proposes to amend this condition to remove the obligation of anti-perching devices and add the requirement to install spiral markers over Grass Valley Canyon.
PRE-FW-01: HMRP finalization	No	As noted above, the HMRP will reflect the final design layout and associated disturbance areas. Therefore, the Facility as proposed will comply with this condition.

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
PRE-FW-02: Raptor nest surveys	No	These surveys have been completed and survey areas considered the new corridors.
PRE-FW-03: Loggerhead shrike surveys	No	
PRE-FW-04: Avoidance of Category 1 and 2 habitats	No	Habitat surveys have been completed for all areas that may be impacted by construction – including new corridors – and no Category 1 or 2 habitat was identified within temporary or permanent impact areas.
PRE-FW-05: Raptor nest surveys and reporting, WMMP	No	The Facility with proposed changes will not affect compliance with these conditions.
CON-FW-01: Active nest buffer requirements	No	
OPR-FW-01: Wildlife monitoring per WMMP	No	
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.		

6.1.9 Threatened and Endangered Species

The Council previously determined that Golden Hills could design, construct, and operate the Facility in a manner that was not likely to cause a significant reduction in the survivability or recovery of fish, wildlife, or plant species listed as threatened or endangered by the ODFW or the Oregon Department of Agriculture (ODOE 2017, pp. 83). Consultation with ODOE and the ODFW occurred on March 17, 2020 regarding the threatened or endangered with potential to occur in the micrositing corridors including the new areas of micrositing corridor. Habitat and range information for special-status wildlife species known to occur in Sherman County and the Columbia Plateau/Columbia Basin was reviewed to update the list of species that had the potential to occur at the Facility, last submitted as Tables 6 and 7 in RFA 5 (Golden Hills Wind Farm, LLC 2018, ODA 2020, ODFW 2018, ODFW 2019, ORBIC 2019, ORBIC 2020, StreamNet 2020, Tetra Tech 2020, WEST 2019, WEST 2020, USFWS 2020b, USFWS 2020c) (see Attachment 2, Habitat Survey). There have been no changes to ODFW's list of threatened and endangered species since the last amendment. There are no species federally listed by USFWS in Sherman County. There are no state listed wildlife species expected to occur in the project area. The only state listed species subject to 345-021-0010(1)(q)(A) is Laurence's milkvetch, and the Certificate

Holder completed rare plant surveys in the spring of 2020 and noted no observations of this species (see Attachment 6).

Because bald eagle and peregrine falcon have been delisted, condition PRE-TE-01 could be removed. However, Attachment 7 provides an updated summary of findings for those species.

Golden Hills has completed pre-construction surveys to comply with Site Certificate Conditions to verify absence of threatened and endangered species including in the expanded micrositing corridors. Field surveys did not identify the presence of state threatened Laurence's milkvetch; no threatened and endangered species were identified. A single Loggerhead Shrike nest was located in 2019 surveys. No sensitive species' raptor nests were located within 2 miles of the Site Boundary.

As noted in the previous section, even with the expanded micrositing corridors, the Facility is appropriately sited in agricultural fields with low potential for wildlife habitat, and in a manner consistent with the Guidelines. Because there will be no change to the Site Boundary, there is no change the Council's previous conclusion that the Facility complies with the Threatened and Endangered Species Standard. Therefore, based on the foregoing, and review and compliance with the applicable Site Certificate conditions (Table 12), the Council may find the Facility proposed changes will continue to comply with OAR 345-022-0070.

Table 12. Evaluation of the Threatened and Endangered Species Standard

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
PRE-TE-01: Database review and consultation	No	These conditions identify pre-construction field surveys and state that if these surveys identify sensitive species, appropriate measures to avoid adverse impact will be developed in consultation with ODFW and the ODOE.
PRE-TE-02: Mitigation measures for sensitive habitat	No	
PRE-TW-03: Protocol, surveys, and reporting	No	
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.		

6.1.10 Scenic Resources

The Council previously found that the Facility complies with the Scenic Resources Standard. The proposed changes of RFA 6 fall within the study area previously analyzed for the Site Certificate. There have been no new land management plans containing policies applicable to scenic resources in the analysis area added since the original Site Certificate analysis (BLM 1985, BLM 1987, BLM 1992, BLM 1993, BLM 2000, Columbia River Gorge Commission 2016, Gilliam County 2017, Klickitat County 1977, National Historic Trails 1999, NPS 2018, ODOT 1996,

Sherman County 2007, Wasco County 2010.). Five of the previously analyzed land management plans have been updated since the Site Certificate analysis:

- Management Plan for the Columbia River Gorge National Scenic Area, September 1992, revised May 10, 2004: Updated in 2016;
- Lewis and Clark National Historic Trail Comprehensive Plan and Management and Use, January 1982: Updated to the Lewis and Clark National Historic Trail Long-Range Interpretive Plan, dated September 2018;
- Sherman County [Oregon] Comprehensive Land Use Plan 1994, revised June 2003: Updated in 2007;
- Comprehensive Plan for Wasco County [Oregon], August 25, 1983: Updated in June 2010; and
- Gilliam County [Oregon] Comprehensive Land Use Plan, October 25, 2000: Updated in May 2017.

The Lewis and Clark National Historic Trail Long-Range Interpretive Plan does not identify significant or important scenic resources in the analysis area (NPS 2018). The Management Plan for the Columbia River Gorge National Scenic Area and Sherman County Comprehensive Land Use Plan do not contain any significant updates applicable to the scenic resources aside from minor rewording and renumbering of goals and policies related to the Columbia River Gorge, John Day River Canyon, Deschutes River Canyon, and Oregon National Historic Trail and trees (Columbia River Gorge Commission 2016, Sherman County 2007). The Comprehensive Plan for Wasco County added Policy 5 – Wild and Scenic Rivers, Policy 6 – Wild and Scenic Rivers, and Policy 7 – Columbia River Gorge in December 2009 (Wasco County 2010). The policies address the protection of the Deschutes and John Day River Scenic Waterways as well as the Columbia River Gorge with consideration for agriculture and recreation use. The Gilliam County Comprehensive Land Use Plan added Goal 5 – Natural Resources, Scenic and Historic Areas, and Open Spaces (Gilliam County 2017). This goal includes policies related to the Columbia River Gorge and the John Day River Canyon. All of the important scenic resources referenced in these plans and within the analysis area are included in the original Site Certificate analysis. Therefore, the changes proposed in RFA 6 shall not alter the basis for the Council's original findings.

The proposed changes are within the study area previously analyzed for the Site Certificate. The proposed changes do not include any new structures or changes to the approved facilities dimensions. The proposed changes support a more compact layout minimizing impacts to farmland and natural resources. The access road shifts will follow existing farm roads and farmland cultivating contours, and therefore will blend into the surroundings to a greater extent than if they remained within the existing micrositing corridors. Facility buildings will be designed to be generally consistent with the character of similar buildings used by commercial farmers or ranchers in the area and shall paint the building in a neutral color to blend with the

surrounding landscape as provided in Condition GEN-SR-01. Therefore, based on the foregoing, and review and compliance with the applicable Site Certificate conditions (Table 13), the Council may find the Facility, with proposed changes, would continue to comply with OAR 345-022-0080.

Table 13. Evaluation of the Scenic Resources Standard

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
GEN-SR-01: O&M building design	No	The Facility, with proposed changes, will comply with these conditions.
PRE-SR-01: Reduction of visual impacts	No	
OPR-SR-01: Exterior nighttime lighting	No	
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.		

6.1.11 Historic, Cultural, and Archaeological Resources

Golden Hills has completed field surveys for the new micrositing corridors and a total of three new sites (one historic building and two historic archaeological sites) and one historic isolated find were identified (Table 14). Survey methods followed State Historic Preservation Office (SHPO) guidance, including shovel probing in areas of poor ground surface visibility and intact soils. All shovel probes were negative for archaeological resources and suggested a low potential for unidentified resources. Golden Hills also revisited three previously recorded historic archaeological sites in existing micrositing corridors to collect additional field data to inform these sites' NRHP eligibilities, because these resources were previously recorded as unevaluated. A supplemental cultural resources report with the locations of the resources listed in Table 14 was provided to SHPO and ODOE under confidential cover.

Table 14. Cultural Sites

Site Name	Resource Type	NRHP Eligibility Recommendation[1]
Newly Recorded Sites – New Micrositing Corridors		
Joseph C. Hockman Farmstead Garage	Historic Site - Building	Not eligible
GH-BB-02	Archaeological Site - Collapsed bridge	Not eligible
GH-BB-03	Archaeological Site - Disarticulated windmill and water trough	Not eligible

Site Name	Resource Type	NRHP Eligibility Recommendation[1]
GH-BB-ISO-01	Archaeological Object - Historic refuse (cans)	Not eligible
Previously Recorded Sites – Approved Micrositing Corridor		
GH-Site-6	Archaeological Site[2] - Abandoned utility line	Not eligible
35SH0217	Archaeological Site -Windmill, stone wall, abandoned road	Not eligible
35SH0221	Archaeological Site -Historic farmstead	Not eligible
1. SHPO concurrence on pending. 2. GH-Site-6 was original recorded as an aboveground historic site. The recent survey has recategorized it as an archaeological site due to its deterioration since the last recording.		

All of the resources identified and reviewed are consistent with the historic rural agricultural use of the region, and no resources are recommended as eligible for listing on the NRHP. Resources not likely to be listed on the NRHP are not protected under EFSC's siting standard under OAR 345-022-090(1)(a); however, all archaeological sites and objects on private lands are protected under EFSC's siting standard under OAR 345-022-090(1)(b). The archaeological resources identified in Table 14 are not considered significant archaeological resources and would not contribute significant information to national, state, or local history. Their recording has documented the important material evidence of these resources. Therefore, Facility impacts on the archaeological resources identified in Table 14 would not be considered significant. Therefore, Golden Hills requests the following Site Certificate conditions be revised to more closely match the EFSC siting standards.

- **GEN-HC-02**, delete this condition and move buffer requirements to condition PRE-HC-01. The 200-foot buffer in GEN-HC-02 was previously imposed because there were cultural sites that were not fully evaluated, and the buffer was a precaution against disturbance to unevaluated sites. Golden Hills has now fully evaluated affected cultural sites and this buffer is no longer needed.
- **PRE-HC-01**, revise condition to clearly state that all sites determined by SHPO to be eligible for listing on the NRHP should be avoided rather than a list of specific site names. This revision reiterates the Council's previous findings that impacts on cultural resources would be avoided in understandable condition language, and incorporates the new survey findings into the condition without including specific site names (ODOE 2009, p. 134).
- **PRE-HC-02,** revise condition to remove references to specific sites and instead rely on the broad definition of the revised PRE-HC-01 condition. This fixes the inconsistency in the lists of sites, because PRE-HC-01 and PRE-HC-02 previously had different lists

cultural resource sites and it was not clear why buffers applied to certain sites but not others.

- **PRE-HC-03,** revise condition to provide a map of previous survey areas so that the Department can verify all areas that will be disturbed by construction have been evaluated for impacts on cultural resources. With the supplemental survey report completed for RFA 6, there are now multiple reports for the Facility; therefore, this condition should be revised not to reference a single report.
- **CON-HC-01**, revised condition to require the implementation of a Cultural Resource Management Plan (CRMP) developed in accordance with PRE-HC-02. A draft CRMP has been submitted under a separate cover.
- **CON-HC-02**, delete because inadvertent discovery protocols described in CON-HC-02 will be included in the CRMP.
- **CON-HC-03 (now -02)**, revise to reference CRMP and requiring implementation of CRMP protocols if construction personnel discover intact physical evidence of the Oregon Trail.
- **CON-HC-04 (now -03),** revise text to provide a specific timeframe to install interpretative sign and exchange the reference to the Oregon-California Trails Association (OCTA) Historic Trails Advisory Council with Sherman County. The OCTA Advisory Council no longer exists.

The Facility, as amended, will not result in significant adverse impacts to cultural resources because no NRHP eligible cultural resources will be impacted (Table 15). Although NRHP-ineligible archaeological resources on private lands will be impacted, those impacts will not be significant. If new cultural resources are inadvertently identified during construction, the Facility's Inadvertent Discovery Plan (to be included in the CRMP required under PRE-HC-02) will be followed. Therefore, based on the foregoing, the Council may find the Facility, with the proposed changes, will not result in a significant adverse impact and the Facility would continue to comply with OAR 345-022-0090.

Table 15. Evaluation of the Historic, Cultural, and Archaeological Standard

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
GEN-HC-01: Construction identification training	No	The condition is not relative to the physical facility.
GEN-HC-02: No access buffers	No	This condition is proposed to be incorporated into PRE-HC-01 to clarify applicability to resources.

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
PRE-HC-01: Avoidance of NRHP-eligible and unevaluated resources.	No	The Facility, as proposed, will comply with this condition to avoid specific resources. The evaluation of the resources is pending SHPO concurrence with NRHP eligibility recommendations.
PRE-HC-02: Cultural Resource Management Plan	No	This condition provides the minimum components that should be included in the Cultural Resource Management Plan rather than an exclusive or exhaustive list of components. Therefore, additional components necessary from any findings of new cultural surveys will be incorporated.
PRE-HC-03: Final design locations and disturbance areas	No	This condition requires a confidential map of surveyed areas, final design locations, and known cultural resources
CON-HC-01: Discovery of cultural resource	No	The proposed changes do not affect compliance with these conditions.
CON-HC-02: Qualified archaeologist evaluation	No	
CON-HC-03: Construction personnel training	No	
CON-HC-04: Consultation with Oregon-California Trails Association	No	
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.		

6.1.12 Recreation

The Council previously found that the Facility complies with the Recreation Standard. The finding was based on the importance and uniqueness of the recreational opportunities in the analysis area, on usage or demand, and with potential impacts from Facility construction and operation on the recreational activity. Because there will be no changes to the Site Boundary, the proposed changes of RFA 6 fall within the study area previously analyzed for the Site Certificate. All recreational areas have remained the same since the original analysis. There are no new recreational opportunities or changes to previously evaluated recreational opportunities

since RFA 5 (BLM 2020a, BLM 2020b, Google Earth 2019, National Wild and Scenic Rivers System 2020, NOAA 2020, ODFW 2020a, ODFW 2020b, ODFW 2020c, Oregon State Parks 2020, OSU 2020a, OSU 2020b, OSU 2020c, OSU 2020d, USFWS 2020a, USGS 2018, WDFW 2020). Similar recreational activities to the original analysis occur in the study area such as hunting, various water activities, fishing, sightseeing, nature and wildlife photography, bicycling, horseback riding, hiking, and camping. No changes in recreation fact or law have occurred since the original Site Certificate analysis (BLM 1985, BLM 1987, BLM 1992, BLM 1993, BLM 2000, Columbia River Gorge Commission 2016, Gilliam County 2017, Klickitat County 1977, National Historic Trails 1999, NPS 2018, ODOT 1996, Sherman County 2007, Wasco County 2010). Therefore, the changes proposed in RFA 6 shall not alter the basis for the Council's original findings.

Per the Final Order of RFA 5:

> *Mapped trail alignments of the Oregon National Historic Trail and Barlow Road Cutoff Trail, both previously determined by Council to be important recreational opportunities, are within the site boundary with overlapping areas within the approved micrositing corridor, and would be closer to the facility than DeMoss Springs Memorial Park. Based on review of the record, the evaluation of potential impacts (direct or indirect loss, noise, visual, traffic) from the facility to these important recreational opportunities relied upon potential impacts to intact segments, which the certificate holder affirmed would not occur as a result of facility construction or operation because no intact trail segments have been identified within the site boundary. Because the facility, with proposed changes, would not result in site boundary changes, the Department recommends the Council find that the facility, with proposed changes, would not result in impacts not evaluated in a previous Council order.*

Similarly, the proposed changes will not change the Site Boundary, increase the number of turbines, or add any facilities. None of the new areas of micrositing corridor for are closer to De Moss Springs Park than the existing micrositing corridors and there are no intact trail segments in the Site Boundary based on previous review of the mapped and trails and cultural surveys. Condition CON-HC-03 addresses construction avoidance to any intact physical evidence of the Oregon Trail not previously identified if it is inadvertently discovered during construction. Consequently, the proposed changes will not create any noise, traffic, or visibility impact not previously considered by the Council for the Facility. Therefore, the proposed changes make no changes that alter the basis for the Council's earlier findings and the Council may continue to find the Facility, as proposed, continues to comply with OAR 345-022-0100.

6.1.13 Public Services

The Council previously found that the Facility complies with the Public Services Standard. The Council adopted Site Certificate Public Services conditions to provide safety, fire protection, and emergency response measures for the Facility, including the requirement to develop a fire safety and response plan with affected agencies prior to construction of the Facility (see Table

16). The proposed changes will not alter the Facility's impacts on the ability of public and private service providers to supply sewer and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care, and schools. The proposed changes include intersection and turning radius improvements for safety purposes.

The Council previously concluded that Golden Hills would not significantly impact public resources based on a 125-turbine layout, but these impacts will be reduced because the Certificate Holder plans to build only 51 turbines. Water is used for turbine foundations and road building, and the water demand will be less than previously considered. The water source to be used by construction has not yet been finalized but could be provided by the City of Moro and/or City of Wasco (see Attachment 8).

Turbine deliveries will arrive the project using Highway 97 and county roads. Highway 97 is designated by ODOT as a Freight Route. Based on current level of service ratings (ODOT 2018, ODOT 2019;), US 97 is rated as having a good condition. More than 400 turbines have been constructed in Sherman County using access from Highway 97, and there has not be a significant increase in traffic or land use that would limit the Certificate Holder's ability from delivering turbines to the Facility. Attachment 9 provides the Certificate Holder's maintenance agreement with Sherman County of roads to upgrade or maintain during construction.

The closest airport is the Wasco State Airport (established 1944), a public airport located 1 mile east of the Site Boundary. A total of 4 airplanes are utilized at the airport with an average of 47 flights per week (for a 12-month period ending January 27, 2019; AirNav 2019). There have been no recent improvements to the Wasco Airport. The Certificate Holder has obtained "determinations of no hazard" from the FAA regarding aeronautical safety for its final turbine locations. Previously proposed turbine locations near the Wasco Airport were not approved by FAA. The next closest airport is located approximately 18 miles west, the Columbia Gorge Regional Airport (established 1943).

RFA 6 does not seek to increase the amount of personnel required for construction (up to 300) or operations (up to 15). The estimated number of permanent employees needed to operate the Facility, between 10 and 15 permanent employees, would remain consistent with what was previously analyzed in Exhibit U of the ASC. If all 15 employees moved to Sherman County as new residents, the population and therefore impact to public services and resources would be negligible (approximately 0.009% increase in the population of Sherman County).

In Attachment F to RFA 4, the Certificate Holder conducted a Public Services Evaluation in which the anticipated increase in workers' construction-related impacts to public services (e.g., housing, health care, transportation and roadway impacts, etc.) were taken into consideration based on during peak construction period there will be 300 workers onsite, and there will be an average of 170 workers onsite throughout construction. An updated review of public services

construction-related impacts to public services (e.g., housing, health care, transportation and roadway impacts, etc.) was completed for RFA 6 (see below). Moreover, Judge Joe Dubulskis with Sherman County has verified that Sherman County has adequate public services to support wind farms and that the project will allow Sherman County to potentially improve the level of emergency and public support services (see Attachment 8).

- **Housing** - A majority of the incorporated towns and cities within the analysis area have decreased in population since 2006, with only Grass Valley, The Dalles, and Maupin showing an increase since the 2006 estimates (U.S. Census Bureau 2018). However, the percentage of the personnel compared to that of the local populations in the analysis area remains insignificant. Additionally, numerous RV parks, hotels, motels, campgrounds and other accommodations remain available to construction personnel in the analysis area (Google Earth 2019).
- **Police** - The Sherman County, Gilliam County, and Wasco County Sheriffs' Departments remain capable of accommodating the project for both police service needs and still maintain an agreement to provide backup service for each other as needed. Additionally, the Wasco County Sherriff is now partnered with The Dalles Police Department and Oregon State Police as well as five distinct volunteer organizations (Wasco County 2017). Sherman County now employs three patrol deputies that monitor the 484 miles of county roads through Sherman County, a decrease since the original Site Certificate analysis (Sherman County 2019). Gilliam County now employs 6 full time deputies, a civil deputy, and a reserve deputy, thus has increased their personnel load since the original Site Certificate analysis (Gilliam County 2018).
- **Fire** - The Moro Rural Fire Protection District, North Sherman Fire Protection District, and the numerous community fire service providers (Condon, Goldendale, Moro, Rufus, Dufur, The Dalles, Maupin and Mosier) remain capable of accommodating the Facility for fire and some for ambulance service needs (City of Condon 2020, City of Goldendale 2020, City of Moro 2020, Dufur 2020, FireDepartment.net 2015a, FireDepartment.net 2015b, FireDepartment.net 2015c, FireDepartment.net 2015d, Mid-Columbia Fire and Rescue 2020, Mosier Fire 2020).
- **Emergency** - The Facility fire safety and response plan will continue to provide guidance to mitigate any impacts experienced by affected agencies. If an accident were to occur at the site, ambulance service from the Moro Rural Fire Protection District would still be capable of transporting patients to the Mid-Columbia Medical Center, the closest full-service medical facility (MCMC 2020). Evacuation via helicopter will also remain available as needed.

Thus, most providers have either broadened or maintained their levels of personnel and services to the analysis area, and therefore the current service providers still have the capacity to accommodate the Facility as needed.

The proposed changes do not change the Site Boundary, increase the number of turbines or add any facilities, or require more public services than previously analyzed and there are no other circumstances that would alter the basis for the Council's earlier determination. Therefore, the proposed changes make no changes that alter the basis for the Council's earlier findings and the Council may find that Facility, as proposed, continues to comply with OAR 345-022-0110.

Table 16. Evaluation of the Public Services Standard

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
GEN-PS-01: On-site security	No	The proposed changes do not affect compliance with these Site Certificate conditions.
GEN-PS-02: O&M and service vehicle equipment	No	
PRE-PS-01: Fire safety and response plan	No	
PRE-PS-02: Construction traffic management plan	No	
CON-PS-01: Operation of vehicles on graveled areas	No	
CON-PS-02: On-site water truck	No	
CON-PS-03: Non-flammable turbine foundation buffer	No	
CON-PS-04: Traffic impacts measures	No	The proposed changes to improve intersections and turning radii meet this condition.
PRO-PS-01: Final site plan and contact with fire protection districts	No	The proposed changes do not affect compliance with these conditions.
OPR-PS-01: On-site well water use	No	
OPR-PS-02: Annual fire prevention and response training	No	
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.		

6.1.14 Waste Minimization

The Council previously found that the Facility complies with the Waste Minimization Standard. The Waste Minimization Standard analysis provides an assessment of procedures and practices needed to minimize the generation of solid waste and wastewater. The proposed changes do not add any turbines or new facilities; therefore, they will not increase the amount of solid waste and wastewater generated by the Facility, and will not modify the procedures and practices that will be used to handle these materials. The Council adopted Conditions PRE-WM-01, PRO-WM-01, CON-WM-01 and OPR-WM-01 to address the Waste Minimization Standard for the Facility's compliance (see Table 17). Therefore, the proposed changes make no changes

that alter the basis for the Council's earlier findings and the Council may find that the Facility, as proposed, complies with OAR 345-022-0120.

Table 17. Evaluation of the Waste Minimization Standard

Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
PRE-WM-01: Construction Waste Management Plan	No	The proposed changes do not affect compliance with these conditions.
CON-WM-01: On-site portable toilets	No	
PRO-WM-01: Operational Waste Management Plan	No	
OPR-WM-01: Licensed on-site septic system	No	
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.		

6.2 Division 24 Standards

Golden Hills provides an evaluation of compliance with the Division 24 standards below.

6.2.1 Public Health and Safety

The Council previously found that the Facility complies with the Council's Public Health and Safety Standards for Wind Energy Facilities. The proposed change do not include changes to or new facilities or new areas of Site Boundary that would affect compliance with this standard. All turbines, will be constructed within the approved micrositing corridors as previously reviewed by the Council.

As noted previously, based on 2020 habitat surveys, land in the micrositing corridors remains primarily used for agricultural purposes, predominantly dry-land wheat. Thus, there have been no changes in existing built environment conditions that could impact the Certificate Holder's ability to comply with existing setback requirements.

There have been no changes to Sherman County's Comprehensive Plan or Zoning Ordinance which provides or references development setback and safety standards (Georgia Macnab, personal communication, August 28, 2020). Vestas does not publish setback recommendations. General Electric suggests a 1.1x turbine height setback from public roads and residences. This is consistent with the current setbacks in the Site Certificate (see Figure 6).

The Facility, including the proposed changes, will not require a new condition or change to an existing condition of the Site Certificate for public health and safety (see Table 18). Therefore,

the proposed changes make no changes that alter the basis for the Council's earlier findings and the Council may find that the Facility, as proposed, complies with OAR 345-024-0010.

Table 18. Evaluation of Division 24 Standards (Specific Standards for Siting Facilities)

Standard	Conditions	Condition Compliance Evaluation (compliance concern)[1]	Comment
Public Health and Safety	GEN-PH-01: Construction setbacks	No	These setbacks are specific to turbines. Therefore, the proposed changes do not affect compliance with this condition.
	PRE-PH-01: Monitoring device installation and maintenance	No	The Facility, as proposed, will continue to comply with these conditions.
	PRE-PH-02: Substation security	No	
	PRE-PH-03: Notice of Proposed Construction or Alteration	No	
	CON-PH-01: Turbine component handling procedures	No	
	CON-PH-02: Turbine security features	No	
	PRO-PH-01: Operational safety-monitoring program	No	
	PRO-PH-02: Transformer installation requirements	No	
1. Would proposed changes impair ability to comply with condition, require new condition, or require change to existing condition.			

6.2.2 Cumulative Effects

The Council previously found in the Final Order on Amendment 5 that the Facility complies with the Cumulative Effects Standards for Wind Energy Facilities (OAR 345-024-0015). The proposed changes will not alter the Facility's reliance on existing roads where possible. Proposed changes will not significantly affect wetlands or other waters of the state because Facility construction will avoid impacts to wetlands through boring or rerouting facilities around these features as necessary. The Facility has been sited to reduce impacts to productive fish and wildlife habitat by siting as much of the Facility as possible in Class 6 habitat. The Certificate Holder has sited turbines away from steep slopes and areas of native habitat that are more likely to attract foraging raptors than dryland wheat areas. Figure 7 depicts areas of the turbine micrositing area within which the Certificate Holder voluntarily restricted development

due to their higher risk to vulnerable raptors. The Certificate Holder will minimize electrocution risk to raptors by designing the entire 34.5-kV electrical collector system to be underground. Riser poles, substation components, and the 230-kV transmission line will follow the most recent version of the Avian Power Line Interaction Committee suggested practices as required by GEN-FW-04. The Certificate Holder has completed a raptor nest survey within 2 miles of the Site Boundary in 2019 and 2020, and there are no sensitive raptor species (Swainson's hawk, golden eagle, ferruginous hawk, or burrowing owl as referenced in CON-FW-01) within 2 miles of proposed turbines. These reports are provided as Attachments 10 and 11.

The Facility as modified would comply with the existing Site Certificate conditions, including those related to compliance with the Threatened and Endangered Species Standard (Conditions IV.I.1 to CON-PH-02 and Condition PRE-PH-01) and compliance with the Fish and Wildlife Habitat Standard (Conditions PRE-FW-01 to PRE-FW-05, and CON-FW-01). Therefore, the proposed changes make no changes that would alter the basis for the Council's earlier findings and the Council may find that the Facility, as proposed, complies with OAR 345-024-0015.

6.3 Other Regulatory Requirements

In Table 19, Golden Hills demonstrates that the Facility, including the proposed changes, will comply with other regulatory requirements.

Table 19. Summary of Other Applicable Regulatory Requirements

Agency	Regulation	Applicability to Proposed Change
Oregon Department of Environmental Quality	Noise Control Regulations (OAR 340-035-0035)	**Not Applicable**: The proposed changes do not add any new facilities that have not previously been reviewed for noise impacts. CON-CJ-01 requires measures during construction, to reduce noise impacts at nearby residential areas, and PRO-CJ-01 provides for complaint-based operational noise monitoring to the ODOE. Golden Hills searched for new residences within 2 miles of proposed turbines and determined there are no new noise sensitive receptors. Findings are described in the attached memo (Attachment 12) along with the all the seven noise sensitive receptors within the 35 dBA contour. These seven noise sensitive receptors are subject to ODEQ noise rule.

Agency	Regulation	Applicability to Proposed Change
Oregon Department of State Lands	Removal-Fill Law	**Applicable**: Surveys have been completed for all potential temporary and permanent disturbance areas including those in the amended micrositing corridors. See Attachment 13 for a summary of the Golden Hills Wetland Delineation Report findings and Attachment 14 for the Wetland Delineation Report. The Wetland Delineation Report was submitted to the Department of State Lands on August 31, 2020. The Facility, as proposed, can be constructed and operated without triggering the need for a Removal/Fill Permit from the Oregon Department of State Lands or a Section 404 permit from the U.S. Army Corps of Engineers because impacts to wetlands and waters of the State will be avoided by design.
Oregon Water Resources Department	Ground Water Act	**Not Applicable**: The proposed changes do not increase the quantity of water used and wastewater generated during construction and operations from what was originally authorized in the Site Certificate because the Facility footprint, as proposed, will be smaller than permitted. The proposed changes do not affect the Certificate Holder's ability to comply with the Site Certificate, and OAR Chapter 690.

Section 7. Conclusion

Golden Hills provides that as established by the findings and conclusions discussed herein, the Facility, including the proposed changes:

1. Complies with the requirements of the Oregon energy facility siting statutes, ORS 469.300 to ORS 469.570 and ORS 469.590 to ORS 469.619;
2. Complies with the applicable standards adopted by the Council pursuant to ORS 469.501; and
3. Complies with all other Oregon statutes and administrative rules applicable to the amendment of the Site Certificate that are within the Council's jurisdiction.

Therefore, the Certificate Holder respectfully requests approval of this RFA 6.

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Figures

Golden Hills Wind Project

Figure 1
Golden Hills Facilities
Site Boundary and
Micrositing Corridors

SHERMAN COUNTY, OREGON

- Site Boundary
- EFSC Corridor-Original (2015) 6820 acres
- Additions to EFSC Corridor (2020) 534 acres
- Micrositing Corridors to be Removed 85 acres
- City/Town
- Secondary Highway
- Secondary Road
- County Boundary

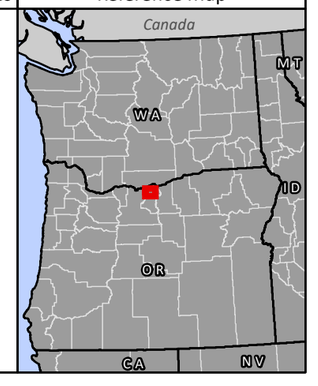
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



Scott Canyon Rd
Clark St
Wasco
Klondike Ln
Van Gilder Rd
Sandon Rd
206
Klondike Rd
97
Hay Canyon Rd
Monkland Ln
4th St
1st St
Moro
Lonerock Rd
Sherman County
Wasco County

1:74,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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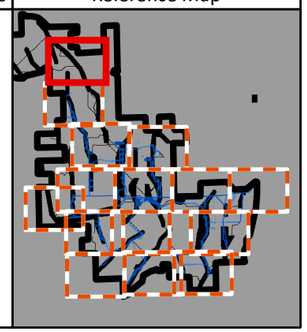
Golden Hills Wind Project

Figure 2.1
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

- Secondary Highway
- Local Road
- Site Boundary
- Original Micrositing Corridor
- Road, Intersection and Turning Radius Safety Improvements
- Limits of Disturbance

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.2
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

Shift road to avoid steep ditch along road. Reduces cut/full for access road.

206

Proposed road at edge of approved corridor. New area added as contingency to adapt of field condition during construction.

Cemetery Rd

Van Gilder Rd

Area added around turbine workspace. Turbine pad within approved corridor.

T52a

PMM2

T53a

Met tower located 1,250 feet from turbines T52 and T53 as required for measurements.

- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Earthwork Pad Extent Temporary
- Access Road
- Temporary Turn Radius
- Crane Path (Temporary)
- Underground 34.5-kV Collector Line
- Secondary Highway
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Relocate Met Towers for Final Design
- Road or Collector Line Realignment to Minimize
- Turbine Temporary Laydown Areas
- Limits of Disturbance
- Proposed Permanent Met Tower
- Road Edge
- Storage Area (Temporary)
- Met Pad (Permanent)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:10,400 NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

0 250 500 1,000 1,500 2,000 Feet

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Golden Hills Wind Project

Figure 2.3
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

T54a
T55a
T56a
T57a
T58a
T46a
T45a
T44a
T43a

Stream crossing avoided by using proposed route.

Contingency temporary work space for O&M, not likely to be use because building was shifted east to property line.

Area added to match road, fix to misaligned data from approved corridor.

UG collector using approved corridor is 2.9 miles long, crossing property lines, and one stream.

Proposed route 1.3 miles, no stream crossing.

Route uses existing farm access across low laying areas.

Lamborn Rd

Sawtooth Rd

- Primary Turbine - GE 2.5-116, 116RD, 80HH
- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Earthwork Pad Extent Temporary
- Access Road
- Temporary Turn Radius
- Crane Path (Temporary)
- Underground 34.5-kV Collector Line
- Local Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Corridor to be Removed
- O&M Building and Laydown Area Temporary Disturbance Area
- Road or Collector Line Realignment to Minimize
- Limits of Disturbance
- Road Edge
- Laydown Yard
- O&M Facility
- Storage Area (Temporary)
- O&M Pad (Permanent)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)
- Crane Build (Temporary)

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:10,400 NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

0 250 500 1,000 1,500 2,000 Feet

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Golden Hills Wind Project

Figure 2.4
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

97

206

Lamborn Rd

T19a

T20a

T22a

V Smith Rd

Proposed route using portion of approved corridor and follows edge of field.

2.5 mile UG collector route using approved corridor. Would add new UG circuit for these two turbines.

Shifted road to follow property line.

Approved corridor with no road/collector connection.

- Primary Turbine - GE 2.5-116, 116RD, 80HH
- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Earthwork Pad Extent Temporary
- Access Road
- Temporary Turn Radius
- Temporary Turn Radius
- Crane Path (Temporary)
- Underground 34.5-kV Collector Line
- Secondary Highway
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Corridor to be Removed
- Road or Collector Line Realignment to Minimize
- Road, Intersection and Turning Radius Safety Improvements
- Limits of Disturbance
- Road Edge
- Laydown Yard
- Storage Area (Temporary)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)
- Crane Build (Temporary)

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:10,400 NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

0 250 500 1,000 1,500 2,000 Feet

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Golden Hills Wind Project

Figure 2.5
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

Foss Ln

Sawtooth Rd

Area added for temporary workspace for turbine construction.

T59a

Area added for temporary workspace for turbine construction.

T60a

Area added for temporary workspace of UG collector installation. Permanent facilities within approved corridor.

T64a

Added to connect corridors, Alternative route using approved corridors is 5 miles.

Corridor shifted to align with turbine.

T63a

T37a

T36a

Van Gilder Rd

Gordon Ridge Rd

- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Earthwork Pad Extent Temporary
- Access Road
- Temporary Turn Radius
- Crane Path (Temporary)
- Underground 34.5-kV Collector Line
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Road or Collector Line Realignment to Minimize
- Turbine Temporary Laydown Areas
- Road, Intersection and Turning Radius Safety Improvements
- Limits of Disturbance
- Road Edge
- Storage Area (Temporary)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)
- Crane Build (Temporary)

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:10,400 NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

0 250 500 1,000 1,500 2,000 Feet

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Golden Hills Wind Project

Figure 2.6
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

T42a
T41a
T39a
T38a
T37a
T36a
T23a
T24a
T25a
T26
T27a
97
23
22
21
20
19
18
17
Added corridor to avoid low area and steep slopes.
Crane walk, added area for ability to drive crane.
Add area to align UG circuits in one area.
Added area around substation for HDD workspace.
Added area to widen corridor for multiple circuits.

- Primary Turbine - GE 2.5-116, 116RD, 80HH
- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Power Pole - High Voltage
- Earthwork Pad Extent Temporary
- Access Road
- Temporary Turn Radius
- Construction Road (Temporary)
- Crane Path (Temporary)
- Overhead 230-kV Gen-Tie/Transmission Line
- Underground 34.5-kV Collector Line
- Secondary Highway
- Local Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Corridor to be Removed
- Road or Collector Line Realignment to Minimize
- Turbine Temporary Laydown Areas
- Limits of Disturbance
- Road Edge
- Substation
- Laydown Yard
- Storage Area (Temporary)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)
- Crane Build (Temporary)

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:10,400 NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

0 250 500 1,000 1,500 2,000 Feet

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Golden Hills Wind Project

Figure 2.7
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

206

T-line proposed at edge of approved corridor. Added temporary work space to build line. Actual work space much less than added corridor.

No access to T-line from Nish Rd due to steep slope.

Shifted UG collector to better stream crossing location - less steep slopes compared to approved crossing.

Approved route crosses a side slope - requires more cut/fill to install UG line.

Temporary access route for T-line.

Temporary access route for T-line.

Nish Rd

T5a

T6a

T2a

17 16 15 14 13 12 11 10 9 8 7

- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Power Pole - High Voltage
- Earthwork Pad Extent Temporary
- Access Road
- Construction Road (Temporary)
- Crane Path (Temporary)
- Overhead 230-kV Gen-Tie/Transmission Line
- Underground 34.5-kV Collector Line
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Corridor to be Removed
- 230-kilovolt (kV) Transmission Line -Temporary Disturbance
- Road or Collector Line Realignment to Minimize
- Limits of Disturbance
- Road Edge
- Storage Area (Temporary)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:10,400 NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

0 250 500 1,000 1,500 2,000 Feet

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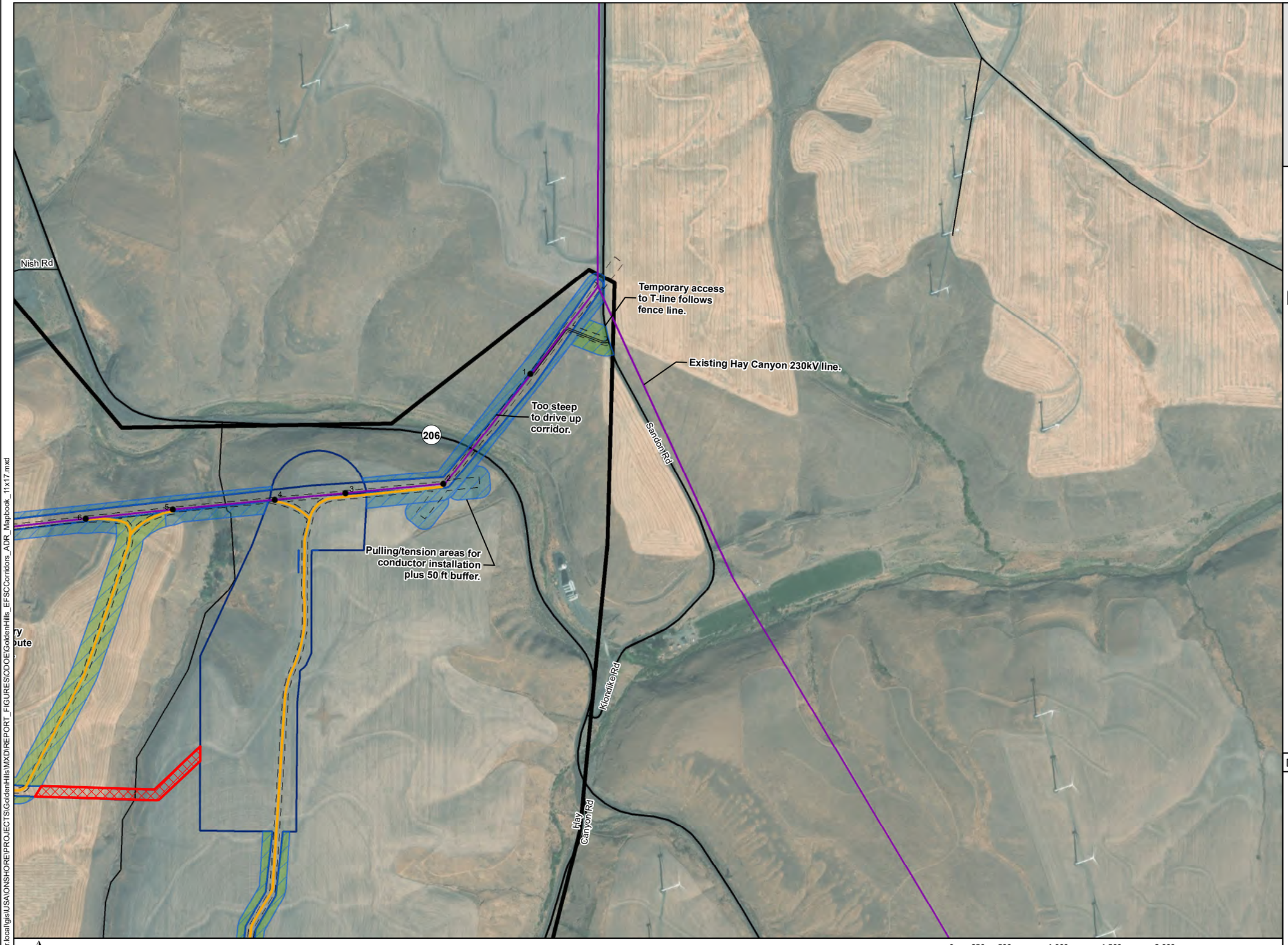
Golden Hills Wind Project

Figure 2.8
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON



- Power Pole - High Voltage
- Access Road
- Construction Road (Temporary)
- Overhead 230-kV Gen-Tie/Transmission Line
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Corridor to be Removed
- 230-kilovolt (kV) Transmission Line -Temporary Disturbance
- Road or Collector Line Realignment to Minimize
- Limits of Disturbance
- Road Edge

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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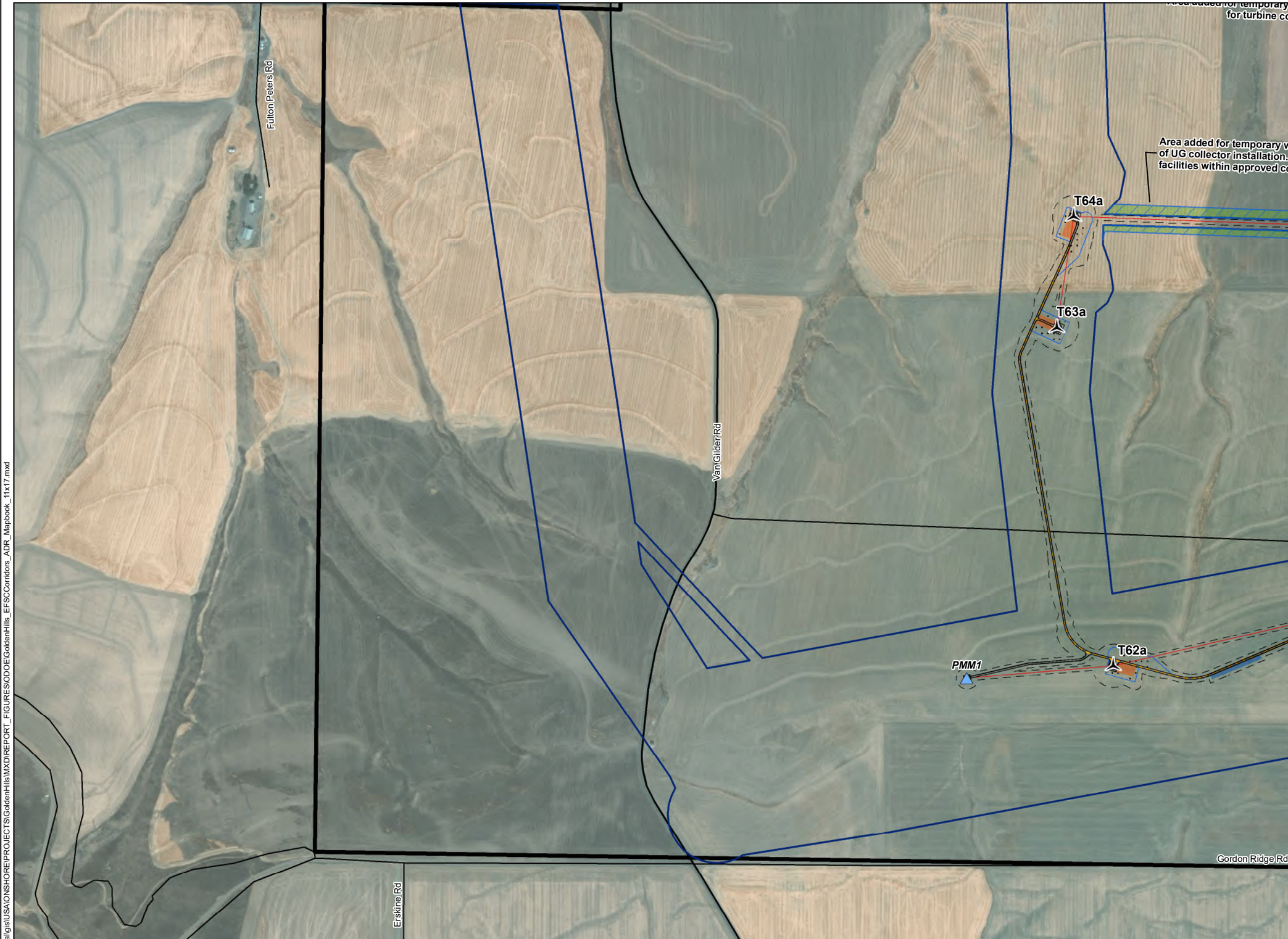


Golden Hills Wind Project

Figure 2.9
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

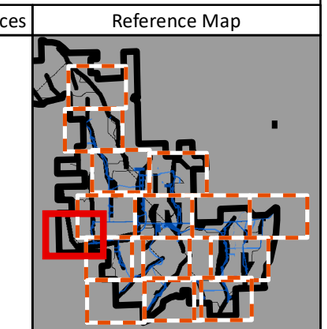
- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Earthwork Pad Extent Temporary
- Access Road
- Crane Path (Temporary)
- Underground 34.5-kV Collector Line
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Road or Collector Line Realignment to Minimize
- Limits of Disturbance
- Proposed Permanent Met Tower
- Road Edge
- Storage Area (Temporary)
- Met Pad (Permanent)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)
- Crane Build (Temporary)

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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Golden Hills Wind Project

Figure 2.10
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

T61a
T35a
PMM1
T62a
Sawtooth Rd
I1
Shift road outside approved corridor to align with direction of planting rows . West to East portions follows BPA 115 kV Line.
Gordon Ridge Rd
T34a
T33a
Contingency area added for turbine construction. Turbine pad within approved corridor.
I4
Alternative access road routes requested by landowner. East corridor not used.
Demoss Spring Rd
Van Gilder Rd
Road shifted outside corridor to keep on ridge line.
T32a
Corridor no longer needed.

- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Alternate Turbine - Vestas V150-4.3, 150RD, 105HH
- Earthwork Pad Extent Temporary
- Access Road
- Temporary Turn Radius
- Crane Path (Temporary)
- Underground 34.5-kV Collector Line
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Road or Collector Line Realignment to Minimize
- Turbine Temporary Laydown Areas
- Limits of Disturbance
- Proposed Permanent Met Tower
- Road Edge
- Storage Area (Temporary)
- Met Pad (Permanent)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)
- Crane Build (Temporary)
- Limits of Disturbance for Alternate Facilities

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:10,400 NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

0 250 500 1,000 1,500 2,000 Feet

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Golden Hills Wind Project

Figure 2.11
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

T35a
T28a
T30
T31a
T32a
J5
97
Frontage Rd
Demoss Spring Rd
Demoss Springs Ln
Douma Rd

Shifted to perpendicular crossing of existing BPA line.

Shift UG collector route off steep slope. Proposed route follow existing farm access road.

Alternative access road routes requested by landowner. East corridor not used.

Shifted road to follow property line.

Road shifted outside corridor to keep on ridge line.

Corridor for alternative turbine only. Shifted to narrower wetland crossing.

Wetland crossing avoided by using proposed route.

- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Alternate Turbine - Vestas V150-4.3, 150RD, 105HH
- Earthwork Pad Extent Temporary
- Access Road
- Temporary Turn Radius
- Crane Path (Temporary)
- Underground 34.5-kV Collector Line
- Secondary Highway
- Local Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Corridor to be Removed
- Road or Collector Line Realignment to Minimize
- Turbine Temporary Laydown Areas
- Limits of Disturbance
- Road Edge
- Storage Area (Temporary)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)
- Crane Build (Temporary)
- Limits of Disturbance for Alternate Facilities

AVANGRID RENEWABLES

1:10,400 NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

0 250 500 1,000 1,500 2,000 Feet

NOT FOR CONSTRUCTION

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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Golden Hills Wind Project

Figure 2.12
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

T6a
T7a
T8a
T9a
T10a
T2a
T1a

Proposed UG collector route with new area is 1.1 mile, Route using approved corridor 2.2 miles (north) or 4.4 miles (south).

Area added along existing road. Not likely to be developed.

Area added buffering road/UG collector. Permanent Facilities within approved corridor.

Added area buffered around an existing road.

Shifted road to follow property line.

Turbine pad within approved

Demoss Springs Ln

Nish Rd

Hay Canyon Rd

- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Earthwork Pad Extent Temporary
- Access Road
- Temporary Turn Radius
- Construction Road (Temporary)
- Crane Path (Temporary)
- Underground 34.5-kV Collector Line
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Corridor to be Removed
- Road or Collector Line Realignment to Minimize
- Turbine Temporary Laydown Areas
- Limits of Disturbance
- Road Edge
- Storage Area (Temporary)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)
- Crane Build (Temporary)

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:10,400 NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

0 250 500 1,000 1,500 2,000 Feet

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Golden Hills Wind Project

Figure 2.13
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

- Alternate Turbine - Vestas V150-4.3, 150RD, 105HH
- Temporary Turn Radius
- Temporary Turn Radius
- Secondary Highway
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Road or Collector Line Realignment to Minimize
- Turbine Temporary Laydown Areas
- Road, Intersection and Turning Radius Safety Improvements
- City/Town
- Limits of Disturbance
- Limits of Disturbance for Alternate Facilities

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

J5
Gordon Ridge Rd
Van Gilder Rd
Monkland Ln
Harris Canyon Rd
4th St
4Th St
5Th St
Court St
Mccoy St
Hood St
6Th St
97
Columbus St
Jefferson St
Bidwell St
Mc Coy St
Scott St
Moro
2Nd St
3Rd St
Weaver St
Lincoln St
Garfield
Dewey St
Railroad Ave
1st St
1St St
Moore St
Sampson St
High School Loop
Lonerock Rd

1:10,400 NAD 1983 2011 StatePlane Oregon North FIPS 3601 Ft Intl

0 250 500 1,000 1,500 2,000 Feet

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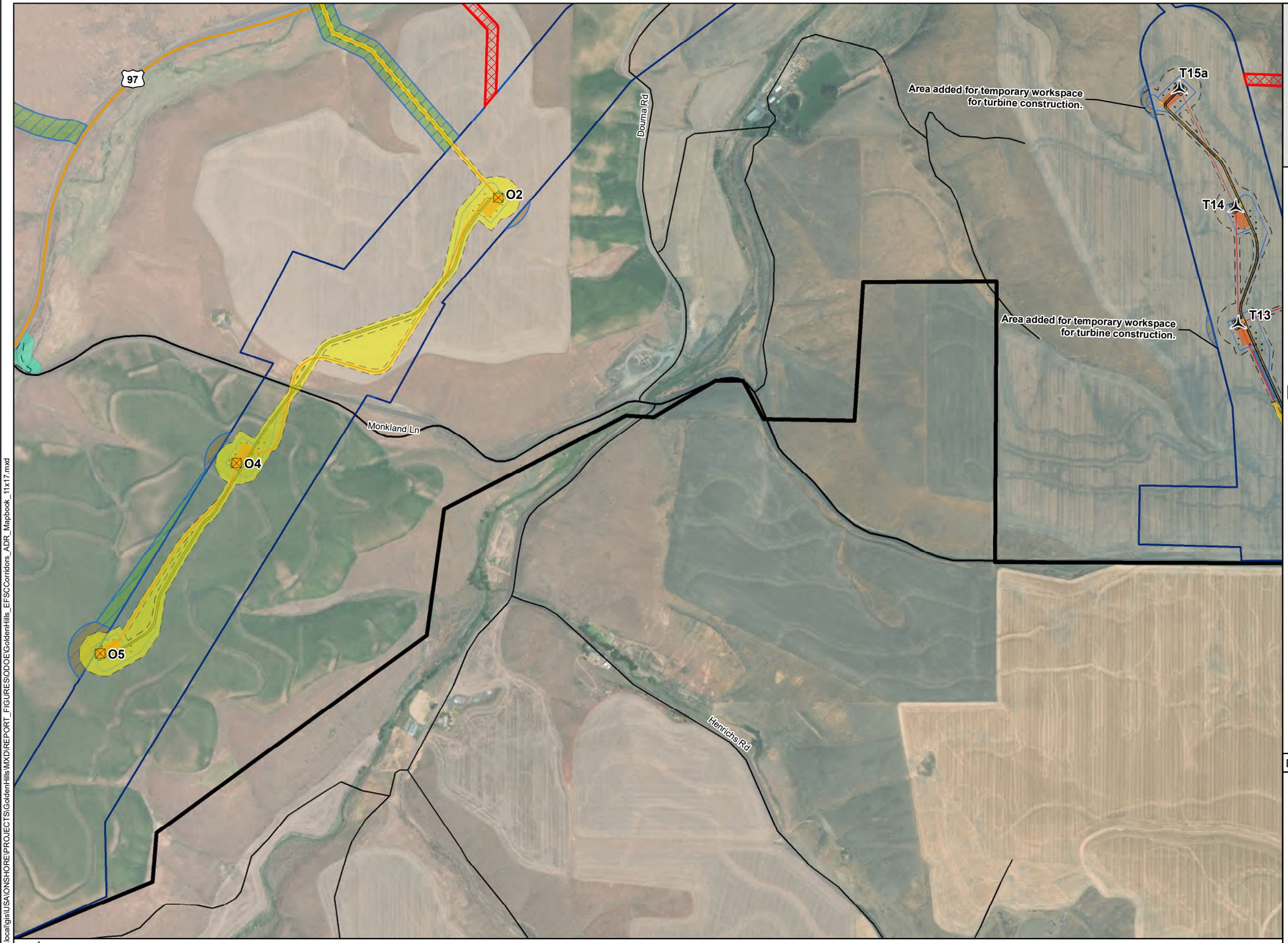
Golden Hills Wind Project

Figure 2.14
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON



- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Alternate Turbine - Vestas V150-4.3, 150RD, 105HH
- Earthwork Pad Extent Temporary
- Access Road
- Temporary Turn Radius
- Crane Path (Temporary)
- Underground 34.5-kV Collector Line
- Secondary Highway
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Corridor to be Removed
- Road or Collector Line Realignment to Minimize
- Turbine Temporary Laydown Areas
- Road, Intersection and Turning Radius Safety Improvements
- Limits of Disturbance
- Road Edge
- Storage Area (Temporary)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)
- Crane Build (Temporary)
- Limits of Disturbance for Alternate Facilities

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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0 250 500 1,000 1,500 2,000 Feet

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Golden Hills Wind Project

Figure 2.15
Golden Hills Facility Map
Detail Map

SHERMAN COUNTY, OREGON

T15a
T14
T13
T11a
T12a
P4
M10
Shifted road to follow property line.
Turbine pad within approved corridor, Grading limits extend outside corridor.
Shift UG collection south to avoid steep slopes and habitat impacts of approved route.
Turbine pad within approved corridor, Grading limits extend outside corridor.
emporary workspace urbine construction.
Area added to keep road straight through field.
Nishkian Rd
Monkland Ln
Martin Rd

- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Alternate Turbine - Vestas V150-4.3, 150RD, 105HH
- Earthwork Pad Extent Temporary
- Access Road
- Temporary Turn Radius
- Crane Path (Temporary)
- Underground 34.5-kV Collector Line
- Local Road
- Secondary Road
- Site Boundary
- Original Micrositing Corridor
- Additions to Micrositing Corridor
- Corridor to be Removed
- Road or Collector Line Realignment to Minimize
- Turbine Temporary Laydown Areas
- Limits of Disturbance
- Road Edge
- Storage Area (Temporary)
- Gravel Apron (Temporary)
- Crane Pad (Temporary)
- Crane Build (Temporary)
- Limits of Disturbance for Alternate Facilities

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

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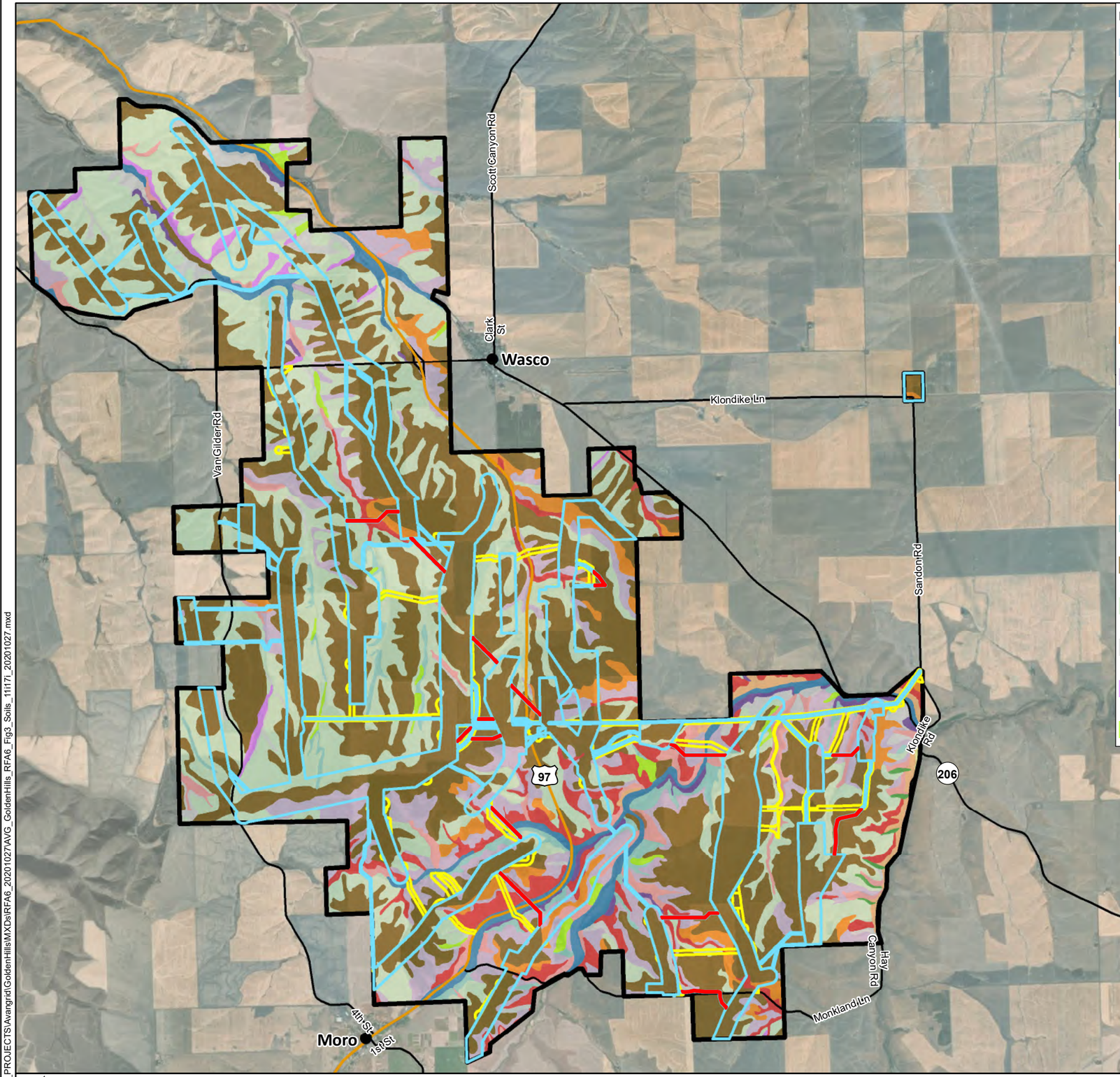

Mapunit Symbol - Mapunit Name

- 11A: Endersby fine sandy loam, 0 to 3 percent slopes
- 12A: Endersby-Hermiston complex, 0 to 3 percent slopes
- 14C: Kuhl very stony very fine sandy loam, 3 to 20 percent slopes
- 15D: Kuhl-Rock outcrop complex, 20 to 40 percent north slopes
- 16D: Lickskillet very stony loam, 7 to 40 percent south slopes
- 17C: Lickskillet-Bakeoven complex, 2 to 20 percent slopes
- 18E: Lickskillet-Rock outcrop complex, 40 to 70 percent south slopes
- 1B: Anderly silt loam, 1 to 7 percent slopes
- 1C: Anderly silt loam, 7 to 15 percent slopes
- 21E: Nansene-Rock outcrop complex, 35 to 70 percent north slopes
- 25A: Riverwash
- 27E: Rock outcrop-Rubble land-Lickskillet complex, 50 to 80 percent south slopes
- 2D: Anderly silt loam, 15 to 35 percent north slopes
- 31B: Walla Walla silt loam, 1 to 7 percent slopes
- 31C: Walla Walla silt loam, 7 to 15 percent slopes
- 32D: Walla Walla silt loam, 15 to 35 percent north slopes
- 33D: Walla Walla silt loam, 15 to 35 percent south slopes
- 3D: Anderly silt loam, 15 to 35 percent south slopes

Golden Hills Wind Project

Figure 3
NRCS Soils

SHERMAN COUNTY, OREGON

- Site Boundary
- EFSC Corridor-Original (2015)
- Additions to EFSC Corridor (2020)
- Micrositing Corridors to be Removed
- City/Town
- Secondary Highway
- Secondary Road
- County Boundary

TETRA TECH

AVANGRID RENEWABLES

1:74,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

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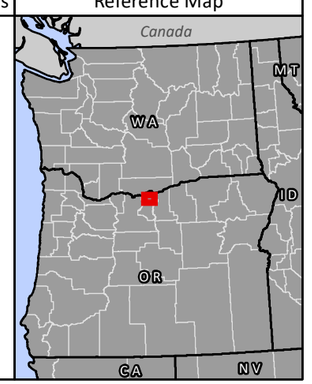
Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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Golden Hills Wind Project

Figure 4
High Value Farmland

SHERMAN COUNTY, OREGON

Site Boundary
EFSC Corridor-Original (2015)
Additions to EFSC Corridor (2020)
Micrositing Corridors to be Removed
City/Town
Secondary Highway
Secondary Road
County Boundary
HVF per Columbia Valley Viticulture Area
HVF per Place of Use Water Rights and Irrigation Districts
HVF per Classes I and II Soils

TETRA TECH

AVANGRID RENEWABLES

Wasco
Moro
Clark St
Scott Canyon Rd
Van Gilder Rd
Klondike Ln
Sandon Rd
Klondike Rd
Hay Canyon Rd
Monkland Ln
4th St
1st St
Lonerock Rd
206
97
Sherman County
Wasco County

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	Canada, MT, WA, ID, OR, CA, NV

1:74,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

P:\GIS_PROJECTS\Avangrid\GoldenHillsMXDs\RFA6_20201027\AVG_GoldenHills_RFA6_Fig4pt1_HighValueFarmland_11i17i_20201027.mxd

Golden Hills Wind Project

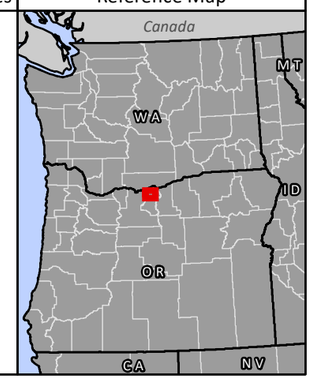
Figure 5
Arable and Non-Arable Land

SHERMAN COUNTY, OREGON

- Site Boundary
- EFSC Corridor-Original (2015)
- Additions to EFSC Corridor (2020)
- Micrositing Corridors to be Removed
- City/Town
- Secondary Highway
- Secondary Road
- County Boundary
- Arable Land
- Non-Arable Land

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

Wasco
Moro
Clark St
Scott Canyon Rd
Van Gilder Rd
Klondike Ln
Sandom Rd
Klondike Rd
Hay Canyon Rd
Monkland Ln
4th St
1st St
Lonerock Rd
206
97
Sherman County
Wasco County

1:74,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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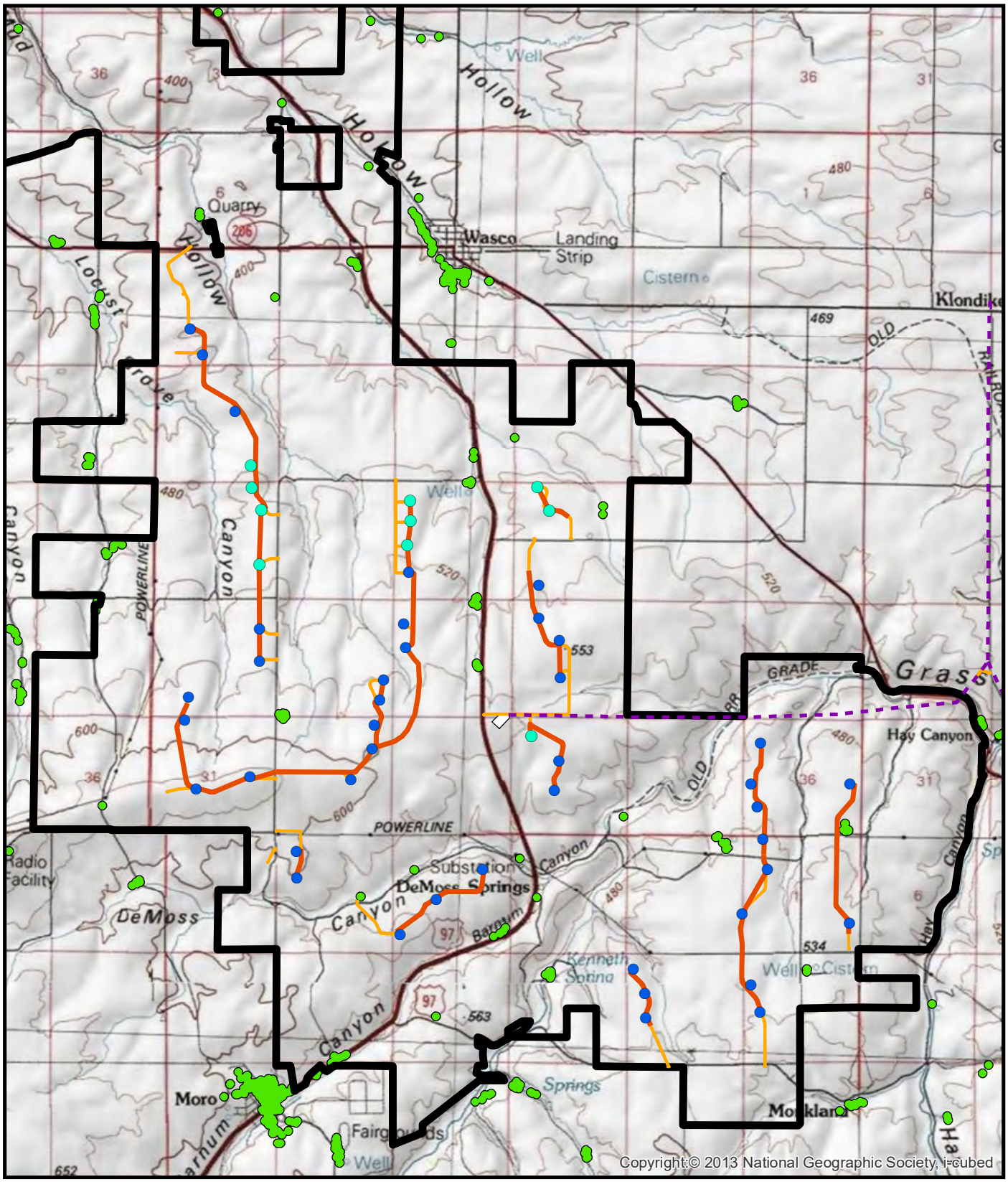
Figure 6a



Legend

- Primary Turbine - GE 2.5-116, 116RD, 80HH
- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Crane Paths
- Overhead 230-kV Gen-Tie/Transmission Line
- Access Road
- Substation
- Lease Boundary
- Condition GEN-CJ-01 - 200' setback from residences

N

0 0.5 1
Miles

Condition GEN-CJ-01

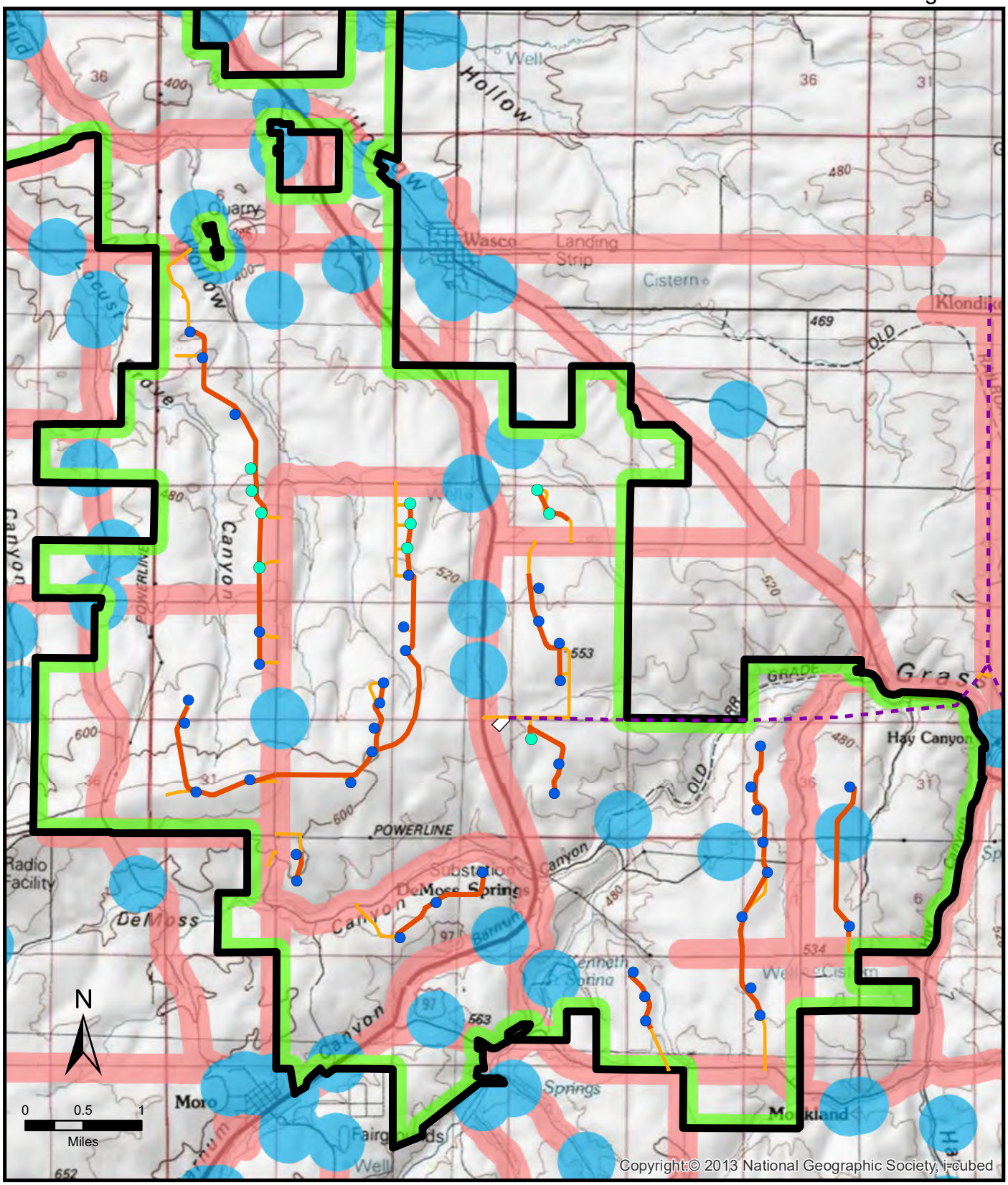
Golden Hills Wind Power Facility

AVANGRID RENEWABLES

Path: \\gis.ar.local\GIS\USA\ONSHORE\PROJECTS\GoldenHills\MXD\REPORT_FIGURES\ODOE\Conditions\Condition_GEN-CJ-01.mxd

Modified Date: 10/30/2020

Figure 6b



Legend

- EFSC IV.I.8 (a) Road ROW Setback
- EFSC IV.I.8 (b) Residence Setback
- EFSC IV.I.8 (c) Lease Holder Boundary Setback
- Primary Turbine - GE 2.5-116, 116RD, 80HH
- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Crane Paths
- Overhead 230-kV Gen-Tie
- Access Road
- Substation
- Lease Boundary

Condition GEN-PH-01

Golden Hills Wind Power Facility

AVANGRID RENEWABLES

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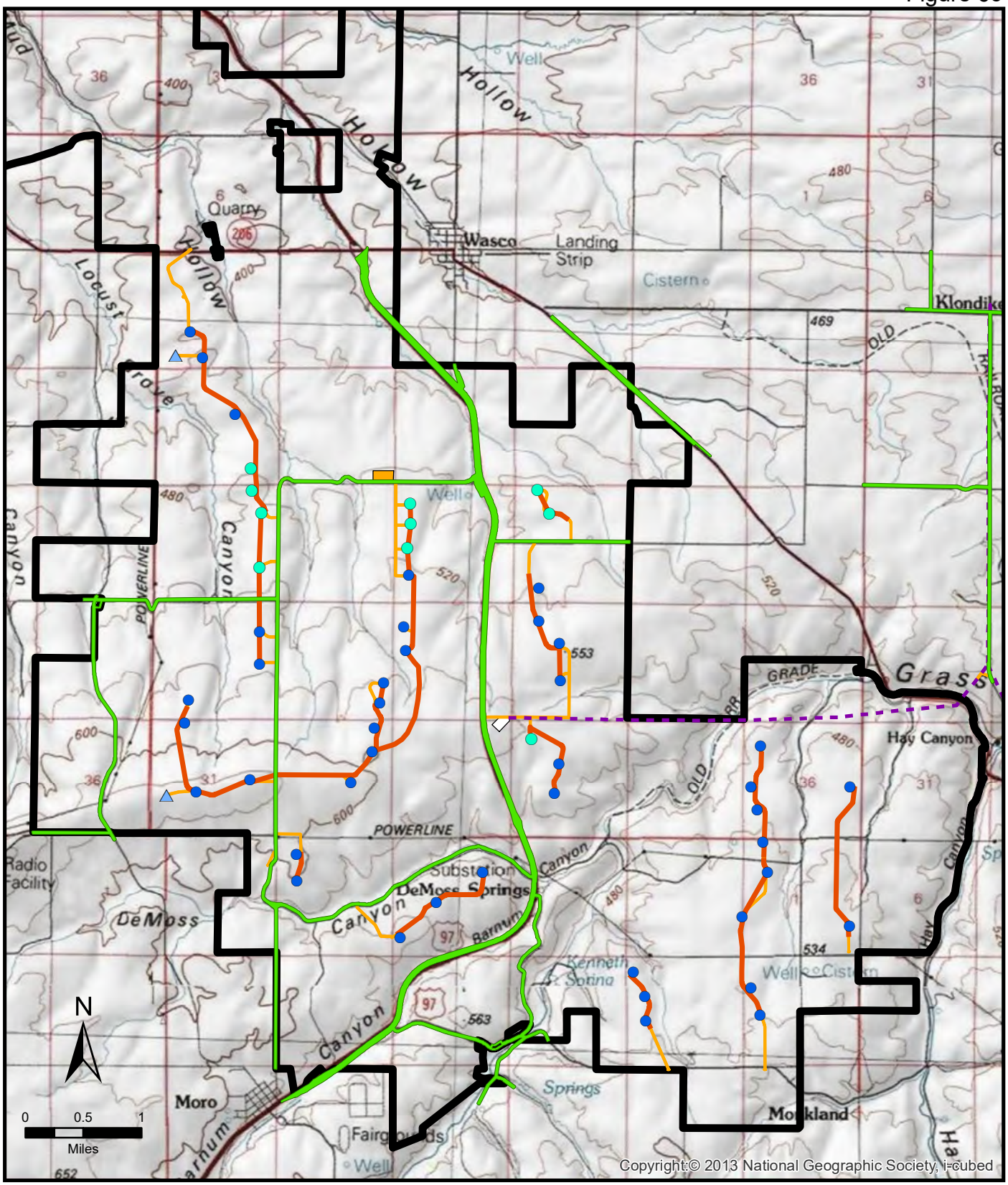
Modified Date: 10/30/2020

Figure 6c



- Primary Turbine - GE 2.5-116, 116RD, 80HH
- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Crane Paths
- Proposed Permanent Met Tower
- Overhead 230-kV Gen-Tie/Transmission Line
- Access Road
- Proposed O&M Facility
- Substation
- Lease Boundary
- Condition PRE-LU-03 - 50' setback from roads and external property lines

Condition PRE-LU-03

Golden Hills Wind Power Facility

AVANGRID RENEWABLES

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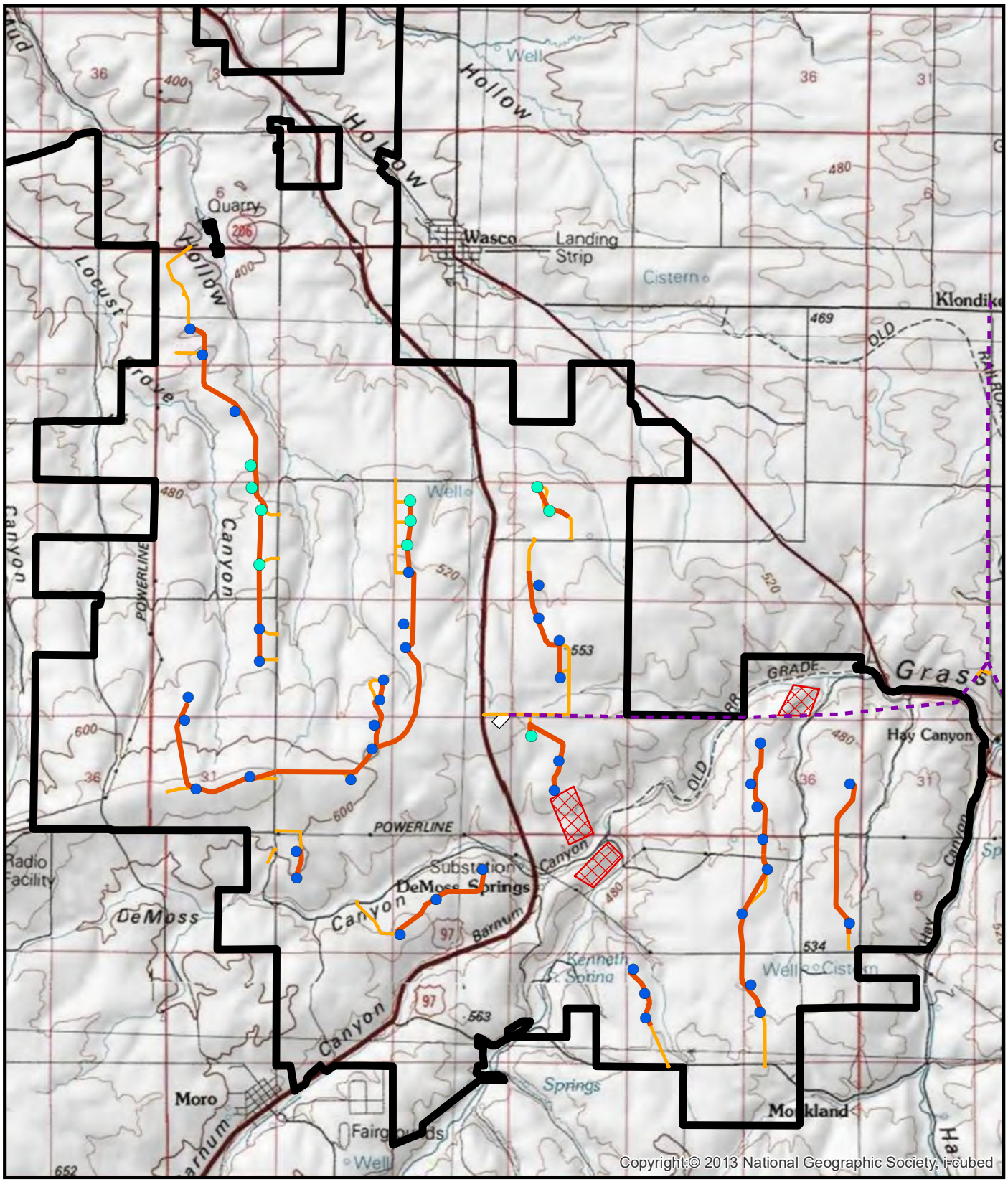
Modified Date: 10/30/2020



- High Raptor Risk Area
- Primary Turbine - GE 2.5-116, 116RD, 80HH
- Primary Turbine - Vestas V150-4.3, 150RD, 105HH
- Crane Paths
- Overhead 230-kV Gen-Tie/Transmission Line
- Access Road
- Substation
- Lease Boundary

N

0 0.5 1
Miles

Raptor Avoidance Areas

Golden Hills Wind Power Facility

AVANGRID RENEWABLES

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Attachment 1. Red-lined Site Certificate

ENERGY FACILITY SITING COUNCIL

OF THE

STATE OF OREGON

~~Fifth~~ Sixth Amended Site Certificate for the

Golden Hills Wind Project

ISSUANCE DATES

Site Certificate	**May 15, 2009**
First Amended Site Certificate	**May 11, 2012**
Second Amended Site Certificate	**January 30, 2015**
Third Amended Site Certificate	**February 24, 2017**
Fourth Amended Site Certificate	**April 27, 2018**
Fifth Amended Site Certificate	**October 25, 2018**
Sixth Amended Site Certificate	**TBD**

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Attachments

Attachment A	Facility Site Boundary Map

Acronyms and Abbreviations

ASC	Application for Site Certificate
Council	Oregon Energy Facility Siting
Department	Oregon Department of Energy
DOGAMI	Oregon Department of Geology and Mineral Industries
DSL	Department of State Lands
HMRP	Habitat Mitigation and Revegetation Plan
NH zone	Natural Hazards Combining Zone
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ODEQ	Oregon Department of Environmental Quality
ORS	Oregon Revised Statute
SHPO	State Historic Preservation Office

1.0 Introduction and Site Certification

This site certificate is a binding agreement between the State of Oregon (State), acting through the Energy Facility Siting Council (Council), and Golden Hills Wind Farm LLC (certificate holder), which is a wholly-owned subsidiary of Pacific Wind Development, LLC (Pacific Wind or parent company). As authorized under Oregon Revised Statute (ORS) Chapter 469, the Council issues this site certificate authorizing the certificate holder to construct, operate and retire the Golden Hills Wind Project (facility) at the below described site within Sherman county, subject to the conditions set forth herein.

Both the State and certificate holder must abide by local ordinances, state law and the rules of the Council in effect on the date this site certificate is executed. However, upon a clear showing of a significant threat to public health, safety, or the environment that requires application of later-adopted laws or rules, the Council may require compliance with such later-adopted laws or rules (ORS 469.401(2)).

The findings of fact, reasoning, and conclusions of law underlying the terms and conditions of this site certificate are set forth in the Council's Final Order in the Matter of the Application for a Site Certificate for the Golden Hills Wind Project (the "Final Order on the Application" or "Final Order") issued on May 15, 2009, the Council's Final Order in the Matter of the Request for Amendment #1 of the Site Certificate for the Golden Hills Wind Project ("Final Order on Amendment #1") issued May 11, 2012; the Council's Final Order in the Matter of the Request for Amendment #2 of the Site Certificate for the Golden Hills Wind Project ("Final Order on Amendment #2"), issued January 30, 2015; the Council's Final Order in the Matter of the Request for Amendment #3 of the Site Certificate for the Golden Hills Wind Project ("Final Order on Amendment #3"), issued February 24, 2017; the Council's Final Order in the Matter of the Request for Amendment #4 of the Site Certificate for the Golden Hills Wind Project ("Final Order on Amendment #4"), issued April 27, 2018; ~~and~~ the Council's Final Order in the Matter of the Request for Amendment #5 of the Site Certificate for the Golden Hills Wind Project ("Final Order on Amendment #5), issued October 2018, and the Council's Final Order in the Matter of the Request for Amendment #6 of the Site Certificate for the Golden Hills Wind Project ("Final Order on Amendment #6), issued _____ ~~.~~ incorporated herein by this reference. In interpreting the amended site certificate, any ambiguity shall be clarified by reference to the following, in order of priority: (1) this amended site certificate; (2) the Final Order on Amendment #5; (~~2~~3) the Final Order on Amendment #4; (~~3~~4) the Final Order on Amendment #3; (~~4~~5) the Final Order on Amendment #2; (~~5~~6) the Final Order on Amendment #1; (~~6~~7) the Final Order on the Application; and (~~7~~8) the record of the proceedings that led to all the Final Orders.

This site certificate binds the State and all counties, cities and political subdivisions in Oregon as to the approval of the site and the construction, operation, and retirement of the facility as to matters that are addressed in and governed by this site certificate (ORS 469.401(3)). This site certificate does not address, and is not binding with respect to, matters that are not included in and governed by this site certificate, and such matters include, but are not limited to: employee health and safety; building code compliance; wage and hour or other labor regulations; local government fees and charges; other design or operational issues that do not relate to siting the facility (ORS 469.401(4)); and permits issued under statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council (ORS 469.503(3)).

Each affected state agency, county, city, and political subdivision in Oregon with authority to issue a permit, license, or other approval addressed in or governed by this site certificate, shall upon submission of the proper application and payment of the proper fees, but without hearings or other proceedings, issue such permit, license or other approval subject only to conditions set forth in this site certificate. In addition, each state agency or local government agency that issues a permit, license or other approval for this facility shall continue to exercise enforcement authority over such permit, license or other approval (ORS 469.401(3)). For those permits, licenses, or other approvals addressed in and governed by this site certificate, the certificate holder shall comply with applicable state and federal laws adopted in the future to the extent that such compliance is required under the respective state agency statutes and rules (ORS 469.401(2)).

The certificate holder must construct, operate and retire the facility in accordance with all applicable rules as provided for in Oregon Administrative Rule (OAR) Chapter 345, Division 26. After issuance of this site certificate, the Council shall have continuing authority over the site and may inspect, or direct the Oregon Department of Energy (Department) to inspect, or request another state agency or local government to inspect, the site at any time in order to ensure that the facility is being operated consistently with the terms and conditions of this site certificate (ORS 469.430).

The obligation of the certificate holder to report information to the Department or the Council under the conditions listed in this site certificate is subject to the provisions of ORS 192.502 *et seq.* and ORS 469.560. To the extent permitted by law, the Department and the Council will not publicly disclose information that may be exempt from public disclosure if the certificate holder has clearly labeled such information and stated the basis for the exemption at the time of submitting the information to the Department or the Council. If the Council or the Department receives a request for the disclosure of the information, the Council or the Department, as appropriate, will make a reasonable attempt to notify the certificate holder and will refer the matter to the Attorney General for a determination of whether the exemption is applicable, pursuant to ORS 192.450.

The Council recognizes that many specific tasks related to the design, construction, operation and retirement of the facility will be undertaken by the certificate holder's agents or contractors. Nevertheless, the certificate holder is responsible for ensuring compliance with all provisions of the site certificate.

The duration of this site certificate shall be the life of the facility, subject to termination pursuant to OAR 345-027-0013 or the rules in effect on the date that termination is sought, or revocation under ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date that revocation is ordered. The Council shall not change the conditions of this site certificate except as provided for in OAR Chapter 345, Division 27.

The definitions in ORS 469.300 and OAR 345-001-0010 apply to the terms used in this site certificate, except where otherwise stated, or where the context clearly indicates otherwise.

2.0 Facility Location and Site Boundary

The energy facility and its related and supporting facilities will be located within Sherman County. The site boundary, as defined in OAR 345-001-0010, encompasses approximately 29,500 acres and be located near Wasco in Sherman County, Oregon. More particularly, the site would occupy portions of Sections 1-17, Township 1 South, Range 17 East, Sections 6-7, Township 1 South, Range 18 East, Sections 29-31, Township 1 North, Range 18 East, Sections 5-9, 14-23, and 25-36, Township 1 North, Range 17 East, Sections 1-3, 12-14, 23-26, and 35-36, Township 1 North, Range 16 East, Sections 29-32, Township 2 North, Range 17 East, Sections 25-27 and 34-36, Township 2 North, Range 16 East. Attachment A of this site certificate contains a map of the site boundary.

3.0 Facility Description

3.1 Energy Facility

ORS 469.300(11)(a)(J) defines the "energy facility" in this case as an electric power generating plant with an average electric generating capacity of 35 megawatts or more if the power is produced from wind energy at a single energy facility." The proposed "electric power generating plant" would consist of up to 125 wind turbine locations, each consisting of a turbine tower and foundation, turbine pad area, nacelle, rotor and blade assembly, and step-up transformer. Wind turbines would be placed in micrositing survey corridors as shown in the Application for a Site Certificate. A map of the site boundary, including micrositing corridors, is included as Attachment A to this amended site certificate. Golden Hills would have a peak electric generating capacity of up to 400 MW and an average electric generating capacity of about 133 MW.

Golden Hills has not yet selected the wind turbine model or models that would be installed in the facility. Golden Hills requested a site certificate that would allow the installation of up to 125 turbines with turbine towers measuring up to 123 meters (404 feet) at the rotor hub, the diameter of the rotor-swept area measuring up to 150 meters (492 feet), and the total maximum turbine height measuring up to 198 meters (650 feet). Wind turbine dimensions represent maximum allowable dimensions, but do not restrict the certificate holder from utilizing a mix of wind turbine types within the allowable dimensions.

A wind turbine features a nacelle mounted on a tubular steel tower. The nacelle houses the generator and gearbox and supports the rotor and blades at the hub. The turbine tower supports and provides access to the nacelle. Each turbine unit sits on a concrete pad that accommodates the turbine pedestal, a step-up transformer and a turnout area for service vehicles. The purpose of the step-up transformer is to increase the output voltage of the wind turbine to the voltage of the power collection system. Underlying the pad would be a deep concrete turbine foundation with a surface area dependent upon the type and size of wind turbine selected.

3.2 Related or Supporting Facilities

Golden Hills proposes to construct the following related or supporting facilities:

- Power collection system
- Substation
- 230 kV transmission line
- Meteorological towers
- Supervisory Control and Data Acquisition ("SCADA") System
- O&M facility
- Access roads
- Temporary laydown areas

Power Collection System. About 55 miles of power collection system, operating at 34.5 kV, would transport the power from the wind turbines to the substation. Some portion of the power collection system may be installed above ground to avoid impacts or to accommodate unforeseen geotechnical conditions.

Substation. The facility would include one substation, located near the center of the Golden Hills site. The substation would occupy a graveled and fenced area about 5 acres in size to facilitate transformers, switching equipment and a parking area.

230-kV Transmission Line. An approximately 5-mile, 230 kV transmission line would interconnect the substation to the existing Hay Canyon 230 kV transmission line. From there, electricity would be transmitted using the existing Hay Canyon 230 kV line to the northernmost transmission pole structure near the existing Klondike Substation where up to approximately 700 feet of new 230 kV transmission line would be constructed along with associated structures and equipment necessary to interconnect the facility to Bonneville Power Administration's (BPA's) transmission structure located approximately 300 feet north of the Klondike Substation.

Meteorological Towers. GHWF proposes to install up to six permanent meteorological towers ("met towers"). The met towers would be unguyed tubular structures about 95 meters (312 feet) tall and set in concrete foundations.

SCADA System. A fiber optic communications network would link the wind turbines to a central computer at the O&M facility. The SCADA system would collect operating and performance data from each wind turbine and Golden Hills as a whole and provide for remote operation of the wind turbines.

O&M Facility. A 5,000-square-foot operations and maintenance ("O&M") building would be constructed ~~adjacent to the substation.~~ The O&M building would house office and workshop areas, a control room for the SCADA system, and a kitchen, bathroom and shower. The 5-acre O&M facility site would include parking for vehicles. Domestic water use would not exceed 5,000 gallons per day, and domestic water would be obtained from an on-site well. Domestic wastewater would be drained into an on-site septic system.

Access Roads. Approximately 41 miles of new roads would be constructed to provide access to the turbine strings and other facility components. Access roads would connect to graveled turbine pad areas at the base of each wind turbine. The permanent access roads would be 20 feet wide and constructed with crushed gravel. In addition, GHWF would improve and widen some existing county and farm roads. Approximately 41 miles of temporary access roads and 11 miles of temporary crane paths would be constructed. The temporary access roads and crane paths would be up to 100 feet wide to account for the delivery of larger turbine components. The actual width of temporary roads and crane paths would depend on need for cut and fill slopes and associated work area.

Temporary Laydown Areas. Up to seven principal, temporary laydown areas would be used to stage construction and store supplies and equipment during construction. In addition, temporary laydown areas would be required at the base of each wind turbine. The laydown areas would be covered with gravel, and the gravel would be removed and the areas would be restored to their preconstruction conditions following completion of construction.

4.0 Site Certificate Conditions

4.1 Condition Format

The conditions in Sections 4.2 through 4.7 of this Site Certificate are organized and coded to indicate the phase of implementation, the standard the condition is required to satisfy, and an identification number (1, 2, 3, etc.)[1]. The table below presents a "key" for phase of implementation:

Key	Type of Conditions/Phase of Implementation
GEN	General Conditions: Design, Construction and Operation
PRE	Pre-Construction Conditions
CON	Construction Conditions
PRO	Pre-Operational Conditions
OPR	Operational Conditions
RET	Retirement Conditions

The standards are presented using an acronym; for example, the General Standard of Review is represented in the condition numbering as "GS"; the Soil Protection standard is represented in the condition numbering as "SP" and so forth.

For example, the coding of Condition GEN-GS-01 represents that the condition is a general condition (GEN) to be implemented during design, construction and operation of the facility, is required to satisfy the Council's General Standard of Review, and is condition number 1.

The Council administratively amends the following conditions due to OAR Division 27 regulatory changes, as approved by Council on October 19, 2017: Condition VII.1 through VII.5, VII.7 through VII.18, and VII.20 through VII.21.

Conditions from the site certificate that have either been incorporated into other amended conditions or deleted due to duplication with other conditions have been removed.[2] No substantive changes were made to the requirements of each of the removed conditions, and still apply to the certificate holder.

Condition IV.C.8, relating to the value of salvage in decommissioning calculations, was removed because Council no longer recognizes salvage value as an offset to the total site restoration and

[1] The identification number is not representative of an order that conditions must be implemented; it is intended only to represent a numerical value for identifying the condition.
[2] The removed conditions that were either incorporated into other amended conditions or deleted due to duplication with other conditions are; IV.B.3, IV.C.9, IV.D.16, IV.D.17, IV.D.21,V.B.3, V.C.12, V.C.13, V.C.14, VII.6, and VII.19.

decommissioning cost.

4.2 General Conditions (GEN): Design, Construction and Operations

Condition Number	Pre-Construction (PRE) Conditions
DESCRIPTION CONDITIONS (DC)	
GEN-DC-01	The certificate holder shall begin construction of the facility by June 18, 2020. Under OAR 345-015-0085(9), an amended site certificate is effective upon execution by the Council Chair and the certificate holder. The Council may grant an extension of the deadline to begin construction in accordance with OAR 345-027¬0030 or any successor rule in effect at the time the request for extension is submitted. On or before June 18, 2020, the certificate holder shall provide written notification to the Department that it has met the construction commencement deadline. Construction is defined in OAR 345-001-0010. [Final Order on ASC, Condition III.D.1; Amended in Final Order on AMD2, AMD3, AMD4]
GEN-DC-02	The certificate holder shall complete construction of the facility by ~~June 18~~December 31, 202~~1~~2. Construction is complete when (1) the facility is substantially complete as defined by the certificate holder's construction contract documents; (2) acceptance testing has been satisfactorily completed; and (3) the energy facility is ready to begin continuous operation consistent with the site certificate. The certificate holder shall promptly notify the Department of the date of completion of construction. The Council may grant an extension of the deadline for completing construction in accordance with OAR 345-027-0030 or any successor rule in effect at the time the request for extension is submitted. [Final Order on ASC, Condition III.D.2; Amended in Final Order on AMD2, AMD3, AMD5]
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
GEN-OE-01	During construction, operation and facility retirement, the certificate holder shall report to the Department within 7 days, any change in the corporate structure of Avangrid Renewables LLC (a subsidiary of Avangrid, Inc., and the parent company of Pacific Wind Development, LLC). The certificate holder shall report promptly to the Department any change in its access to the resources, expertise and personnel of Avangrid Renewables LLC. The certificate holder shall include in the report, an evaluation of whether the change in corporate structure represents a change in ownership of the certificate holder and whether a site certificate transfer is warranted. [Final Order on ASC, Condition IV.B.1; Amended in Final Order on AMD2, AMD4]
GEN-OE-02	Any matter of noncompliance under the site certificate shall be the responsibility of the certificate holder. Any notice of violation issued under the site certificate shall be issued to the certificate holder. Any civil penalties assessed under the site certificate shall be levied on the certificate holder. [Final Order on ASC, Condition IV.B.4]
GEN-OE-03	The certificate holder shall contractually require the engineering and procurement contractor and all independent contractors and subcontractors involved in the construction and operation of the facility to comply with all applicable laws and regulations and with the terms and conditions of the site certificate. Such contractual provision shall not operate to relieve the certificate holder of responsibility under the site certificate. [Final Order on ASC, Condition IV.B.5]
GEN-OE-04	During construction, operation and retirement, the certificate holder shall obtain, or shall ensure that its contractors obtain, necessary federal, State and local permits or approvals. The certificate holder shall work with local and State fire officials to ensure compliance with all fire code regulations regarding public buildings. [Final Order on ASC, Condition IV.B.6; Amended in Final Order on AMD4]
GEN-OE-05	The certificate holder shall: (a) Prior to construction, notify the Department of the identity, telephone number, e-mail address and qualifications of the on-site construction manager or assistant construction manager. The construction

	manager or assistant construction manager must be capable of managing a wind facility construction project, including permit and regulatory compliance requirements. (b) Prior to operation, notify the Department of the identity, telephone number, e-mail address and qualifications of the facility operations manager. The facility operations manager must be capable of managing permit and regulatory compliance requirements and manage operation of a wind facility. (c) Prior to facility retirement, notify the Department of the identity, telephone number,-and e-mail address and qualifications of the personnel or entity responsible for facility decommissioning and restoration activities. The personnel or entity responsible for facility decommissioning and restoration activities must be capable of managing permit and regulatory compliance requirements and be qualified to decommission a wind facility. The certificate holder shall notify the Department within three business days upon any change in personnel or contact information provided to satisfy Condition IV.B.7 (a) through (c). [Final Order on ASC, Condition IV.B.7; Amended in Final Order on AMD4]
GEN-OE-06	Within three business days after discovery of conditions or circumstances that may violate the terms or conditions of the site certificate, the certificate holder shall report, in accordance with OAR 345-029-0010(1), the conditions or circumstances to the Department. Within 30-days of discovery, the certificate holder shall submit to the Department a written report pursuant to OAR 345-029-0010(3). [Final Order on ASC, Condition IV.B.8; Amended in Final Order on AMD4]
STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	
GEN-SS-01	The certificate holder shall design and construct the facility in accordance with requirements set forth by the State's Building Code Division and any other applicable codes and design procedures. Prior to operation, the certificate holder shall provide confirmation to the Department that facility design and construction satisfies the requirements set forth by the State's Building Code Division and any other applicable codes and design procedures. [Final Order on ASC, Condition V.A.3; Amended in Final Order on AMD4]
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
GEN-SP-01	The certificate holder shall conduct all construction work in compliance with an Erosion and Sediment Control Plan (the "ESCP") satisfactory to the Oregon DEQ and as required under the National Pollutant Discharge Elimination System Storm Water Discharge General Permit #1200-C. The certificate holder shall include in the ESCP any procedures necessary to meet local erosion and sediment control requirements or storm water management requirements. [Final Order on ASC, Condition IV.E.1]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
GEN -LU-01	The certificate holder shall ensure that no equipment or machinery is parked or stored on any county road except while in use. [Final Order on ASC, Condition IV.D.2]
GEN-LU-02	Aboveground transmission line structures shall not occupy areas that show gross indicators of landslide activity or marginal stability. Prior to construction of aboveground transmission line structures, the certificate holder shall provide confirmation to the Department that the locations of the aboveground transmission line structures do not occupy areas that show gross indicators of landslide activity or marginal stability. The certificate holder may rely upon the analysis included in the pre-construction geotechnical investigation, as required per Condition V.A.1, to satisfy this condition. [Final Order on ASC, Condition IV.D.5; Amended in Final Order on AMD4]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
GEN -RT-01	The certificate holder shall prevent the development of any conditions on the site that would preclude

	restoration of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder. [Final Order on ASC, Condition IV.C.3]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
GEN -FW-01	The certificate holder shall restore areas outside the permanent footprint that are disturbed, according to the methods and monitoring procedures described in the HMRP included in the Final Order on Amendment 4 as Attachment ~~B~~C and as amended from time to time. Mitigation and restoration requirements in the plan shall apply to all laydown areas and other areas of temporary disturbance, including those associated with construction of transmission lines. [Final Order on ASC, Condition IV.M.2; Amended in Final Order on AMD4]
GEN -FW-02	Permanent met towers shall not have guy wires. [Final Order on ASC, Condition IV.M.3]
GEN -FW-03	Trees in Category 3 upland tree habitat shall not be physically harmed or removed. [Final Order on ASC, Condition IV.M.6]
GEN -FW-04	The certificate holder shall design and construct all aboveground transmission line support structures following the practices suggested by the Avian Powerline Interaction Committee (APLIC 2006; APLIC 2012) and install spiral markers over Grass Valley Canyon ~~shall install anti-perching devices on transmission pole tops and cross arms where the poles are within the site or are located within one-quarter mile of any wind turbine~~. [Final Order on ASC, Condition IV.M.8; Amended in Final Order on AMD4]
STANDARD: SCENIC RESOURCES (SR) [OAR 345-022-0080]	
GEN -SR-01	The certificate holder shall design and construct the O&M facility to be generally consistent with the character of similar buildings used by commercial farmers or ranchers in the area and shall paint the building in a neutral color to blend with the surrounding landscape. [Final Order on ASC, Condition IV.G.2]
STANDARD: HISTORIC, CULTURAL, AND ARCHEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]	
GEN -HC-01	Prior to and during construction, the certificate holder shall ensure that construction personnel receive training from a cultural resources specialist on how to identify sensitive historic, cultural, and archaeological resources that could be inadvertently uncovered during construction, and on measures to avoid accidental damage to such resources~~present onsite and on measures to avoid accidental damage to identified resource sites~~. Records of such training must be maintained onsite during construction, and made available to the Department upon request. [Final Order on ASC, Condition V.B.5; Amended in Final Order on AMD4] [Final Order on ASC, Condition V.B.9; Amended in Final Order on AMD5]
~~GEN -HC-02~~	~~Prior to and during construction, "no access" buffers shall be identified on construction plans and temporarily demarcated in the field if work is planned within 200 feet of known cultural resources that require buffers. The facility Environmental Inspector shall monitor flagged "no access" buffers around archeological sites during construction to prevent accidental damage to cultural resources. These flags or markers shall not be moved or removed during construction activities, and construction personnel shall be advised of these restrictions.~~ ~~[Final Order on ASC, Condition V.B.7; Amended in Final Order on AMD4]~~
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
GEN -PS-01	During construction and operation of the facility, the certificate holder shall install on-site security and shall require on-site security personnel to establish a line of communication with the Sherman County Sheriff's Office to regularly report on the status of on-site security operations.

	[Final Order on ASC, Condition V.C.2]
GEN -PS-02	During construction and operation of the facility, the certificate holder shall ensure that the O&M facility and all service vehicles are equipped with shovels and portable fire extinguishers of a 4A5OBC or equivalent rating. [Final Order on ASC, Condition V.C.5]
STANDARD: PUBLIC HEALTH AND SAFETY STANDARDS FOR WIND ENERGY FACILITIES (PH) [OAR 345-024-0010]	
GEN -PH-01	The certificate holder shall construct all facility components in compliance with the following setback requirements a. The certificate holder shall maintain a minimum distance of 110 percent of maximum blade tip height, measured from the centerline of the turbine tower to the nearest edge of any public road right-of-way. The certificate holder shall assume a minimum right-of-way width of 60 feet. b. The certificate holder shall maintain a minimum distance of 1,320 feet, measured from the centerline of the turbine tower to the center of the nearest residence existing at the time of tower construction. c. The certificate holder shall maintain a minimum distance of 110 percent of maximum blade tip height, measured from the centerline of the turbine tower to the nearest boundary of the certificate holder's lease area. Prior to construction of turbine towers, the certificate holder shall submit to the Department final facility design and layout maps, with supporting distance tables (i.e. distance of facility component to nearest setback location – residence, right of way, etc), demonstrating compliance with the aforementioned setback requirements. [Final Order on ASC, Condition IV.I.8; Amended in Final Order on AMD4]
REQUIREMENTS UNDER COUNCIL JURRISDICTION (CJ)	
GEN -CJ-01	Prior to construction, the certificate holder shall take reasonable steps to reduce or manage human exposure to electric and magnetic fields, including, but not limited to: a) Submittal of final facility design maps to the Department demonstrating that all aboveground transmission lines would be located at least 200 feet from any residence or other occupied structure, measured from the centerline of the transmission line; b) Fencing all areas near the facility substations to ensure that substation equipment is not accessible to the public; c) Submittal of evidence to the Department that a map of underground and overhead transmission lines on private property and an advisory of possible health risks has been provided to all landowners within 200-feet of the transmission line; and d) Designing and maintaining all transmission lines so that alternating current electric fields do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public. [Final Order on ASC, Condition VI.A.4.1; Amended in Final Order on AMD4]
MANDATORY CONDITIONS (MC)	
GEN -MC-01	OAR 345-025-0006 (1): The Council shall not change the conditions of the site certificate except as provided for in OAR Chapter 345, Division 27. [Final Order on ASC, Condition VII.1; Amended in Final Order on AMD4]
GEN -MC-02	OAR 345-025-0006 (3): The certificate holder shall design, construct, operate, and retire the facility: a) Substantially as described in the site certificate; b) In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the site certificate is issued; and c) In compliance with all applicable permit requirements of other state agencies. [Final Order on ASC, Condition VII.3; Amended in Final Order on AMD4]
GEN -MC-03	OAR 345-025-0006 (4): The certificate holder shall begin and complete construction of the facility by the dates specified in the site certificate. [See Conditions (III.D.1) and (111.D.2).]

	[Final Order on ASC, Condition VII.4; Amended in Final Order on AMD4]
GEN -MC-04	OAR 345-025-0006 (7): The certificate holder shall prevent the development of any conditions on the site that would preclude restoration of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder. [Final Order on ASC, Condition VII.7; Amended in Final Order on AMD4]
GEN -MC-05	OAR 345-025-0006 (10): The Council shall include as conditions in the site certificate all representations in the site certificate application and supporting record the Council deems to be binding commitments made by the applicant. [Final Order on ASC, Condition VII.10; Amended in Final Order on AMD4]
GEN -MC-06	OAR 345-025-0006(11): Upon completion of construction, the certificate holder shall restore vegetation to the extent practicable and shall landscape all areas disturbed by construction in a manner compatible with the surroundings and proposed use. Upon completion of construction, the certificate holder shall remove all temporary structures not required for facility operation and dispose of all timber, brush, refuse and flammable or combustible material resulting from clearing of land and construction of the facility. [Final Order on ASC, Condition VII.11; Amended in Final Order on AMD4]
GEN -MC-07	OAR 345-025-0006 (12): The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. As used in this rule "seismic hazard" includes ground shaking, ground failure, landslide, liquefaction triggering and consequences (including flow failure, settlement buoyancy, and lateral spreading), cyclic softening of clays and silts, fault rupture, directivity effects and soil-structure interaction. [Final Order on ASC, Condition VII.12; Amended in Final Order on AMD4]
GEN -MC-08	OAR 345-025-0006 (13): The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate. After the Department receives the notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division and to propose mitigation actions. [Final Order on ASC, Condition VII.13; Amended in Final Order on AMD4]
GEN -MC-09	OAR 345-025-0006 (14): The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site. [Final Order on ASC, Condition VII.14; Amended in Final Order on AMD4]
GEN -MC-10	OAR 345-025-0006 (15): Before any transfer of ownership of the facility or ownership of the site certificate holder, the certificate holder shall inform the Department of the proposed new owners. The requirements of OAR 345-027¬0100 apply to any transfer of ownership that requires a transfer of the site certificate. [Final Order on ASC, Condition VII.15; Amended in Final Order on AMD4]
GEN -MC-11	OAR 345-025-0006 (16): If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110, the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the Office within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the specified date, the Council may direct the Department to prepare a proposed a final retirement plan for the Council's approval. Upon the Council's approval of the final retirement plan, the Council may draw on the bond or letter of credit described in OAR 345-027¬0020(8) to restore the site to a useful, non-hazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any

	additional cost necessary to restore the site to a useful, non-hazardous condition. After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan. [Final Order on ASC, Condition VII.16; Amended in Final Order on AMD4]
GEN -MC-12	OAR 345-025-0006 (4): a) The certificate holder shall design, construct and operate the transmission line in accordance with the requirements of the 2012 Edition of the National Electrical Safety Code approved on June 3, 2011, by the American National Standards Institute; and b) The certificate holder shall develop and implement a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or structures of a permanent nature that could become inadvertently charged with electricity are grounded or bonded throughout the life of the line. [Final Order on Amendment No. 3] [Final Order on ASC, Condition VII.17 [OAR 345-027-0023(4)]; Amended in Final Order on AMD4]
GEN -MC-13	OAR 345-025-0006 (5) -The certificate holder is authorized to construct a 230-kV transmission line anywhere within the approved corridor, subject to the conditions of the site certificate. The approved corridor includes a 5-mile segment and 700-foot segment extending the length of the 230-kV transmission line route and is 200 feet in width. [Final Order on ASC, Condition VII.18; Amended in Final Order on AMD4]
GEN -MC-14	OAR 345-026-0048: Following receipt of the site certificate or an amended site certificate, the certificate holder shall implement a plan that verifies compliance with all site certificate terms and conditions and applicable statutes and rules. As a part of the compliance plan, to verify compliance with the requirement to begin construction by the date specified in the site certificate, the certificate holder shall report promptly to the Department of Energy when construction begins. Construction is defined in OAR 345-001-0010. In reporting the beginning of construction, the certificate holder shall describe all work on the site performed before beginning construction, including work performed before the Council issued the site certificate, and shall state the cost of that work. For the purpose of this exhibit, "work on the site" means any work within a site or corridor, other than surveying, exploration or other activities to define or characterize the site or corridor. The certificate holder shall document the compliance plan and maintain it for inspection by the Department or the Council. [Final Order on ASC, Condition VII.20]
GEN -MC-15	OAR 345-026-0080: The certificate holder shall report according to the following requirements: (a) General reporting obligation for energy facilities under construction or operating: (i) Within six months after beginning construction, and every six months thereafter during construction of the energy facility and related or supporting facilities, the certificate holder shall submit a semiannual construction progress report to the Department of Energy. In each construction progress report, the certificate holder shall describe any significant changes to major milestones for construction. The certificate holder shall include such information related to construction as specified in the site certificate. When the reporting date coincides, the certificate holder may include the construction progress report within the annual report described in OAR 345-026-0080. (ii) By April 30 of each year after beginning construction, the certificate holder shall submit an annual report to the Department addressing the subjects listed in OAR 345-026-0080. The Council Secretary and the certificate holder may, by mutual agreement, change the reporting date. (iii) To the extent that information required by OAR 345-026-0080 is contained in reports the certificate holder submits to other state, federal or local agencies, the certificate holder may submit excerpts from such other reports to satisfy this rule. The Council reserves the right to request full copies of such excerpted reports. (b) In the annual report, the certificate holder shall include the following information for the calendar year preceding the date of the report: (i) Facility Status: An overview of site conditions, the status of facilities under construction, and a summary of the operating experience of facilities that are in operation. In this section of the annual report, the certificate

	holder shall describe any unusual events, such as earthquakes, extraordinary windstorms, major accidents or the like that occurred during the year and that had a significant adverse impact on the facility. (ii) Reliability and Efficiency of Power Production: For electric power plants, the plant availability and capacity factors for the reporting year. The certificate holder shall describe any equipment failures or plant breakdowns that had a significant impact on those factors and shall describe any actions taken to prevent the recurrence of such problems. (iii) Status of Surety Information: Documentation demonstrating that bonds or letters of credit as described in the site certificate are in full force and effect and will remain in full force and effect for the term of the next reporting period. (iv) Monitoring Report: A list and description of all significant monitoring and mitigation activities performed during the previous year in accordance with site certificate terms and conditions, a summary of the results of those activities, and a discussion of any significant changes to any monitoring or mitigation program, including the reason for any such changes. (v) Compliance Report: A description of all instances of noncompliance with a site certificate condition. For ease of review, the certificate holder shall, in this section of the report, use numbered subparagraphs corresponding to the applicable sections of the site certificate. (vi) Facility Modification Report: A summary of changes to the facility that the certificate holder has determined do not require a site certificate amendment in accordance with OAR 345-027-0050. [Final Order on ASC, Condition VII.21; Amended in Final Order on AMD4]
GEN -MC-16	OAR 345-026-0105: The certificate holder and the Department of Energy shall exchange copies of all correspondence or summaries of correspondence related to compliance with statutes, rules and local ordinances on which the Council determined compliance, except for material withheld from public disclosure under state or federal law or under Council rules. The certificate holder may submit abstracts of reports in place of full reports; however, the certificate holder shall provide full copies of abstracted reports and any summarized correspondence at the request of the Department. [Final Order on ASC, Condition VII.22]
GEN -MC-17	OAR 345-026-0170(1): The certificate holder shall notify the Department of Energy within 72 hours of any occurrence involving the facility if: a) There is an attempt by anyone to interfere with its safe operation; b) A natural event such as an earthquake, flood, tsunami or tornado, or a human-caused event such as a fire or explosion affects or threatens to affect the public health and safety or the environment; or c) There is any fatal injury at the facility. [Final Order on ASC, Condition VII.23]
GEN-MC-18	OAR 345-025-0006(6): If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, the certificate holder shall, as soon as possible, submit a written report to the Department describing the impact on the facility and any affected site certificate conditions. [Final Order on AMD5]

4.3 Pre-Construction (PRE) Conditions

Condition Number	Pre-Construction (PRE) Conditions
DESCRIPTION CONDITIONS (DC)	
PRE-DC-01	The certificate holder shall construct a facility substantially as described in the site certificate and may select up to 125 turbines, subject to the following restrictions and compliance with other site certificate conditions. Before beginning construction, the certificate holder shall provide to the Department a description of the turbine types selected for the facility demonstrating compliance with this condition. (a) The total number of turbines at the facility must not exceed 125 turbines. (b) The combined peak generating capacity of the facility must not exceed 400 megawatts. (c) The turbine hub height must not exceed 123 meters and the maximum blade tip height must not exceed 198 meters. (d) The minimum blade tip clearance must be 14 meters above ground. (e) Wind turbine types with the maximum dimension specifications listed in this condition shall be equipped with serrated trailing edge blades. [Final Order on ASC, Condition III.A.1; AMD5]
PRE-DC-02	At least 45-days prior to construction, but not more than two years before beginning construction, and after considering all micrositing factors, the certificate holder shall: (a) Conduct a field-based habitat survey to confirm the habitat categories of areas that will be affected by facility components, as well as the locations of any sensitive resources such as active raptor and other bird nests. The survey protocols and habitat classification categories shall be confirmed with the Department and ODFW. (b) At least 45-days prior to construction, unless otherwise agreed to by the Department, submit to the Department a habitat assessment report that includes: • Habitat impact table, based upon final facility design and updated habitat survey, including permanent and temporary impacts by facility component and habitat category/type/subtype. • Maps showing: habitat categories and subtypes of all areas within the site boundary, final location of temporary and permanent facility components, and locations of any sensitive resources within areas that will be affected by facility components. If any sensitive resources are identified, they will need to be flagged as exclusion zones in accordance with Condition IV.M.10. If necessary, sensitive resource information shall be submitted to the Department in hard copy only and provided under request for information to be treated as confidential. The field survey and information in the habitat assessment report will be used to finalize the HRMP for Department and ODFW approval (Condition PRE-TL). The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat. [Final Order on ASC, Condition III.C.1; Amended in Final Order on AMD4]
PRE-DC-03	Before beginning construction, the certificate holder shall notify the Department in advance of any work on the site that does not meet the definition of "construction" in ORS 469.300(6), excluding surveying, exploration or other activities to define or characterize the site, and shall provide to the Department a description of the work and evidence that its value is less than $250,000. [Final Order on ASC, Condition III.D.3]
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
PRE-OE-01	Before beginning construction, the certificate holder shall notify the Department of the identity and

	qualifications of the major design, engineering and construction contractor(s) for the facility. The certificate holder shall select contractors that have substantial experience in the design, engineering and construction of similar facilities. Within three business days, the certificate holder shall report to the Department any change of major contractors. [Final Order on ASC, Condition IV.B.2; Amended in Final Order on AMD4]
STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	
PRE-SS-01	Prior to construction, the certificate holder shall: (a) Submit a protocol to the Department and Oregon Department of Geology & Mineral Industries, for review, with the applicable codes, standards, and guidelines to be used, and proposed geotechnical work to be conducted for the site-specific geotechnical investigation report. (b) Submit a draft site-specific geotechnical investigation report to the Department and Oregon Department of Geology & Mineral Industries ("DOGAMI"), for review. The investigation and report shall conform to the Oregon State Board of Geologist Examiners guidelines titled "Guidelines for Engineering Geologic Reports." The site-specific geotechnical investigation shall address Quaternary faults, landslide hazards, and non-seismic hazards and shall include design and construction recommendations to meet public safety for the anticipated lifespan of the facility. (c) The Department shall review and concur with the report, in consultation with DOGAMI, prior to construction. [Final Order on ASC, Condition V.A.1; Amended in Final Order on AMD4; AMD5]
PRE-SS-02	The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety presented by non-seismic hazards. As used in this condition, "non-seismic hazards" include settlement, landslides, flooding and erosion. [Final Order on ASC, Condition V.A.4]
PRE-SS-03	The certificate holder shall ensure that wind turbine corridors and major structures are constructed with sufficient setbacks from all steeper slopes to minimize the potential for creating unstable or marginally stable conditions. [Final Order on ASC, Condition V.A.5]
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
PRE-SP-01	Prior to construction, the certificate holder shall develop a plan to control the introduction and spread of noxious weeds during facility construction and operation. The plan shall be developed in consultation with the Department, the Sherman County Weed Control manager, and ODFW. The plan shall be approved by the Department prior to construction. The plan shall focus on weed species listed on the Sherman County noxious weed list, but shall also include preventative measures, based on consultation with the Sherman County Weed Control Manager, to combat noxious weeds of concern in the area. [Final Order on ASC, Condition IV.E.4; Amended in Final Order on AMD3, AMD4]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
PRE-LU-01	Prior to construction, the certificate holder shall provide to the Department, Sherman County Planning Department, and Sherman County Transportation Department, as applicable, road design plans demonstrating that: (a) New or substantially modified public roads meet or exceed road standards for the road classifications in the County's Transportation System Plan and Zoning Ordinance. (b) Private access connection and driveway design of the O&M facility and substation comply with applicable requirements established in Sherman County Zoning Ordinance Section 4.14.4. [Final Order on ASC, Condition IV.D.1; Amended in Final Order on AMD4]
PRE-LU-02	The site certificate holder shall, in consultation with affected landowners, design and construct private access roads to minimize the division of existing farm units.

	[Final Order on ASC, Condition IV.D.3]
PRE-LU-03	The certificate holder shall not locate any aboveground facility structure (including wind turbines, O&M building, substation and met towers, but not including aboveground power collection and transmission lines and poles and junction boxes) within 50 feet from any external property line or within 50 feet from the right of way of any arterial or major collector road. Prior to construction of any aboveground facility structure, the certificate holder shall submit to the Department maps and distance tables (i.e. distance from nearest facility component to setback location), based on final facility design, demonstrating that the aboveground facility structures are not located within 50 feet from any external property line or within 50 feet from the right of way of any arterial or major collector road. [Final Order on ASC, Condition IV.D.4; Amended in Final Order on AMD4]
PRE-LU-04	Collector lines in the Natural Hazards Combining Zone ("NH zone") shall be placed under ground except in instances where it is more practical to install aboveground power collection lines and provided that the aboveground power collection lines will be designed to minimize slope stability and other NH zone hazards. The site-specific geotechnical investigation required prior to construction shall address native soil and bedrock stability concerns at cuts, fills and culvert crossings, and shall include design and construction recommendations to minimize the potential for destabilizing marginally stable slopes and the potential for stream erosion. [Final Order on ASC, Condition IV.D.6]
PRE-LU-05	Prior to construction, the certificate holder shall submit to the Department evidence that the Sherman County Planning Department has received and concurred with the SCZO Article 3.7.5(e) Development Proposal, required for uses within a NH zone. [Final Order on ASC, Condition IV.D.7; Amended in Final Order on AMD4]
PRE-LU-06	Construction staging areas shall be limited to areas outside the Natural Hazards Combining Zone. Prior to construction of staging areas, the certificate holder shall provide construction related maps demonstrating that the staging areas are located outside the Natural Hazards Combining Zone ("NH Zone"). [Final Order on ASC, Condition IV.D.8; Amended in Final Order on AMD4]
PRE-LU-07	The certificate holder shall stabilize all roads or streets in the Natural Hazards Combining by planking, gravel or pavement as deemed necessary, and shall build roadways without installation of excessive fill, diversion of water or excessive cuts unless the site investigation determines that such conditions will not be detrimental to the area or create unwarranted maintenance problems or additional hazards. [Final Order on ASC, Condition IV.D.9; Amended in Final Order on AMD4]
PRE-LU-08	Prior to construction, the certificate holder shall submit to the Department final facility design maps presenting the location of temporary construction laydown and staging areas, including those associated with construction of transmission lines or placement of conductors on third-party transmission lines. The facility shall be designed to minimize disturbance with farming practices and, wherever feasible, as determined in consultation with affected landowners, shall place turbines and transmission interconnection lines along the margins of cultivated areas to reduce the potential for conflict with farm operations. The certificate holder shall place aboveground transmission and collector lines and poles and junction boxes along property lines and public road rights-of-way to the extent practicable. [Final Order on ASC, Condition IV.D.10; Amended in Final Order on AMD4]
PRE-LU-09	Prior to construction, the certificate holder shall submit to the Department evidence that a Farm Management Easement covering the properties on which the certificate holder locates wind power generation facility components has been recorded in the real property records of Sherman County and the Sherman County Planning Director. [Final Order on ASC, Condition IV.D.13; Amended in Final Order on AMD4]
PRE-LU-10	The certificate holder shall remove from Special Farm Assessment the portions of parcels on which facilities are located and shall pay all property taxes due and payable after the Special Farm Assessment is removed from such properties.

	[Final Order on ASC, Condition IV.D.14]
PRE-LU-11	Prior to start of construction, the certificate holder shall, in consultation with Sherman County, assign a 9-1-1 5-digit rural address to every tower road that intersects a State or county road. The county will provide and install the signage for these addresses. [Final Order on ASC, Condition IV.D.18]
PRE-LU-12	The certificate holder shall: (a) Prior to beginning construction, provide evidence to the Department that both a pre-construction road condition inspection and consultation with the Sherman County Road Department has occurred. Through the consultation, the certificate holder shall, at a minimum, obtain confirmation of the following or provide the following documentation to the Sherman County Road Department: (1) Final facility design maps identifying the route or routes for the transport of wind turbine construction material (including water, aggregate, concrete, machinery and tower pieces) and facility access for construction personnel; and, concurrence on the pre-construction conditions of any routes using or crossing Sherman county roads. (2) A written summary of possible anticipated road damage to the designated route or routes, and an estimate of the cost of repair to the designated route or routes; (3) Communication protocol for reporting to the Sherman County Road Department unusual damage or wear identified during facility construction and determined to be a result of facility construction vehicle use. (4) Establish and maintain an escrow account for so long as construction is ongoing, funded in an amount equal to the estimated cost to repair the designated route or routes consistent with the estimate provided in (2); and (5) Conduct an inspection of the roads along the designated route or routes after construction with a representative of the Sherman County Road Department and an independent third party with the required expertise to inspect and evaluate paved and graveled roads. In the event a dispute arises, the third party shall be the final arbiter. The cost of the hiring of the third party shall be borne by the certificate holder. (b) Following completion of construction and prior to operation, conduct the inspection of the roads along the designated route or routes with a representative of the Sherman County Road Department and an independent third party, as specified in sub(a)(5) of this condition. (c) After completing the inspection required per sub(b), the certificate holder shall coordinate with the Sherman County Road Master and shall provide adequate funding to allow the county to restore any necessary damages to Sherman County roads resulting from facility construction as agreed upon by the Sherman County Road Department. The escrow account established in (a)(4) shall not be closed until Sherman County Road Department has agreed with the restoration to Sherman County roads, or otherwise that the certificate holder has not caused damage to Sherman County roads. [Final Order on ASC, Condition IV.D.19; Amended in Final Order on AMD4, AMD5]
PRE-LU-13	Before beginning construction of facility access roads, the certificate holder shall confer with the Sherman County Road Master regarding any utility permits needed for county road right-of-ways and obtain permits for construction of all approach roads onto county roads. [Final Order on ASC, Condition IV.D.20; Amended in Final Order on AMD4]
PRE-LU-14	Prior to construction, Certificate Holder shall demonstrate that the final location of turbines within the micrositing corridors approved by the Council will satisfy setback requirements prescribed by the Sherman County Wind Setback Ordinance (Ordinance No. 39-2007) unless the Council has approved a variance to such setback for the turbine or the Certificate Holder has negotiated a setback agreement with the affected adjacent property owner or wind project developer in accordance with Section 3 of the ordinance as follows: (a) Setback from property lines in all East-West upwind and downwind directional property line installation shall be no less than 7.5 times the rotor diameter and no less than 1.5 times the rotor diameter for all North-South property line delineations. These requirements shall only apply to project boundaries and will not be required for towers installed internally within the site boundary. (Sherman County Ordinance 39-2007, Section 4)

	(b) Setbacks from pre-existing wind turbines shall be 15 times the rotor diameter upwind and downwind for all East-West setback considerations and 3 times the rotor diameter for all North-South setback considerations. (Sherman County Ordinance 39-2007, Section 5) (c) Setbacks from an operating wind turbine to the boundary lines of any incorporated city in Sherman County shall be a distance of one (1) mile, unless a variance to such distance is obtained through the city council of an affected city, after public hearing. (Sherman County Ordinance 39-2007, Section 6) . [Final Order on Amendment #1, Condition IV.D.22; Amended in Final Order on AMD1, AMD4, AMD5]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
PRE-RT-01	Before beginning construction, the certificate holder shall submit to the State through the Council a bond or letter of credit in the amount described herein naming the State, acting by and through the Council, as beneficiary or payee. If the certificate holder elects to build the facility in a single phase, the initial bond or letter of credit amount is $14,425,000 (in 2008 dollars), adjusted to the date of issuance as described in (b), or the amount determined as described in (a). If the certificate holder elects to build the facility in more than one phase, the amount of the initial bond or letter of credit for each phase of construction shall be the amount determined as described in (a). The certificate holder shall adjust the amount of each bond or letter of credit on an annual basis thereafter as described in (b). (a) The certificate holder may adjust the amount of each bond or letter of credit based on the final design configuration of the facility by applying the unit costs and general costs illustrated in Table IV.C.1 of the Final Order on the Application to the final design and calculating the financial assurance amount as described in that order, adjusted to the date of issuance as described in (b) and subject to approval by the Department. (b) The certificate holder shall adjust the amount of each bond or letter of credit, using the following calculation and subject to approval by the Department: (i) Adjust the subtotal component of the bond or letter of credit amount (expressed in 2008 dollars) to present value, using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor agency (the "Index") and using the annual average index value for 2008 dollars and the quarterly index value for the date of issuance of the new bond or letter of credit. If at any time the Index is no longer published, the Council shall select a comparable calculation to adjust 2008 dollars to present value. (ii) Calculate the adjusted performance bond amount as 1 percent of the new subtotal (i). (iii) Add the subtotal (i) to the adjusted performance bond amount (ii) for the adjusted gross cost. (iv) Calculate the adjusted administration and project management costs as 10 percent of the adjusted gross cost (iii). (v) Calculate the adjusted future developments contingency as 10 percent of the adjusted gross cost (iii). (vi) Add the adjusted gross cost (iii) to the sum of adjusted administration and project management costs (iv) and the adjusted future developments contingency (v) and round the resulting total to the nearest $1,000 to determine the adjusted financial assurance amount. (c) The certificate holder shall use a form of bond or letter of credit approved by the Council. (d) The certificate holder shall use an issuer of the bond or letter of credit approved by the Council. (e) The certificate holder shall describe the status of the bond or letter of credit in the annual report submitted to the Council under Condition (VII.21.a.ii). (f) The bond or letter of credit shall not be subject to revocation or reduction before retirement of the facility site. [Final Order on ASC, Condition IV.C.4; Amended in Final Order on Amendment 3]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	

PRE-FW-01	Prior to construction, the certificate holder shall finalize and implement the Habitat Mitigation and Revegetation Plan (HMRP), included as Attachment C to the Final Order on Amendment, as approved by the Department in consultation with ODFW and as amended from time to time. Such amendments may be made without amendment of the site certificate. The Council authorizes the Department to agree to amendments, and the Council retains the authority to approve, reject, or modify any amendments of the HMRP agreed to by the Department. [Final Order on Amendment 4] The finalized HMRP shall incorporate the maps, habitat classifications, and anticipated temporary and permanent habitat impact assessment completed as per site certificate Condition III.C.1. Prior to start of construction, the certificate holder shall acquire the legal right to create, enhance, maintain and protect a habitat mitigation area so long as the site certificate is in effect by means of outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the Department. The nominal lease term shall be at least 30 years, with an option to extend if the facility continues operations past year 30. The mitigation area shall be as shown in figures 1, 2 and 3 of Attachment B to the Final Order. Any different mitigation area shall require prior approval of the Department in consultation with ODFW. If, prior to the achievement of success criteria for revegetation and restoration of temporarily impacted areas as provided in the final HMRP, any area temporarily disturbed during facility construction is converted for some other use such that the Department, in consultation with ODFW, determines the success criteria cannot be achieved, or the Department otherwise determines, in consultation with ODFW, that the success criteria cannot be achieved, the Department shall amend the HMRP using the process described above to require additional mitigation consistent with the habitat classifications and mitigation requirements for other areas permanently impacted by the facility. [Final Order on ASC, Condition IV.M.1; Amended in Final Order on AMD3, AMD4]
PRE-FW-02	The certificate holder shall survey the status of known raptor nests within 0.5 miles before ground-disturbing activities begin. If an active nest is found, and ground-disturbing activities are scheduled to begin before the end of the sensitive nesting and breeding season (mid-April to mid-August), the certificate holder will not engage in ground-disturbing activities within a 0.25-mile buffer around the nest until the nest fledges young or the nest fails, unless ODFW approves an alternative plan. If ground-disturbing construction activities continue into the sensitive nesting and breeding season for the following year, the certificate holder will not engage in ground-disturbing activities within the 0.25-mile buffer if the nest site is found to be active until the nest fledges young or the nest fails, unless ODFW approves an alternate plan. [Final Order on ASC, Condition IV.M.4]
PRE-FW-03	Prior to construction, the certificate holder will survey the status of known loggerhead shrikes nests and visit sites where non-nesting loggerhead shrikes were observed in order to determine old and new nest sites. The certificate holder shall avoid all construction activities within a 492-foot (150-meter) buffer from active loggerhead shrikes nests. [Final Order on ASC, Condition IV.M.5; Amended in Final Order on AMD4]
PRE-FW-04	Prior to construction, the certificate holder shall submit to the Department final facility design maps confirming that turbines and other facility components will be located within the 900-foot corridors shown on Figure 1 of the Amended Site Certificate. The certificate holder shall not construct any facility components within areas of Category 1 or Category 2 habitat and shall avoid temporary disturbance of Category 1 or Category 2 habitat, except for those acreages allowed in the final Habitat Mitigation and Revegetation Plan (HMRP). The certificate holder may rely upon the maps and data submitted per Condition IV.M.1 to satisfy this condition. [Final Order on ASC, Condition IV.M.9; Amended in Final Order on AMD3, AMD4, AMD5]
PRE-FW-05	Prior to construction, the certificate holder shall: a. Conduct one (1) year of raptor nest surveys. The raptor nest surveys shall be conducted following the instructions set forth in the Raptor Nest Survey Protocol for Golden Hills Wind Project included as Attachment D to the Fourth Amended Site Certificate. b. At least 45-days prior to construction, the certificate holder shall provide a written report on the raptor nest surveys to the Department and ODFW. If the surveys identify the presence of raptor nests

	within the survey area, the certificate holder shall implement appropriate measures, consistent with the Wildlife Monitoring and Mitigation Plan, and as approved by the Department in consultation with ODFW, to assure that design, construction, and operation of the facility are consistent with the Fish and Wildlife Habitat standard. [Final Order on ASC, Condition IV.M.11; Amended in Final Order on AMD3, AMD4]
STANDARD: THREATENED AND ENDANGERED SPECIES (TE) [OAR 345-022-0070]	
PRE-TE-01	The certificate holder shall report the results of the database review and consultation to the Department and to ODFW and, if there have been new documentations of nesting bald eagles or peregrine falcons within 2 miles of the facility, the certificate holder shall implement appropriate measures to protect the species from adverse impact, as approved by the Department and ODFW. [Final Order on ASC, Condition IV.L.1]
PRE-TE-02	The certificate holder shall implement measures to mitigate impacts to sensitive wildlife habitat during construction including, but not limited to, the following: (a) Preparing maps to show sensitive areas, such as nesting or denning areas for sensitive wildlife species, that are off limits to construction personnel; (b) Ensuring that a qualified person instructs construction personnel to be aware of wildlife in the area and to take precautions to avoid injuring or destroying wildlife or significant wildlife habitat; and (c) Avoiding unnecessary road construction, temporary disturbance and vehicle use. [Final Order on ASC, Condition IV.L.2]
PRE-TE-03	Prior to the beginning of construction but no more than two years prior to the beginning of construction of the facility, the certificate holder shall: a. Submit protocol for field surveys for threatened and endangered species to the Department for review and approval, in consultation with ODFW. The survey protocol shall be based on the protocol included on ASC Exhibit P, Attachment P-1, and shall be updated based on consultation with ODFW. b. Perform new field surveys for threatened and endangered species following the survey protocol as approved per sub(a). c. The certificate holder shall report the results of the field surveys to the Department and ODFW. If the surveys identify the presence of threatened or endangered species within the site boundary, the certificate holder shall implement appropriate measures to avoid a significant reduction in the likelihood of survival or recovery of the species, as approved by the Department in consultation with ODFW. [Final Order on Amendment 2, Condition IV.L.3; Amended in Final Order on AMD3, AMD4]
STANDARD: SCENIC RESOURCES (SR) [OAR 345-022-0080]	
PRE-SR-01	To reduce the visual impact of the facility, the certificate holder shall: a. Mount nacelles on smooth steel structures painted uniformly in a neutral color to blend with the surrounding landscape; b. Paint substation structures in a neutral color to blend with the surrounding landscape; c. Not allow any advertising to be used on any part of the facility; d. Use only those signs required for facility safety or required by law, except that the certificate holder may erect a sign to identify the facility; and e. Maintain any signs allowed under this condition in good repair. [Final Order on ASC, Condition IV.G.1]
STANDARD: HISTORIC, CULTURAL, AND ARCHEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]	
PRE-HC-01	The certificate holder shall design the facility to avoid impacts to sites that have been identified by surveys and recommended to be eligible or unevaluated for listing on the National Register of Historic Places (NRHP) unless

	certificate holder obtains the required archaeological permit(s) from SHPO. Certificate holder shall identify the sites on the map provided to the Department under Pre-HC-03~~35SH217, 35SH220, GH site 6 (above ground resource), and 35SH219 and GH Isolate 6.~~ [Final Order on ASC, Condition V.B.1] [Final Order on ASC, Condition V.B.1; Amended in Final Oder on AMD5]
PRE-HC-02	At least 45 days prior to construction, the certificate holder shall prepare a Cultural Resource Management Plan (the "CRMP") and shall submit the CRMP to the Department and State Historic Preservation Office (the "SHPO") for review. The Department must approve the CRMP, in consultation with SHPO, prior to construction. The CRMP shall at a minimum include: (a) Specific protocols and procedures for protecting known NRHP-eligible and unevaluated cultural resources including imposing a 30-meter buffer and designating as a "no-work zones," around sites mapped under PRE-HC-01~~35SH215, 35SH216, 35SH221, and to the sites identified in Condition V.B.1: 35SH217, 35SH220, GH site 6 (above ground resource), 35SH219 and GH Isolate 6. Both the buffer and no work zones apply to cultural resources, including any additional archeological sites and possible human remains accidentally discovered during construction. The CRMP shall identify how protocols will follow State laws and rules at ORS 358.905-961, ORS 390.235, OAR 736-051-0090 and ORS 97.740-760 as in effect on the date of this site certificate,, The certificate holder shall submit the CRMP to the State Historic Preservation Office (the "SHPO") for concurrence and shall provide to the Department documentation confirming SHPO concurrence prior to start of construction.~~ (b) Protocols and procedures for responding to inadvertent ~~accidental~~ discovery of cultural resources during operations and ongoing maintenance activities [Final Order on ASC, Condition V.B.2; Amended in Final Order on AMD4 and AMD5]
PRE-HC-03	Before beginning construction of any phase of the facility, the certificate holder shall provide to the Department a confidential map showing the final design locations of all components of that phase of the facility, ~~and~~ areas that would be temporarily disturbed during construction, ~~and~~ areas that were not included in ~~pedestrian level ground~~ cultural resource surveys, and known cultural resources within the siting corridors~~, and also showing the areas surveyed by Tetra Tech in preparing the Archeological Inventory for Golden Hills Wind Energy Development included in the Application for a Site Certificate as Attachment S-1~~. If there are any additional areas where ground-disturbing activities will occur that were not part of the prior pedestrian level ground ~~original facility area surveyed by Project related cultural resources~~surveys, the certificate holder shall notify the Department and SHPO to determine whether additional surveys or avoidance measures are necessary. [Final Order on ASC, Condition V.B.4; Amended in Final Order on AMD4 and AMD5]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
PRE-PS-01	Before beginning construction of the facility, the certificate holder shall develop a fire safety and response plan for both construction and operation phases in consultation with the Oregon State Fire Marshal, the Sherman County Emergency Services, North Sherman Fire and Rescue, Moro Rural Fire Protection District and other first-response agencies the facility will rely upon for fire protection services. A copy of the Construction Fire Safety and Response plan must be provided to the Department at least 30 days before beginning construction. A copy of the Operational Fire Safety and Response Plan must be provided to the Department at least 30 days before beginning operation. The Operational plan must be updated at least annually by the agencies identified in (a) below and a copy provided to the agencies identified in (a), (b), and (c) and to the Department within 30 days of the update. The fire safety and response plan shall address, at a minimum, the following: (a) Identification of agencies that participated in developing the plan; (b) Identification of agencies that are designated as first response agencies or are included in any mutual aid agreements with the facility; (c) A list of any other mutual aid agreements or fire protection associations in the vicinity of the facility; (d) Complete contact information for each agency listed in (a), (b), and (c) above, including at least two facility contacts available on a 24-hour basis;

	(e) Communication protocols for both routine and emergency events and the incident command system to be used in the event a fire response by multiple agencies is needed at the facility; (f) Access and fire response at the facility site during construction and operations. Fire response plans during construction shall address regular and frequent communication amongst the agencies regarding the number and location of construction sites within the site boundary, access roads that are completed and those still under construction, location of water receptacles, and a temporary signage system until permanent addresses and signs are in place; (g) The minimum designated time period of the fire season (i.e., May 1 through October 15) and the criteria to modify the designated fire season to respond to changing conditions; (h) The number, size, and location of onsite water receptacles to be staged around the facility site for firefighting purposes during the fire season; and (i) Training needs (both for facility personnel and for first responders) including at a minimum fall protection and rescue employee training requirements. (j) Copies of mutual aid, fire protection association, or other agreements entered into concerning fire protection at the facility site. [Final Order on ASC, Condition V.C.3; Amended in Final Order on AMD2, AMD5]
PRE-PS-02	Before beginning construction of the facility, the certificate holder shall develop, in consultation with Sherman County Road Department, a construction-phase traffic management plan.. The certificate holder shall submit to the Department a copy of the final construction-phase traffic management plan. [Final Order on ASC, Condition V.C.10; Amended in Final Order on AMD4]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
PRE-WM-01	Prior to construction, the certificate holder shall submit to the Department a Construction Waste Management Plan that includes, but is not limited to, the following measures: (a) Recycling steel and other metal scrap; (b) Recycling wood waste; (c) Recycling packaging wastes, such as paper and cardboard; (d) Collecting non-recyclable waste for transport to a landfill; and (e) Segregating all hazardous wastes, such as used oil, oily rags and oil-absorbent materials, lubricant and cleaning solution containers, mercury-containing lights, and lead-acid and nickel-cadmium batteries, for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous wastes. The requirements of the plan shall be implemented and adhered to during construction activities. [Final Order on ASC, Condition V.D.1; Amended in Final Order on AMD4]
STANDARD: PUBLIC HEALTH AND SAFETY STANDARDS FOR WIND ENERGY FACILITIES (PH) [OAR 345-024-0010]	
PRE-PH-01	The certificate holder shall: a) During facility construction, install self-monitoring devices on each turbine, connected to a fault annunciation panel or SCADA system at the O&M facility to alert operators to potentially dangerous conditions. The certificate holder shall equip each turbine with vibration-sensing equipment that will shut down the turbine in the event of abnormal levels of vibration. b) During facility operation, maintain the self-monitoring devices and vibration-sensing equipment on each turbine, connected to the fault annunciation panel or SCADA system at the O&M facility. [Final Order on ASC, Condition IV.I.2; Amended in Final Order on AMD4]
PRE-PH-02	Prior to construction, the certificate holder shall provide evidence to the Department demonstrating that the facility substation~~s~~ will be enclosed with appropriate fencing and locked gates. [Final Order on ASC, Condition IV.I.6; Amended in Final Order on AMD4]
PRE-PH-03	Before beginning construction, the certificate holder shall submit to the FAA and the Oregon Department of

	Aviation ("ODA") a Notice of Proposed Construction or Alteration identifying the proposed final locations of the turbines and related or supporting facilities and shall provide a copy of this notice to the Department. The certificate holder shall notify the Department of the FAA's and ODA's responses as soon as they have been received. [Final Order on ASC, Condition IV.I.7]
STANDARD: SITING STANDARDS FOR TRANSMISSION LINES (ST) [OAR 345-024-0090]	
PRE-ST-01	The certificate holder shall install the underground segments of the 34.5-kV collector system at a minimum depth of three feet. [Final Order on ASC, Condition IV.K.1]
REQUIREMENTS UNDER COUNCIL JURRISDICTION (CJ)	
PRE-CJ-01	The certificate holder shall submit, for Department approval prior to construction, a complete new noise analysis for the facility based on the final design layout and generate a new table listing each noise-sensitive property, as defined in OAR 340-035-0015(38), and the predicted maximum hourly L50 noise level at each noise-sensitive property. In addition, the certificate holder shall provide the predicted sound levels contributed by each turbine at each noise-sensitive property that does not provide a waiver of the ambient noise rule. The certificate holder shall perform the analysis using the CADNA/A by DataKustik GmbH of Munich, Germany, and shall base the analysis on the final facility design including final choice of turbine and location of all facility components. The analysis shall demonstrate to the satisfaction of the Department that each of the following requirements have been met: (a) For any noise-sensitive property, the certificate holder shall identify the final design locations of all turbines to be built and perform a noise analysis demonstrating, in accordance with OAR 340-035-0035(1)(b)(B)(iii)(IV), that the total hourly L50 noise level generated by the facility would not exceed 50 dBA at the appropriate measurement point. The certificate holder shall assume the following input parameters: • The maximum sound power level warranted by the manufacturer or confirmed by other means acceptable to the Department; • The exact locations of the proposed turbines; • Attenuation of sound due to absorption to be calculated using a methodology satisfactory to the Department; • The use of 50° F temperature and 70 percent relative humidity in the analysis; • A 2dB safety margin shall be added to turbine sound power levels; • No credit for shielding of any residence by terrain; and • All receptors treated as simultaneously downwind of all turbines. (b) If the hourly L50 noise levels caused by the facility at any noise-sensitive property would increase the ambient noise level at any noise-sensitive property over the full set of wind conditions ranging from cut in to full load by more than 10 dBA, the certificate holder shall obtain a legally effective easement or real covenant from that property owner pursuant to which the owner of the property authorizes the certificate holder's operation of the facility to increase ambient statistical noise levels L50 and L50 by more than 10 dBA at the appropriate measurement point. A legally effective easement or real covenant shall (i) include a legal description of the burdened property (the noise-sensitive property); (ii) be recorded in the real property records of the county; (iii) expressly benefit the certificate holder; (iv) expressly run with the land and bind all future owners, lessees or holders of any interest in the burdened property; and (v) not be subject to revocation without the certificate holder's written approval. (c) If, for any noise-sensitive property where the hourly L50 noise levels caused by the facility would increase by more than 10 dBA above the ambient level over the full range of wind conditions measured for that property and where the certificate holder has not obtained a legally effective easement or real covenant as described in (b), the certificate holder shall identify measures to reduce

	noise at that property either by eliminating or moving turbines, and shall perform the noise analysis again to demonstrate, in accordance with OAR 340-035-0035(1)(b)(B)(iii)(IV), that the total noise generated by the facility would meet the ambient noise degradation test at the appropriate measurement point at that noise-sensitive property. The certificate holder shall obtain Department concurrence of the new analysis prior to start of construction. [Final Order on ASC, Condition VI.A.1.2]
PRE-CJ-02	Prior to construction, the certificate holder shall: 1) Conduct an updated wetlands and waters delineation survey of all areas to be temporarily or permanently impacted by the facility based on final layout and design. 2) Submit the delineation survey report to the department and Oregon Department of State Lands and receive concurrence of the report from DSL. 3) Confirm from the results of the delineation survey and DSL concurrence that the facility will not need a removal-fill permit. 4) If a removal-fill permit is necessary, file a site certificate amendment request to review and process the permit request. (Final Order on Amendment No. 3, Removal-Fill Condition 1)
PRE-CJ-03	Prior to construction, the certificate holder shall prepare detailed design drawings and specifications for 230 kV, and 34.5 kV transmission lines, in consultation with the Utility Safety and Reliability Section of the Oregon Public Utility Commission to ensure that the designs and specifications are consistent with applicable codes and standards. [Final Order on ASC, Condition VI.A.4.2; Amended in Final Order on AMD4]
PRE-CJ-04	Prior to start of construction, the certificate holder shall submit to ODOE a procedure for coordinating, with all affected local electric service utilities and transmission service providers, crane movements under electric transmission lines during construction and maintenance of the facility. The procedure shall address subjects including, but not limited to, minimum advance notification prior to any crane movement under an electric transmission or distribution line, protocols for determining adequate line clearance and specific crane path locations. With the procedure, the certificate holder shall provide evidence of concurrence by each affected electric service utility or transmission service provider. The certificate holder shall ensure that all employees, construction contractors and subcontractors adhere to this procedure throughout construction and maintenance of the facility. [Final Order on ASC, Condition VI.A.4.3]
MANDATORY CONDITIONS (MC)	
PRE-MC-01	OAR 345-025-0006 (5): Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under this section, the certificate holder shall not begin construction, as defined in OAR 345¬001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, "construction rights" means the legal right to engage in construction activities. For wind energy facilities, transmission lines or pipelines, if the certificate holder does not have construction rights on all parts of the site, the certificate holder may nevertheless begin construction, as defined in OAR 345-001-0010, or create a clearing on a part of the site if the certificate holder has construction rights on that part of the site and: a) The certificate holder would construct and operate part of the facility on that part of the site even if a change in the planned route of the transmission line or pipeline occurs during the certificate holder's negotiations to acquire construction rights on another part of the site; or b) The certificate holder would construct and operate part of a wind energy facility on that part of the site even if other parts of the facility were modified by amendment of the site certificate or were not built. [Final Order on ASC, Condition VII.5; Amended in Final Order on AMD4]

PRE-MC-02	OAR 345-025-0006 (8): Before beginning construction of the facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition. The certificate holder shall maintain a bond or letter of credit in effect at all times until the facility has been retired. The Council may specify different amounts for the bond or letter of credit during construction and during operation of the facility. [See Condition IV.C.4.] [Final Order on ASC, Condition VII.8; Amended in Final Order on AMD4]

4.4 Construction (CON) Conditions

<table>
<tr><th>Condition Number</th><th>Pre-Construction (PRE) Conditions</th></tr>
<tr><td colspan="2">STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]</td></tr>
<tr><td colspan="2">STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]</td></tr>
<tr><td>CON-SP-01</td><td>During construction, the certificate holder shall salvage approximately three feet of topsoil and stockpile this topsoil in windrows, wherever temporary impacts will occur in cultivated areas. The certificate holder shall protect the windrows with plastic sheeting or mulch. Upon removal of the temporary features, the certificate holder shall cultivate the subsoil to a depth of at least 12 inches (except where bedrock prohibits achieving this depth) and then redistribute the salvaged topsoil to match adjacent grades.
[Final Order on ASC, Condition IV.E.2; Amended in Final Order on AMD4]</td></tr>
<tr><td>CON-SP-02</td><td>During construction, the certificate holder shall ensure that the wash down of concrete trucks occurs only at a contractor-owned batch plant or at tower foundation locations. If such wash down occurs at tower foundation locations, then the certificate holder shall ensure that wash down wastewater does not run off the construction site into otherwise undisturbed areas and that the wastewater is disposed of on backfill piles and buried underground with the backfill over the tower foundation.
[Final Order on ASC, Condition IV.E.5]</td></tr>
<tr><td colspan="2">STANDARD: LAND USE (LU) [OAR 345-022-0030]</td></tr>
<tr><td>CON-LU-01</td><td>During construction, the certificate holder shall provide access across construction trenches to fields within the facility site and otherwise provide adequate and timely access to properties during critical periods in the farming cycle, such as harvest, as necessary and as determined feasible by the certificate holder and landowner.
[Final Order on ASC, Condition IV.D.12; Amended in Final Order on AMD4]</td></tr>
<tr><td colspan="2">STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]</td></tr>
<tr><td>CON-FW-01</td><td>During construction, the certificate holder shall protect the area within a 1300-foot buffer around any active nests of the following species during the sensitive period, as provided in this condition:
<table>
<tr><th>Species</th><th>Sensitive Period</th><th>Early Release Date</th></tr>
<tr><td>Swainson’s hawk</td><td>April 1 to August 15</td><td>May 31</td></tr>
<tr><td>Golden eagle</td><td>February 1 to August 31</td><td>May 31</td></tr>
<tr><td>Ferruginous hawk</td><td>March 15 to August 15</td><td>May 31</td></tr>
<tr><td>Burrowing owl</td><td>April 1 to August 15</td><td>July 15</td></tr>
</table>
The 1300-foot buffer may be reduced, with Department approval, if there is an adequate physical barrier between the nest site and the construction impacts such that a 1300-foot buffer proves to be excessive.
During the year in which construction of any phase occurs, the certificate holder shall use a protocol approved by ODFW to determine whether there are any active nests of these species within a half-mile of any areas that would be disturbed during construction. If a nest is occupied by any of these species after the beginning of the sensitive period, the certificate holder shall not engage in high-impact construction activities (activities that involve blasting, grading or other major ground disturbance) or allow high levels of construction traffic within 1300 feet of the nest site, or such lesser distance as may be approved by the Department in the event there is an adequate physical barrier between the nest site and the construction impacts.
In addition, the certificate holder shall flag the boundaries of the 1300-foot buffer area, or such lesser distance as may be approved by the Department in the event there is an adequate physical barrier between the nest site and the construction impacts, and shall instruct construction personnel to avoid any unnecessary activity within the buffer area. The certificate holder shall direct a qualified independent third-party biological monitor, as</td></tr>
</table>

	approved by the Department, to observe the active nest sites during the sensitive period for signs of disturbance and to notify the Department of any noncompliance with this condition. If the monitor observes nest site abandonment or other adverse impact to nesting activity, the certificate holder shall implement appropriate mitigation, in consultation with ODFW and subject to the approval of the Department, unless the adverse impact is clearly shown to have a cause other than construction activity. The certificate holder may begin or resume high-impact construction activities before the ending day of the sensitive period if any known nest site is not occupied by the early release date. If a nest site is occupied, then the certificate holder may begin or resume high-impact construction before the ending day of the sensitive period with the approval of ODFW, but after the young are fledged. The certificate holder shall use a protocol approved by ODFW to determine when the young are fledged (meaning the young are independent of the core nest site). [Final Order on ASC, Condition IV.M.10]
STANDARD: HISTORIC, CULTURAL, AND ARCHEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]	
CON-HC-01	During construction, the certificate holder shall implement the Cultural Resource Management Plan ("CRMP") developed under PRE-HC-02, including all inadvertent discovery protocols and procedures specified in the CRMP~~if any cultural resources are discovered, all work at that location shall cease immediately and the certificate holder shall notify the Department and SHPO to determine whether it is necessary to have an archeologist travel to the worksite and assess the discovery or monitor construction activities~~. [Final Order on ASC, Condition V.B.6; Amended in Final Order on AMD4 and AMD5]
~~CON-HC-02~~	~~During construction, the certificate holder shall ensure that construction personnel cease all ground-disturbing activities in the immediate area if any archaeological or cultural resources are found during construction of the facility until a qualified archaeologist can evaluate the significance of the find. No construction personnel will be allowed in the discovery area except for facility management in consultation with the SHPO. The certificate holder shall notify the Department and the SHPO of the find. If the SHPO determines that the resource is significant, the certificate holder shall make recommendations to the Council for mitigation, including avoidance or data recovery, in consultation with the Department, the SHPO, the appropriate Oregon tribes and other appropriate parties. The certificate holder shall not restart work in the affected area until the certificate holder has demonstrated to the Department that it has complied with State archaeological protection and archaeological permit laws in coordination with the SHPO.~~ [Removed ~~Final Order on ASC, Condition V.B.8; Amended~~ in Final Order on ~~AMD4~~AMD5]
CON-HC-0~~2~~3	During construction, the certificate holder shall ensure that construction personnel are instructed on the location of the mapped alignment of the Oregon Trail, per Condition GEN-HC-01. If any intact physical evidence of the ~~trail~~ Oregon Trail is discovered that was not previously identified, the certificate holder shall avoid any disturbance to the intact segments by redesign, reengineering or restricting the area of construction activity. The certificate holder shall promptly notify the Department and the SHPO of the discovery and follow procedures for inadvertent discoveries outlined in the CRMP. The certificate holder shall consult with the Department and with the SHPO to determine appropriate mitigation measures. [Final Order on ASC, Condition V.B.9; Amended in Final Order on AMD4]
CON-HC-0~~2~~4	~~Upon completion of~~ Within three years of construction completion, ~~the certificate holder shall consult with the Oregon-California Trails Association -Historic Trails Advisory Council regarding the appropriate content of an interpretive sign. After such consultation~~, the certificate holder shall place an interpretive sign on the historic background of the facility site and surrounding areas in a publicly accessible location. The certificate holder shall consult with the Department and Sherman County regarding the content of the interpretative sign. ~~a sign giving notice of the historic background of the facility site and surrounding areas.~~ [Final Order on ASC, Condition V.B.10]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
CON-PS-01	During construction of the facility, the certificate holder shall ensure that construction vehicles and equipment are operated on graveled areas to the extent possible and that open flames, such as cutting torches, are kept

	away from grassy areas. [Final Order on ASC, Condition V.C.4]
CON-PS-02	During construction of the facility, the certificate holder shall maintain a water truck on site to respond to potential fire incidents. [Final Order on ASC, Condition V.C.6]
CON-PS-03	The certificate holder shall construct turbines on concrete pads with a minimum of 10 feet of nonflammable and non-erosive ground cover on all sides. The certificate holder shall cover turbine pad areas with nonflammable, non-erosive material immediately following exposure during construction and shall maintain the pad area covering during operation of the facility. [Final Order on ASC, Condition V.C.7]
CON-PS-04	During construction of the facility, the certificate holder shall implement measures to reduce traffic impacts, including: (a) Providing notice to all affected local jurisdictions in advance of deliveries; (b) Providing notice to adjacent landowners and residents of Biggs Junction in advance of deliveries; and (c) Requiring flaggers to be at appropriate locations at appropriate times during construction to direct traffic and reduce accident risks. [Final Order on ASC, Condition V.C.11]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
CON-WM-01	During construction, the certificate holder shall provide portable toilets for on-site sewage handling and shall ensure that they are pumped and cleaned regularly by a licensed contractor. [Final Order on ASC, Condition V.D.3]
STANDARD: PUBLIC HEALTH AND SAFETY STANDARDS FOR WIND ENERGY FACILITIES (PH) [OAR 345-024-0010]	
CON-PH-01	During construction, the certificate holder shall follow manufacturer's recommended handling instructions and procedures to prevent damage to turbine or turbine tower components that could lead to failure. In the compliance plan required per OAR 345-026-0048, the certificate holder shall describe the process or protocol to be implemented to ensure manufacturer's handling instructions and procedures are followed during equipment delivery. [Final Order on ASC, Condition IV.I.1; Final Order on AMD4]
CON-PH-02	The certificate holder shall construct turbine towers with no exterior ladders or access to the turbine blades and shall install locked tower access doors. The certificate holder shall keep tower access doors locked at all times except when authorized personnel are present. [Final Order on ASC, Condition IV.I.3]
REQUIREMENTS UNDER COUNCIL JURRISDICTION (CJ)	
CON-CJ-01	During construction, to reduce noise impacts at nearby residential areas, the certificate holder shall: (a) Confine the noisiest operation of heavy construction equipment to the daylight hours; (b) Require contractors to install and maintain exhaust mufflers on all combustion engine-powered equipment; and (c) Establish a complaint response system at the construction manager's office to address noise complaints. [Final Order on ASC, Condition VI.A.1.1; Amended in Final Order on AMD4]
MANDATORY CONDITIONS (MC)	
CON-MC-01	OAR 345-025-0006 (4): The certificate holder shall begin and complete construction of the facility by the dates specified in the site certificate. [See Conditions (III.D.1) and (111.D.2).]

	[Final Order on ASC, Condition VII.4; Amended in Final Order on AMD4]

4.5 Pre-Operational (PRO) Conditions

Condition Number	Pre-Construction (PRE) Conditions
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
PRO -PS-01	Before beginning operation of the facility, the certificate holder shall provide to North Sherman Fire Protection District and Moro Rural Fire Protection District a site plan indicating the identification number assigned to each turbine and the location of all facility structures. During operation of the facility, the certificate holder shall ensure that appropriate district personnel have an up-to-date list of the names and telephone numbers of facility personnel available to respond on a 24-hour basis in case of an emergency on the facility site. [Final Order on ASC, Condition V.C.9; Amended in Final Order on AMD4]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
PRO -WM-01	Prior to operation, the certificate holder shall submit to the Department an Operational Waste Management Plan that includes, but is not limited to, the following measures: (a) Training employees to minimize and recycle solid waste; (b) Recycling paper products, metals, glass and plastics; (c) Recycling used oil and hydraulic fluid; (d) Collecting non-recyclable waste for transport to a landfill; and (e) Segregating all hazardous wastes, such as used oil, oily rags and oil-absorbent materials, oil and cleaning solution containers, mercury-containing lights, and lead-acid and nickel-cadmium batteries, for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous wastes. The requirements of the plan shall be implemented and adhered to during operational activities. [Final Order on ASC, Condition V.D.2; Amended in Final Order on AMD4]
STANDARD: PUBLIC HEALTH AND SAFETY STANDARDS FOR WIND ENERGY FACILITIES (PH) [OAR 345-024-0010]	
PRO-PH-01	Prior to operation, the certificate holder shall: (a) Submit to the Department materials or other documentation demonstrating the facility's operational safety-monitoring program and cause analysis program, for review and approval. The program shall, at a minimum, include requirements for regular turbine blade and turbine tower component inspections and maintenance, based on wind turbine manufacturer recommended frequency. (b) The certificate holder shall document inspection and maintenance activities including but not limited to date, turbine number, inspection type (regular or other), turbine tower and blade condition, maintenance requirements (i.e. equipment used, component repair or replacement description, impacted area location and size), and wind turbine operating status. This information shall be submitted to the Department pursuant to OAR 345-026-0080 in the facility's annual compliance report. (c) In the event of blade or tower failure, the certificate holder shall report the incident to the Department within 72 hours, in accordance with OAR 345-026-0170(1), and shall, within 90-days of blade or tower failure event, submit a cause analysis to the Department for its compliance evaluation. [Final Order on ASC, Condition IV.I.4; Amended in Final Order on AMD4, AMD5]
PRO-PH-02	Prior to operation, the certificate shall submit to the Department evidence demonstrating that, for turbine types having pad-mounted step-up transformers, transformers are installed at the base of each tower in locked cabinets designed to protect the public from electrical hazards and to avoid creation of artificial habitat for raptor prey. [Final Order on ASC, Condition IV.I.5; Amended in Final Order on AMD4]
REQUIREMENTS UNDER COUNCIL JURRISDICTION (CJ)	

PRO-CJ-01	Prior to start of commercial operation, the certificate holder shall submit a plan for complaint-based operational noise monitoring to the Department. Commercial operation shall not commence until the Department has concurred in writing with the complaint-based noise monitoring protocol. The plan shall provide for testing at houses whose owners or occupants submit a complaint to the Council or the Department. The plan shall include a schedule for completion of required testing and a date certain by which written results shall be provided to the Council. If the owner of the property that filed the complaint refuses to grant access for the purpose of performing the noise test described in this condition after reasonable attempts are made by the certificate holder to receive permission for access, then the Department shall not require further corrective action. [Final Order on ASC, Condition VI.A.1.4]

4.6 Operational (OPR) Conditions

Condition Number	Pre-Construction (PRE) Conditions
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
OPR -SP-01	During facility operation, the certificate holder shall routinely inspect and maintain all roads, pads and trenched areas and, as necessary, maintain or repair erosion control measures. The certificate holder shall restore areas that are temporarily disturbed during facility maintenance or repair activities to predisturbance condition or better. [Final Order on ASC, Condition IV.E.3]
OPR -SP-02	During facility operation, if blade-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. [Final Order on ASC, Condition IV.E.6]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
OPR -LU-01	During operation of the facility, the certificate holder, in cooperation with landowners, shall avoid impact on cultivated land to the extent reasonably possible when performing facility repair and maintenance activities. [Final Order on ASC, Condition IV.D.11]
OPR -LU-02	Within 90 days after beginning operation, the certificate holder shall provide to the Department and to the Sherman County Planning Director the actual latitude and longitude location or Stateplane NAD 83(91) coordinates of each turbine tower, connecting lines and transmission lines. In addition, the certificate holder shall provide to the Department and to the Sherman County Planning Director, a summary of as-built changes in the facility compared to the original plan, if any. [Final Order on ASC, Condition IV.D.15]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
OPR -RT-01	The certificate holder shall: (a) Notify the Department of any spill or release of hazardous material during construction, operation or retirement of the facility~~-~~within one working day after the discovery. The certificate holder shall follow applicable Oregon Department of Environmental Quality ("DEQ") response requirements~~~~ regulations pursuant to OAR Chapter 340 Division 142. (b) Within 45-days of the discovery, the certificate holder shall submit to the Department copies of the Oregon Emergency Response System Spill/Release Report, as submitted to DEQ. [Final Order on ASC, Condition IV.C.6; Amended in Final Order on AMD4]

OPR -RT-02	If the certificate holder has not remedied a spill consistent with applicable ODEQ standards within six months after the date of the spill, the certificate holder shall submit to the Council for its approval an independently prepared estimate of the additional cost of remediation or correction within such six-month period. (a) Upon approval of an estimate by the Council, the certificate holder shall increase the amount of its bond or letter of credit by the amount of the estimate. (b) In no event, however, shall the certificate holder be relieved of its obligation to exercise all due diligence in remedying a spill of hazardous substances. [Final Order on ASC, Condition IV.C.7, Final Order on AMD4]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
OPR -FW-01	During facility operation, the certificate holder shall conduct wildlife monitoring as described in the Wildlife Monitoring and Mitigation Plan that is included as Attachment E to the Final Order on Amendment 4 and as amended from time to time. [Final Order on ASC, Condition IV.M.7; Amended in Final Order on AMD4]
STANDARD: SCENIC RESOURCES (SR) [OAR 345-022-0080]	
OPR -SR-01	During operation of the facility, the certificate holder shall not use exterior nighttime lighting except: a. The minimum turbine tower lighting required or recommended by the Federal Aviation Administration (the "FAA"); b. Security lighting at the O&M facility and substations, provided that such lighting is shielded or directed downward to reduce glare; c. Minimum lighting necessary for repairs or emergencies; and d. As otherwise required by federal, State or local law. [Final Order on ASC, Condition IV.G.3]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
OPR -PS-01	During operation of the facility, the certificate holder shall obtain water for on-site use from one well located at the O&M facility, subject to compliance with applicable permit requirements. During operation of the facility, the certificate holder shall not use more than 5,000 gallons of water per day from the on-site well. [Final Order on ASC, Condition V.C.1]
OPR -PS-02	During operation of the facility, the certificate holder shall ensure that all on-site employees receive annual fire prevention and response training, including tower rescue training, from qualified instructors or members of local fire districts and shall ensure that all employees are instructed to keep vehicles on roads and off dry grassland, except when off-road operation is required for emergency purposes. [Final Order on ASC, Condition V.C.8]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
OPR -WM-01	During operation, the certificate holder shall discharge sanitary wastewater generated at the O&M facility to a licensed on-site septic system in compliance with county permit requirements. The certificate holder shall design the septic system with a discharge capacity of less than 5,000 gallons per day. The certificate holder shall provide copies of all necessary septic system permits to the Department. [Final Order on ASC, Condition V.D.4; Amended in Final Order on AMD4]
REQUIREMENTS UNDER COUNCIL JURRISDICTION (CJ)	
OPR-CJ-01	During operation, the certificate holder shall maintain a complaint response system to address noise complaints. The certificate holder shall promptly notify the Department of any complaints received regarding facility noise and of any actions taken by the certificate holder to address those complaints. Prior to start of commercial operation, the certificate holder shall notify, in writing, the owners of potentially affected noise-sensitive properties identified in Exhibit X of the completed Application for a Site Certificate. The notice shall inform the

	property owners of the procedure and contact information for filing a complaint regarding the noise level from the facility once it is operating. The certificate holder shall document the issuance of this notice and provide that documentation to the Department. [Final Order on ASC, Condition VI.A.1.3]
MANDATORY CONDITIONS (MC)	
OPR-MC-01	OAR 345-025-0006 (2): The certificate holder shall submit a legal description of the site to the Department of Energy within 90 days after beginning operation of the facility. The legal description required by this rule means a description of metes and bounds or a description of the site by reference to a map and geographic data that clearly and specifically identifies the outer boundaries that contain all parts of the facility. [Final Order on ASC, Condition VII.2; Amended in Final Order on AMD4]

4.7 Retirement Conditions (RET)

Condition Number	Pre-Construction (PRE) Conditions
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
RET -RT-01	The certificate holder shall retire the facility if the certificate holder permanently ceases construction or operation of the facility. The certificate holder shall retire the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110, and prepared pursuant to Condition (IV.C.2). [Final Order on ASC, Condition IV.C.1]
RET -RT-02	Two years before closure of the energy facility, the certificate holder shall submit to the Department a proposed final retirement plan for the facility and site, pursuant to OAR 345-027-0110, including: (a) A plan for retirement that provides for completion of retirement within two years after permanent cessation of operation of the energy facility and that protects the public health and safety and the environment; (b) A description of actions the certificate holder proposes to take to restore the site to a useful, non-hazardous condition suitable for agricultural use; and (c) A detailed cost estimate, a comparison of that estimate with the dollar amount secured by a bond or letter of credit and any amount contained in a retirement fund, and a plan for assuring the availability of adequate funds for completion of retirement. [Final Order on ASC, Condition IV.C.2]
RET -RT-03	If the certificate holder elects to use a bond to meet the requirements of Condition (IV.C.4), the certificate holder shall ensure that the surety is obligated to comply with the requirements of applicable statutes, Council rules and this site certificate when the surety exercises any legal or contractual right it may have to assume construction, operation or retirement of the energy facility. The certificate holder shall also ensure that the surety is obligated to notify the Council that it is exercising such rights and to obtain any Council approvals required by applicable statutes, Council rules and this site certificate before the surety commences any activity to complete construction, operate or retire the energy facility. [Final Order on ASC, Condition IV.C.5]
RET -RT-04	The certificate holder shall pay the actual cost to restore the site to a useful, non-hazardous condition at the time of retirement, notwithstanding the Council's approval in the site certificate of an estimated amount required to restore the site. [Final Order on ASC, Condition IV.C.9]
RET -RT-05	If the Council finds that the certificate holder has permanently ceased construction or operation of the facility

	without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110 and prepared pursuant to Condition (IV.C.2), the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the Department within a reasonable time not to exceed 90 days. (a) If the certificate holder does not submit a proposed final retirement plan by the specified date or if the Council rejects the retirement plan that the certificate holder submits, the Council may direct the Department to prepare a proposed a final retirement plan for the Council's approval. (b) Upon the Council's approval of the final retirement plan prepared pursuant to (a), the Council may draw on the bond or letter of credit described in Condition (IV.C.4) and shall use the funds to restore the site to a useful, non-hazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. (c) If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, non-hazardous condition. (d) After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan. [Final Order on ASC, Condition IV.C.10]
COUNCIL'S MANDATORY CONDITIONS (MC)	
RET -MC-01	OAR 345-025-0006 (9): The certificate holder shall retire the facility if the certificate holder permanently ceases construction or operation of the facility. The certificate holder shall retire the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110. The certificate holder shall pay the actual cost to restore the site to a useful, non-hazardous condition at the time of retirement, notwithstanding the Council's approval in the site certificate of an estimated amount required to restore the site. [Final Order on ASC, Condition VII.9; Amended in Final Order on AMD4]
RET -MC-02	OAR 345-025-0006 (16): If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110, the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the Office within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the specified date, the Council may direct the Department to prepare a proposed a final retirement plan for the Council's approval. Upon the Council's approval of the final retirement plan, the Council may draw on the bond or letter of credit described in OAR 345-027¬0020(8) to restore the site to a useful, non-hazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, non-hazardous condition. After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan. [Final Order on ASC, Condition VII.16; Amended in Final Order on AMD4]

5.0 Successors and Assigns

To transfer this site certificate or any portion thereof or to assign or dispose of it in any other manner, directly or indirectly, the certificate holder shall comply with OAR 345-027-0100.

6.0 Severability and Construction

If any provision of this agreement and certificate is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the agreement and certificate did not contain the particular provision held to be invalid.

7.0 Execution

This amended site certificate may be executed in counterparts and will become effective upon signature by the Chair of the Energy Facility Siting Council and the authorized representative of the certificate holder.

IN WITNESS THEREOF, this site certificate has been executed by the State of Oregon, acting by and through the Energy Facility Siting Council, and by Golden Hills Wind Farm, LLC.

ENERGY FACILITY SITING COUNCIL

By: _____

Barry Beyeler, Chair

Oregon Energy Facility Siting Council

Date: _____

Golden Hills Wind Farm, LLC

By: _____

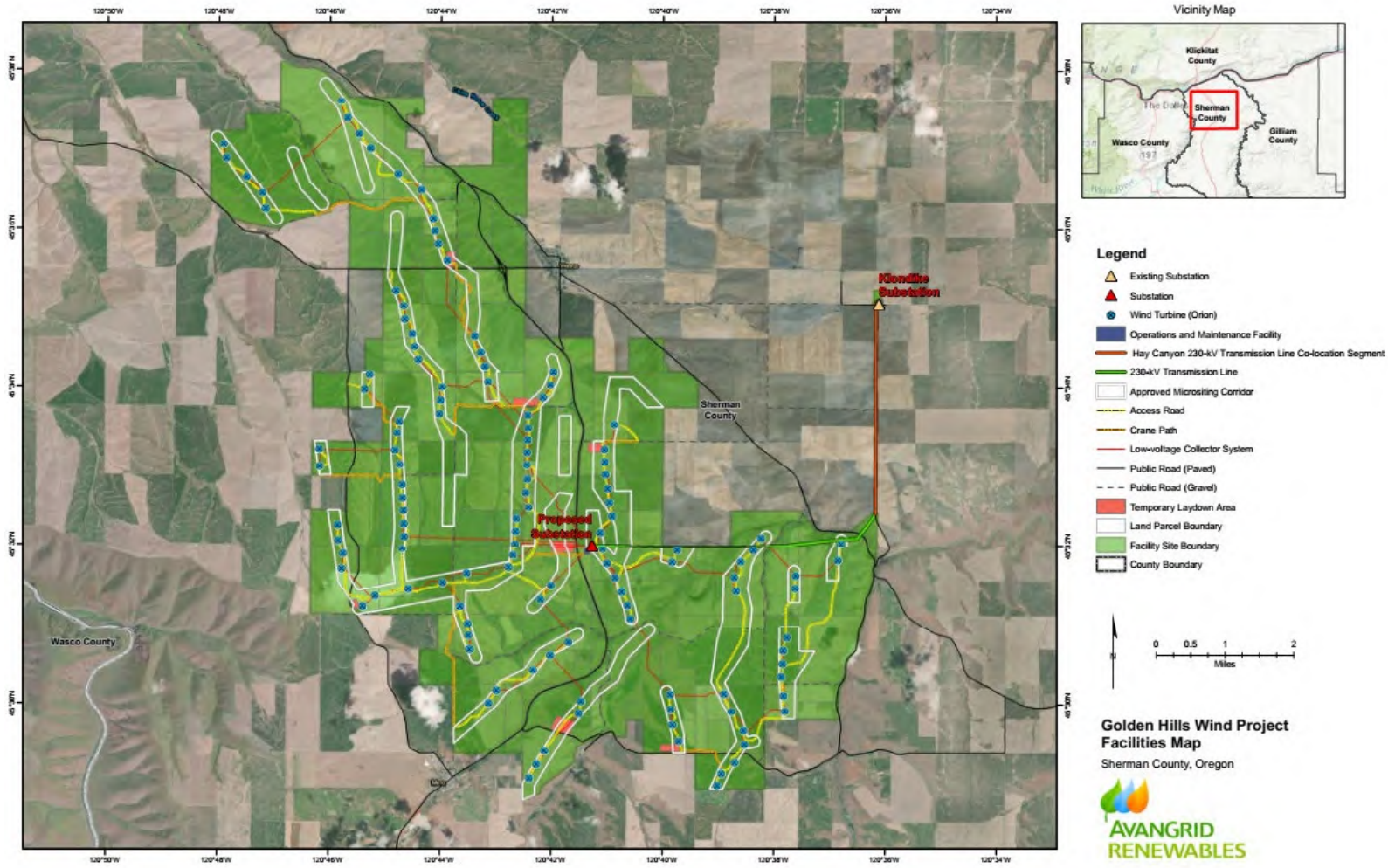
_____ [Print Name]

Golden Hills Wind Farm, LLC

Date:_____

Attachment A
Facility Site Boundary Map

Golden Hills Site Boundary and Turbine Micrositing Corridors



Attachment 2. Golden Hills Wind Farm Habitat Survey Report

Golden Hills Wind Farm

Habitat Survey Report

Prepared for

Golden Hills Wind Farm, LLC

Prepared by:

Tetra Tech, Inc.

1750 S Harbor Way, Suite 400

Portland, Oregon 97201

November 2020

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Attachment 2. Golden Hills Wind Farm Habitat Categorization Field Datasheet

Attachment 3. List of ODFW Sensitive Species within the Columbia Plateau Ecoregion of Oregon and Potential Occurrence at the Facility

Attachment 4. State and Federal Threatened, Endangered, and Proposed Species with the Potential to Occur at the Facility

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1.0 Introduction

This report describes the methods and results of the field-based preconstruction habitat survey conducted at the Golden Hills Wind Farm (Facility) as required in Condition PRE-DC-02. The purpose of the survey was to confirm the habitat categories of areas that will be affected by Facility components, as well as the locations of any sensitive resources such as active raptor and other bird nests.

2.0 Survey Area

The approximately 2,181-acre 2020 Survey Area (Survey Area) encompasses all areas that will be affected by Facility components (Figure 1). The Survey Area is located within the Site Boundary and includes the entirety of the Micrositing Corridor as described in Request for Amendment No. 6, including the approximately 534-acre area added to the Existing Micrositing Corridor in that Request (EFSC 2018, Golden Hills 2020).

3.0 Methods

3.1 Habitat Survey

Prior to conducting field surveys, Tetra Tech conducted a desktop assessment of habitat within the Survey Area using aerial photography, and topographic maps and Oregon Department of Fish and Wildlife (ODFW) Big Game habitat data (ODFW 2013). These sources were used to confirm and update, as appropriate, habitat types compared to the mapped habitat types previously approved for the Facility, and to address any gaps in available data prior to confirmation in the field (EFSC 2009, Golden Hills 2015).

In the field, biologists used ArcGIS Collector software to confirm or redefine areas of relatively homogenous vegetation within the Survey Area. Habitat was mapped and classified per the habitat categories set forth in Oregon Administrative Rules 635-415-0025, including an assessment of habitat quality. If a biologist determined that a habitat type designation or categorization did not correspond to conditions previously described, or that the extent of a previously described area had changed, that area was surveyed to assess habitat type and category in a manner consistent with previously approved definitions (Attachment 1, Attachment 2; EFSC 2009, Golden Hills 2015). Surveyors utilized a minimum mapping unit of 1 acre.

Updates to two habitat subtypes and three habitat types employed in the Application for Site Certificate were made based on habitat definitions adapted from *Wildlife-Habitat Relationships in Oregon and Washington* (Johnson and O'Neil 2001). Type Riparian has been updated to Riparian Forest and Natural Shrubland Complexes, type Surface Water has been updated to Open Water – Lakes, Rivers, Streams, and type Road has been updated to Developed. Habitat previously defined

as type Agricultural subtype Conservation Reserve Program (CRP) are now mapped as type Agricultural subtype Planted Grassland to reflect the biological functionality of these areas rather than their enrollment status in CRP. Similarly, habitat previously identified as type Riparian subtype Conservation Reserve Enhancement Program is instead identified as type Riparian Forest and Natural Shrubland Complexes subtype Eastside (Interior) Riparian.

Following field surveys, the digitized boundaries were downloaded and processed in GIS, and the field datasheets were incorporated into the spatial data. Data from the habitat surveys conducted in surveys were merged to produce a complete habitat mapping and categorization dataset for the Site Boundary. Data were reviewed for quality control, and processed to incorporate wetlands and waters data. Habitat types and categories for wetlands and waters were derived from 2020 field delineation data (Tetra Tech 2020b), where available, and from National Wetlands Inventory (NWI) and National Hydrography Dataset (NHD) data for the remainder of the micrositing corridor.

3.2 Sensitive Resources

Tetra Tech reviewed habitat and range information for special-status wildlife species known to occur in Sherman County and the Columbia Plateau/Columbia Basin to update the list of species that had the potential to occur at the Facility, last submitted as Tables 6 and 7 in the Request for Amendment No. 5 (Golden Hills 2018, ODFW 2018, ODFW 2019, ORBIC 2019, ORBIC 2020, StreamNet 2020, Tetra Tech 2020, WEST 2019, WEST 2020, USFWS 2020a, USFWS 2020b). These tables are included in this report as Attachments 3 and 4. All species and columns previously considered are retained for consistency, and additional analysis has been added to reflect pre-construction (2020) updates for clarity. Occurrence updates reflect both findings from pre-construction field surveys, and the results of a formal request to the Oregon Biodiversity Information Center (ORBIC) to obtain site-specific records of special-status species occurrences and sensitive habitats within 2 miles of the Micrositing Corridor (ORBIC 2020).

During the habitat survey conducted in 2020, surveyors documented the location of sensitive resources observed during surveys, including raptor or other bird nests. Aerial raptor nest and loggerhead shrike (*Lanius ludovicianus*) surveys were conducted separately; however, ground-nesting species such as burrowing owls (*Athene cunicularia*) are generally not detected during aerial nest surveys (WEST 2019, WEST 2020). Therefore, biologists conducting habitat surveys were instructed to visually scan suitable burrowing owl habitat within the Survey Area and a buffer out to 0.5-miles beyond these areas to search for both burrowing owls and their burrows. This distance is greater than the maximum buffer that is required around burrowing owl burrows (i.e., 0.25 miles) if disturbance is projected to occur near such a burrow during its sensitive time period. Surveyors walked beyond the Survey Area to ensure a complete visual assessment of this area as necessary (e.g., to see over a hill or into a swale). If active burrows were found, or if owls were detected in the area, these locations were marked with a GPS.

4.0 Results

4.1 Habitat Survey

Tetra Tech conducted a field-based habitat survey within the Survey Area from June 6 to 10, 2020. The locations of each habitat category and subtype within the Survey Area and within the Site Boundary are shown in Figures 1 and 2. Habitat data shown within the Survey Area were field-confirmed during this survey, and augmented with wetlands and water data as described above. Habitat data shown between the Survey Area and the Site Boundary are derived from previously submitted data, updated as appropriate during pre-field desktop review described above (Golden Hills 2015). Habitat categories and subtypes confirmed within the Survey Area are summarized in Table 1.

Table 1. Habitat Categories and Types Mapped within the Survey Area

Habitat Category and Habitat Type and Subtype	Survey Area (acres[1])
Category 2	
Agricultural: Planted Grasslands	4.6
Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian	0.6
Wetlands: Emergent Wetlands	0.7
Open Water – Lakes, Rivers, Streams: Perennial Stream	0.2
Shrub-steppe: Sagebrush/Shrub-steppe	8.3
Grassland-steppe: Grassland	1.4
Subtotal Category 2	**15.8**
Category 3	
Agricultural: Planted Grasslands	4.3
Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian	6.3
Wetlands: Emergent Wetlands	0.7
Open Water – Lakes, Rivers, Streams: Intermittent or Ephemeral	<0.1
Shrub-steppe: Sagebrush/Shrub-steppe	5.1
Subtotal Category 3	**16.5**
Category 4	
Agricultural: Planted Grasslands	25.7
Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian	2.3
Open Water – Lakes, Rivers, Streams: Intermittent or Ephemeral	0.1
Shrub-steppe: Sagebrush/Shrub-steppe	17.4
Grassland-steppe: Grassland	33.3
Subtotal Category 4	**78.7**
Category 5	
Agricultural: Planted Grasslands	9.9
Wetlands: Emergent Wetlands	0.1
Open Water – Lakes, Rivers, Streams: Intermittent or Ephemeral	0.1

Habitat Category and Habitat Type and Subtype	Survey Area (acres[1])
Shrub-steppe: Sagebrush/Shrub-steppe	2.4
Grassland-steppe: Grassland	33.3
Subtotal Category 5	**45.9**
Category 6	
Agricultural: Non-irrigated Cropland	1997.2
Developed: Developed	2.3
Developed: Roads	24.1
Subtotal Category 6	**2023.6**
Grand Total	**2180.5**
1. Totals in this table may not be precise due to rounding.	

No areas within the Survey Area were field confirmed as Category 2; however, post-processing of wetlands and waters data designated 0.9 acres of Category 2 habitat within the Survey Area (Table 1). These areas are composed of fish-bearing streams and a wetland adjacent to a fish-bearing stream (Figures 1.31, 1.32, 1.38, 1.39, and 1.40; Figures 2.31, 2.32, 2.38, 2.39, and 2.40). These areas are designated as Category 2 in post-field data processing based on the assumed presence of fish (the federally threatened steelhead – Mid Columbia River Evolutionarily Significant Unit, summer run [*Oncorhynchus mykiss*]; Attachment 4; StreamNet 2020). Additionally, a limited area along the eastern edge of the Site Boundary overlaps with ODFW-designated Mule Deer Winter Range (Figures 1.32, 1.40, and 1.48; Figures 2.32, 2.40, and 2.48; ODFW 2013). Within this area, habitat delineated as Agricultural: Non-irrigated Cropland, Developed: Developed, and Developed: Roads are categorized as Category 6 habitat. Planted Grasslands, Sagebrush/Shrub-steppe, and Grassland habitat in this area met the definitions for Category 3, 4, and 5 habitat; however, these areas are shown in Figures 1 and 2 and calculated in Table 1 as Category 2 based on overlap with ODFW Mule Deer Winter Range.

4.2 Sensitive Resources

The status of all state sensitive, threatened, endangered, and proposed species that have the potential to occur at the Facility remain the same as reported in Request for Amendment No. 5, Tables 6 and 7 (Attachment 3, Attachment 4). The federal proposed status of North American Wolverine (*Gulo gulo luscus*) has been withdrawn (85 FR 64618). The scientific name for Washington ground squirrel (*Urocitellus washingtoni*) has been updated. The state status of Liverwort monkeyflower (*Erythranthe* [*Mimulus*] *jungermannioides*) has been updated to Candidate.

During habitat surveys, one sensitive species, the common nighthawk (*Chordeiles minor*), was observed roosting on a fence post along Monkland Lane, which is along the southern edge of the Site Boundary. Biologists also observed two previously identified, active, occupied red-tailed hawk nests (nests GH29 and GH30; WEST 2020). No burrowing owl burrows, sensitive-status raptor nests, or other bird nests were encountered during the habitat survey.

5.0 Summary and Conclusion

This report conveys the survey protocol for and the results of a pre-construction habitat survey for the Survey Area, including maps identifying habitat categories and subtypes within the Site Boundary.

6.0 References

Golden Hills. 2015. Request for Amendment No. 3 to the Site Certificate for the Golden Hills Wind Project. December 2015.

Golden Hills. 2018. Request for Amendment No. 5 to the Site Certificate for the Golden Hills Wind Project. July 2018.

Golden Hills. 2020. Request for Amendment No. 6 for the Golden Hills Wind Project. September 2020.

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Figures

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Golden Hills Wind Project

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Habitat Categories

SHERMAN COUNTY, OREGON

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Wasco
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206
97

Site Boundary
Proposed Micrositing Corridor (RFA6)*
Survey Area
Map Grid
ODFW Mule Deer Winter Range
City/Town
Secondary Highway
Secondary Road

Habitat Categories

2
3
4
5
6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	MT, WA, OR, ID, CA, NV

1:70,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

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Golden Hills Wind Project

Figure 1.1
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

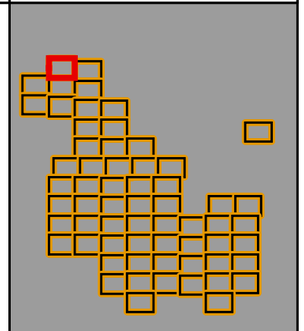
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 1.2
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

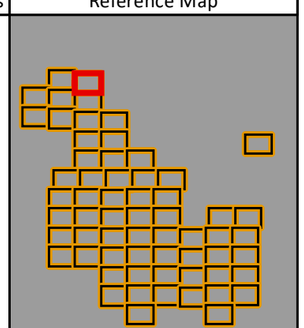
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 1.3
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

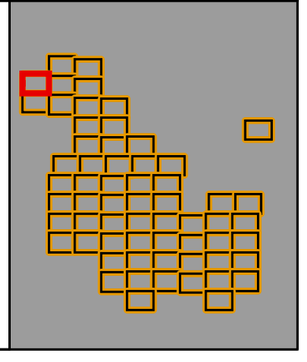
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 1.4
Habitat Categories

SHERMAN COUNTY, OREGON

Site Boundary
Proposed Micrositing Corridor (RFA6)*
Survey Area
ODFW Mule Deer Winter Range
Secondary Highway
Secondary Road
Local Road

Habitat Categories

2
3
4
5
6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

Mud Hollow Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.5
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 1.6
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

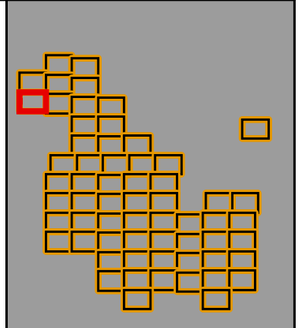
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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Mcdermid Ln

Locust Grove Ln

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 1.7
Habitat Categories

SHERMAN COUNTY, OREGON

Mud Hollow Rd

Locust Grove Ln

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

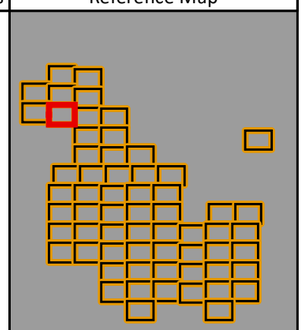
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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0 0.125 0.25 0.5 Miles

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Locust Grove Ln

Golden Hills Wind Project

Figure 1.8
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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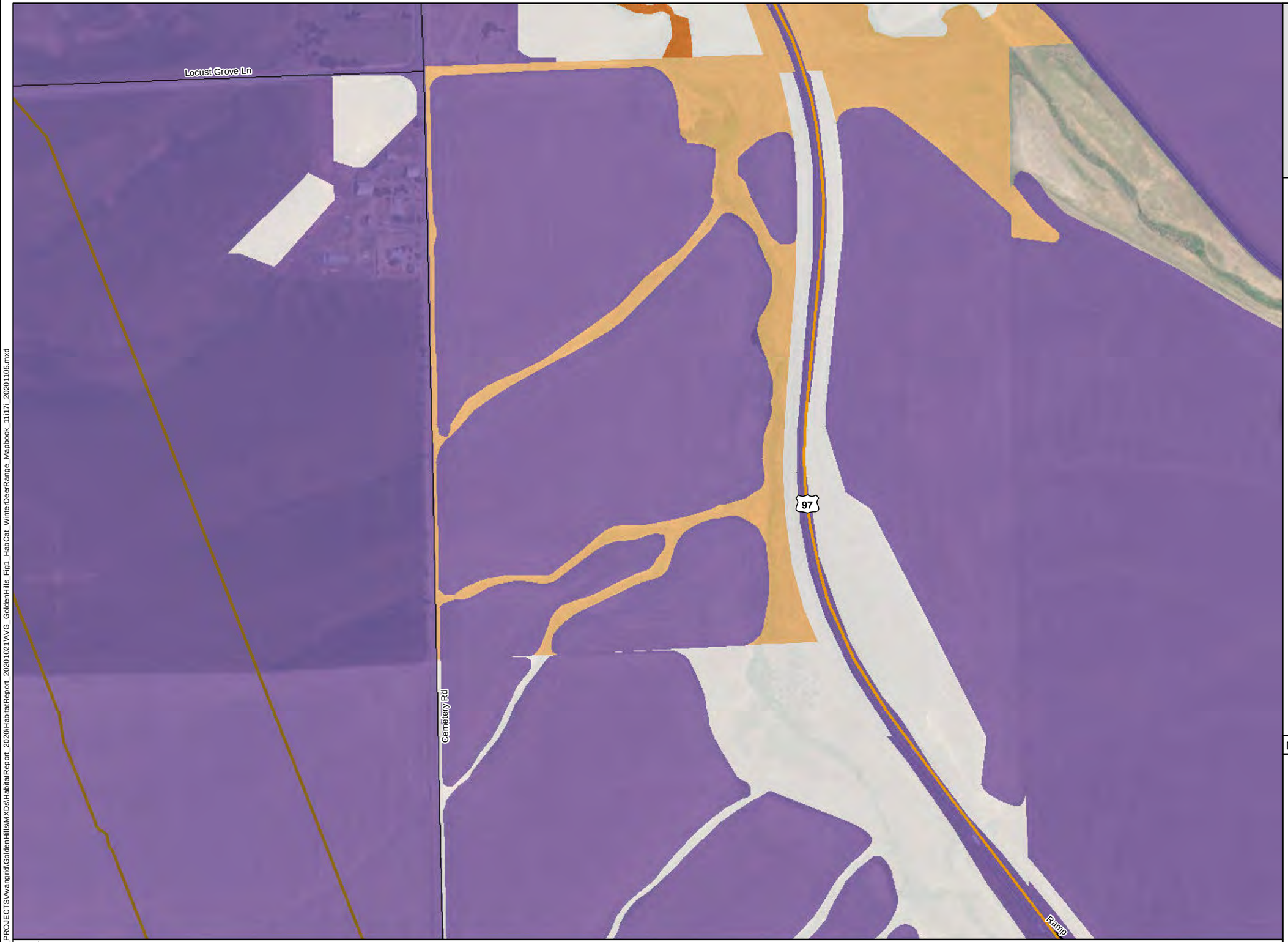


Golden Hills Wind Project

Figure 1.9
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

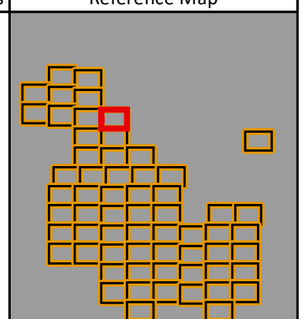
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 1.10
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

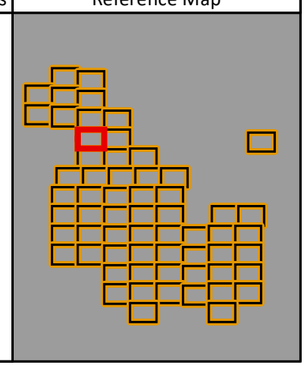
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 1.11
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

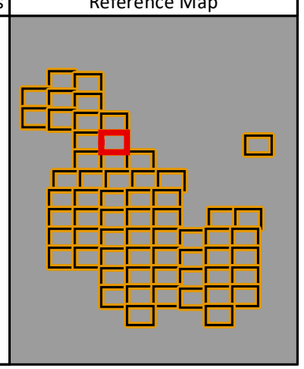
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 1.12
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

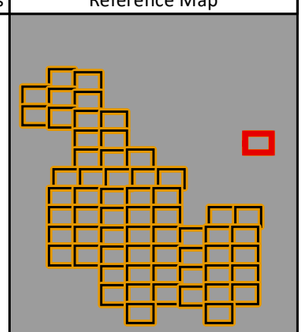
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

N Klondike Rd

Klondike Ln

Sandon Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.13
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

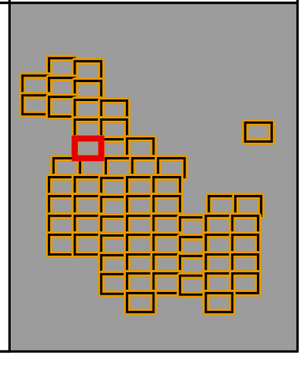
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.14
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.15
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

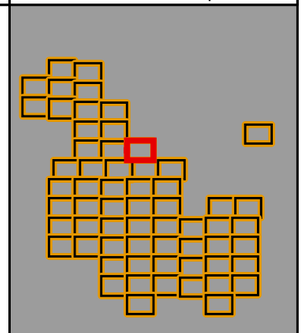
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.16
Habitat Categories

SHERMAN COUNTY, OREGON

Fulton Peters Ln

Van Gilder Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

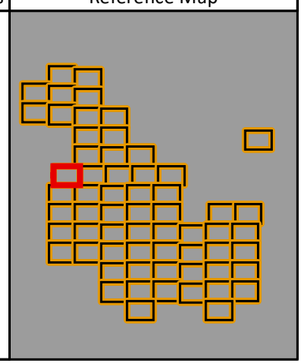
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.17
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

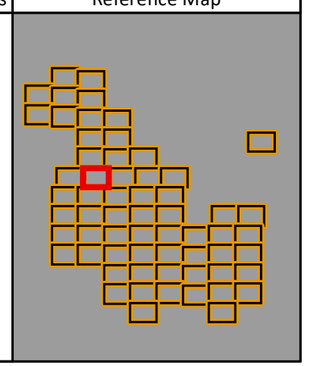
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.18
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

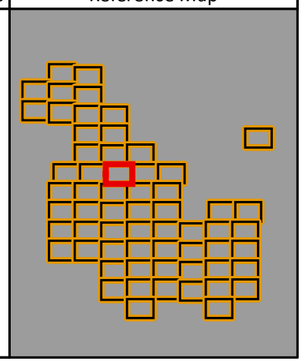
Lamborn Rd

Sawtooth Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 1.19
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

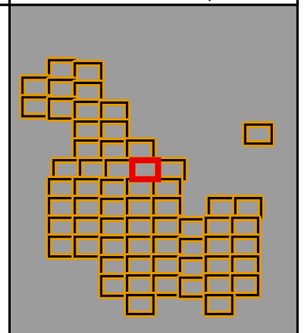
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

97

Lamborn Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.20
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

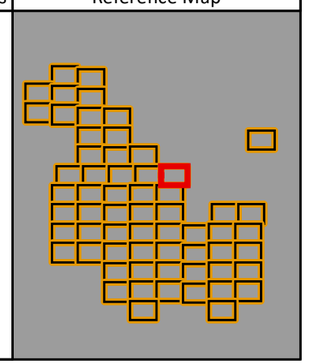
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.21
Habitat Categories

SHERMAN COUNTY, OREGON



- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

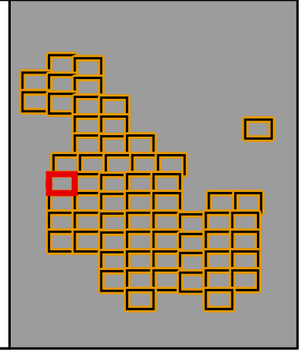
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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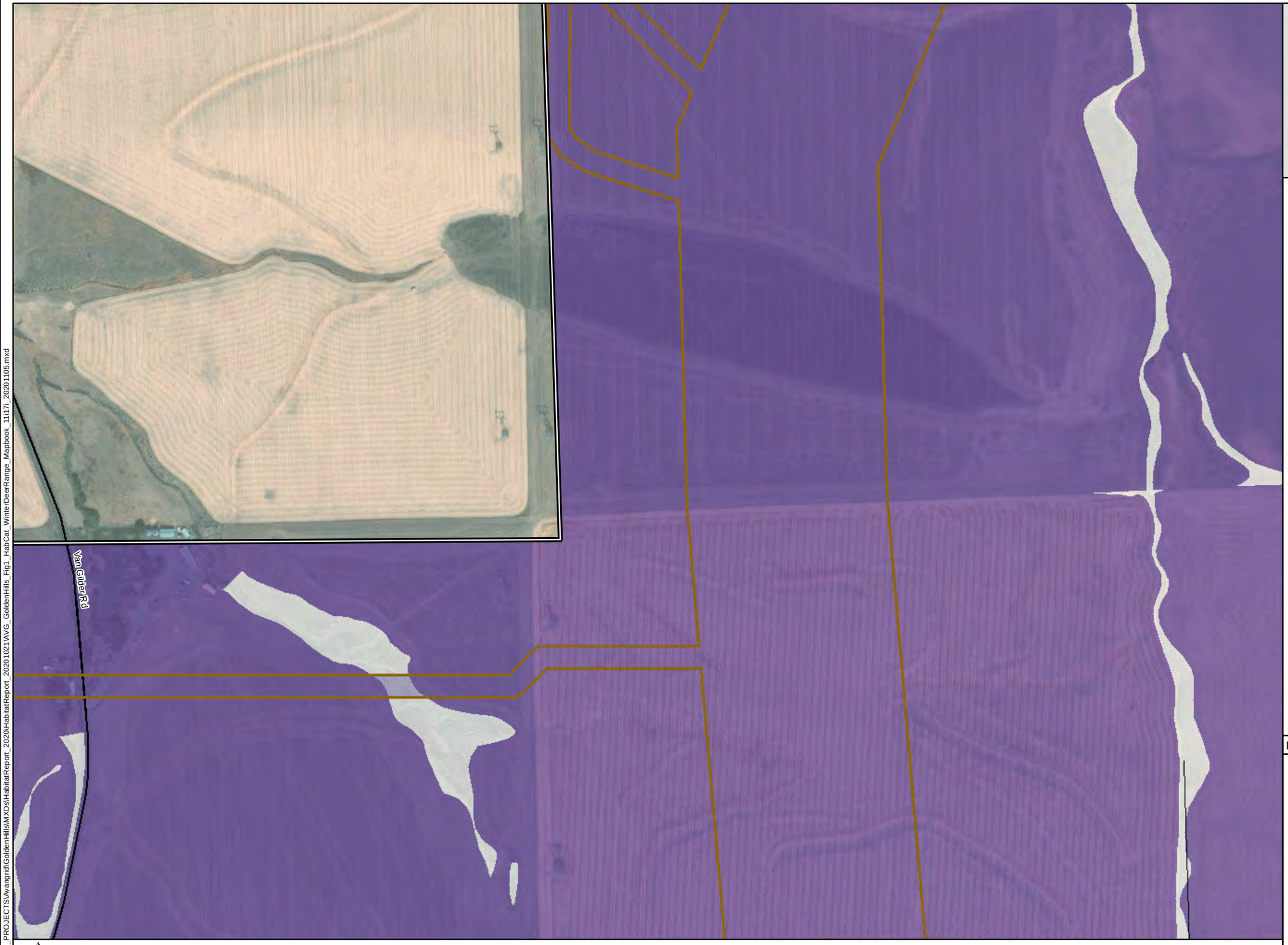
Golden Hills Wind Project

Figure 1.22
Habitat Categories

SHERMAN COUNTY, OREGON



- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.23
Habitat Categories

SHERMAN COUNTY, OREGON

Site Boundary
Proposed Micrositing Corridor (RFA6)*
Survey Area
ODFW Mule Deer Winter Range
Secondary Highway
Secondary Road
Local Road

Habitat Categories

2
3
4
5
6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

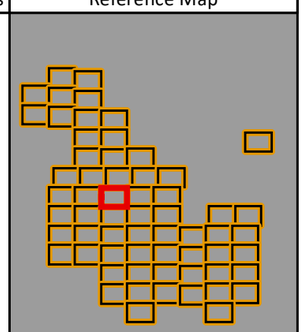
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



Sawtooth Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.24
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

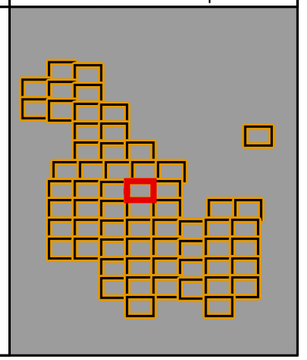
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.25
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.26
Habitat Categories

SHERMAN COUNTY, OREGON

Foss Ln

Van Gilder Rd

Fulton Peters Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

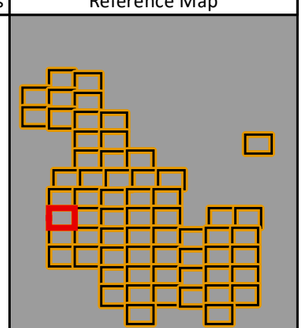
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.27
Habitat Categories

SHERMAN COUNTY, OREGON



- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

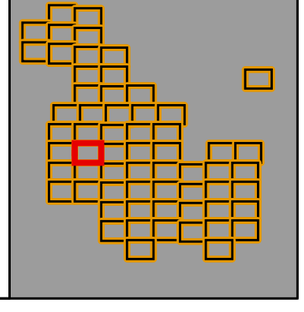
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.28
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.29
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

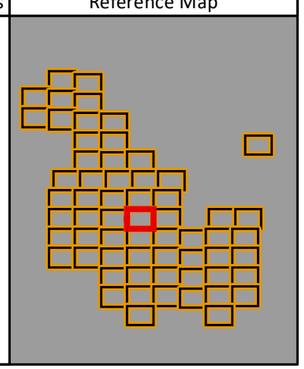
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.30
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

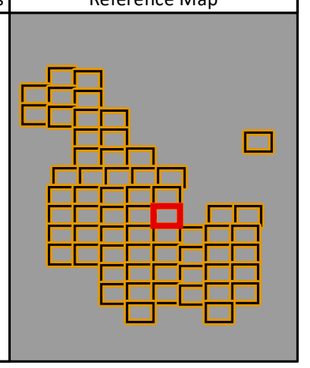
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.31
Habitat Categories

SHERMAN COUNTY, OREGON

206

Nish Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.32
Habitat Categories

SHERMAN COUNTY, OREGON

Site Boundary
Proposed Micrositing Corridor (RFA6)*
Survey Area
ODFW Mule Deer Winter Range
Secondary Highway
Secondary Road
Local Road

Habitat Categories

2
3
4
5
6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

Sandon Rd

Nish Rd

206

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.33
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.34
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

Van Gilder Rd

Gordon Ridge Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.35
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

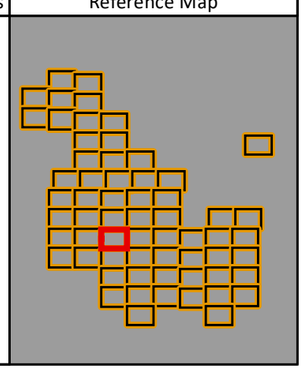
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

Sawtooth Rd

Gordon Ridge Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.36
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

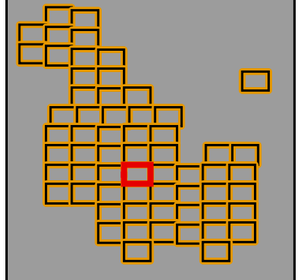
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.37
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

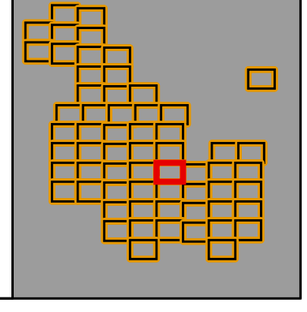
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.38
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

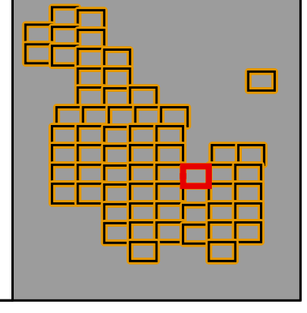
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.39
Habitat Categories

SHERMAN COUNTY, OREGON

Site Boundary
Proposed Micrositing Corridor (RFA6)*
Survey Area
ODFW Mule Deer Winter Range
Secondary Highway
Secondary Road
Local Road

Habitat Categories

2
3
4
5
6

Nish Rd

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.40
Habitat Categories

SHERMAN COUNTY, OREGON

206

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

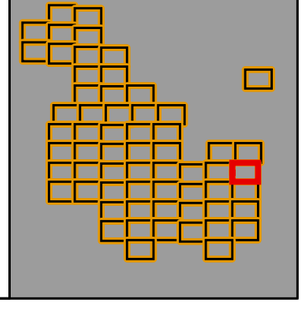
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.41
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

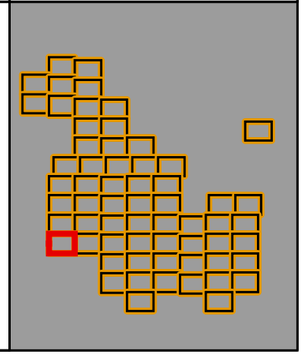
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



Erskine Rd

Gordon Ridge Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.42
Habitat Categories

SHERMAN COUNTY, OREGON

Site Boundary
Proposed Micrositing Corridor (RFA6)*
Survey Area
ODFW Mule Deer Winter Range
Secondary Highway
Secondary Road
Local Road

Habitat Categories

2
3
4
5
6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

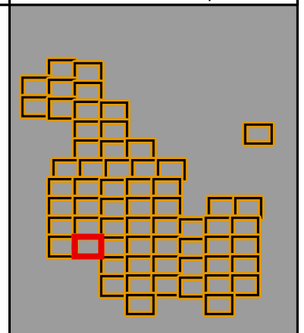
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



Van Glider Rd

Gordon Ridge Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.43
Habitat Categories

SHERMAN COUNTY, OREGON

Sawtooth Rd

Gordon Ridge Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.44
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

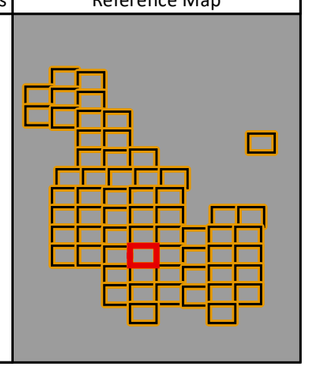
AVANGRID RENEWABLES

Demoss Spring Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 1.45
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

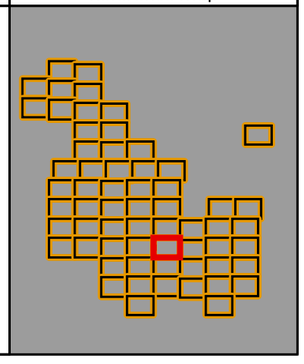
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.46
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

Demoss Springs Ln

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.47
Habitat Categories

SHERMAN COUNTY, OREGON

Site Boundary
Proposed Micrositing Corridor (RFA6)*
Survey Area
ODFW Mule Deer Winter Range
Secondary Highway
Secondary Road
Local Road

Habitat Categories

2
3
4
5
6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.48
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

Hay Canyon Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.49
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

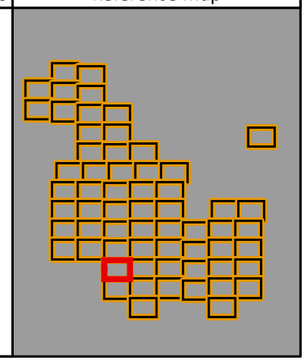
Demoss Spring Rd

Gordon Ridge Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 1.50
Habitat Categories

SHERMAN COUNTY, OREGON

Demoss Spring Rd

97

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

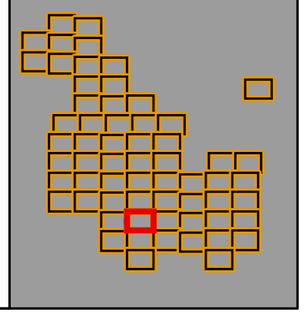
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.51
Habitat Categories

SHERMAN COUNTY, OREGON

Demoss Spring Rd

97

Douma Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

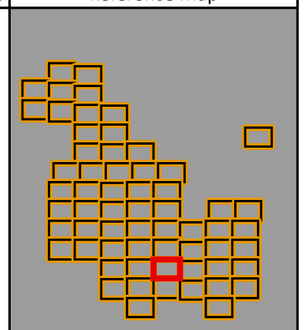
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.52
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

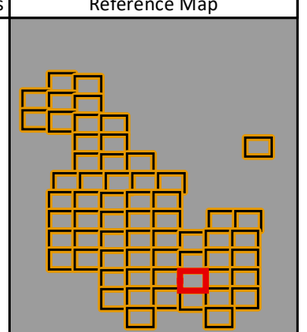
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.53
Habitat Categories

SHERMAN COUNTY, OREGON

Nish Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.54
Habitat Categories

SHERMAN COUNTY, OREGON

Hay Canyon Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

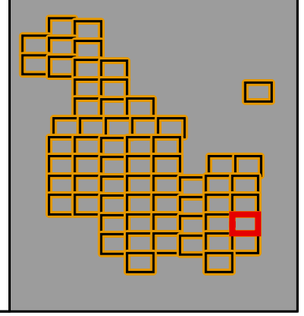
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.55
Habitat Categories

SHERMAN COUNTY, OREGON

Gordon Ridge Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.56
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.57
Habitat Categories

SHERMAN COUNTY, OREGON

Douma Rd

Monkland Ln

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

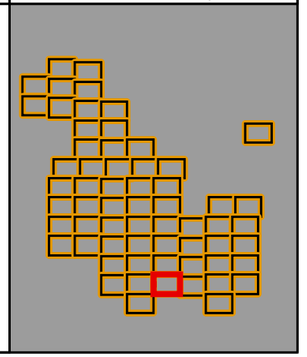
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.58
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

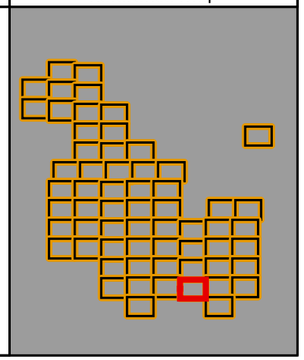
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

Monkland Ln

Martin Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.59
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

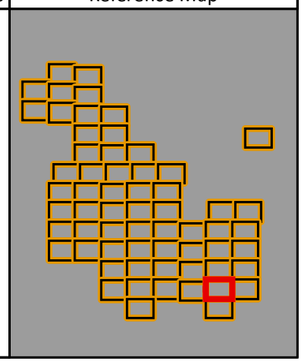
Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

Nish Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.60
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

Hay Canyon Rd

Monkland Ln

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.61
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.62
Habitat Categories

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road

Habitat Categories

- 2
- 3
- 4
- 5
- 6

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2
Habitat Subtypes

SHERMAN COUNTY, OREGON

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Figure 1.60
Figure 1.61
Figure 1.62

206
97

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- Map Grid
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

1:70,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

WA
OR
ID
CA
NV

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Golden Hills Wind Project

Figure 2.1
Habitat Subtypes

SHERMAN COUNTY, OREGON

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Mud Hollow Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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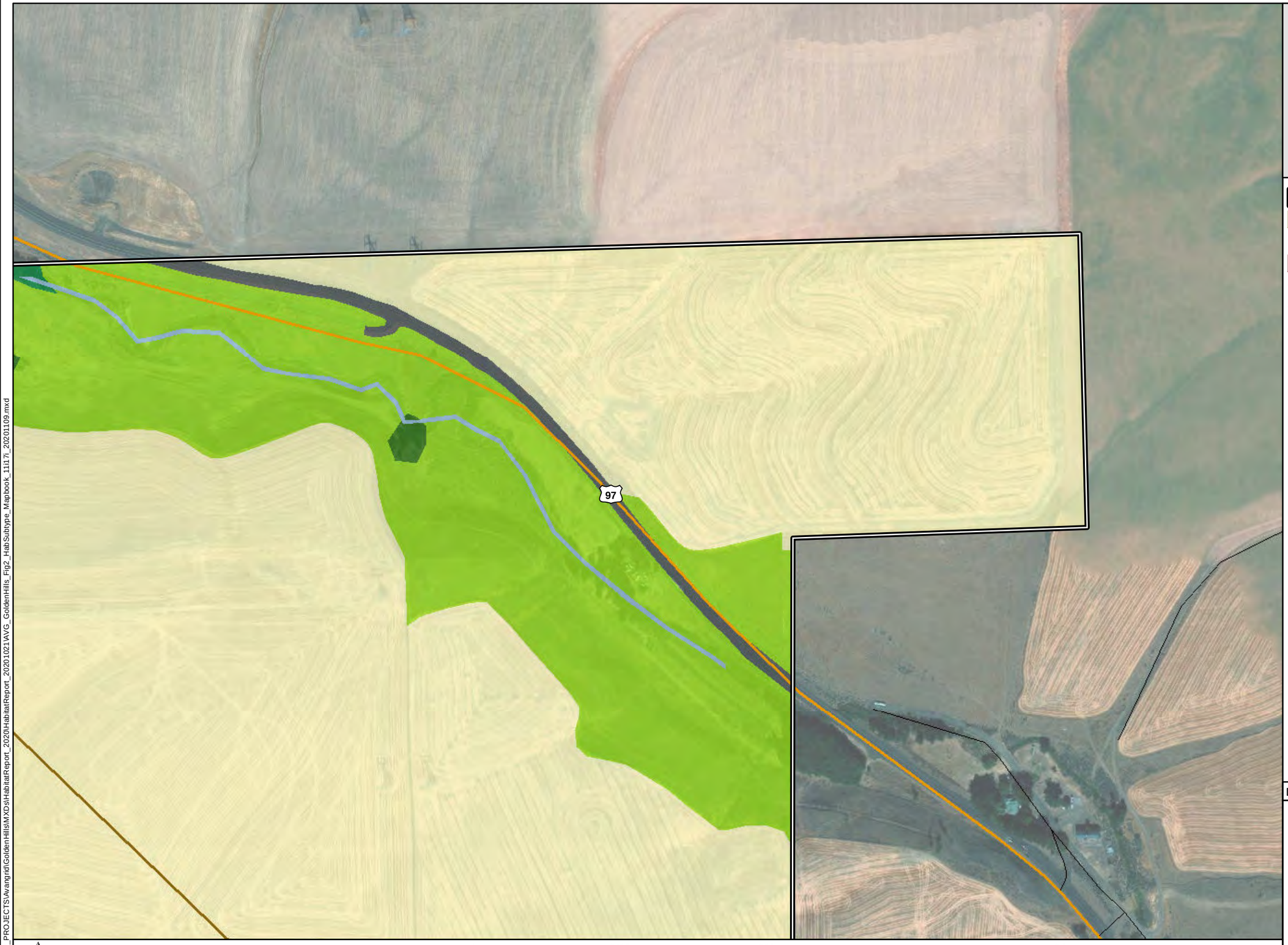
Golden Hills Wind Project

Figure 2.2
Habitat Subtypes

SHERMAN COUNTY, OREGON

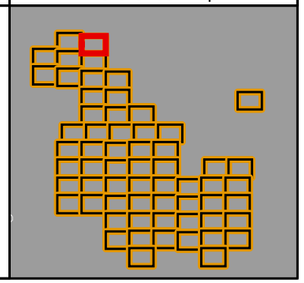


- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.3
Habitat Subtypes

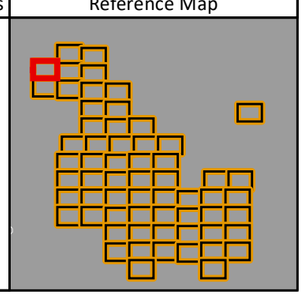
SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.4
Habitat Subtypes

SHERMAN COUNTY, OREGON

Mud Hollow Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.5
Habitat Subtypes

SHERMAN COUNTY, OREGON

97

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.6
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

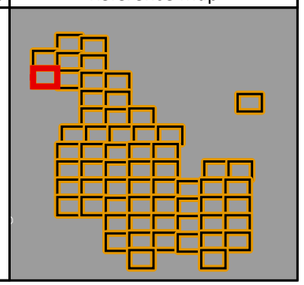
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



206

McDermid Ln

Locust Grove Ln

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.7
Habitat Subtypes

SHERMAN COUNTY, OREGON

Mud Hollow Rd

Locust Grove Ln

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.8
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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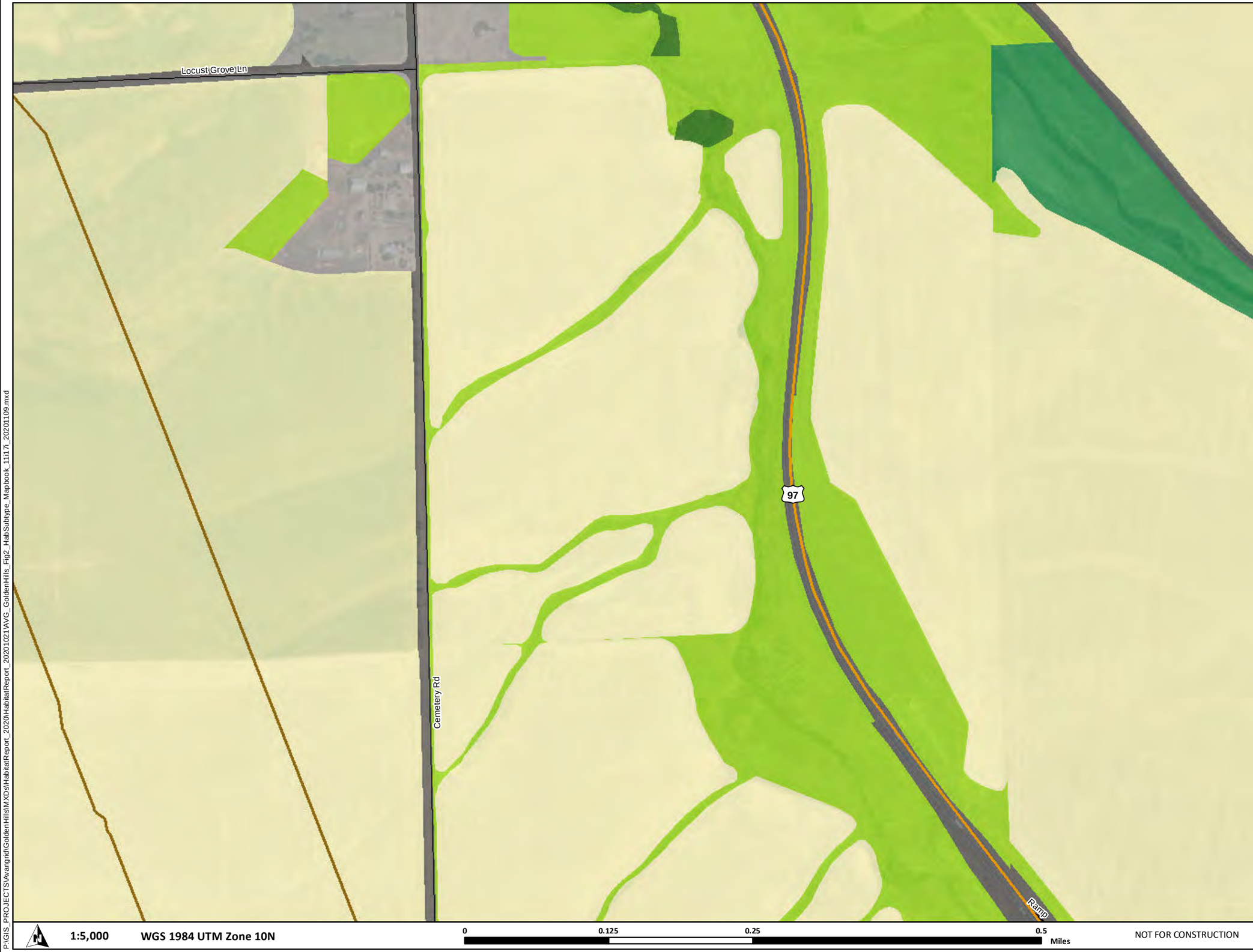


Golden Hills Wind Project

Figure 2.9
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

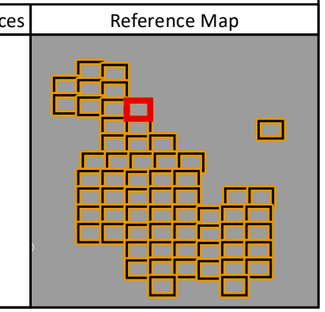
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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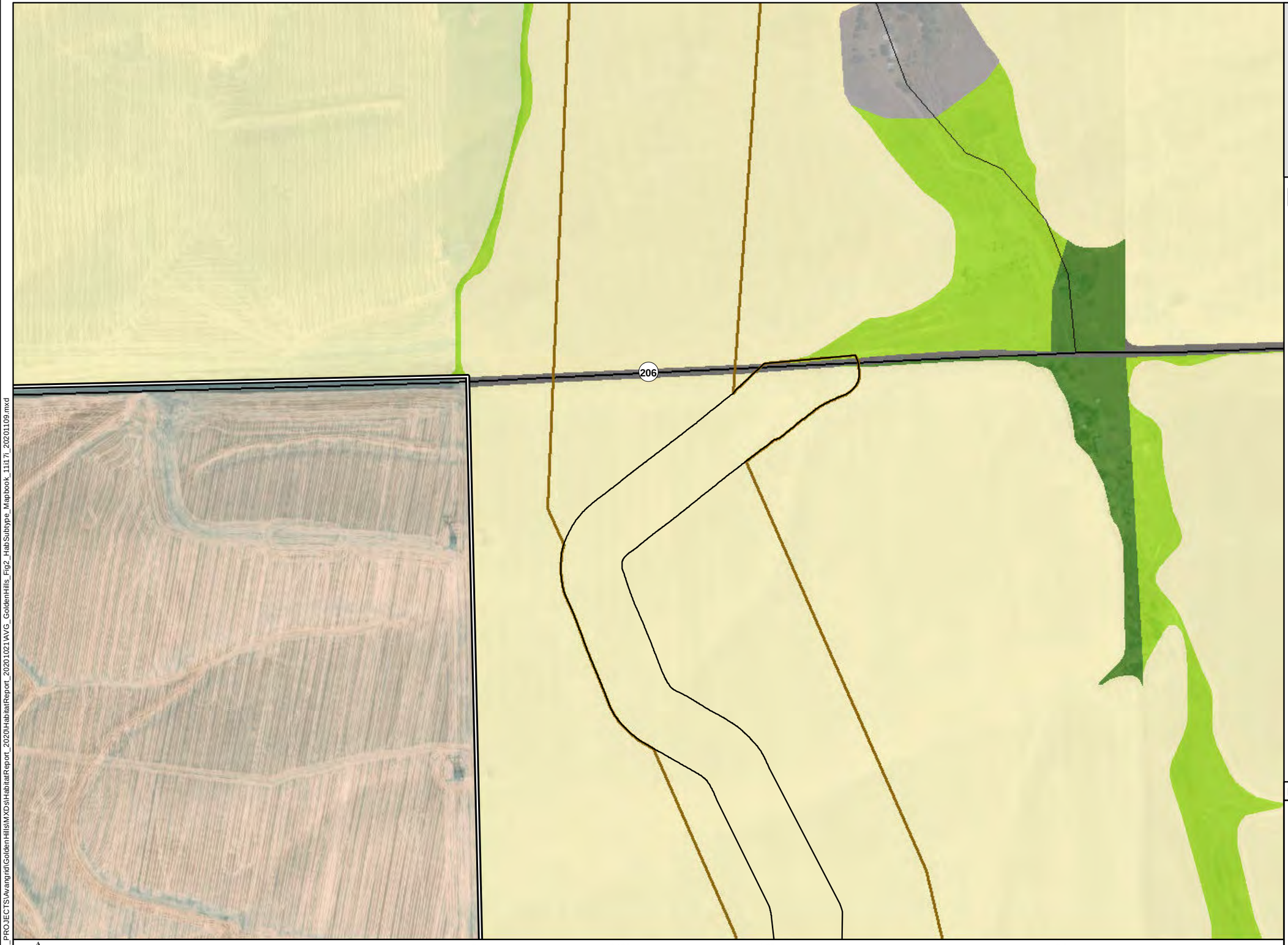
Golden Hills Wind Project

Figure 2.10
Habitat Subtypes

SHERMAN COUNTY, OREGON

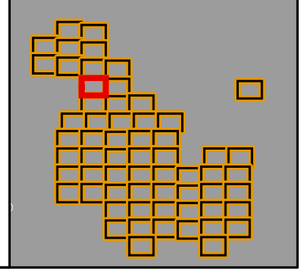


- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.11
Habitat Subtypes

SHERMAN COUNTY, OREGON

206

97

Ramp

Cemetery Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.12
Habitat Subtypes

SHERMAN COUNTY, OREGON

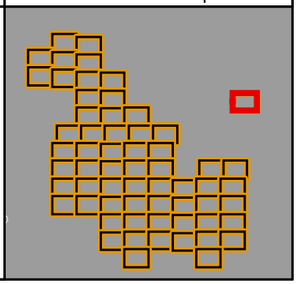


- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.13
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.14
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

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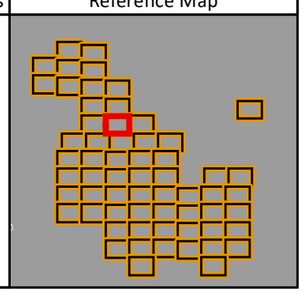
TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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WGS 1984 UTM Zone 10N

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Golden Hills Wind Project

Figure 2.15
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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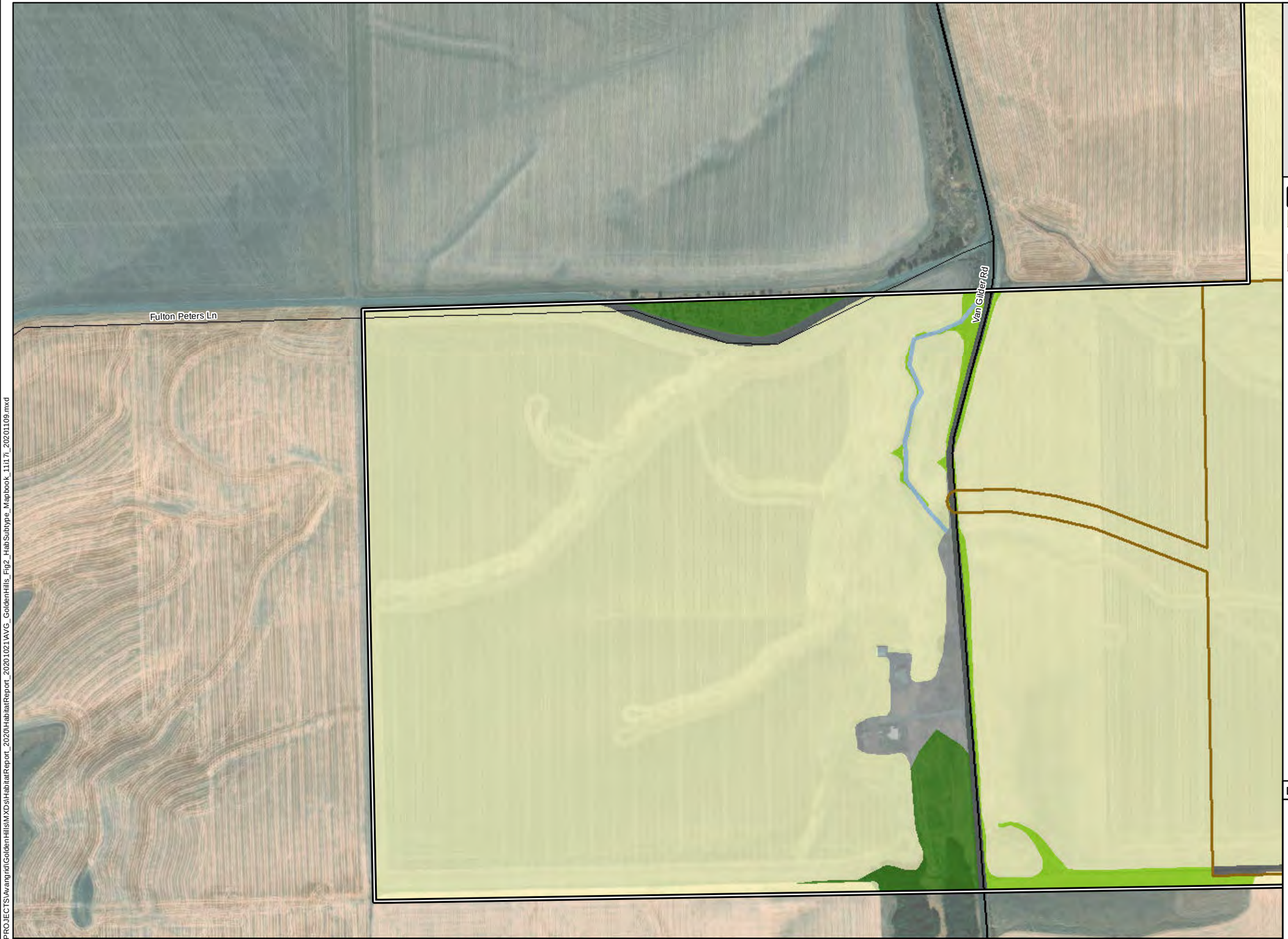
Golden Hills Wind Project

Figure 2.16
Habitat Subtypes

SHERMAN COUNTY, OREGON



- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

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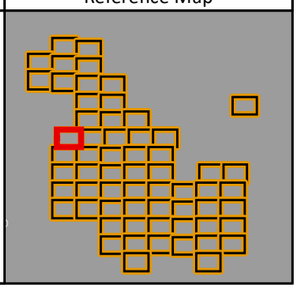
TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.17
Habitat Subtypes

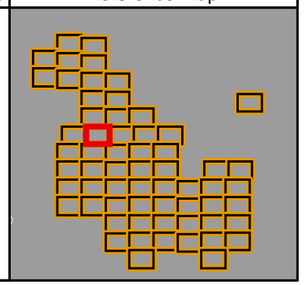
SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.18
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

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TETRA TECH

AVANGRID RENEWABLES

Lamborn Rd

Sawtooth Rd

1:5,000

WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.19
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

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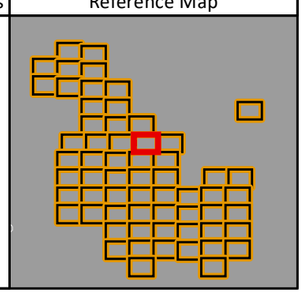
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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Golden Hills Wind Project

Figure 2.20
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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0 0.125 0.25 0.5 Miles

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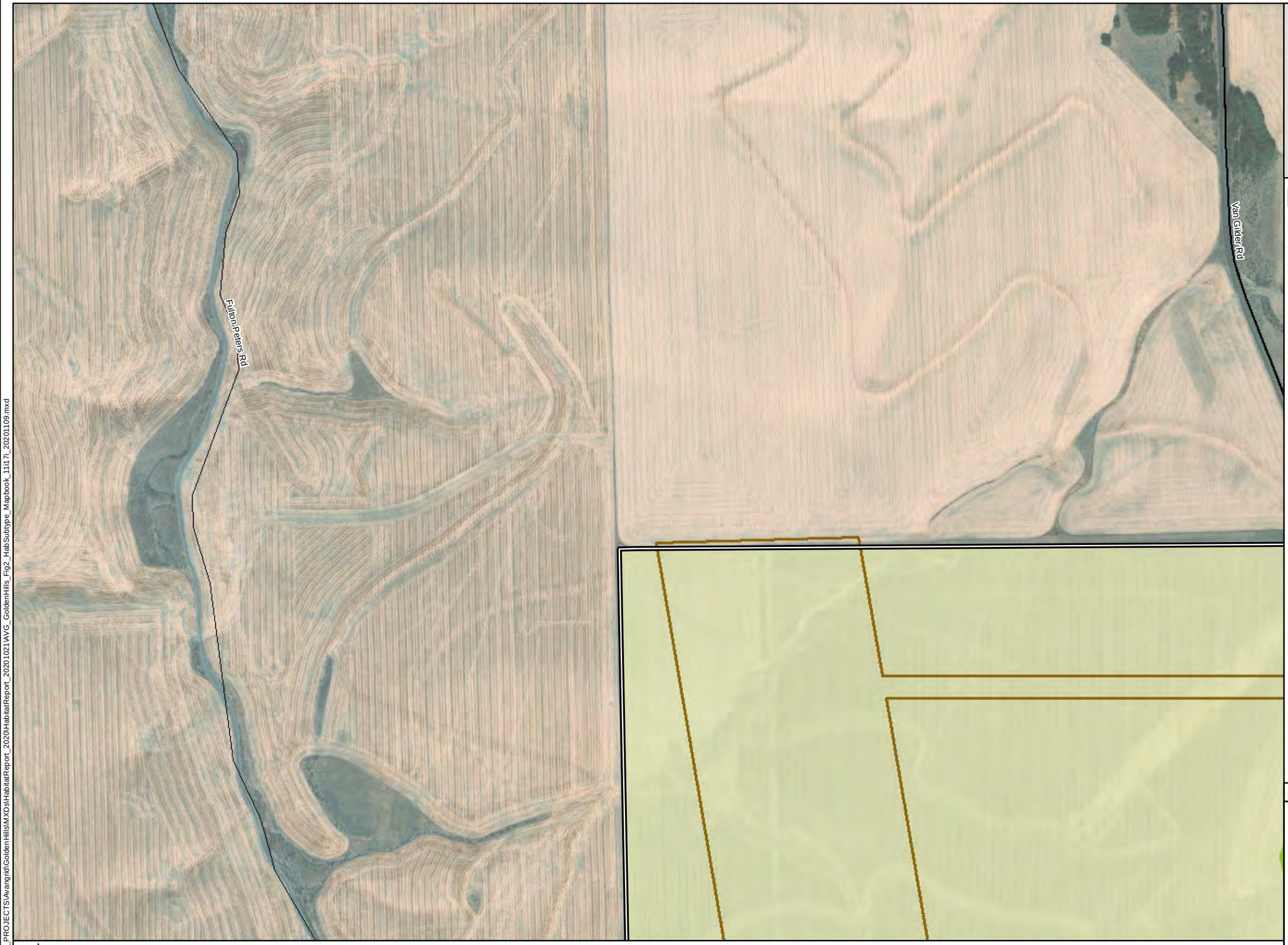
Golden Hills Wind Project

Figure 2.21
Habitat Subtypes

SHERMAN COUNTY, OREGON

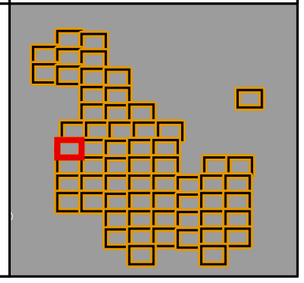


- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.22
Habitat Subtypes

SHERMAN COUNTY, OREGON

Van Gilder Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.23
Habitat Subtypes

SHERMAN COUNTY, OREGON

Sawtooth Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.24
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

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TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.25
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

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TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

V Smith Rd

97

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.26
Habitat Subtypes

SHERMAN COUNTY, OREGON



- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

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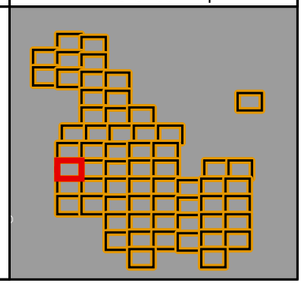
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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Golden Hills Wind Project

Figure 2.27
Habitat Subtypes

SHERMAN COUNTY, OREGON

Van Gilder Rd

Foss Ln

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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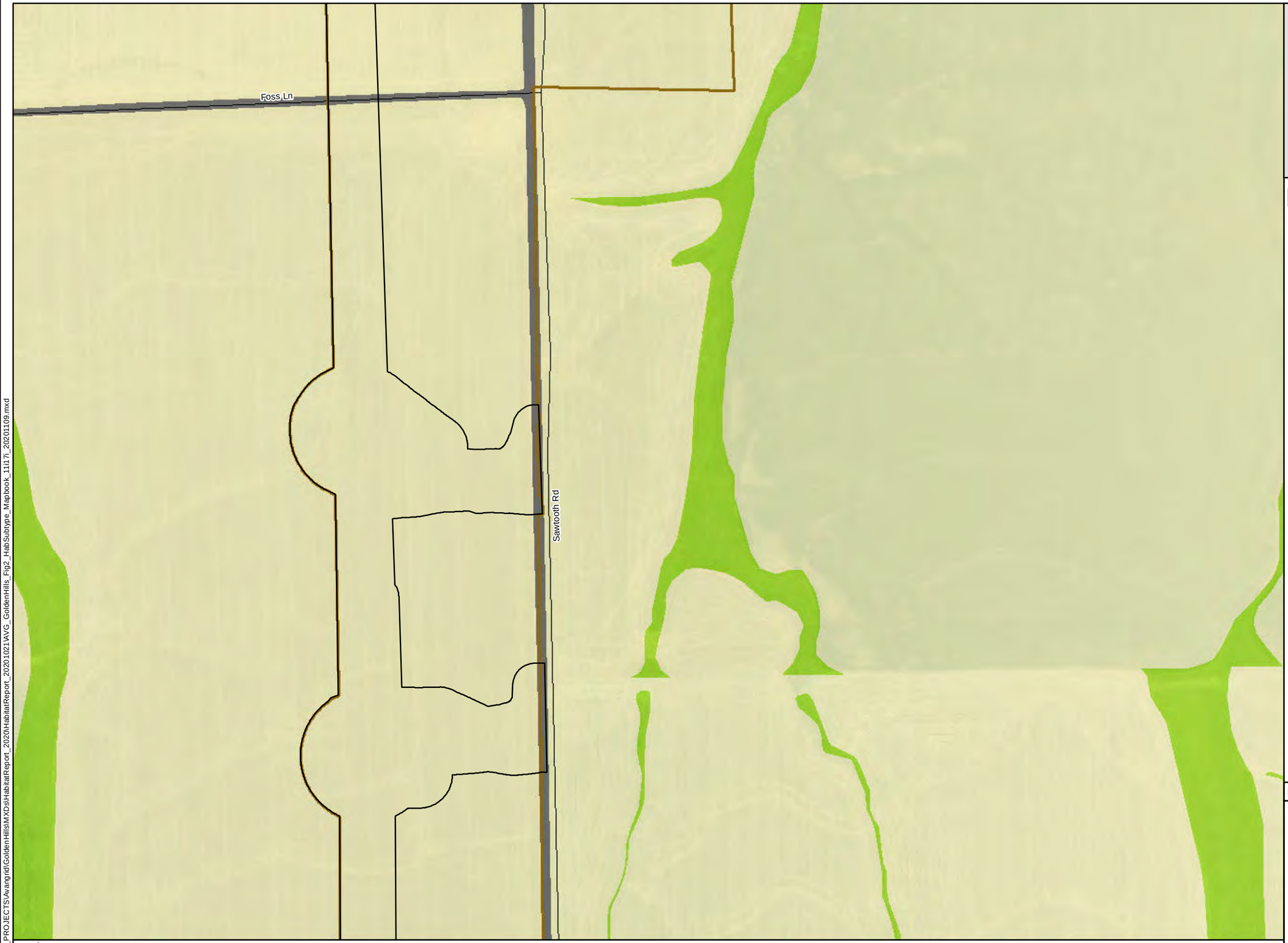


Golden Hills Wind Project

Figure 2.28
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

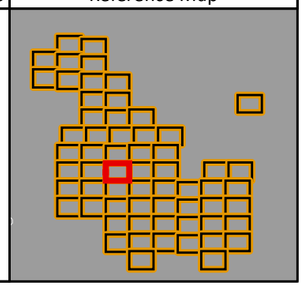
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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Golden Hills Wind Project

Figure 2.29
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.30
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.31
Habitat Subtypes

SHERMAN COUNTY, OREGON

206

Nish Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.32
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Sandon Rd

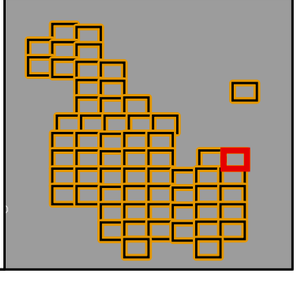
Nish Rd

206

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.33
Habitat Subtypes

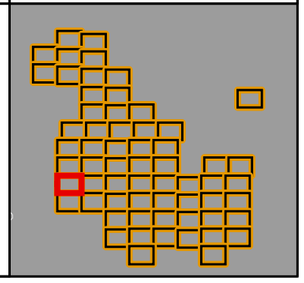
SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.34
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Van Gilder Rd

Gordon Ridge Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

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Golden Hills Wind Project

Figure 2.35
Habitat Subtypes

SHERMAN COUNTY, OREGON

Site Boundary
Proposed Micrositing Corridor (RFA6)*
Survey Area
ODFW Mule Deer Winter Range
Secondary Highway
Secondary Road
Local Road
Agricultural: Non-irrigated Cropland
Agricultural: Planted Grasslands
Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
Wetlands: Emergent Wetlands
Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
Open Water- Lakes, Rivers, Streams: Perennial
Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
Grassland/Cliffs: Cliffs/Crevices
Upland: Upland Trees
Shrub-steppe: Sagebrush/Shrub-steppe
Grassland-steppe: Grassland
Developed: Developed
Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH
AVANGRID RENEWABLES

Sawtooth Rd
Gordon Ridge Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

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Golden Hills Wind Project

Figure 2.36
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.37
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.38
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.39
Habitat Subtypes

SHERMAN COUNTY, OREGON

Nish Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.40
Habitat Subtypes

SHERMAN COUNTY, OREGON

206

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.41
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

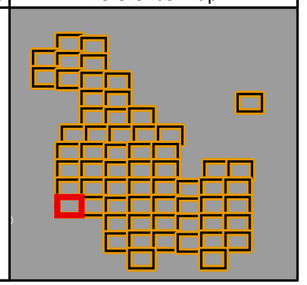
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



Gordon Ridge Rd

Erskine Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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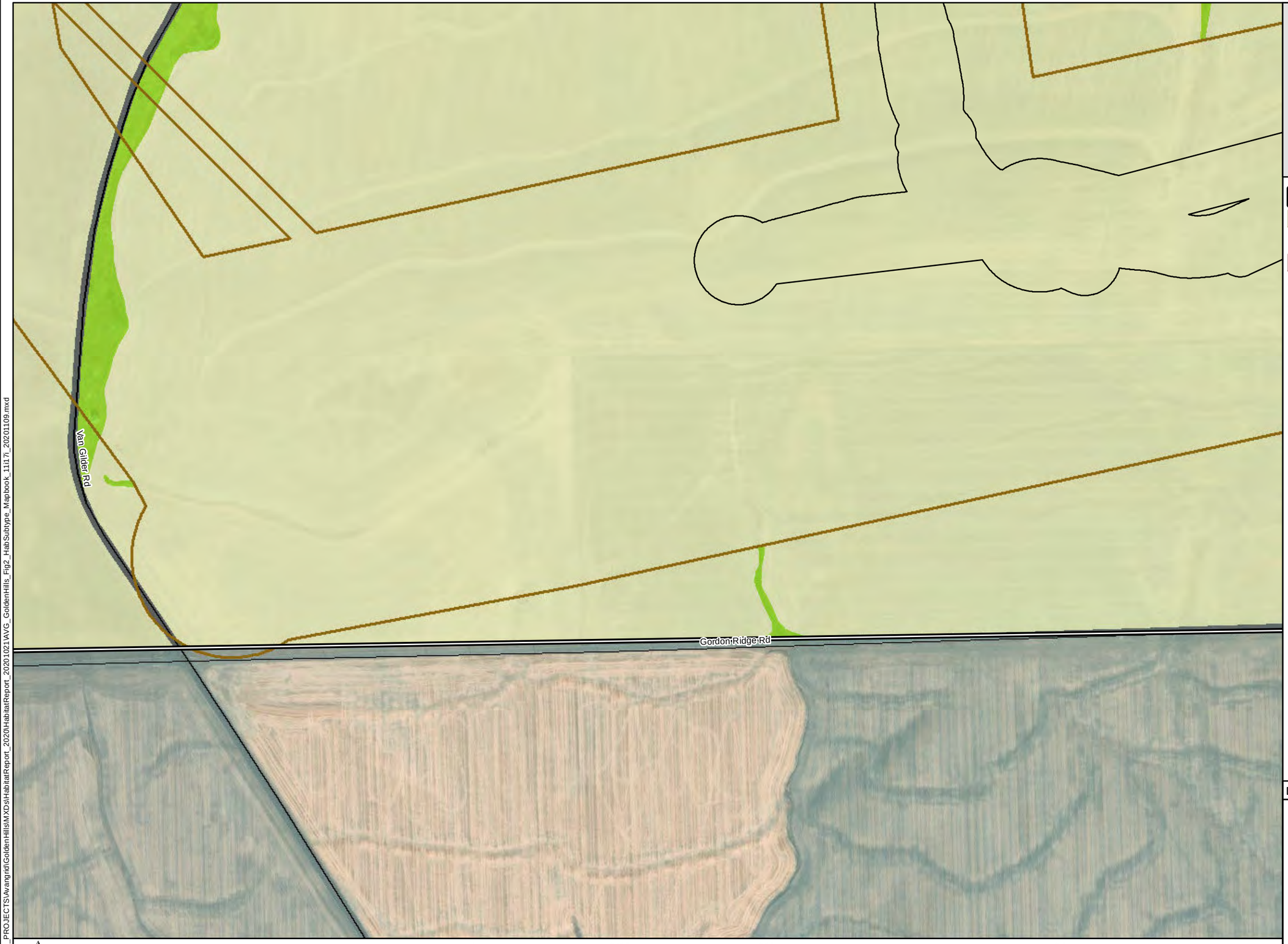
Golden Hills Wind Project

Figure 2.42
Habitat Subtypes

SHERMAN COUNTY, OREGON

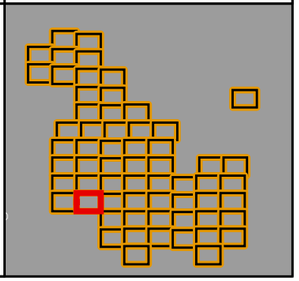


- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.43
Habitat Subtypes

SHERMAN COUNTY, OREGON

Sawtooth Rd

Gordon Ridge Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.44
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

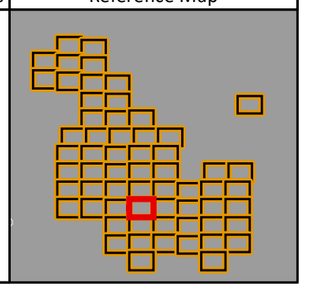
AVANGRID RENEWABLES

Demoss Spring Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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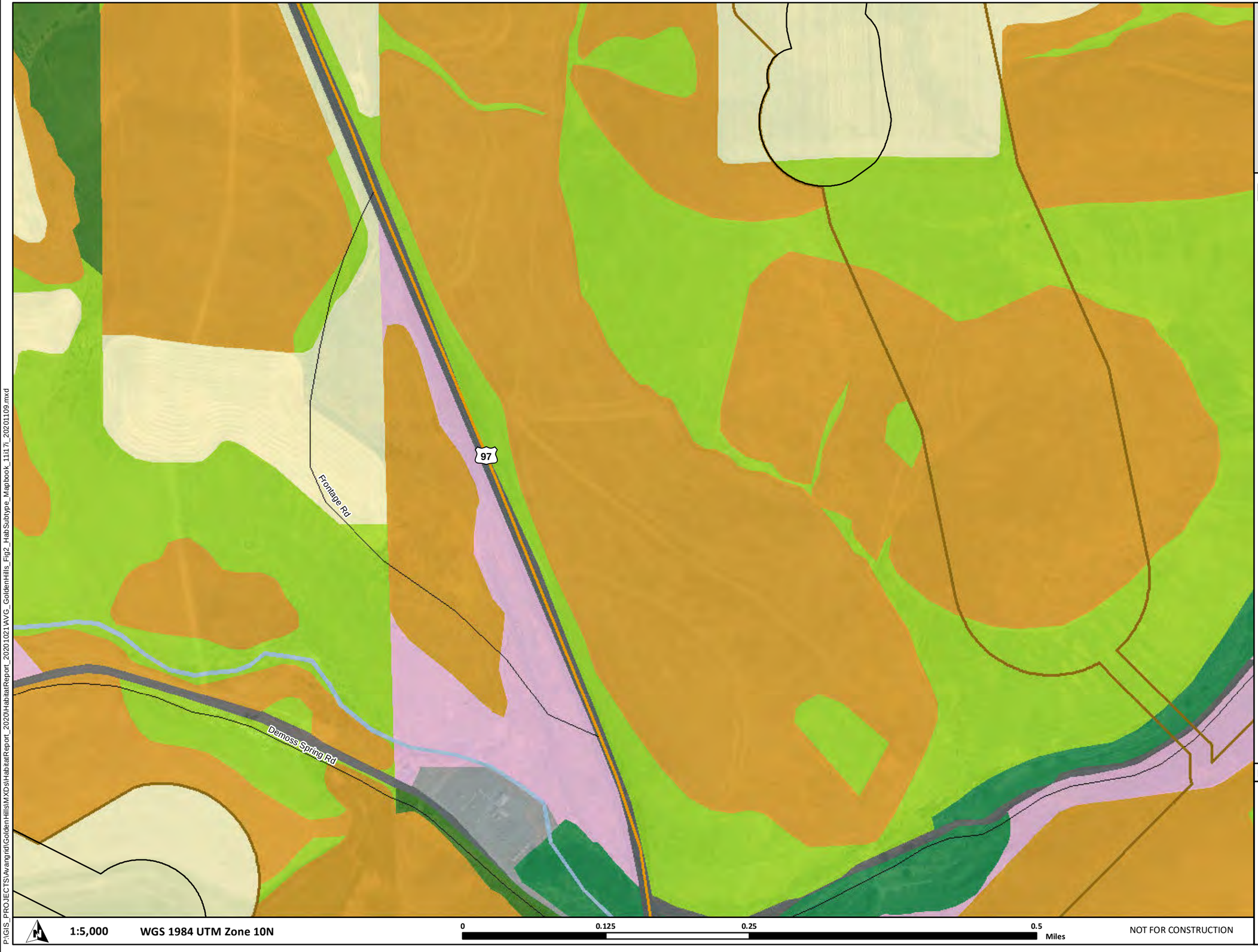
Golden Hills Wind Project

Figure 2.45
Habitat Subtypes

SHERMAN COUNTY, OREGON



- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

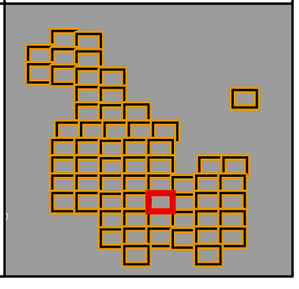
TETRA TECH

AVANGRID RENEWABLES

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.46
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

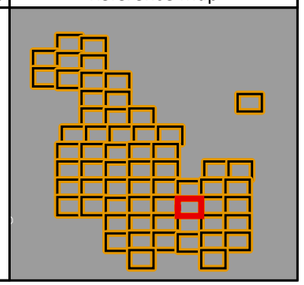
AVANGRID RENEWABLES

Demoss Springs Ln

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.47
Habitat Subtypes

SHERMAN COUNTY, OREGON

Nish Rd

Demoss Springs Ln

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.48
Habitat Subtypes

SHERMAN COUNTY, OREGON

Site Boundary
Proposed Micrositing Corridor (RFA6)*
Survey Area
ODFW Mule Deer Winter Range
Secondary Highway
Secondary Road
Local Road
Agricultural: Non-irrigated Cropland
Agricultural: Planted Grasslands
Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
Wetlands: Emergent Wetlands
Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
Open Water- Lakes, Rivers, Streams: Perennial
Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
Grassland/Cliffs: Cliffs/Crevices
Upland: Upland Trees
Shrub-steppe: Sagebrush/Shrub-steppe
Grassland-steppe: Grassland
Developed: Developed
Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Hay Canyon Rd

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.49
Habitat Subtypes

SHERMAN COUNTY, OREGON

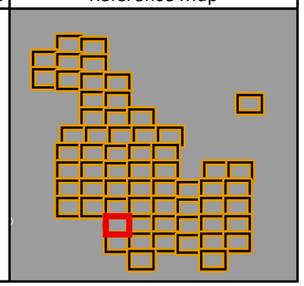


- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.50
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.51
Habitat Subtypes

SHERMAN COUNTY, OREGON



- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

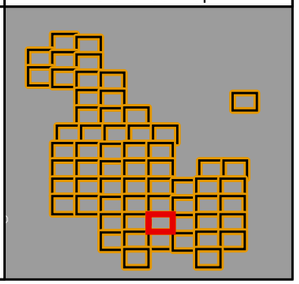
TETRA TECH

AVANGRID RENEWABLES

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.52
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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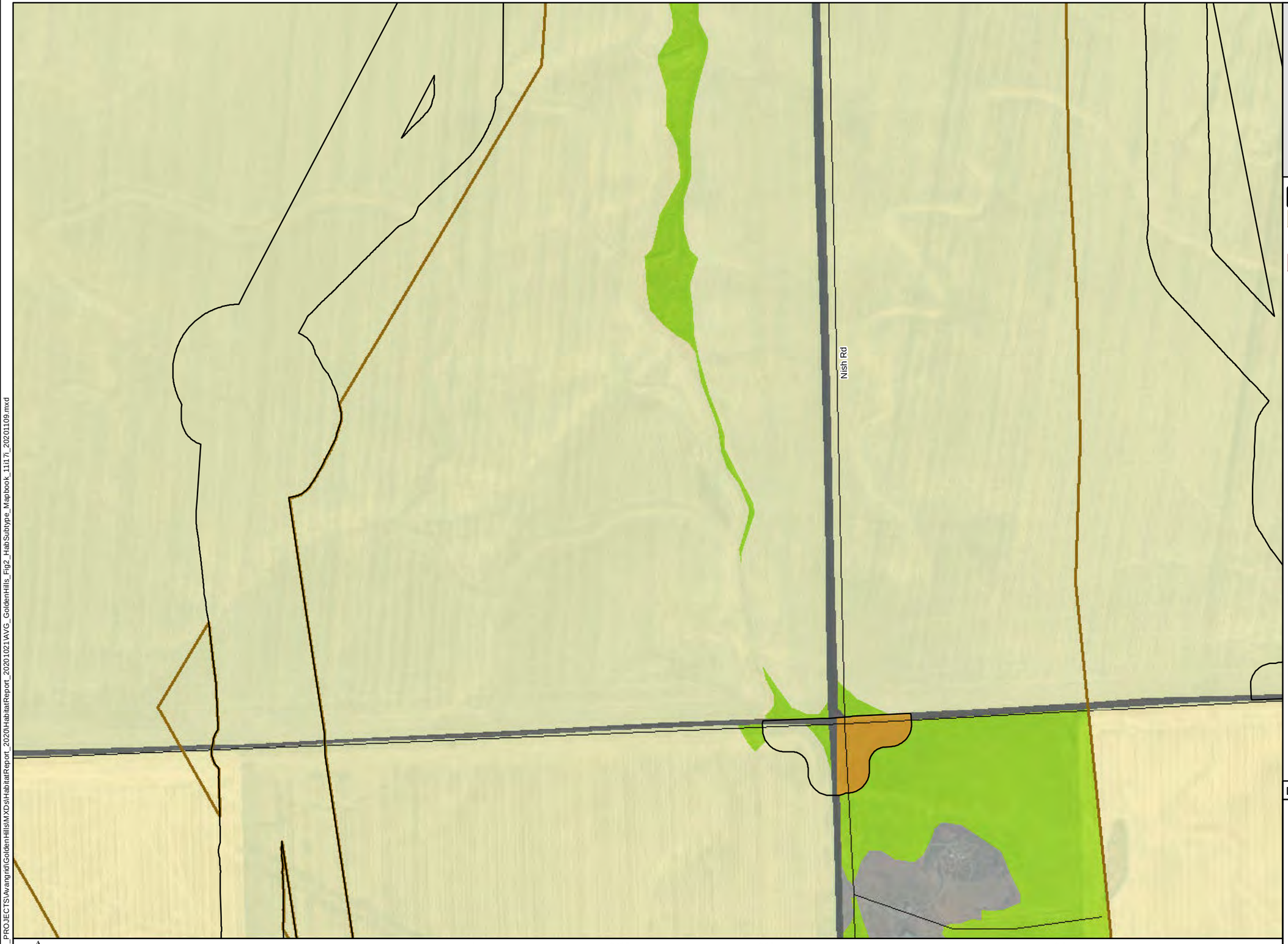
Golden Hills Wind Project

Figure 2.53
Habitat Subtypes

SHERMAN COUNTY, OREGON



- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

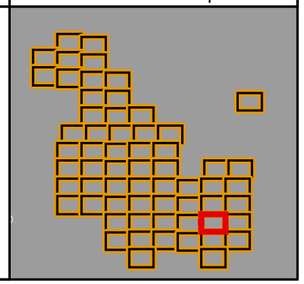
TETRA TECH

AVANGRID RENEWABLES

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.54
Habitat Subtypes

SHERMAN COUNTY, OREGON

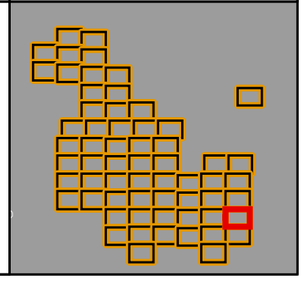
Hay Canyon Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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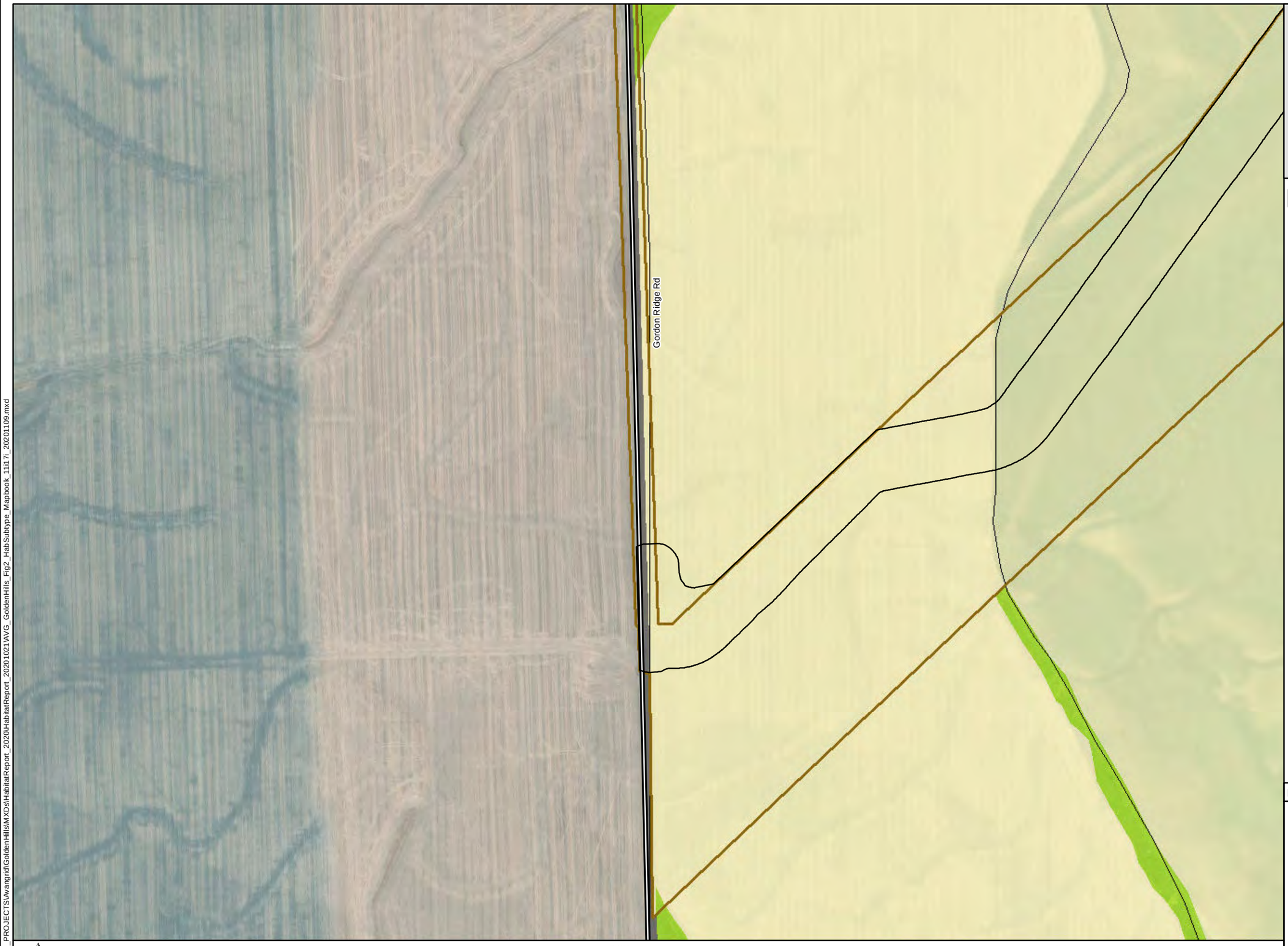

Golden Hills Wind Project

Figure 2.55
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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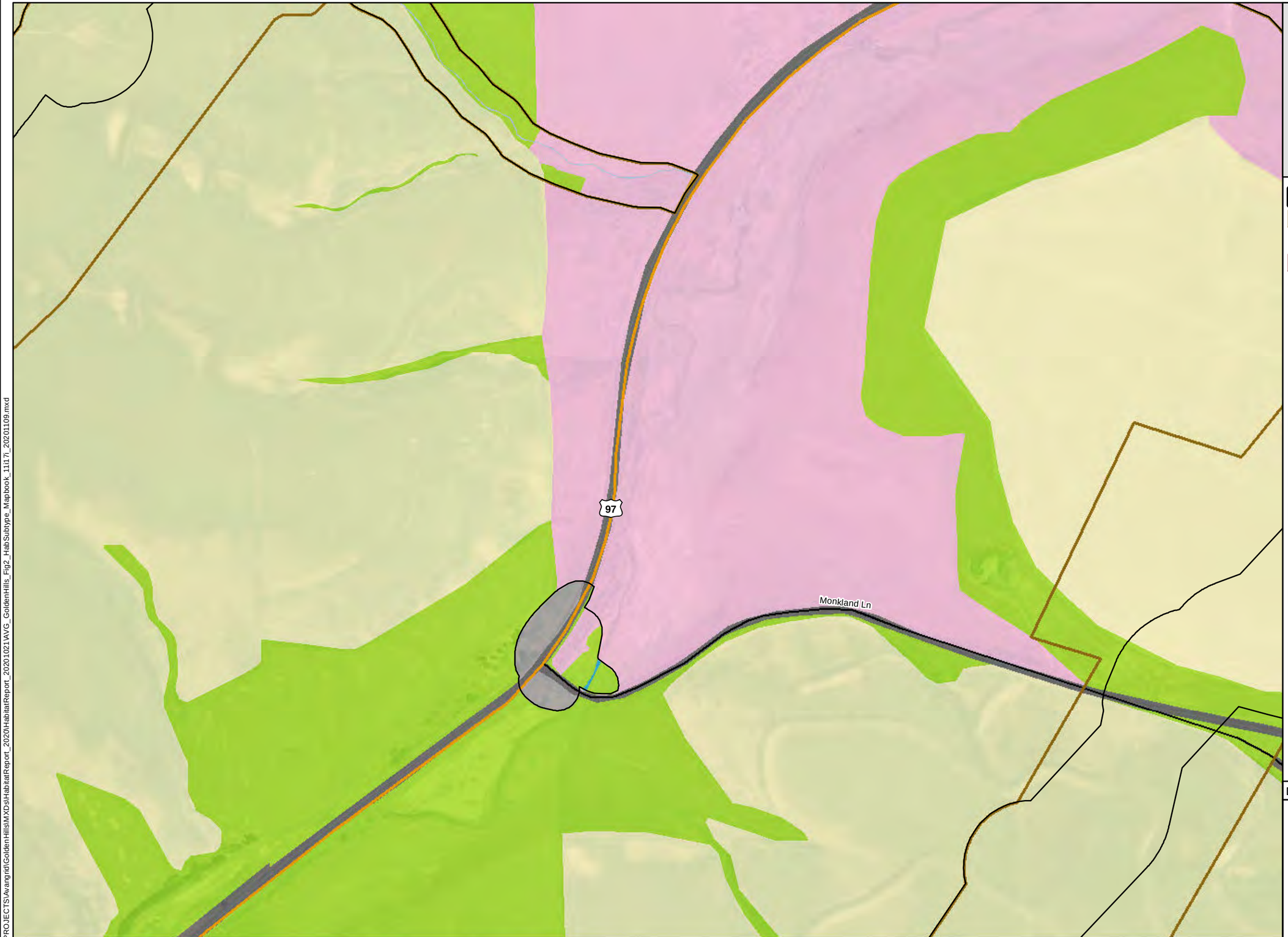
Golden Hills Wind Project

Figure 2.56
Habitat Subtypes

SHERMAN COUNTY, OREGON



- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

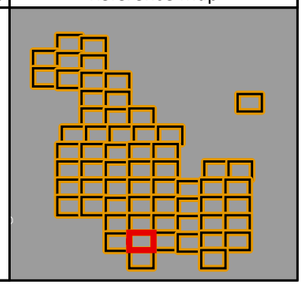
TETRA TECH

AVANGRID RENEWABLES

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.57
Habitat Subtypes

SHERMAN COUNTY, OREGON

Douma Rd

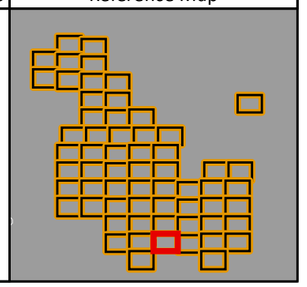
Monkland Ln

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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Golden Hills Wind Project

Figure 2.58
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

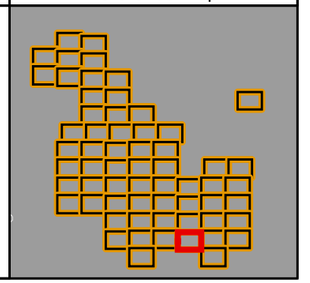
Monkland Ln

Martin Rd

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.59
Habitat Subtypes

SHERMAN COUNTY, OREGON

Nish Rd

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.60
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Hay Canyon Rd

Monkland Ln

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.61
Habitat Subtypes

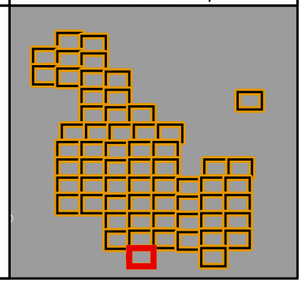
SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

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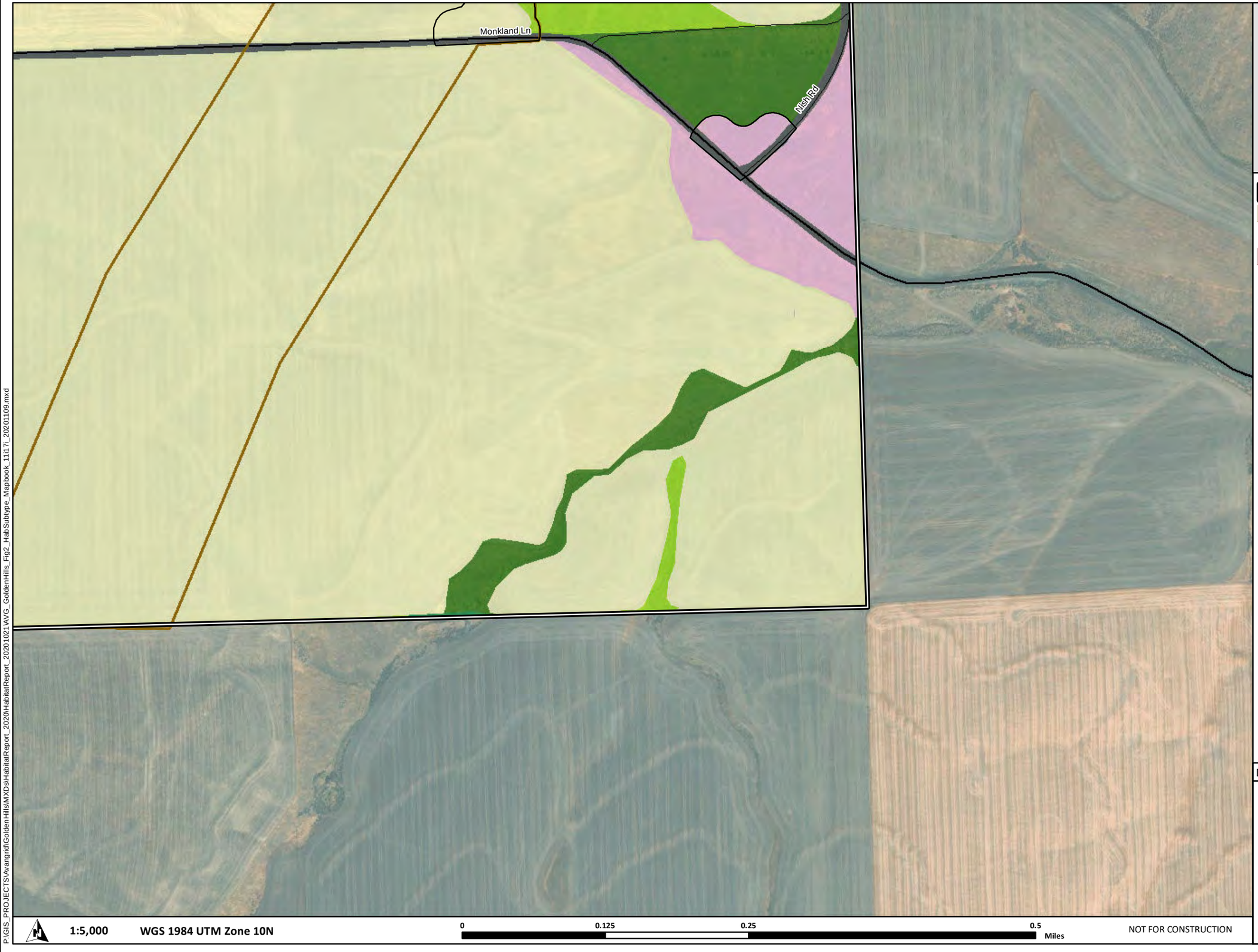

Golden Hills Wind Project

Figure 2.62
Habitat Subtypes

SHERMAN COUNTY, OREGON

- Site Boundary
- Proposed Micrositing Corridor (RFA6)*
- Survey Area
- ODFW Mule Deer Winter Range
- Secondary Highway
- Secondary Road
- Local Road
- Agricultural: Non-irrigated Cropland
- Agricultural: Planted Grasslands
- Riparian Forest and Natural Shrubland Complexes: Eastside (Interior) Riparian
- Wetlands: Emergent Wetlands
- Open Water- Lakes, Rivers, Streams: Permanent Ponds/Lakes
- Open Water- Lakes, Rivers, Streams: Perennial
- Open Water- Lakes, Rivers, Streams: Intermittent or Ephemeral
- Grassland/Cliffs: Cliffs/Crevices
- Upland: Upland Trees
- Shrub-steppe: Sagebrush/Shrub-steppe
- Grassland-steppe: Grassland
- Developed: Developed
- Developed: Roads

*Includes RFA6 additions (534 acres), excludes RFA6 removed areas (85 acres)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:5,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 Miles

NOT FOR CONSTRUCTION

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Attachment 1. Habitat Types and Subtypes Potentially Occurring within the Golden Hills Wind Farm Survey Area

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Habitat Types and Subtypes Potentially Occurring within the Golden Hills Wind Farm 2020 Survey Area

Habitat Type	Habitat Subtype	Category 1	Category 2	Category 3	Category 4	Category 5	Category 6
Agricultural	**Non-irrigated Cropland**	N/A	N/A	N/A	N/A	N/A	Cultivated croplands with low potential for becoming essential or important habitat.
	Irrigated Pastures and Hay Meadows				Potential habitat for wildlife.		
	Planted Grasslands[1]			Croplands planted to grassland with characteristics necessary to potentially provide habitat for sensitive wildlife due to cover and forage quality.	Croplands planted to grassland that lack later seral stage vegetative communities or are of less importance as wildlife habitat due to management or location.	Croplands planted to grassland that lack later seral stage vegetative communities and are highly disturbed or degraded, and have high restoration potential.	
Riparian Forest and Natural Shrubland Complexes[2]	**Eastside (Interior) Riparian[3]**		High quality, diverse riparian areas that are not degraded	Typical mid-seral riparian, provides wildlife habitat	Provides marginal habitat; somewhat degraded.	Highly degraded; dominated by non-native plant species.	
Wetlands	**Emergent Wetlands**		High quality habitat, dominated by native species	Mixture of native and non-native plant species and low to moderate disturbance		Farmed or previously filled wetlands; highly disturbed, dominated by non-native plant species.	
Open Water – Lakes, Rivers, Streams[4]	**Permanent Ponds/Lakes**	Natural lakes or beaver ponds with high-quality habitat.	Most other open water areas with lower-quality habitat (for example, some habitat requisites missing or bullfrogs abundant).	Highly degraded open water area, dominated by non-native vegetation or no vegetation around margins (for example, highly degraded stock pond).			
	Seasonal Ponds		Seasonal ponds with high quality, mostly native vegetation.	Seasonal ponds with lower-quality habitat that is still dominated by native plant species.	Highly degraded, with a higher proportion of non-native vegetation or no vegetation around margins (for example, a seasonal stock pond).	Habitat almost completely dominated by non-native plant species or otherwise highly degraded.	
	Perennial		Fish-bearing natural stream channels that support native, migratory fish based on StreamNet data or input from ODFW fish biologists; and provides good spawning (gravel beds present, non-embedded) and/or rearing habitat, with native emergent, shrub, or forested riparian margins.	Fish-bearing natural stream channels that do not support native, migratory fish based on StreamNet data or input from ODFW fish biologists; and provide marginal spawning (gravel present in pockets/30% embedded) and/or rearing habitat; or non-fish-bearing natural stream channels which drain into fish-bearing streams based on StreamNet data.	Non-fish-bearing natural stream channels that do not directly drain into fish-bearing streams.		

Habitat Type	Habitat Subtype	Category 1	Category 2	Category 3	Category 4	Category 5	Category 6
	Intermittent or Ephemeral		Fish-bearing natural stream channels that support native, migratory fish based on StreamNet data or input from ODFW fish biologists; and provides good spawning (gravel beds present, non-embedded) and/or rearing habitat, with native emergent, shrub, or forested riparian margins.	Fish-bearing natural stream channels that do not support native, migratory fish based on StreamNet data or input from ODFW fish biologists; and provide marginal spawning (gravel present in pockets/30% embedded) and/or rearing habitat; or non-fish-bearing natural stream channels which drain into fish-bearing streams based on StreamNet data.	Non-fish-bearing natural stream channels that do not directly drain into fish-bearing streams.	Non-fish-bearing ephemeral streams or excavated channels with high restoration potential; not important habitat.	
Grassland/Cliffs	**Cliffs/Crevices**			Basaltic rock outcrops and/or cliffs, intermixed with grasses and forbs			
Upland	**Upland Trees**			Essential and limited habitat for wildlife.			
Shrub-steppe	**Sagebrush/Shrub-steppe**		Irreplaceable, essential habitat for a wildlife species (e.g., loggerhead shrike) and limited within a physiogeographic province. Old-growth big sagebrush present. High degree of cover; contains native shrubs and native grasses; good structure/forage for wildlife. Understory dominated by native species. More diversity than Category 3 habitat.	Essential and limited habitat for wildlife. Old-growth big sagebrush present. Habitat that is limited within the area (e.g., relatively undisturbed habitat); high degree of cover; moderate cover by weeds, moderate structure/forage for wildlife.	Essential or important wildlife habitat which is limited (e.g., fairly undisturbed habitat; moderate grazing). Important wildlife habitat that is moderately to heavily degraded and weedy habitat.	Very low quality dominated by non-native species with high restoration potential.	
Grassland-steppe	**Grassland**		Undisturbed habitat dominated by native species (i.e., greater than 75% ground cover is native), or moderately disturbed habitat (i.e., between 50 to 75% ground cover is native) that contains a sagebrush component	Essential or important wildlife habitat which is limited (e.g., fairly undisturbed habitat; moderate grazing). Nonnative grasses interspersed with native grasses; rabbitbrush and sagebrush species spotty in location and non-dominant.Moderately disturbed habitat with a mix of natives and non-natives (i.e., between 50 to 75% ground cover is native), or highly disturbed habitat (i.e., between 15 to 50% ground cover is native) that contains a sagebrush component	Important wildlife habitat (e.g., moderate-heavy grazing and/or weedy habitat). Potential for higher rating under different land management.Highly disturbed habitat with a high percentage of non-native plant species (i.e., between 15 to 50% ground cover is native), or very highly disturbed habitats (i.e., less than 15% ground cover is native) that contain a sagebrush component	Very highly disturbed habitats with a high percentage of non-native plant species (i.e., less than 15% ground cover is native), but which do not contain a sagebrush component	

Habitat Type	Habitat Subtype	Category 1	Category 2	Category 3	Category 4	Category 5	Category 6
Developed	**Developed**						Low potential for becoming essential or important habitat (e.g., residences, storage bins, farm equipment storage, grain elevators, industrial/commercial facilities, gravel quarries, cultivated agricultural fields).
	Roads[5]						Includes asphalt, gravel, and farm roads. Low potential for becoming essential or important habitat at the landscape-level.

1. Planted Grasslands: Formerly subtype Conservation Reserve Program (CRP)
2. Riparian Forest and Natural Shrubland Complexes: Formerly type Riparian
3. Eastside (Interior) Riparian: Formerly subtype Conservation Reserve Enhancement Program (CREP)
4. Open Water – Lakes, Rivers, Streams: Formerly type Surface Water
5. Roads – Previously under type Road, now under type Developed.

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Attachment 2. Golden Hills Wind Farm Habitat Categorization Field Datasheet

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Data Sheet Id: _____

GOLDEN HILLS WIND FARM HABITAT CATEGORIZATION

HABITAT CATEGORY ☐

Date _____ Surveyor _____

Site description:

EFSC habitat type/subtype: (circle one habitat type and one subtype):

Agricultural: Non-irrigated cropland (AG), Irrigated pastures and hay meadows (PA), Planted grasslands (PG)
Open water-lakes, rivers, streams: Permanent ponds/lakes (PL)/ Seasonal ponds (SP)/ Perennial (PS)/ Intermittent (IS)
Shrub-steppe: Sagebrush/Shrub-steppe (SS)
Grassland-steppe: Grassland (GR)
Riparian forest and shrubland complexes: Eastside (interior) riparian (ER)
Upland: Upland trees (UT)
Grassland/Cliffs: Cliffs/crevices (CC)
Developed: Road (RD), Developed (DE)

Notes if confusion _____

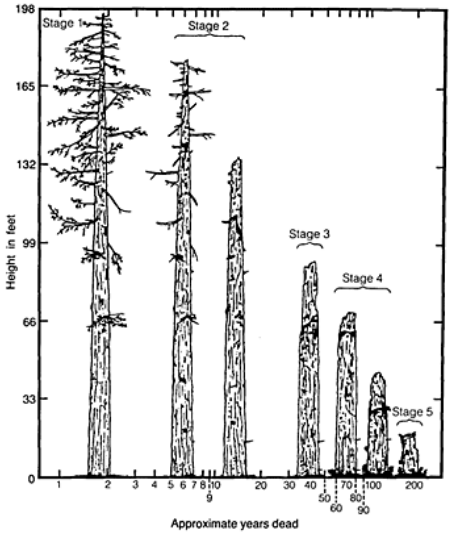


Figure 5.—Five stages of deterioration of Douglas-fir snags (adapted from Cline et al. 1980).

Detailed vegetation measurements:

**Dominant ≥20%, Subdominant 10-20%

Trees

Dominant species _____
Subdominant species _____
Avg. dbh (in.) __ Canopy closure (%) ___ No. subcanopy layers ____
Percent native cover _____ Percent bare ground or duff _____
Stumps present? Yes No
Snags present? Yes No Snag stage (circle one) 1 2 3 4 5 Abundance ____/ac
Forest phase per Brown: GF SHR OSP CSPS LGSAW OGDD

Shrubs

Dominant species _____
Subdominant species _____
Canopy closure (%) _____ No. subcanopy layers ____
Percent native cover _____ Percent bare ground _____
Percent crytobiotic crust (if applicable)_____

Herbs & Grasses

Dominant species _____
Subdominant species _____
Canopy closure (%) _____ No. subcanopy layers ____
Percent native cover:_____ Percent bare ground or duff ____
Percent crytobiotic crust (if applicable)_____

Other descriptions:

Disturbance type(s), check all that apply within the polygon, and for disturbances outside but in view of the polygon, insert the estimated distance in meters between the polygon edge and the disturbance:

__Grazing	__Thinning	__Wind Farm
__Invasive plants	__Quarry	__Fire
__Clearcut Logging	__Residence or Farm	__Other Building
__Railroad	__Communications Tower	__Campground
__Dirt Road	__Gravel Road	__Asphalt road
__Row Crop	__Urban Area	__Erosion

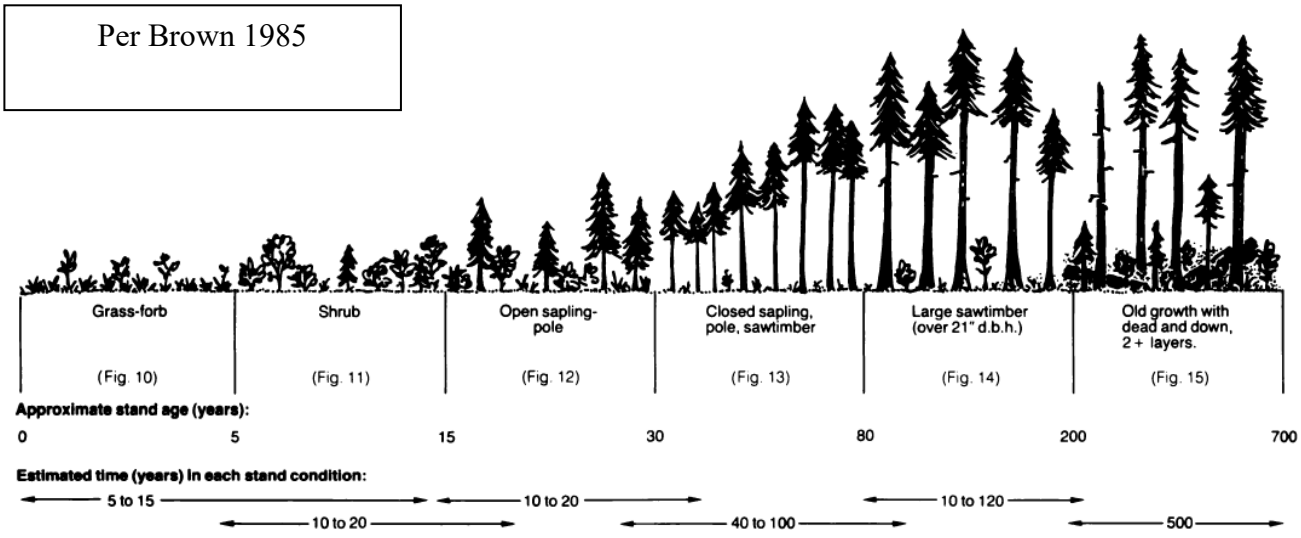
__Recreation, if so what kind? _____ Other (please specify) _____

Any sensitive species seen or habitat specifically noted (if yes, please explain)? Yes No

Any special features (for example: caves, mine openings, cliffs, rimrock, rock outcrops, talus slopes, abandoned buildings, large snags, abandoned wood bridges, balds and bluffs, wetland habitats (if yes, please explain)? Yes No

Any additional notes:

Per Brown 1985



Attachment 3. List of ODFW Sensitive Species within the Columbia Plateau Ecoregion of Oregon and Potential Occurrence at the Facility

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List of ODFW Sensitive Species within the Columbia Plateau Ecoregion of Oregon and Potential Occurrence at the Facility

Common Name	Scientific Name	2007 ODFW Status[1]	2017 ODFW Status[2]	2020 ODFW Status[3]	Occurrence within the Analysis Area	Occurrence within the 2020 Survey Area
Fish						
Bull trout	*Salvelinus confluentus*	Not Listed	SC	SC	Habitat absent from the Analysis Area; nearest habitat occurs in the Columbia and Deschutes rivers (StreamNet 2012).	No ORBIC (2020) occurrences within the Survey Area.
Chinook salmon – fall & spring (Mid-Columbia River Species Management Unit)	*Oncorhynchus tshawytscha*	Not Listed	S	S	Habitat absent from the Analysis Area; nearest habitat occurs in the Columbia, John Day, and Deschutes rivers (StreamNet 2012).	No ORBIC (2020) occurrences within the Survey Area.
Inland/Interior Redband Trout	*Oncorhynchus mykiss gairdneri*	SV	Not Listed	Not Listed	Delisted. Not considered.	Not considered.
Pacific lamprey	*Entosphenus tridentata*	SV	S	S	Habitat absent from the Analysis Area; nearest habitat occurs in the Columbia and John Day rivers (StreamNet 2012).	No ORBIC (2020) occurrences within the Survey Area.
Steelhead – summer (Mid- Columbia River Species Management Unit)	*Oncorhynchus mykiss*	SV	SC	SC	Habitat present within the Analysis Area (ORBIC 2017); no impacts to fish bearing streams are anticipated.	Habitat present within the Survey Area (ORBIC 2020, StreamNet 2020).
Western brook lamprey	*Lampetra richardsoni*	Not Listed	S	S	Habitat absent from the Analysis Area; nearest habitat occurs in the middle reaches of the John Day River (StreamNet 2012).	No ORBIC (2020) occurrences within the Survey Area.
Western river lamprey	*Lampetra ayresii*	Not Listed	S	S	Habitat absent from the ASC Exhibit P Analysis Area; nearest habitat occurs in the Columbia River.	No ORBIC (2020) occurrences within the Survey Area.
Westslope cutthroat trout	*Oncorhynchus clarki lewisi*	Not Listed in Columbia Basin	SC	SC	Habitat absent from the ASC Exhibit P Analysis Area; nearest habitat occurs in the upper reaches of the John Day River (StreamNet 2012).	No ORBIC (2020) occurrences within the Survey Area.
Amphibians						
Northern leopard frog	*Rana pipiens*	SC	Not Listed	Not Listed	Delisted. Not considered.	Not considered.
Western toad	*Bufo boreas*	SV	Not Listed in Columbia Plateau	Not Listed in Columbia Plateau	Not considered.	Not considered.
Reptiles						
California mountain kingsnake	*Lampropeltis zonata*	Not Listed in Columbia Basin	S	S	No ORBIC (2017) occurrences within the Analysis Area or within five miles. Habitat is pine forests, oak woodlands, and chaparral; rare along the Columbia River (ODFW 2017). Typical habitat is absent from the Analysis Area.	No ORBIC (2020) occurrences within the Survey Area.
Northern sagebrush lizard	*Sceloporus graciosus graciosus*	SV	S	S	No ORBIC (2017) occurrences within the ASC Exhibit P Analysis Area or within five miles. Habitat is sagebrush	No ORBIC (2020) occurrences within the Survey Area.

Common Name	Scientific Name	2007 ODFW Status[1]	2017 ODFW Status[2]	2020 ODFW Status[3]	Occurrence within the Analysis Area	Occurrence within the 2020 Survey Area
					and xeric habitats (ODFW 2017), which are present within the Analysis Area.	
Sharptail snake	*Contia tenuis*	Included as SV in ASC; however, no state status (ORHNIC 2004, 2007).	Not Listed	Not Listed	Not considered.	Not considered.
Western painted turtle	*Chrysemys picta bellii*	SC	SC	SC	No ORBIC (2017) occurrences within the Analysis Area or within five miles. Painted turtles use ponds and other slow-moving water with muddy bottoms and aquatic vegetation; in the Columbia Plateau Ecoregion they live only along the Columbia River (ODFW 2017). Unlikely to be present within any habitats within the Analysis Area.	No ORBIC (2020) occurrences within the Survey Area.
Western rattlesnake	*Crotalus viridis*	SV	Not Listed in Columbia Plateau	Not Listed in Columbia Plateau	Not considered.	Not considered.
Birds						
Bank swallow	*Riparia riparia*	SU	Not Listed	Not Listed	Not considered.	Not considered.
Brewer's sparrow	*Spizella breweri breweri*	Not Listed	S	S	No ORBIC (2017) occurrences within the Analysis Area or within five miles. This species prefers sagebrush habitat (ODFW 2017); habitat is present within the Analysis Area.	No ORBIC (2020) occurrences within the Survey Area.
Burrowing owl (western)	*Athene cunicularia hypugaea*	SC	SC	SC	Nests in earthen burrows in open shrub- steppe and grassland habitat (ODFW 2017). Habitat is present within the Analysis Area and two observations were recorded in 2006 east of the Analysis Area; historical county records also exist.	No ORBIC (2020) occurrences within the Survey Area. No burrows or owls observed during 2020 habitat surveys (Tetra Tech 2020).
Columbian sharp-tailed grouse	*Tympanuchus phasianellus columbianus*	Included in ASC; however, no state status (ORHNIC 2004, 2007).	Not Listed in Columbia Plateau.	Not Listed in Columbia Plateau.	Not considered.	Not considered.
Common nighthawk	*Chordeiles minor*	SC	S	S	Nests in open landscapes in sagebrush and rocky scablands and rimrock habitat (ODFW 2017). Habitat is present within the Analysis Area and this species was observed in 2007 east of the Analysis Area.	One individual observed roosted on a fencepost on Monkland Lane during 2020 habitat surveys (Tetra Tech 2020).
Willow flycatcher (Eastern Oregon)	*Empidonax traillii (adastus)*	SU	Not Listed in Columbia Plateau.	Not Listed in Columbia Plateau.	Not considered.	Not considered.
Ferruginous hawk	*Buteo regalis*	SC	SC	SC	Occurs in open landscapes east of the Cascade Mountains (ODFW 2017). Habitat is present within the Analysis Area and three observations were recorded within the Analysis Area.	No nests recorded within two miles of the Original Micrositing Corridor (WEST 2020).

Common Name	Scientific Name	2007 ODFW Status[1]	2017 ODFW Status[2]	2020 ODFW Status[3]	Occurrence within the Analysis Area	Occurrence within the 2020 Survey Area
Grasshopper sparrow	*Ammodramus savannarum perpallidus*	SV	S	S	Habitat is present within the ASC Exhibit P Analysis Area in open grasslands. Commonly observed within the Analysis Area.	No ORBIC (2020) occurrences within the Survey Area.
Lewis's woodpecker	*Melanerpes lewis*	SC	SC	SC	Breeds in low numbers in open habitat along eastern Oregon river and stream valleys (ODFW 2017). No ORBIC (2017) occurrences within the Analysis Area or within 5 miles. Probably migrant through Analysis Area.	No ORBIC (2020) occurrences within the Survey Area.
Loggerhead shrike	*Lanius ludovicianus*	SV	S	S	Breeds in open habitat east of the Cascades (ODFW 2017). Several observations recorded and three known nesting sites documented within the Analysis Area.	One nest located within the Site Boundary in (WEST 2019).
Long-billed curlew	*Numenius americanus*	SV	SC	SC	Commonly breeds in open grassland areas east of the Cascades (ODFW 2017). Habitat is present within the Analysis Area. Observations recorded east of the Analysis Area and ORBIC (2017) occurrences within 5 miles.	No ORBIC (2020) occurrences within the Survey Area.
Mountain quail	*Oreortyx pictus*	SU	Not Listed in Columbia Plateau.	Not Listed in Columbia Plateau.	Not considered.	Not considered.
Sagebrush sparrow	*Artemisiospiza nevadensis*	Absent from ASC due to not being listed for Sherman County; however, status of SC for Columbia Basin (ORHNIC 2004, 2007).	SC	SC	Found throughout the arid expanses of the Great Basin and usually associated with big sage (ODFW 2017). No ORBIC (2017) occurrences within the Analysis Area or within five miles. Habitat is present within the Analysis Area.	No ORBIC (2020) occurrences within the Survey Area.
Swainson's hawk	*Buteo swainsoni*	SV	S	S	Breeds in bunchgrass prairies east of the Cascades; prefers open country (ODFW 2017). Nesting documented within two miles of the Analysis Area; infrequent use of the Analysis Area.	No ORBIC (2020) occurrences within the Survey Area since 1978. No active nests located within two miles of the Original Micrositing Corridor (WEST 2020).
Golden eagle	*Aquila chrysaetos*	Included in ASC; however, no state status (ORHNIC 2004, 2007).	Not listed.	Not listed.	Not an ODFW Sensitive Species; however, golden eagle nests have been monitored during project surveys and seven occupied nests were observed in 2016 within 10 miles of the project.	No nests located within two miles of the Original Micrositing Corridor (WEST 2020).
Western bluebird	*Sialia mexicana*	SV	Not Listed in Columbia Plateau.	Not Listed in Columbia Plateau.	Not considered.	Not considered.
Western greater sage-grouse	*Centrocercus urophasianus*	SV	Not Listed in Columbia Plateau.	Not Listed in Columbia Plateau.	Not considered.	Not considered.
Western meadowlark	*Sturnella neglecta*	SC	Not Listed in Columbia Plateau.	Not Listed in Columbia Plateau.	Not considered.	Not considered.
Yellow-breasted chat	*Icteria virens*	SC	Not Listed in Columbia Plateau.	Not Listed in Columbia Plateau.	Not considered.	Not considered.

Common Name	Scientific Name	2007 ODFW Status[1]	2017 ODFW Status[2]	2020 ODFW Status[3]	Occurrence within the Analysis Area	Occurrence within the 2020 Survey Area
Mammals						
Hoary bat	*Lasiurus cinereus*	Included in ASC; however, no state status (ORHNIC 2004, 2007).	S	S	Probably migrant through Analysis Area. No ORBIC (2017) occurrences within the Analysis Area or within five miles.	No ORBIC (2020) occurrences within the Survey Area.
Long-eared myotis	*Myotis evotis*	SU	Not Listed	Not Listed	Not considered.	Not considered.
Long-legged myotis	*Myotis volans*	SU	Not Listed in Columbia Plateau.	Not Listed in Columbia Plateau.	Not considered.	Not considered.
Pallid bat	*Antrozous pallidus*	SV	S	S	Unknown. No ORBIC (2017) occurrences within the Analysis Area or within five miles.	No ORBIC (2020) occurrences within the Survey Area.
Silver-haired bat	*Lasionycteris noctivagans*	SU	S	S	Probably migrant through Analysis Area. No ORBIC (2017) occurrences within the ASC Exhibit P Analysis Area or within five miles.	No ORBIC (2020) occurrences within the Survey Area.
Spotted bat	*Euderma maculatum*	Not Listed.	S	S	Probably migrant through Analysis Area. No ORBIC (2017) occurrences within the Analysis Area or within five miles.	No ORBIC (2020) occurrences within the Survey Area.
Townsend's big- eared bat	*Corynorhinus townsendii*	SC	SC	SC	Probably migrant through Analysis Area. No ORBIC (2017) occurrences within the Analysis Area or within five miles.	No ORBIC (2020) occurrences within the Survey Area.
Western small- footed myotis	*Myotis ciliolabrum*	SU	Not Listed	Not Listed	Not considered.	Not considered.

1. 2007 ODFW Status: SC = Sensitive Critical, SV = Sensitive Vulnerable, SU = Sensitive Unknown status.
2. 2017 ODFW Status: SC = Sensitive Critical, S = Sensitive.
3. 2020 ODFW Status: SC = Sensitive Critical, S = Sensitive.

Note:

This table was updated from Table P-11 of the Application for Site Certificate (July 2007) as Table 6 in the Request for Amendment No. 5 (July 2018) and is again updated here in the 2020 Habitat Survey Report.

Definitions:

Analysis Area = as defined in Golden Hills 2008, Golden Hills 2018.

ASC = Application for Site Certificate (Golden Hills 2008).

GHWP = Golden Hills Wind Project.

ODFW = Oregon Department of Fish & Wildlife.

Sources (Request for Amendment No. 5):

ORBIC (Oregon Biodiversity Information Center). 2017. GIS data for rare, threatened and endangered plants and animals within the vicinity of the Golden Hills Wind Project. December, 2017.

ODFW (Oregon Department of Fish and Wildlife). 2016. Oregon Department of Fish and Wildlife Sensitive Species List. Available online at: http://www.dfw.state.or.us/wildlife/diversity/species/docs/2017_Sensitive_Species_List.pdf

ODFW. 2017. Wildlife Viewing website. Accessed December 22, 2017; available at: https://myodfw.com/wildlife-viewing

ORNHIC (Oregon Natural Heritage Information Center). 2004. Rare, Threatened and Endangered Species of Oregon.

Oregon State University, Portland, Oregon. March, 2004.

ORNHIC. 2007. Rare, Threatened and Endangered Species of Oregon. Oregon State University, Portland, Oregon. March, 2007.

StreamNet. 2012. Fish distribution data for All Fish Species. Accessed September 2017. Seattle, Washington. Available online at: http://www.streamnet.org/data/interactive-maps-and-gis-data/

Sources (Revised for 2020):

Golden Hills (Golden Hills Wind Farm, LLC). 2008. Application for Site Certificate. September 2008.

Golden Hills. 2018. Request for Amendment No. 5 to the Site Certificate for the Golden Hills Wind Project. July 2018.

Common Name	Scientific Name	2007 ODFW Status[1]	2017 ODFW Status[2]	2020 ODFW Status[3]	Occurrence within the Analysis Area	Occurrence within the 2020 Survey Area

ODFW (Oregon Department of Fish and Wildlife). 2018. Threatened, Endangered, and Candidate Fish and Wildlife Species in Oregon. Revised June 11, 2018. Available online at: https://www.dfw.state.or.us/wildlife/diversity/species/threatened_endangered_candidate_list.asp. Accessed April 2020.

ODFW. 2019. Oregon Department of Fish and Wildlife Sensitive Species List. Available online at: https://www.dfw.state.or.us/wildlife/diversity/species/docs/Sensitive_Species_List.pdf. Accessed April 2020.

ORBIC (Oregon Biodiversity Information Center). 2020. Element Occurrence Record Digital Data Set for rare, threatened or endangered species. ORBIC, Institute for Natural Resources, Portland State University. Portland, OR. Received May 2020.

ORBIC. 2019. Rare, Threatened and Endangered Species of Oregon. Institute for Natural Resources, Portland State University, Portland, Oregon. 133 pp.

StreamNet GIS Data. 2020. Fish distribution data for All Fish Species. Portland (OR): StreamNet, August 2020. Available online at: http://www.streamnet.org/data/interactive-maps-and-gis-data/

Tetra Tech, Inc. (Tetra Tech), 2020. Golden Hills Wind Farm Habitat Survey Report. November 2020.

WEST (Western EcoSystems Technology, Inc.). 2019. Results of the 2019 Loggerhead Shrike Nest Surveys at the Golden Hills Wind Project, Sherman County, Oregon. July 2019.

WEST. 2020. Results of 2020 Raptor Nest Surveys for the Golden Hills Wind Project, Sherman County, Oregon. July 2020.

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Attachment 4. State and Federal Threatened, Endangered, and Proposed Species with the Potential to Occur at the Facility

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State and Federal Threatened, Endangered, and Proposed Species with the Potential to Occur at the Facility

Species	2007		2017		2020		Notes on listing Status and Occurrence
	Federal Status	State Status	Federal Status	State Status	Federal Status	State Status	
Birds							
Bald eagle (*Haliaeetus leucocephalus*)	—	LT	—	—	—	—	**2020 updates**: No status change. No nests observed within 2 miles of Original Micrositing Corridor (WEST 2020). **2017 analysis: Species delisted**. Nest observed during 2016 aerial surveys at the confluence of the Deschutes and Columbia Rivers approximately 5 mi NW of the GHWP.
Yellow-billed cuckoo (*Coccyzus americanus*)	C	—	LT	—	LT	—	**2020 updates:** No change. No ORBIC (2020) occurrences within the Survey Area. **2017 analysis: Species listed as Federal Threatened**. Absent from ORBIC data, no known occurrences in the Analysis Area. Believed extirpated from Oregon (ASC, Exhibit Q, Page 3).
American peregrine falcon (*Falco peregrinus anatum*)	—	LE	—	—	—	—	**2020 updates:** No change. **2017 analysis: Species delisted**. 2017 ORBIC review indicates occurrences along the Columbia River, within the ASC Exhibit Q Analysis Area.
Mammals							
Gray wolf (*Canis lupus*)	—	—	LE	—	LE	—	**2020 updates:** Removal of Federal Endangered status effective January 4, 2021. No ORBIC (2020) occurrences within the Survey Area. **2017 analysis:** Absent from ORBIC data, no known occurrences in the Exhibit Q Analysis Area. Unlikely to occur within the Analysis Area.
North American Wolverine (*Gulo gulo luscus*)	—	—	PT	LT	—	LT	**2020 update:** Federal proposed status withdrawn (85 FR 64618). No ORBIC (2020) occurrences within the Survey Area. **2017 analysis:** Absent from ORBIC data, no known occurrences in the Exhibit Q Analysis Area. Unlikely to occur within the Analysis Area.
Washington ground squirrel (*Urocitellus washingtoni*)	C	LE	—	LE	—	LE	**2020 update:** Scientific name updated. No new ORBIC (2020) occurrences within the Survey Area. **2017 analysis: State status unchanged**. **Found to be not warranted for federal listing in September of 2016.** One historical occurrence in 2017 ORBIC data from 1979; however, their range has been dramatically reduced since then and their range is limited to areas east of the John Day River (ASC, Exhibit Q, Page 3).
Fish							
Bull trout (*Salvelinus confluentus*)	LT	—	LT	—	LT	—	**2020 update:** No change in status. No ORBIC (2020) occurrences within the Survey Area. **2017 analysis: Included in Request for Amendment No. 5, listed as Federal Threatened in 1998.** 2017 ORBIC review indicates occurrence within the Analysis Area in the Deschutes River. Critical habitat designated in 2010 includes the Columbia River and Deschutes River within the Analysis Area.
Steelhead – Mid Columbia River ESU, summer run (*Oncorhynchus mykiss*)	LT	—	LT	—	LT	—	**2020 update:** No change in status. Habitat present within the Survey Area (ORBIC 2020, StreamNet 2020).

Species	2007		2017		2020		Notes on listing Status and Occurrence
	Federal Status	State Status	Federal Status	State Status	Federal Status	State Status	
							2017 analysis: No change. 2017 reviews of StreamNet and ORBIC data indicate occurrences within the Grass Valley Creek which bisects the GHWP.
Steelhead- Snake River Basin ESU	LT	—	LT	—	LT	—	**2020 update:** No change in status. No ORBIC (2020) occurrences within the Survey Area. **2017 analysis: No change.** Migrates through the ASC Exhibit Q Analysis Area in the Columbia River.
Steelhead – Upper Columbia River ESU	LE	—	LT	—	LT	—	**2020 update:** No change in status. No ORBIC (2020) occurrences within the Survey Area. **2017 analysis: Down-listed to Federal Threatened in 2009.** Migrates through the ASC Exhibit Q Analysis Area in the Columbia River.
Sockeye Salmon – Salmon River Tributary to the Snake River (*Oncorhynchus nerka*)	LE	—	LE	—	LE	—	**2020 update:** No change in status. No ORBIC (2020) occurrences within the Survey Area. **2017 analysis: No change.** Migrates through the ASC Exhibit Q Analysis Area in the Columbia River.
Chinook Salmon – Snake River ESU, spring/summer/fall runs (*Oncorhynchus tshawytscha*)	LT	LT	LT	LT	LT	LT	**2020 update:** No change in status. No ORBIC (2020) occurrences within the Survey Area. **No change.** Migrates through the ASC Exhibit Q Analysis Area in the Columbia River.
Chinook Salmon – Upper Columbia River ESU	LE	—	LE	—	LE	—	**2020 update:** No change in status. No ORBIC (2020) occurrences within the Survey Area. **No change.** Migrates through the ASC Exhibit Q Analysis Area in the Columbia River.
Plants							
Northern wormwood (*Artemisia campestris* var. *wormskioldii*)	C	LE	—	LE	—	LE	**2020 update:** No change in status. No new ORBIC (2020) occurrences within the Survey Area. **2017 analysis: State status unchanged**. **Found to be not warranted for federal listing in September of 2016:** 2017 ORBIC reviews include occurrences within the Analysis Area near the Columbia River; however, those occurrences are historical (1941) and this species is presumed extirpated or extinct in Oregon.
Laurence's milkvetch (*Astragalus collinus* var. *laurentii*)	—	LT	—	LT	—	LT	**2020 update:** No change in status. No new ORBIC (2020) occurrences within the Survey Area. 2020 rare plant surveys did not identify the presence of this or any threatened or endangered plant species (Tetra Tech 2020). **2017 analysis: No change.** Absent from ORBIC data, no known occurrences in the ASC Exhibit Q Analysis Area.
Liverwort monkeyflower (Erythranthe [*Mimulus*] *jungermannioides*)	—	LT	—	—	—	C	**2020 update:** Delisted/Candidate species. No ORBIC (2020) occurrences within the Survey Area. 2020 rare plant surveys did not identify the presence of this or any threatened or endangered plant species (Tetra Tech 2020). **Species delisted.** Absent from ORBIC data, no known occurrences in the ASC Exhibit Q Analysis Area.

Species	2007		2017		2020		Notes on listing Status and Occurrence
	Federal Status	State Status	Federal Status	State Status	Federal Status	State Status	

Note:

This table was updated from Table Q-1 of the Application for Site Certificate (July 2017) and is again updated in the 2020 Habitat Survey Report.

Definitions:

Listing Status: LT = Listed Threatened, PT = Proposed Threatened, LE = Listed Endangered, C = Candidate

Analysis Area/Exhibit Q Analysis Area = As defined in Golden Hills 2008, Golden Hills 2018.

ASC = Application for Site Certificate (Golden Hills 2008).

ESU = Evolutionarily Significant Unit.

GHWP = Golden Hills Wind Project.

Sources (Request for Amendment No. 5):

National Marine Fisheries Service. 2016. Status of ESA Listings & Critical Habitat Designations for West Coast Salmon and Steelhead. Available online at: http://www.westcoast.fisheries.noaa.gov/publications/gis_maps/maps/salmon_steelhead/critical_habitat/

ORBIC (Oregon Biodiversity Information Center). 2017. GIS data for rare, threatened and endangered plants and animals within the vicinity of the Golden Hills Wind Project. December, 2017.

ODFW (Oregon Department of Fish and Wildlife). 2017. Threatened, Endangered, and Candidate Fish and Wildlife Species in Oregon. Available online at: http://www.dfw.state.or.us/wildlife/diversity/species/docs/Threatened_and_Endangered_Species.pdf

Oregon Department of Agriculture. 2017. Oregon Listed Plants by County for Sherman County. Available online at: http://www.oregon.gov/ODA/programs/PlantConservation/Pages/ListedPlants.aspx

U.S. Fish and Wildlife Service. 2017. Information for Planning and Consultation. IPaC list of species known or expected be on or near the Exhibit Q analysis area. Available online at: https://ecos.fws.gov/ipac/

Sources (Revised for 2020):

Golden Hills (Golden Hills Wind Farm, LLC). 2008. Application for Site Certificate. September 2008.

Golden Hills. 2018. Request for Amendment No. 5 to the Site Certificate for the Golden Hills Wind Project. July 2018.

ODFW (Oregon Department of Fish and Wildlife). 2018. Threatened, Endangered, and Candidate Fish and Wildlife Species in Oregon. Revised June 11, 2018. Available online at: https://www.dfw.state.or.us/wildlife/diversity/species/threatened_endangered_candidate_list.asp. Accessed April 2020.

ORBIC (Oregon Biodiversity Information Center). 2020. Element Occurrence Record Digital Data Set for rare, threatened or endangered species. ORBIC, Institute for Natural Resources, Portland State University. Portland, OR. Received May 2020.

ORBIC. 2019. Rare, Threatened and Endangered Species of Oregon. Institute for Natural Resources, Portland State University, Portland, Oregon. 133 pp.

Oregon Department of Agriculture. 2020. Oregon Listed Plants by County for Sherman County. Available online at: http://www.oregon.gov/ODA/programs/PlantConservation/Pages/ListedPlants.aspx

StreamNet GIS Data. 2020. Fish distribution data for All Fish Species. Portland (OR): StreamNet, August 2020. Available online at: http://www.streamnet.org/data/interactive-maps-and-gis-data/

Tetra Tech, Inc. (Tetra Tech), 2020. Golden Hills Wind Project: Pre-Construction Botanical Survey Memorandum. August 2020.

U.S. Fish and Wildlife Service (USFWS). 2020a. Information for Planning and Consultation. IPaC list of species known or expected be on or near the Exhibit Q analysis area in Sherman County. Available online at: https://ecos.fws.gov/ipac/ . Accessed April 2020.

USFWS. 2020b. Gray Wolf. Available online at: https://www.fws.gov/home/wolfrecovery/. Accessed November 2020.

WEST (Western EcoSystems Technology, Inc). 2019. Results of 2019 Loggerhead Shrike Nest Surveys at the Golden Hills Wind Project, Sherman County, Oregon. July 2019.

WEST. 2020. Results of 2020 Raptor Nest Surveys for the Golden Hills Wind Project, Sherman County, Oregon. July 2020.

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Attachment 3. Noxious Weeds Observed at the Golden Hills Wind Farm

Observations by Tetra Tech during field surveys completed in Spring/Summer 2020.

Site Certificate Reference = PRE-SP-01

August 6, 2020

Noxious Weeds Observed at the Golden Hills Wind Farm

Scientific Name	Common Name	ODA Weed Class[1]	Sherman County Weed Class[2]	Frequency and Abundance
Acroptilon (Rhaponticum) repens	Russian knapweed	B*	A/B[3], T	Two populations observed; both were dense populations (high cover)
Aegilops cylindrica	jointed goatgrass	B	C	Frequently observed; most patches were small (< 0.1 acre), although several patches were larger (0.1 -1 acre).
Asclepias speciosa	showy milkweed	Not listed	B	One observation documented, consisted of several discrete patches.
Centaurea diffusa	diffuse knapweed	B*	A/B[3], T	Frequently observed; patches ranged in size from small (<0.1 acre) to large (1-5 acres) and ranged in abundance from sparse (one to several individuals) to dense populations (high cover).
Chondrilla juncea	rush skeletonweed	B*, T	A, T	Frequently observed. Individuals observed throughout the survey area. Most populations were small (<0.1 acre) and sparse (less than ~10 individuals), but larger (0.1 – 1 acre) and more dense populations (more than 10-20 individuals) observed as well.
Cirsium arvense	Canada thistle	B*	A/B[4], T	Several populations observed; most observations were large (1-5 acres) and associated with riparian areas in eastern portion of survey area. A few small (<0.1 acre), sparse population also observed in in southwestern portion of survey area.
Cirsium vulgare	bull thistle	B*	C	Observed in four locations in survey area. Most patches were small (<0.1 acre) and relatively sparse (small patches of less than 5-10 individuals). Multiple GPS locations taken in two of the 4 locations to help locate the smaller patches.
Conium maculatum	poison hemlock	B*	C	One observation documented in the central portion of survey area. Only one individual observed.
Convolvulus arvensis	field bindweed	B*	Not listed	Seven populations observed in central and southern portion of survey area. All but one observation were small (<0.1 acre) patches. The other observation was a larger (0.1 – 1 acre) patch along a road/driveway.
Conyza canadensis	marestail; horseweed	Not listed	C	Frequently observed throughout the survey area. Most observations were small (<0.1 acre), sparse (less than ~10 individuals) patches; however, a few

Scientific Name	Common Name	ODA Weed Class[1]	Sherman County Weed Class[2]	Frequency and Abundance
				larger and more dense patches were observed.
Elymus (*Elytrigia*) repens	quackgrass	Not listed	C	One patch covering between 0.1 and 1 acre was observed in the eastern portion of the survey area.
Equisetum laevigatum	scouring rush	Not listed	B	One small (<0.1 acre) population observed in riparian area in eastern portion of survey area.
Kochia (*Bassia*) *scoparia*	kochia	B	A, T	One patch covering approximately 0.1-1 acre observed in southern portion of survey area.
Lactuca serriola	prickly lettuce	Not listed	C	Abundant. Observed throughout the survey area. Observations were typically greater than an acre in size and range in abundance from sparsely scattered individuals to dense populations.
Lepidium (*Cardaria*) *draba*	whitetop; hoary cress	B	B, T	Observed in four locations in southern and eastern portions of survey area. Associated with riparian areas. Observations ranged in size from <0.1 to 0.1 to 1 acre and most were relatively dense (high cover) populations.
Lepidium latifolium	perennial pepperweed	B, T	C	Three observations documented within riparian habitat in eastern portion of survey area. Two populations were less than 1 acre in size, the other was between 1-5 acres; all were dense (high cover) populations.
Onopordum acanthium	Scotch thistle	B	B, T	Three small (<0.1 acre) patches observed; 2 in the eastern portion of the survey area, one in the north-central portion of the survey area.
Salsola tragus (*S. iberica*)	Russian thistle	Not listed	C	Frequently observed throughout survey area. Often observed adjacent to agricultural fields or along roadsides.
Secale cereale	cereal rye; common rye	Not listed	C	Twelve patches documented in seven locations scattered throughout survey area. Patches ranged in size from small (<0.1 acre) to large (1-5 acres) and typically consisted of relatively dense (high cover) populations.
Taeniatherum caput-medusae	medusahead	B	C	Abundant. Frequently observed throughout survey area. Patches ranged in size from small (<0.1 acre) to large (1-5 acres) and primarily consisted of moderately abundant (scattered patches commonly observed in area) to dense (high cover) populations.

Scientific Name	Common Name	ODA Weed Class[1]	Sherman County Weed Class[2]	Frequency and Abundance

1. **"A" List:** Weeds of known economic importance which occur in the state in small enough infestations to make eradication/containment possible; or which are not known to occur, but their presence in neighboring states makes future occurrence in Oregon seem imminent. **"B" List:** Weeds of economic importance which are regionally abundant, but which may have limited distribution in some counties. **"T" Designated Weed**: A priority noxious weed designated by the Oregon State Weed Board as a target for which the ODA will develop and implement a statewide management plan. "T" designated noxious weeds are species selected from either the "A" or "B" list (ODA 2019). Species marked with a (*) are targeted for biocontrol.
2. **"A" Class: High Priority.** Any noxious weed which greatly endangers the overall economic well-being of the County and has a small enough distribution where eradication is possible. **"B" Class: Moderate Priority.** A noxious weed which is well established in the County and has known negative impacts, but due to its distribution, eradication is not feasible. **"C" Class: Low Priority.** A noxious weed which is widespread throughout the County and has known economic impacts. **"T" Class: Targeted List.** A noxious weed from any Class that the Weed Advisory Board wishes to focus efforts and resources on. This list will be reviewed annually.
3. "A" Class south of Township 1S to the County line; "B" Class north of Township 1S. The majority of the Project area is north of Township 1S; however, portions of the Project area are in Township 1S.
4. "A" Class south of Township 2S to the County line; "B" Class the rest of the County. As the Project area is all north of Township 2S, would be considered a Class "B" noxious weed in the Project area.

Golden Hills Wind Project

Figure 1
Noxious Weeds
Index Map

SHERMAN COUNTY, OREGON

- Site Boundary
- Map Grid
- City/Town
- Secondary Highway
- Secondary Road
- Local Road
- County Boundary

Wasco
Figure 1.1
Figure 1.2
Figure 1.3
Figure 1.4
Figure 1.5
Figure 1.6
Figure 1.7
Figure 1.8
Figure 1.9
Figure 1.10
Figure 1.11
Figure 1.12
Figure 1.13
Figure 1.14
Figure 1.15
Figure 1.16
Figure 1.17
Figure 1.18
Scott Canyon Rd
Van Gilder Rd
Klondike Ln
Sandom Rd
Klondike Rd
Hay Canyon Rd
Monkland Ln
4th St
1st St
Lonerock Rd
97
206
Sherman County
Wasco County

TETRA TECH
AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	WA, ID, OR, CA, NV

1:70,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.1
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

Secondary Road
Local Road
County Boundary

Noxious Weed

Conyza canadensis (marestail, horseweed)
Lactuca serriola (prickly lettuce)
Secale cereale (cereal rye)

206
Cemetery Rd

1:4,000 WGS 1984 UTM Zone 10N

0 300 600 1,200 1,800 2,400 Feet

NOT FOR CONSTRUCTION

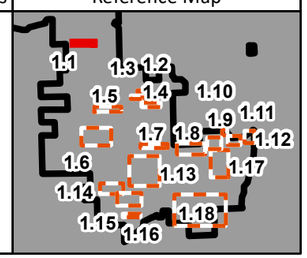
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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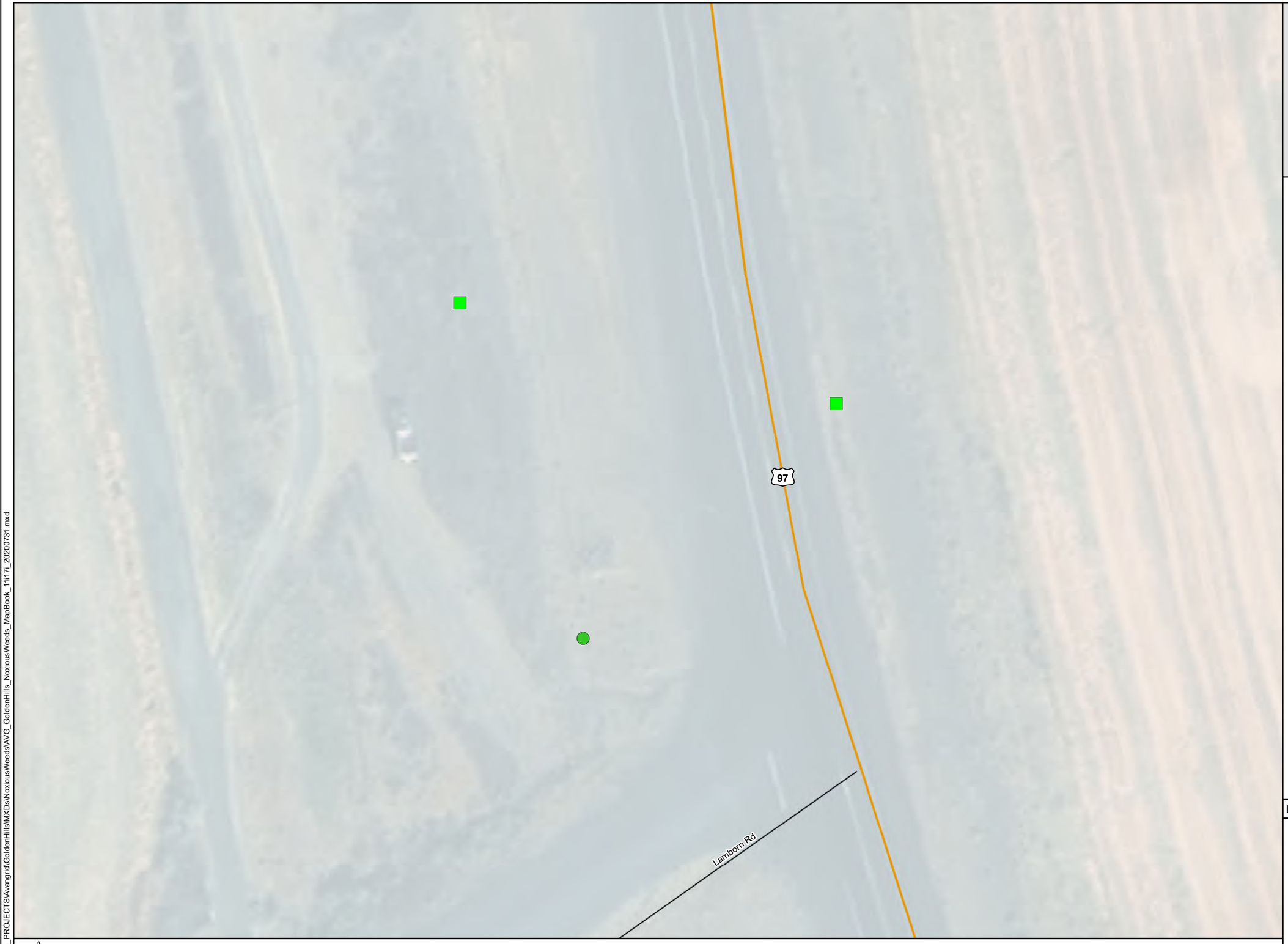
Golden Hills Wind Project

Figure 1.2
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON



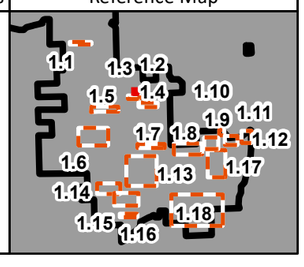
- Secondary Highway
- Local Road
- County Boundary

Noxious Weed

- Chondrilla juncea (rush skeleton weed)
- Lactuca serriola (prickly lettuce)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:500 WGS 1984 UTM Zone 10N

0 37.5 75 150 225 300 Feet

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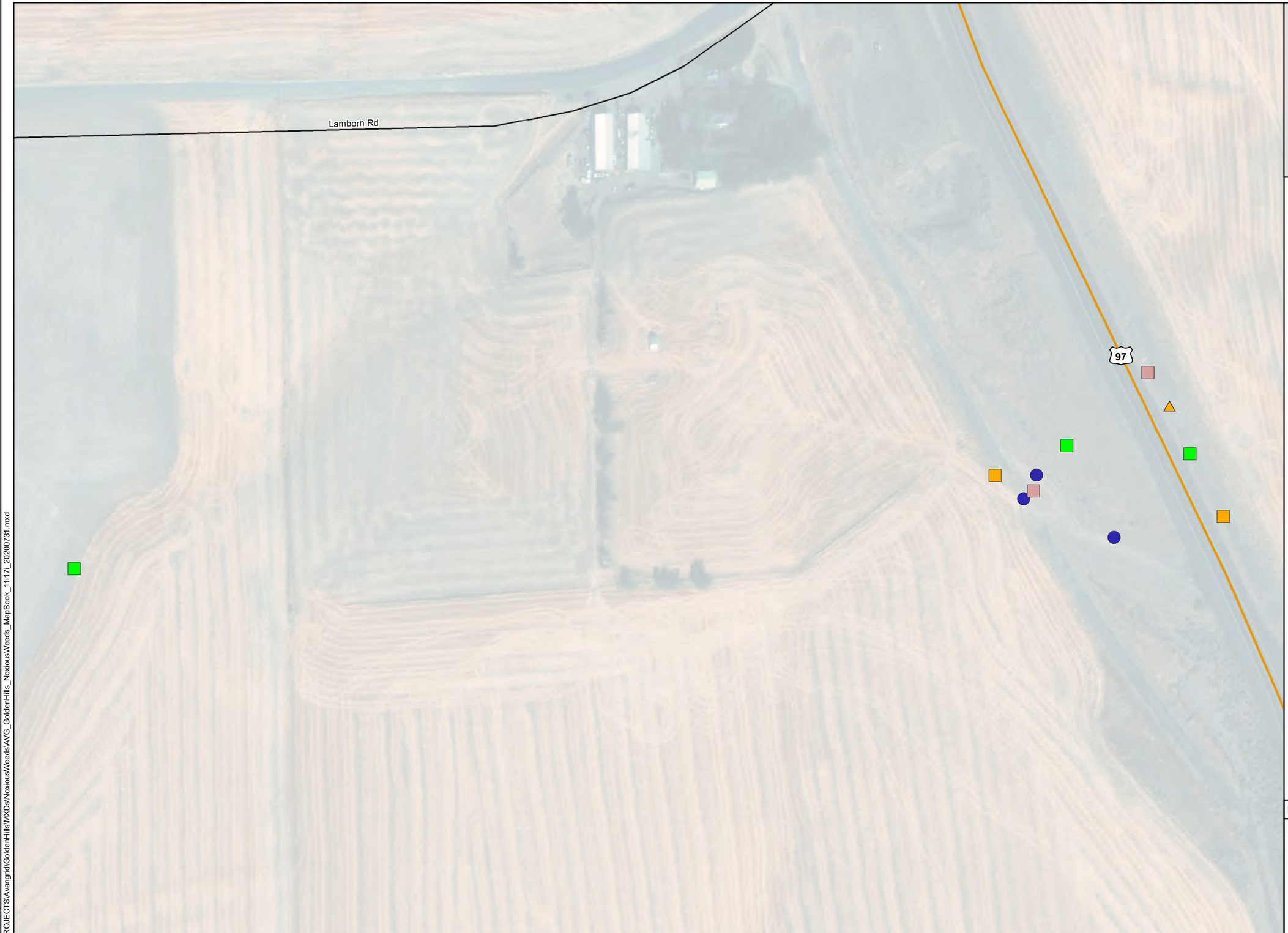
Golden Hills Wind Project

Figure 1.3
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON



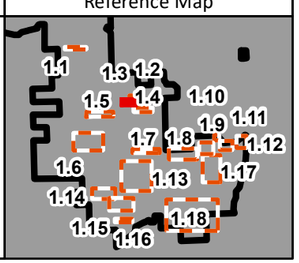
- Secondary Highway
- Local Road
- County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Salsola tragus (Russian thistle)
- Taeniatherum caput-medusae (medusahead)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:2,000 WGS 1984 UTM Zone 10N

0 150 300 600 900 1,200 Feet

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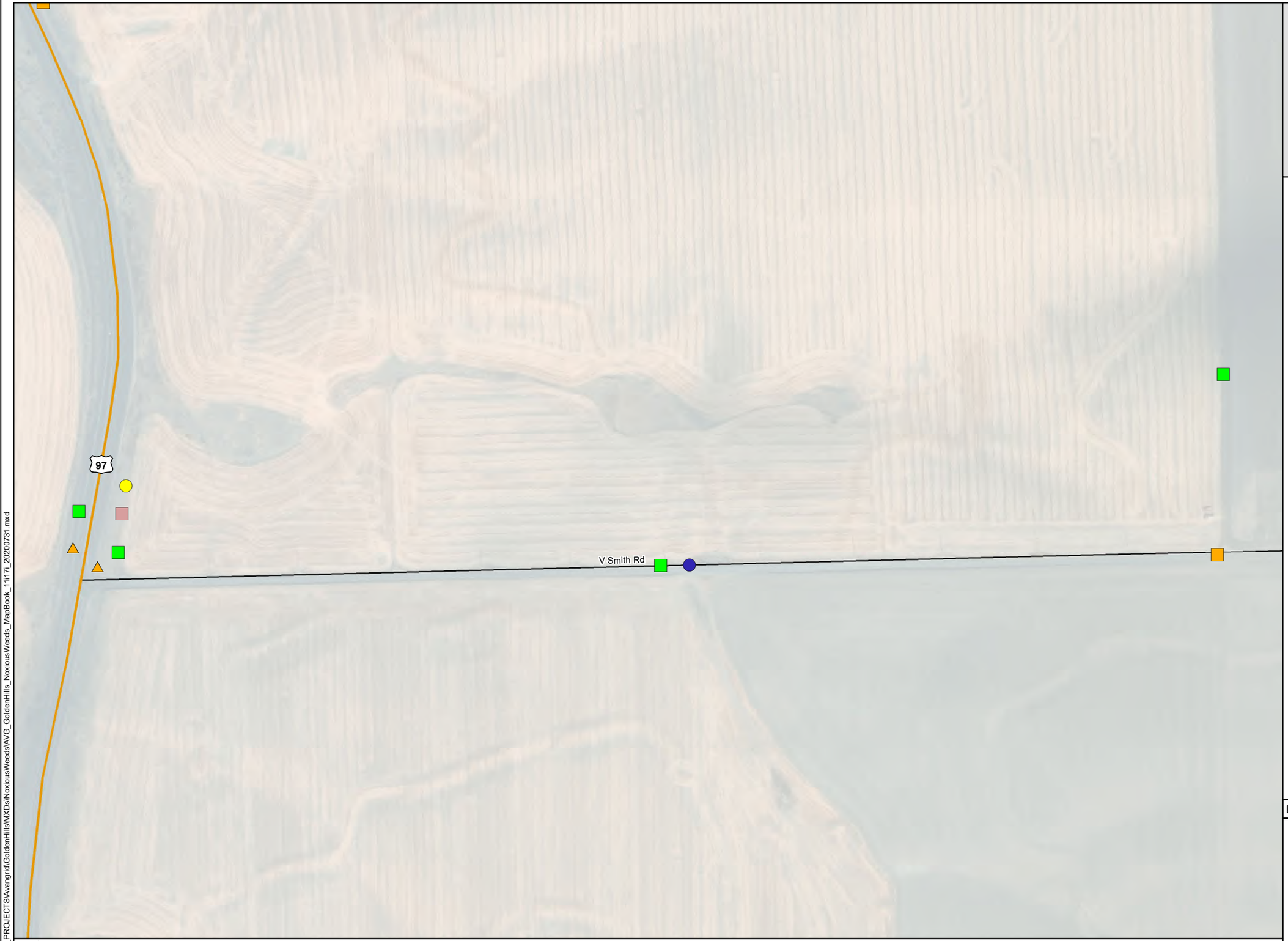
Golden Hills Wind Project

Figure 1.4
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON



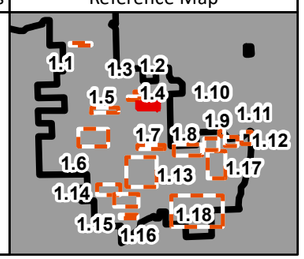
- Secondary Highway
- Local Road
- County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Cirsium vulgare (bull thistle)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Salsola tragus (Russian thistle)
- Taeniatherum caput-medusae (medusahead)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:3,500 WGS 1984 UTM Zone 10N

0 262.5 525 1,050 1,575 2,100 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.5
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

Local Road

County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Onopordum acanthium (Scotch thistle)
- Secale cereale (cereal rye)

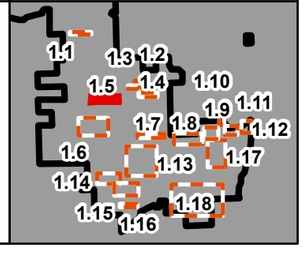
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



Sawtooth Rd

1:5,000 WGS 1984 UTM Zone 10N

0 375 750 1,500 2,250 3,000 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.6
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

Local Road

County Boundary

Noxious Weed

- Chondrilla juncea (rush skeleton weed)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Salsola tragus (Russian thistle)

Sawtooth Rd

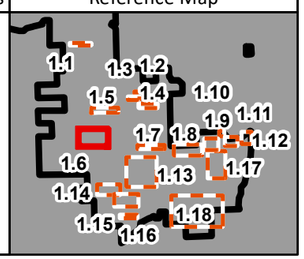
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:5,500

WGS 1984 UTM Zone 10N

0 412.5 825 1,650 2,475 3,300 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.7
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

Secondary Highway

County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Conium maculatum (poison hemlock)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Salsola tragus (Russian thistle)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.18

1:5,000 WGS 1984 UTM Zone 10N

0 375 750 1,500 2,250 3,000 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.8
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

~1.5 Miles to HWY 206

~1.3 Miles to HWY 97

Local Road

County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Centaurea diffusa (diffuse knapweed)
- Chondrilla juncea (rush skeleton weed)
- Convolvulus arvensis (field bindweed)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Lepidium draba (whitetop)
- Lepidium latifolium (perennial pepperweed)
- Secale cereale (cereal rye)
- Taeniatherum caput-medusae (medusahead)

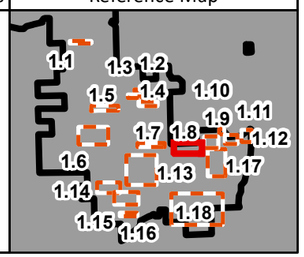
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:5,000

WGS 1984 UTM Zone 10N

0 375 750 1,500 2,250 3,000 Feet

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Golden Hills Wind Project

Figure 1.9
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

Local Road

County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Asclepias speciosa (showy milkweed)
- Centaurea diffusa (diffuse knapweed)
- Chondrilla juncea (rush skeleton weed)
- Cirsium arvense (Canada thistle)
- Cirsium vulgare (bull thistle)
- Conyza canadensis (marestail, horseweed)
- Elymus (Elytrigia) repens (quackgrass)
- Equisetum laevigatum (scouring rush)
- Lactuca serriola (prickly lettuce)
- Lepidium draba (whitetop)
- Taeniatherum caput-medusae (medusahead)

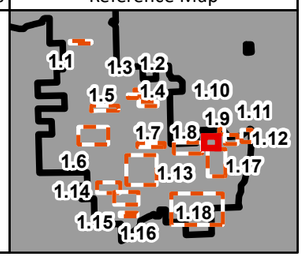
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



Nish Rd

1:3,000

WGS 1984 UTM Zone 10N

0 225 450 900 1,350 1,800 Feet

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Golden Hills Wind Project

Figure 1.10
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON



- Secondary Road
- Local Road
- County Boundary

Noxious Weed

- Acroptilon repens (Russian knapweed)
- Centaurea diffusa (diffuse knapweed)
- Cirsium arvense (Canada thistle)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Lepidium draba (whitetop)
- Lepidium latifolium (perennial pepperweed)
- Onopordum acanthium (Scotch thistle)
- Salsola tragus (Russian thistle)
- Secale cereale (cereal rye)
- Taeniatherum caput-medusae (medusahead)

TETRA TECH

AVANGRID RENEWABLES

1:1,500 WGS 1984 UTM Zone 10N

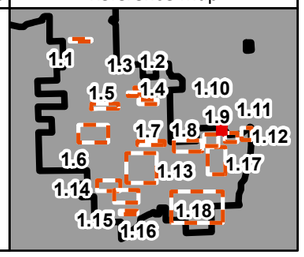
0 112.5 225 450 675 900 Feet

NOT FOR CONSTRUCTION

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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Golden Hills Wind Project

Figure 1.11
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

206

- Secondary Road
- Local Road
- County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Centaurea diffusa (diffuse knapweed)
- Chondrilla juncea (rush skeleton weed)
- Cirsium arvense (Canada thistle)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Taeniatherum caput-medusae (medusahead)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.18

1:2,500 WGS 1984 UTM Zone 10N

0 187.5 375 750 1,125 1,500 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.12
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

Secondary Road
Local Road
County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Centaurea diffusa (diffuse knapweed)
- Chondrilla juncea (rush skeleton weed)
- Cirsium arvense (Canada thistle)
- Lactuca serriola (prickly lettuce)
- Salsola tragus (Russian thistle)
- Taeniatherum caput-medusae (medusahead)

Sandon Rd

206

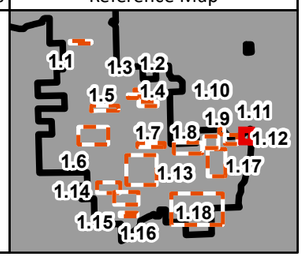
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:3,000

WGS 1984 UTM Zone 10N

0 225 450 900 1,350 1,800 Feet

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Golden Hills Wind Project

Figure 1.13
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

Secondary Highway
Local Road
County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Centaurea diffusa (diffuse knapweed)
- Chondrilla juncea (rush skeleton weed)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Taeniatherum caput-medusae (medusahead)

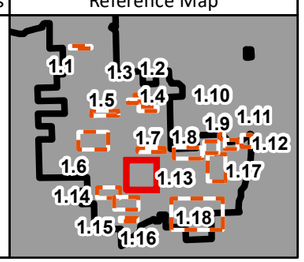
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



Frontage Rd
97
Demoss Spring Rd
Douma Rd

1:7,000 WGS 1984 UTM Zone 10N

0 500 1,000 2,000 3,000 4,000 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.14
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

Demoss Spring Rd

Local Road

County Boundary

Noxious Weed

- Chondrilla juncea (rush skeleton weed)
- Cirsium arvense (Canada thistle)
- Convolvulus arvensis (field bindweed)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Taeniatherum caput-medusae (medusahead)

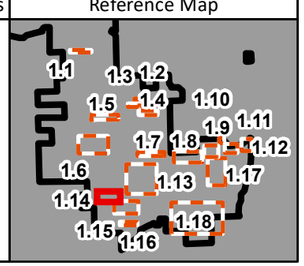
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:4,000 WGS 1984 UTM Zone 10N

0 300 600 1,200 1,800 2,400 Feet

NOT FOR CONSTRUCTION

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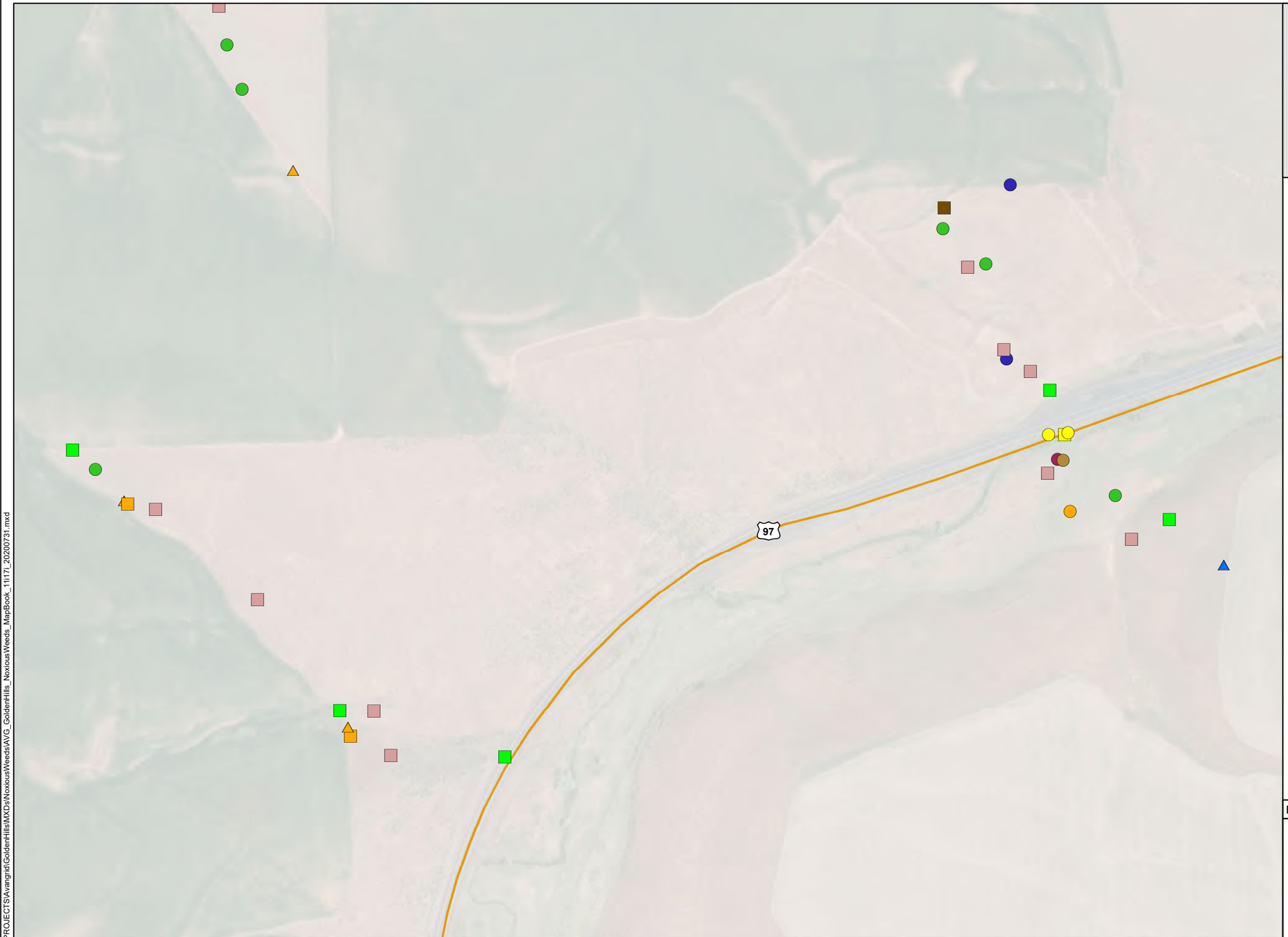
Golden Hills Wind Project

Figure 1.15
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON



Secondary Highway
County Boundary

Noxious Weed

- Acroptilon repens (Russian knapweed)
- Aegilops cylindrica (jointed goatgrass)
- Centaurea diffusa (diffuse knapweed)
- Chondrilla juncea (rush skeleton weed)
- Cirsium arvense (Canada thistle)
- Cirsium vulgare (bull thistle)
- Convolvulus arvensis (field bindweed)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Lepidium draba (whitetop)
- Salsola tragus (Russian thistle)
- Secale cereale (cereal rye)
- Taeniatherum caput-medusae (medusahead)

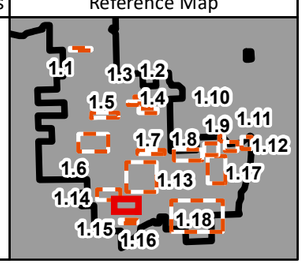
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:4,500 WGS 1984 UTM Zone 10N

0 337.5 675 1,350 2,025 2,700 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.16
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON



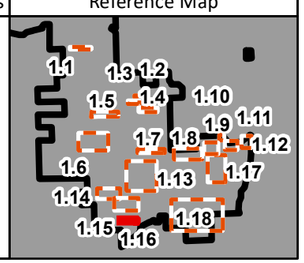
- Secondary Highway
- Secondary Road
- Local Road
- County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Centaurea diffusa (diffuse knapweed)
- Chondrilla juncea (rush skeleton weed)
- Cirsium vulgare (bull thistle)
- Conyza canadensis (marestail, horseweed)
- Kochia scoparia (kochia)
- Lactuca serriola (prickly lettuce)
- Salsola tragus (Russian thistle)
- Taeniatherum caput-medusae (medusahead)

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:3,000 WGS 1984 UTM Zone 10N

0 225 450 900 1,350 1,800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.17
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

Local Road

County Boundary

Noxious Weed

- Aegilops cylindrica (jointed goatgrass)
- Cirsium arvense (Canada thistle)
- Conyza canadensis (marestail, horseweed)
- Lactuca serriola (prickly lettuce)
- Salsola tragus (Russian thistle)
- Taeniatherum caput-medusae (medusahead)

Nish Rd

Demoss Springs Ln

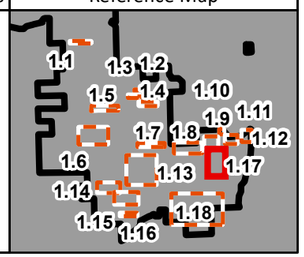
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:6,500 WGS 1984 UTM Zone 10N

0 487.5 975 1,950 2,925 3,900 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 1.18
Noxious Weeds
Detailed Map

SHERMAN COUNTY, OREGON

Secondary Road
Local Road
County Boundary

Noxious Weed

Convolvulus arvensis (field bindweed)
Lactuca serriola (prickly lettuce)
Salsola tragus (Russian thistle)
Taeniatherum caput-medusae (medusahead)

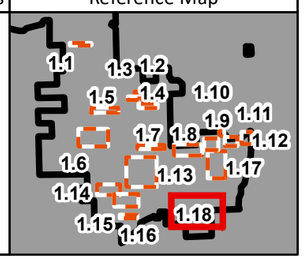
Nish Rd
Monkland Ln
Martin Rd

TETRA TECH
AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:9,500 WGS 1984 UTM Zone 10N

0 700 1,400 2,800 4,200 5,600 Feet

NOT FOR CONSTRUCTION

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Attachment 4. Hydrology and Hydraulic (H&H) Report for Golden Hills Wind Farm

HYDROLOGY AND HYDRAULIC (H&H) REPORT

FOR

GOLDEN HILLS WIND FARM

Sherman County, Oregon

Owner/Operator:
Golden Hills Wind Farm LLC
1125 NW Couch St Ste600
Portland, OR 97209

Published: February 2020

Prepared By:

FISHER ASSOCIATES

FA No.: 185059

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II. Hydrology 1
A. Methodology 1
B. Design Storm Frequency, Duration, and Precipitation 1
C. Topographic Base Map Data 1
D. Existing Site Conditions 1
E. Software 2
III. Conclusions 3
A. Substation 3
B. Operations and Maintenance Site 3

Exhibits

Exhibit 1: Project Location Maps *1*
Exhibit 2: Soils Map and Descriptions *2*
Exhibit 3: Existing Land Use Map *3*
Exhibit 4: Project Topographic Map *4*
Exhibit 5: Two-Dimensional Flow Depth Maps *5*
Exhibit 6: Two-Dimensional Velocity Maps *6*

References

1) "Golden Hills Wind Farm, Site Plan Drawings & Specifications" prepared by Fisher Associates, Dated February 2020.

I. Introduction

The Golden Hills Wind Project is located in Sherman County, Oregon and has a nominal capacity of 200 MW. The final turbine type is yet to be determined, but the current design is based on a 2 to 5 MW turbine with 51 primary location, 7 alternate locations and 2 meteorological (met) towers. In addition, the planned facility will have a system of underground electric collection lines to the substation. 16 ft wide permanent gravel access roads will be constructed for the project.

The turbines and met towers are primarily located along the hill tops and ridgelines and are serviced by new gravel access roads that connect to the public roads along the valleys. There are minimal crossings of existing drainage features other than at the public road entrances.

The purpose of this report is to summarize the results of a two-dimensional flow analysis that was completed for the 100-year storm event within the project limits.

II. Hydrology

A. Methodology

The Synthetic Unit (SU) Hydrography Method was utilized to model the drainage areas that the proposed project components are located in. According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Technical Release 55 (TR-55) Figure B-2, the project is within the Soil Conservation Service (SCS) Type IA rainfall distribution area.

B. Design Storm Frequency, Duration, and Precipitation

The 100-year storm event was modeled to determine the water depth and velocity throughout the project limits. Based on the Oregon Climate Service (OCS) 24-hour 100-Year Precipitation Map, there is approximately 3 inches of precipitation during the 100-year storm event.

C. Topographic Base Map Data

The United States Geological Survey (USGS), 20180501, USGS NED 1/3 arc-second n46w121 1x1 ArcGrid 2018 data was utilized to model the existing topography of the site. Refer to the Existing Topology map that is included as Exhibit 4.

The drainage areas that were studied as a part of this analysis were developed in order to encompass all of the project components while having a discharge point far enough downslope of the project that it will not exaggerate the calculated the water depths within the project boundary. There are 8 separate drainage areas that were analyzed as a part of this model. Refer to Exhibit 5 for maps of the drainage areas.

D. Existing Site Conditions

The Soil Conservation Service (SCS) runoff curve number (CN) was established for the study area utilizing the United States Geographic Survey (USGS) National Land Cover Database (NLCD) land cover data in conjunction with the United States Department of Agricultural (USDA) Natural Resources

Conservation Service (NRCS) Web Soil Survey (WSS). The majority of the project is cultivated crops with a HSG "B" soil. Refer to Exhibit 3 for the existing land uses within the project area. Exhibit 2 shows the general soils and land uses found within the project area. The following table represents the general soil conditions, the existing land use conditions, and the SCS Runoff Curve Number found within the study boundaries:

Soil and Land Use Data			
Land Use	**Hydraulic Soils Group**	**Percent of Study Area (%)**	**SCS Runoff Curve Number**
Cultivated Crops	A	0.03	62
	B	66.26	71
	C	11.77	78
	D	2.10	81
Developed, Open Space	A	0.77	39
	B	1.33	61
	C	0.60	74
	D	0.60	80
Herbaceous	A	0.01	62
	B	0.29	62
	C	0.24	74
	D	0.46	85
Shrub/Scrub	A	0.84	30
	B	5.72	48
	C	3.86	65
	D	4.96	73
Developed, Low Intensity	A	0.07	46
	B	0.00	65
	C	0.04	77
	D	0.00	82
Developed, Medium Intensity	A	0.02	57
	B	0	N/A
	C	0.01	81
	D	0.00	86
Emergent Herbaceous Wetlands	A	0.01	62
	B	0	N/A
	C	0	N/A
	D	0	N/A
Mixed Forest	A	0.00	30
	B	0	N/A
	C	0	N/A
	D	0.00	77
Deciduous Forest	A		30
	B	0	N/A
	C	0	N/A
	D	0	N/A

E. Software

A two-dimensional model was created for 8 separate drainage areas that encompass the project disturbances to determine the water elevation and velocity during the 100-year storm event using the Flo-2D hydrologic and hydraulic modeling software. Exhibit 5 contains maps of each of the 8 drainage areas that were analyzed showing the water flow depths that resulted from the Flo-2D analysis.

III. Conclusions

A. Turbines

The turbines are all located at the tops of the hills and along the ridgelines. There are no reportable water depths or velocities within the turbine areas during the 100-year storm event.

B. Access Roads

The majority of the project is located along hilltops and ridgelines with very few drainage crossings. The access road to turbines T1a, T12a, and T25a cross areas that have reportable depths during the 100-year storm event, however the depths are limited to a maximum of 0.15' at each location. These access roads will include culverts or surface water crossings (as necessary) to pass the storm events without causing a backup to occur or overtopping the roads.

C. Substation

The proposed substation site will be graded to safely convey the 100-year storm event without flooding the proposed site. According to the two-dimensional analysis that was performed, there are no reportable water depths oor velocities during the 100-year storm event within the substation site.

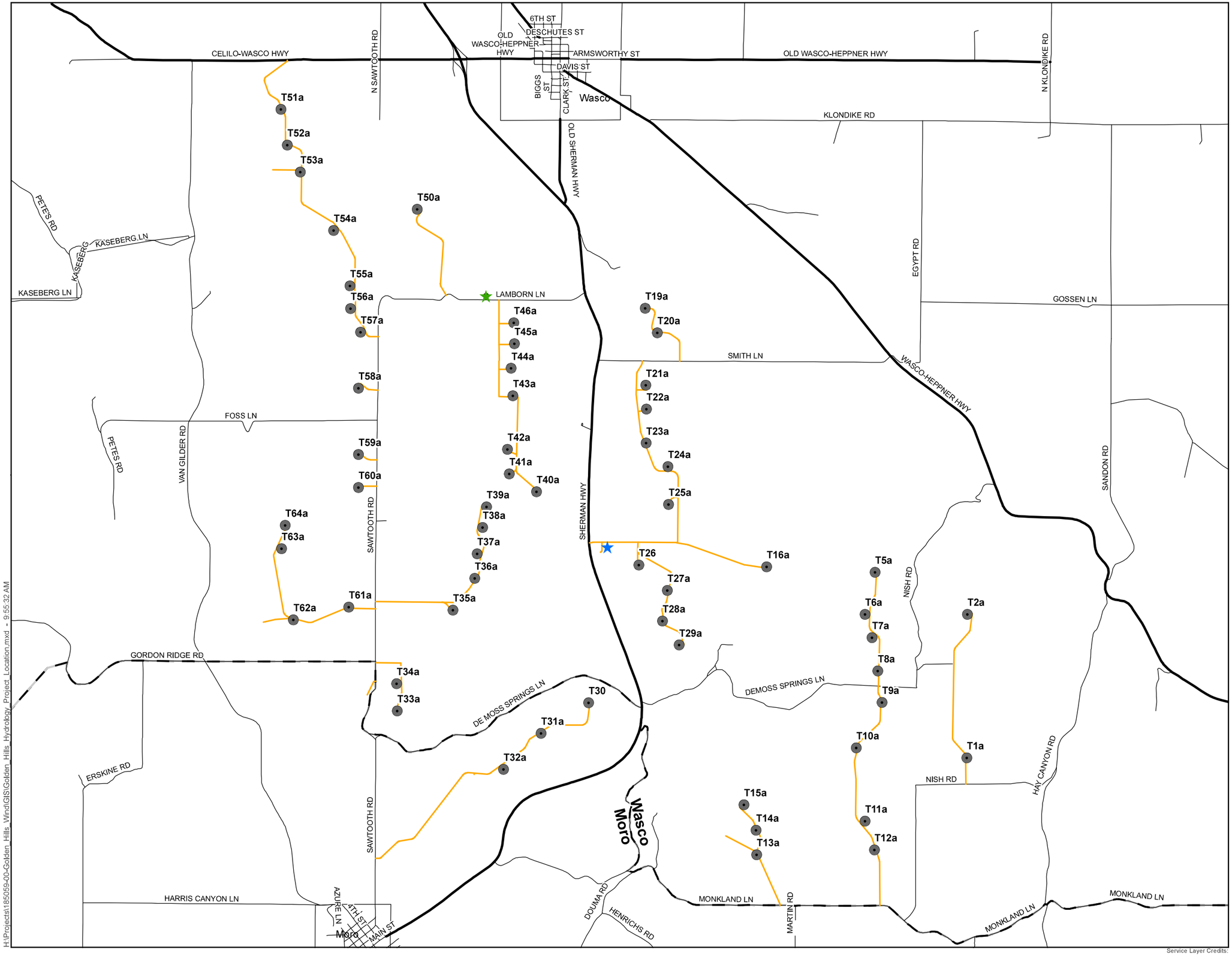
D. Operations and Maintenance Site

The proposed operation and maintenance (O&M) building will be set at an elevation to safely convey the 100-year storm event without flooding the proposed building. According to the two-dimensional analysis that was performed, there are no reportable water depths or velocities during the 100-year storm event within the O&M vicinity.

Exhibit 1: Project Location Maps

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
PROJECT LOCATION MAP
GOLDEN HILLS WIND PROJECT



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Service Layer Credits:

- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- O&M Building
- Municipal Boundary
- Township Boundary
- County Boundary

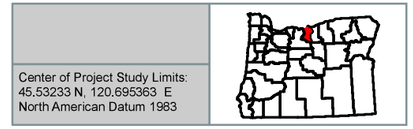
Project USGS Quad(s):

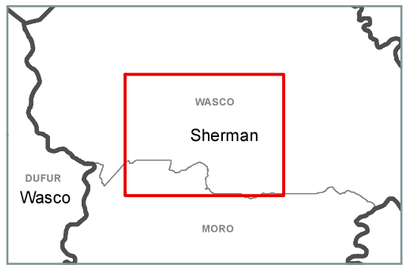
WASCO, MORO

Map Revision Date: 2/17/2020 | Map Author: Alexandra

0 2,000 4,000 Feet

Center of Project Study Limits:
45.53233 N, 120.695363 E
North American Datum 1983





Data Sources:
Aerial Photography: ESRI World Imagery - arcgis.com

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
PROJECT LOCATION AERIAL MAP
GOLDEN HILLS WIND PROJECT

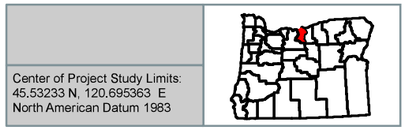
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- Municipal Boundary
- Township Boundary
- County Boundary

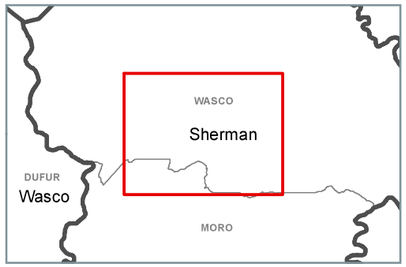
Project USGS Quad(s):
WASCO, MORO

Map Revision Date: 2/17/2020 | Map Author: Alexandra

0 2,000 4,000 Feet

Center of Project Study Limits:
45.53233 N, 120.695363 E
North American Datum 1983





Data Sources:
Aerial Photography: ESRI World Imagery - arcgis.com

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

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Exhibit 2: Soils Map and Descriptions

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
PROJECT SOILS MAP
GOLDEN HILLS WIND PROJECT

- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- NRCS Soil Boundary
- Municipal Boundary
- Township Boundary
- County Boundary

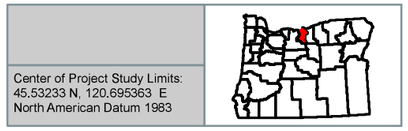
Project USGS Quad(s):

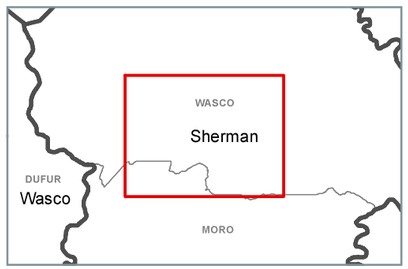
WASCO, MORO

Map Revision Date: 2/17/2020 | Map Author: Alexandra

0 2,000 4,000 Feet

Center of Project Study Limits:
45.53233 N, 120.695363 E
North American Datum 1983





Data Sources:
Aerial Photography: ESRI World Imagery - arcgis.com
Soils: NRCS websoilsurvey.sc.egov.usda.gov

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

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Exhibit 3: Existing Land Use Map

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
PROJECT SOILS MAP
GOLDEN HILLS WIND PROJECT

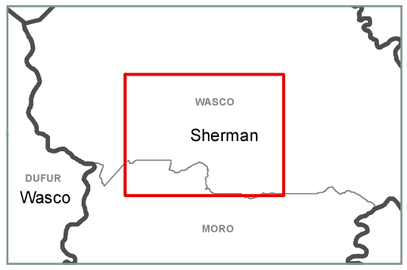
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- Municipal Boundary
- Township Boundary
- County Boundary
- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Herbaceuous
- Hay/Pasture
- Cultivated Crops
- Emergent Herbaceuous Wetlands

Project USGS Quad(s):
WASCO, MORO

Map Revision Date: 2/17/2020 | Map Author: Alexandra

0 2,000 4,000 Feet

Center of Project Study Limits:
45.53233 N, 120.695363 E
North American Datum 1983



Data Sources:
Aerial Photography: ESRI World Imagery - arcgis.com

Service Layer Credits:

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Exhibit 4: Project Topographic Map

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
PROJECT LOCATION TOPOGRAPHIC MAP
GOLDEN HILLS WIND PROJECT

- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road

FULL_STREE

- Local Road
- Highway Road
- Municipal Boundary
- Township Boundary
- County Boundary

Project USGS Quad(s):

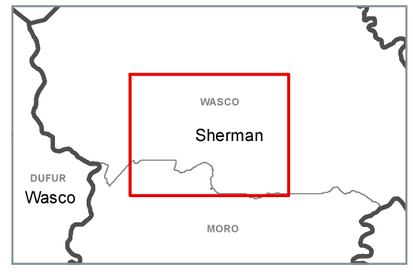
WASCO, MORO

Map Revision Date: 2/7/2020 | Map Author: Alexandra

0 2,000 4,000 Feet

Center of Project Study Limits:
45.53233 N, 120.695363 E
North American Datum 1983





Data Sources:
Topographic Map: ESRI - arcgis.com

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Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

Exhibit 5: Two-Dimensional Flow Depth Maps



FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW DEPTH & VELOCITY AREA INDEX
GOLDEN HILLS WIND PROJECT

- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- Drainage Area
- O&M Building
- Municipal Boundary
- Township Boundary
- County Boundary

Project USGS Quad(s):

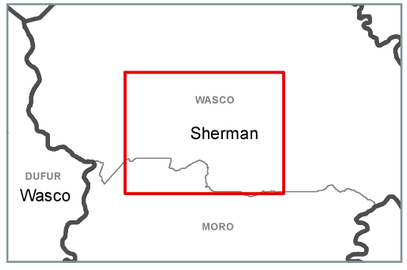
WASCO, MORO

Map Revision Date: 2/17/2020 | Map Author: Alexandra

0 2,000 4,000 Feet

Center of Project Study Limits:
45.53233 N, 120.695363 E
North American Datum 1983





Data Sources:
Aerial Photography: ESRI World Imagery - arcgis.com

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Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW DEPTH MAP
GOLDEN HILLS WIND PROJECT
AREA 1

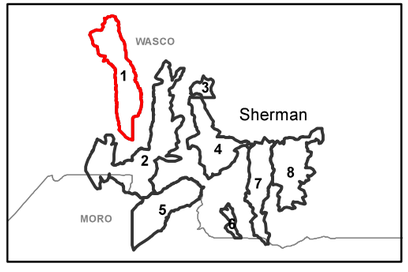
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Depth (ft)

- 0.10 - 0.15
- 0.16 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.50
- 1.51 - 3.00

Map Revision Date: 2/18/2020 | Map Author: SteveM

0 1,200 2,400 Feet



SHEET 1 OF 8

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW DEPTH MAP
GOLDEN HILLS WIND PROJECT
AREA 2

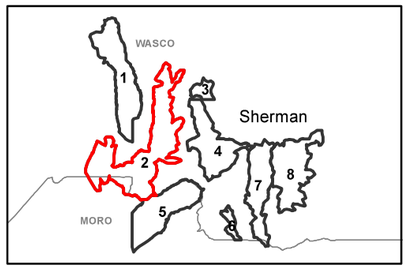
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Depth (ft)

- 0.10 - 0.15
- 0.16 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.50
- 1.51 - 3.00

Map Revision Date: 2/18/2020 | Map Author: SteveM

0 1,200 2,400 Feet



SHEET 2 OF 8

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW DEPTH MAP
GOLDEN HILLS WIND PROJECT
AREA 3

T19a

T20a

AREA 4

SMITH LN

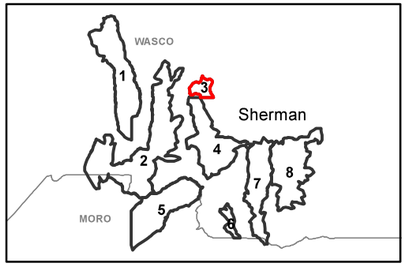
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Depth (ft)

- 0.10 - 0.15
- 0.16 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.50
- 1.51 - 3.00

Map Revision Date: 2/18/2020 | Map Author: SteveM

0 200 400 Feet



SHEET 3 OF 8

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW DEPTH MAP
GOLDEN HILLS WIND PROJECT
AREA 4

T45a
T44a
T43a
T42a
T41a
T40a
T21a
T22a
T23a
T24a
T25a
T26
T27a
T28a
T29a
T16a
T5a
T6a
T7a
T8a
AREA 2
AREA 3
AREA 5
AREA 7
AREA 8
Wasco
Moro

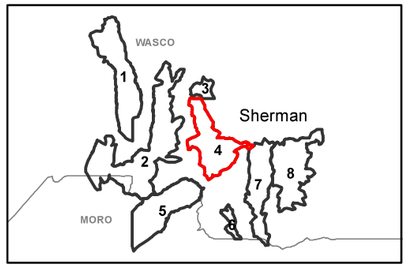
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Depth (ft)

- 0.10 - 0.15
- 0.16 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.50
- 1.51 - 3.00

Map Revision Date: 2/18/2020 | Map Author: SteveM

0 700 1,400 Feet



SHEET 4 OF 8

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW DEPTH MAP
GOLDEN HILLS WIND PROJECT
AREA 5

AREA 2
T34a
T33a
T29a
AREA 4
T30
T31a
T32a
Wasco
Moro
AREA 6
AREA 6
AREA 6
SHERMAN HWY
6TH ST
USHWY 97
Moro

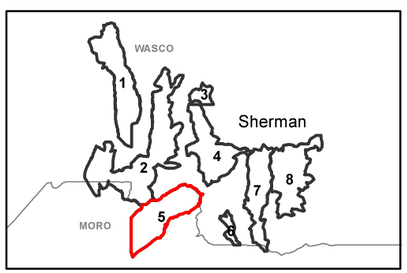
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Depth (ft)

- 0.10 - 0.15
- 0.16 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.50
- 1.51 - 3.00

Map Revision Date: 2/18/2020 | Map Author: SteveM

0 700 1,400 Feet



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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW DEPTH MAP
GOLDEN HILLS WIND PROJECT
AREA 6

AREA 5

AREA 7

T10a

T11a

T12a

T13a

T14a

T15a

Wasco

Moro

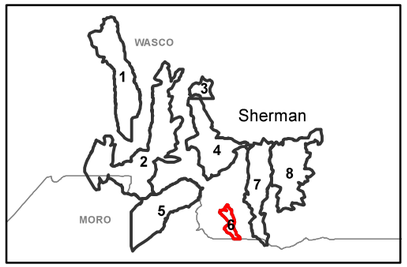
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Depth (ft)

- 0.10 - 0.15
- 0.16 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.50
- 1.51 - 3.00

Map Revision Date: 2/18/2020 | Map Author: SteveM

0 500 1,000 Feet



SHEET 6 OF 8

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW DEPTH MAP
GOLDEN HILLS WIND PROJECT
AREA 7

T25a
T26
T16a
T27a
T28a
T29a
T5a
T6a
T7a
T8a
T9a
T10a
T11a
T12a
T2a
T1a
T30
T15a
T14a
T13a
AREA 2
AREA 4
AREA 5
AREA 6
AREA 8
DEMOSS SPRINGS LN
Wasco
Moro

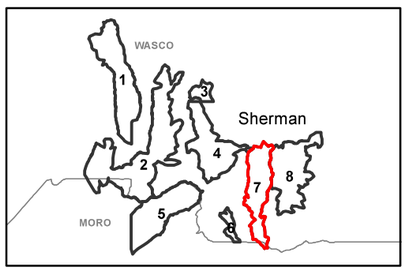
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Depth (ft)

- 0.10 - 0.15
- 0.16 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.50
- 1.51 - 3.00

Map Revision Date: 2/18/2020 | Map Author: SteveM

0 950 1,900 Feet



SHEET 7 OF 8

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW DEPTH MAP
GOLDEN HILLS WIND PROJECT
AREA 8

AREA 4

AREA 4

AREA 7

T5a

T6a

T7a

T8a

T9a

T10a

T2a

T1a

NISHIRD

NISH RD

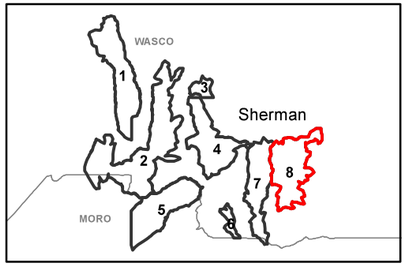
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Depth (ft)

- 0.10 - 0.15
- 0.16 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.50
- 1.51 - 3.00

Map Revision Date: 2/18/2020 | Map Author: SteveM

0 700 1,400 Feet



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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

SHEET 8 OF 8

Exhibit 6: Two-Dimensional Velocity Maps

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW VELOCITY MAP
GOLDEN HILLS WIND PROJECT
AREA 1

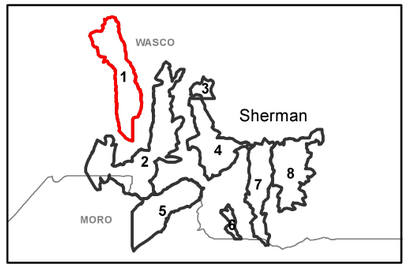
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Velocity (ft/s)

- 0.000000 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25

Map Revision Date: 2/19/2020 | Map Author: SteveM

0 1,200 2,400 Feet



SHEET 1 OF 8

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW VELOCITY MAP
GOLDEN HILLS WIND PROJECT
AREA 2

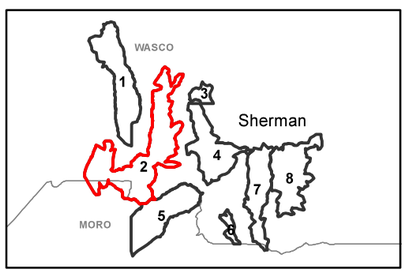
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Velocity (ft/s)

- 0.000000 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25

Map Revision Date: 2/19/2020 | Map Author: SteveM

0 1,200 2,400 Feet



SHEET 2 OF 8

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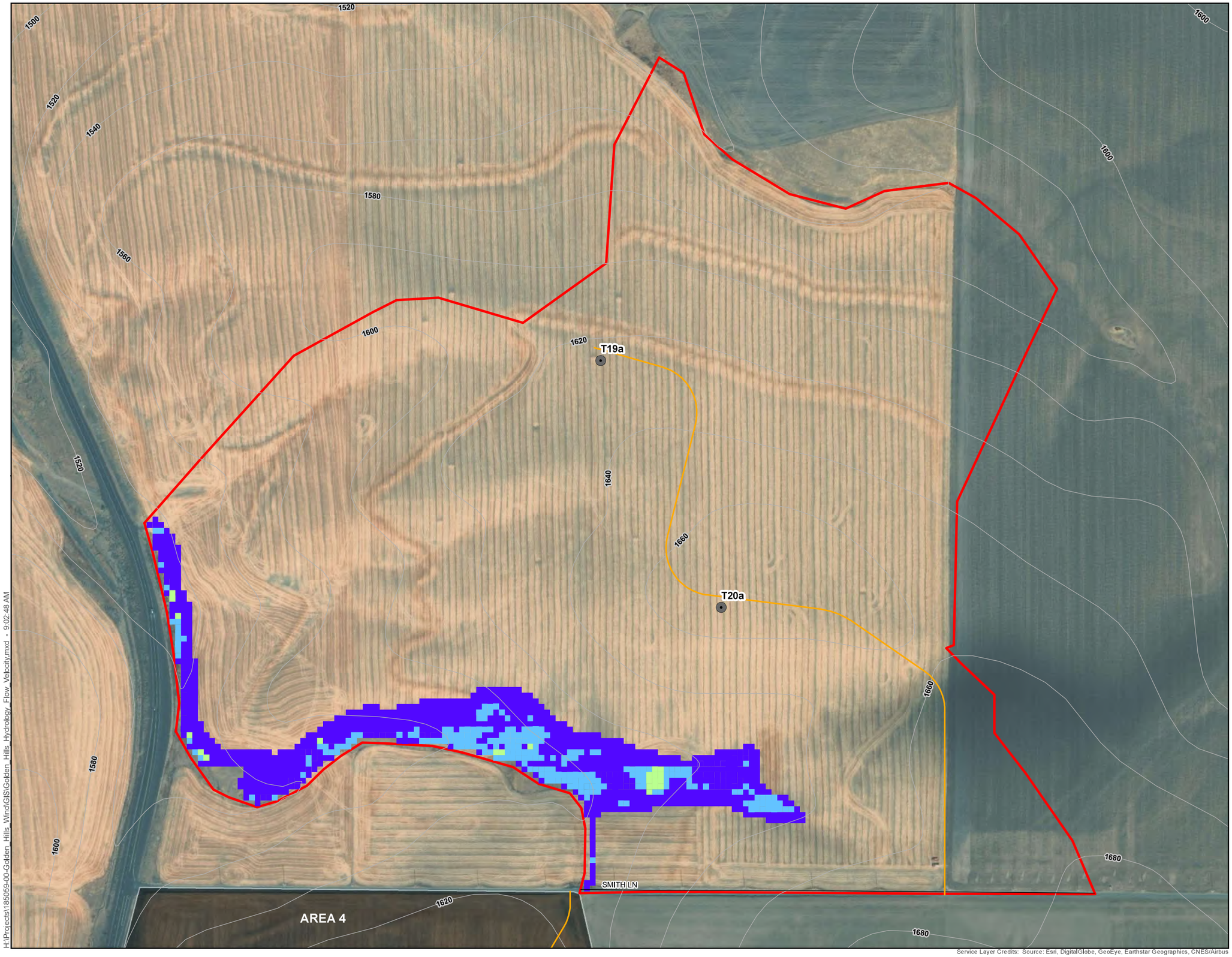
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW VELOCITY MAP
GOLDEN HILLS WIND PROJECT
AREA 3



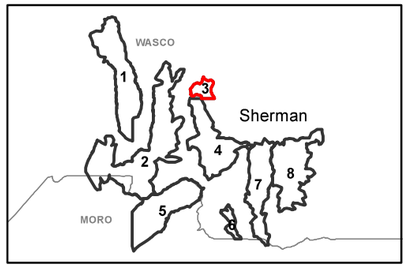
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Velocity (ft/s)

- 0.000000 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25

Map Revision Date: 2/19/2020 | Map Author: SteveM

0 200 400 Feet



SHEET 3 OF 8

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FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW VELOCITY MAP
GOLDEN HILLS WIND PROJECT
AREA 4

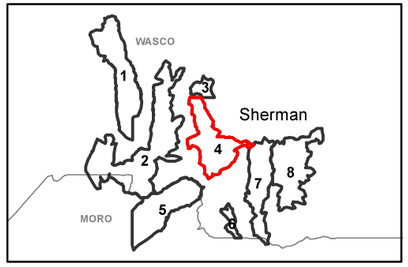
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Velocity (ft/s)

- 0.000000 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25

Map Revision Date: 2/19/2020 | Map Author: SteveM

0 700 1,400 Feet



SHEET 4 OF 8

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FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW VELOCITY MAP
GOLDEN HILLS WIND PROJECT
AREA 5

AREA 2
T34a
T33a
T29a
AREA 4
T30
T31a
T32a
Wasco
Moro
SHERMAN HWY
AREA 6
AREA 6
AREA 6
6TH ST
USHWY 97
Moro

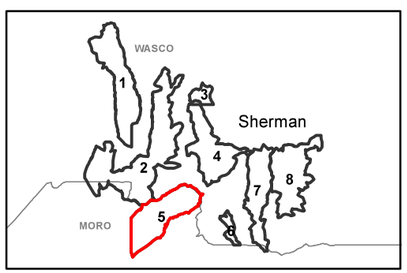
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Velocity (ft/s)

- 0.000000 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25

Map Revision Date: 2/19/2020 | Map Author: SteveM

0 700 1,400 Feet



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FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW VELOCITY MAP
GOLDEN HILLS WIND PROJECT
AREA 6

AREA 5

AREA 7

T10a

T11a

T12a

T13a

T14a

T15a

Wasco
Moro

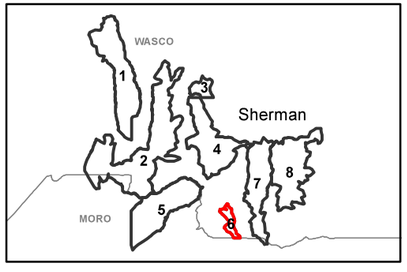
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Velocity (ft/s)

- 0.000000 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25

Map Revision Date: 2/19/2020 | Map Author: SteveM

0 500 1,000 Feet



SHEET 6 OF 8

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FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW VELOCITY MAP
GOLDEN HILLS WIND PROJECT
AREA 7

T25a
T26
T16a
T27a
T28a
T29a
T30
T5a
T6a
T7a
T8a
T9a
T10a
T11a
T12a
T13a
T14a
T15a
T2a
T1a
AREA 2
AREA 4
AREA 5
AREA 6
AREA 8
DEMOSS SPRINGS LN
Wasco
Moro

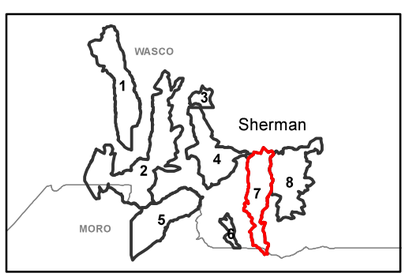
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Velocity (ft/s)

- 0.000000 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25

Map Revision Date: 2/19/2020 | Map Author: SteveM

0 950 1,900 Feet



SHEET 7 OF 8

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FISHER ASSOCIATES

TWO-DIMENSIONAL FLOW ANALYSIS
FLOW VELOCITY MAP
GOLDEN HILLS WIND PROJECT
AREA 8

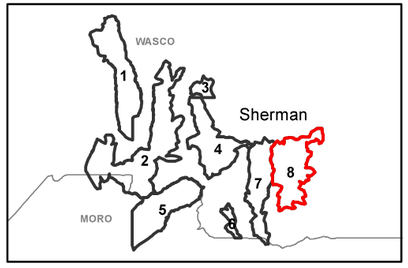
- Turbine (v15)
- Substation
- OM Building
- Proposed Access Road
- Local Road
- Highway Road
- 20ft Contour
- Drainage Area
- Municipal Boundary
- Township Boundary
- County Boundary

Flow Velocity (ft/s)

- 0.000000 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25

Map Revision Date: 2/19/2020 | Map Author: SteveM

0 700 1,400 Feet



SHEET 8 OF 8

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Attachment 5. Golden Hills Decommissioning Cost Estimate (Pre Construction Facility)

Golden Hills Decommissioning Cost Estimate (Pre Construction Facility)

Facility Component	Unit Cost	Pre Construction	
		No. of Components	Total Cost
Wind Facility Components (Approved in 2008)			
Wind Turbines			
Disconnect electrical	Included Below	Included Below	Included Below
Remove turbine blades, hubs and nacelles	$43,536.67	51	$2,220,370.22
Remove turbine towers (per ton of steel)	$149.52	26,120	$3,905,484.20
Remove turbine foundations	$63.48	8211	$521,269.20
Remove pad transformers and foundations	$1,686.43	51	$86,007.94
Restore turbine site (per acre)	$3,114.18	102	$317,646.59
Meteorological Towers			
Dismantle and dispose	$4,012.14	2	$8,024.28
O&M Facilities			
Dismantle and dispose	$111,908.71	1	$111,908.71
Substations			
Dismantle and dispose	$126,483.02	1	$126,483.02
Transmission Lines			
Above-ground collector Lines (per mile)	N/A	N/A	N/A
230 kv Transmission Lines (per mile)	$30,101.68	4.3	$129,437.22
500 kv Transmission Lines (per mile)	N/A	N/A	N/A
Junction Boxes (per unit)	$200.76	12	$2,409.12
Access Roads			
Road removal, grading and seeding (per mile)	$18,564.23	22	$408,413.16
Restore Additional Areas Disturbed by Facility Removal			
Grading and seeding around access roads, met towers, O&M facilities and turbine turnouts (per acre)	$3,114.18	53	$165,051.64
General Costs			
Permits, mobilization, engineering, overhead	$1,818,170.60	1	$1,818,170.60
Wind Facility Components Subtotal (Q4 2020 Dollars)			
		Subtotal (Q4 2020) =	$9,820,675.98

CBS Outline Report
TETRA TECH EC, INC.
Job Code: Golden Hills Decommissioning
Description: Decommissioning Estimate

From Cost Item: . **To Cost Item: .**

Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
2	GOLDEN HILLS WIND RETIREMENT - ODOE TEMPLATE					
2.1	Remove Blades, Hubs & Nacelles	51.00	Each	43,536.67	2,220,370.22	U.S. Dollar
2.1.1	WTG Removal	51.00	Each	15,000.00	765,000.00	U.S. Dollar
2.1.1.1	Remove Top,Nacell, Rotor	51.00	Each	10,000.00	510,000.00	U.S. Dollar
2.1.1.2	Remove Base & MId	51.00	Each	5,000.00	255,000.00	U.S. Dollar
2.1.2	Construct & Remove Temporary Crane Pads	25.50	Each	7,513.73	191,600.20	U.S. Dollar
2.1.2.1	Crane Pad 4" Stone 8" depth	2,550.00	Ton	34.66	88,375.81	U.S. Dollar
2.1.2.2	Crane Pad 2" Stone 6" depth	1,912.50	Ton	37.88	72,438.31	U.S. Dollar
2.1.2.3	Remove Stone after Erection	25.50	Each	1,207.30	30,786.08	U.S. Dollar
2.1.3	Blade T&D - 4.3 MW	2,091.00	Ton	95.00	198,645.00	U.S. Dollar
2.1.4	Blade T&D - 2.5 MW	370.00	Ton	95.00	35,150.00	U.S. Dollar
2.1.5	Oil Removal & Disposal - 4.3 MW	41.00	Each	239.43	9,816.69	U.S. Dollar
2.1.5.1	Oil Removal	41.00	Each	174.28	7,145.44	U.S. Dollar
2.1.5.2	Oil Disposal	1,640.00	Gallon	1.00	1,640.00	U.S. Dollar
2.1.5.3	Trucking - Per Load	0.75	Each	1,375.00	1,031.25	U.S. Dollar
2.1.6	Oil Removal & Disposal - 2.5 MW	10.00	Each	248.65	2,486.54	U.S. Dollar
2.1.6.1	Oil Removal	10.00	Each	174.28	1,742.79	U.S. Dollar
2.1.6.2	Oil Disposal	400.00	Gallon	1.00	400.00	U.S. Dollar
2.1.6.3	Trucking - Per Load	0.25	Each	1,375.00	343.75	U.S. Dollar
2.1.7	Demo & Prepare For Shipment Offsite - 4.3 MW	12,177.00	Ton	60.00	730,620.00	U.S. Dollar
2.1.8	Demo & Prepare For Shipment Offsite - 2.5 MW	1,420.00	Ton	60.00	85,200.00	U.S. Dollar
2.1.9	Contractor Markup (10% Of Cost)	1.00	Lump Sum	201,851.80	201,851.80	U.S. Dollar
2.2	Remove Towers	26,120.00	Ton	149.52	3,905,484.20	U.S. Dollar
2.2.1	WTG Removal	51.00	Each	15,000.00	765,000.00	U.S. Dollar
2.2.1.1	Remove Top,Nacell, Rotor	51.00	Each	10,000.00	510,000.00	U.S. Dollar
2.2.1.2	Remove Base & MId	51.00	Each	5,000.00	255,000.00	U.S. Dollar
2.2.2	Construct & Remove Temporary Crane Pads	25.50	Each	7,513.73	191,600.20	U.S. Dollar
2.2.2.1	Crane Pad 4" Stone 8" depth	2,550.00	Ton	34.66	88,375.81	U.S. Dollar
2.2.2.2	Crane Pad 2" Stone 6" depth	1,912.50	Ton	37.88	72,438.31	U.S. Dollar
2.2.2.3	Remove Stone after Erection	25.50	Each	1,207.30	30,786.08	U.S. Dollar
2.2.3	Scrap Trucking Cost - 4.3 MW	22,960.00	Ton	65.00	1,492,400.00	U.S. Dollar
2.2.4	Scrap Trucking Cost - 2.5 MW	3,160.00	Ton	65.00	205,400.00	U.S. Dollar
2.2.5	Demo & Prepare For Shipment Offsite - 4.3 MW	12,874.00	Ton	60.00	772,440.00	U.S. Dollar
2.2.6	Demo & Prepare For Shipment Offsite - 2.5 MW	2,060.00	Ton	60.00	123,600.00	U.S. Dollar
2.2.7	Contractor Markup (10% Of Cost)	1.00	Lump Sum	355,044.00	355,044.00	U.S. Dollar
2.3	WTG Foundation Removal	8,211.00	Cubic Yard	63.48	521,269.20	U.S. Dollar
2.3.1	Remove 13' x 3' Cylindrical Pedestal	765.00	Cubic Yard	44.63	34,138.30	U.S. Dollar
2.3.2	Remove Top 2' Of Octagonal Base	7,446.00	Cubic Yard	45.85	341,382.98	U.S. Dollar
2.3.3	Concrete Transport Offsite	8,211.00	Cubic Yard	11.98	98,359.82	U.S. Dollar
2.3.4	Contractor Markup (10% Of Cost)	1.00	Lump Sum	47,388.10	47,388.10	U.S. Dollar
2.4	Pad Mount Transformer Removal	51.00	Each	1,686.43	86,007.94	U.S. Dollar
2.4.1	Oil Removal & Disposal	51.00	Each	872.93	44,519.57	U.S. Dollar
2.4.1.1	Oil Removal	51.00	Each	98.20	5,008.43	U.S. Dollar
2.4.1.2	Oil Disposal	35,700.00	Gallon	1.00	35,700.00	U.S. Dollar
2.4.1.3	Trucking - Per Load	2.77	Each	1,375.00	3,811.14	U.S. Dollar

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Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
2.4.2	Remove & Loadout Transformer	51.00	Each	105.76	5,393.72	U.S. Dollar
2.4.3	Scrap Trucking Cost	408.00	Ton	65.00	26,520.00	U.S. Dollar
2.4.4	Remove Foundations To Subgrade	51.00	Each	34.43	1,755.75	U.S. Dollar
2.4.4.1	Excavate / Remove Foundation - Various Depth	51.00	Cubic Yard	16.86	859.72	U.S. Dollar
2.4.4.2	Concrete Transport Offsite	51.00	Cubic Yard	17.57	896.03	U.S. Dollar
2.4.5	Contractor Markup (10% Of Cost)	1.00	Lump Sum	7,818.90	7,818.90	U.S. Dollar
2.5	Turbine Site Restoration	102.00	Acre	3,114.18	317,646.59	U.S. Dollar
2.5.1	Topsoil Placement	82,314.00	Cubic Yard	2.89	237,769.59	U.S. Dollar
2.5.2	Re-Seed With Native Vegetation - Roads & Areas Disturbed By Construction	102.00	Acre	500.00	51,000.00	U.S. Dollar
2.5.3	Contractor Markup (10% Of Cost)	1.00	Lump Sum	28,877.00	28,877.00	U.S. Dollar
2.6	MET Tower Removal	2.00	Each	4,012.14	8,024.28	U.S. Dollar
2.6.1	Structure Demo	2.00	Each	2,419.99	4,839.97	U.S. Dollar
2.6.2	Remove Foundation	30.00	Cubic Yard	45.85	1,375.44	U.S. Dollar
2.6.3	Concrete Transport Offsite	30.00	Cubic Yard	11.98	359.37	U.S. Dollar
2.6.4	Scrap Trucking Cost	16.00	Ton	45.00	720.00	U.S. Dollar
2.6.5	Contractor Markup (10% Of Cost)	1.00	Lump Sum	729.50	729.50	U.S. Dollar
2.7	O&M Building Removal	1.00	Lump Sum	111,908.71	111,908.71	U.S. Dollar
2.7.1	Building Removal	1.00	Lump Sum	32,447.84	32,447.84	U.S. Dollar
2.7.1.1	Structure Demo	80.00	Ton	181.50	14,519.91	U.S. Dollar
2.7.1.2	Remove Foundations To Subgrade	300.00	Cubic Yard	34.43	10,327.93	U.S. Dollar
2.7.1.2.1	Excavate / Remove Foundation - Various Depth	300.00	Cubic Yard	16.86	5,057.16	U.S. Dollar
2.7.1.2.2	Concrete Transport Offsite	300.00	Cubic Yard	17.57	5,270.77	U.S. Dollar
2.7.1.3	Structure T&D	80.00	Ton	95.00	7,600.00	U.S. Dollar
2.7.2	Misc Removal - Septic, Concrete Parking & Fencing	1.00	Lump Sum	4,689.30	4,689.30	U.S. Dollar
2.7.2.1	Excavation & Removal	1.00	Day	4,214.30	4,214.30	U.S. Dollar
2.7.2.2	T&D	5.00	Ton	95.00	475.00	U.S. Dollar
2.7.3	Site Gravel Removal	3,227.00	Cubic Yard	10.79	34,811.31	U.S. Dollar
2.7.4	Site Restoration	1.00	Lump Sum	29,786.76	29,786.76	U.S. Dollar
2.7.4.1	Vegetative Cover	3,227.00	Cubic Yard	8.61	27,786.76	U.S. Dollar
2.7.4.1.1	Topsoil, Delivered	1,613.50	Cubic Yard	10.00	16,135.00	U.S. Dollar
2.7.4.1.2	Placement	3,227.00	Cubic Yard	3.61	11,651.76	U.S. Dollar
2.7.4.2	Re-Seed With Native Vegetation	4.00	Acre	500.00	2,000.00	U.S. Dollar
2.7.5	Contractor Markup (10% Of Cost)	1.00	Lump Sum	10,173.50	10,173.50	U.S. Dollar
2.8	Substation & Switchyard Removal	1.00	Each	126,483.02	126,483.02	U.S. Dollar
2.8.1	Fence Removal	1.00	Day	1,202.19	1,202.19	U.S. Dollar
2.8.2	Transformer & Switchyard Equip Removal	1.00	Each	57,339.48	57,339.48	U.S. Dollar
2.8.2.1	Oil Removal & Disposal	1.00	Each	28,621.40	28,621.40	U.S. Dollar
2.8.2.1.1	Oil Removal	1.00	Each	871.40	871.40	U.S. Dollar
2.8.2.1.2	Oil Disposal	25,000.00	Gallon	1.00	25,000.00	U.S. Dollar
2.8.2.1.3	Trucking - Per Load	2.00	Each	1,375.00	2,750.00	U.S. Dollar
2.8.2.2	Demo & Prepare For Shipment Offsite	150.00	Ton	126.45	18,968.08	U.S. Dollar
2.8.2.3	Scrap Trucking Cost	150.00	Ton	65.00	9,750.00	U.S. Dollar
2.8.3	Remove Control Building	1.00	Each	2,546.81	2,546.81	U.S. Dollar
2.8.3.1	Demo & Prepare For Shipment Offsite	10.00	Ton	189.68	1,896.81	U.S. Dollar
2.8.3.2	Scrap Trucking Cost	10.00	Ton	65.00	650.00	U.S. Dollar
2.8.4	UG Utility & Ground Removal	2.00	Day	1,202.19	2,404.37	U.S. Dollar
2.8.5	Remove Foundations To Subgrade	500.00	Cubic Yard	34.43	17,213.22	U.S. Dollar
2.8.5.1	Excavate / Remove Foundation - Various Depth	500.00	Cubic Yard	16.86	8,428.60	U.S. Dollar
2.8.5.2	Concrete Transport Offsite	500.00	Cubic Yard	17.57	8,784.62	U.S. Dollar
2.8.6	Misc. Material Disposal	1.00	Lump Sum	1,675.00	1,675.00	U.S. Dollar

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Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
2.8.6.1	Trucking - Per Load	1.00	Each	1,375.00	1,375.00	U.S. Dollar
2.8.6.2	Disposal Cost	10.00	Ton	30.00	300.00	U.S. Dollar
2.8.7	Restore Yard	1.00	Lump Sum	32,603.46	32,603.46	U.S. Dollar
2.8.7.1	Backfill / Regrade	4.00	Acre	1,540.15	6,160.62	U.S. Dollar
2.8.7.2	Vegetative Cover	2,000.00	Cubic Yard	12.22	24,442.84	U.S. Dollar
2.8.7.2.1	Topsoil, Delivered	1,000.00	Cubic Yard	10.00	10,000.00	U.S. Dollar
2.8.7.2.2	Placement	2,000.00	Cubic Yard	7.22	14,442.84	U.S. Dollar
2.8.7.3	Re-Seed With Native Vegetation	4.00	Acre	500.00	2,000.00	U.S. Dollar
2.8.8	Contractor Markup (10% Of Cost)	1.00	Lump Sum	11,498.50	11,498.50	U.S. Dollar
2.9	Transmission Line Removal	4.30	Mile	30,101.68	129,437.22	U.S. Dollar
2.9.1	Conductor Removal	4.30	Mile	24,531.64	105,486.06	U.S. Dollar
2.9.1.1	Cut / Lower Cable, Size & Loadout	4.30	Mile	22,731.64	97,746.06	U.S. Dollar
2.9.1.2	Salvage & Recovery	172.00	Ton	45.00	7,740.00	U.S. Dollar
2.9.1.2.1	Scrap Trucking Cost	172.00	Ton	45.00	7,740.00	U.S. Dollar
2.9.2	Wood Monopole Removal	45.00	Each	270.76	12,184.17	U.S. Dollar
2.9.2.1	Cut & Load Poles	45.00	Each	105.76	4,759.17	U.S. Dollar
2.9.2.2	Trucking - Per Load	11.00	Each	675.00	7,425.00	U.S. Dollar
2.9.3	Contractor Markup (10% Of Cost)	1.00	Lump Sum	11,767.00	11,767.00	U.S. Dollar
2.10	Remove Junction Box	12.00	Each	200.76	2,409.12	U.S. Dollar
2.10.1	Remove Junction Box	12.00	Each	120.22	1,442.62	U.S. Dollar
2.10.2	Trucking - Per Load	0.50	Each	1,375.00	687.50	U.S. Dollar
2.10.3	Disposal Cost	2.00	Ton	30.00	60.00	U.S. Dollar
2.10.4	Contractor Markup (10% Of Cost)	1.00	Lump Sum	219.00	219.00	U.S. Dollar
2.11	Access Road Removal	22.00	Mile	18,564.23	408,413.16	U.S. Dollar
2.11.1	Access Road Removal	34,418.00	Cubic Yard	10.79	371,284.66	U.S. Dollar
2.11.2	Contractor Markup (10% Of Cost)	1.00	Lump Sum	37,128.50	37,128.50	U.S. Dollar
2.12	Site Restoration	53.00	Acre	3,114.18	165,051.64	U.S. Dollar
2.12.1	Topsoil Placement	42,771.00	Cubic Yard	2.89	123,546.94	U.S. Dollar
2.12.2	Re-Seed With Native Vegetation - Roads & Areas Disturbed By Construction	53.00	Acre	500.00	26,500.00	U.S. Dollar
2.12.3	Contractor Markup (10% Of Cost)	1.00	Lump Sum	15,004.70	15,004.70	U.S. Dollar
2.13	General Cost	1.00	Lump Sum	882,841.52	882,841.52	U.S. Dollar
2.13.1	Home Office, Project Management (4% Of Cost)	1.00	Lump Sum	343,080.40	343,080.40	U.S. Dollar
2.13.2	Field Management	24.00	Week	18,282.31	438,775.52	U.S. Dollar
2.13.3	Site Facilities	6.00	Month	2,155.00	12,930.00	U.S. Dollar
2.13.4	Contractor Markup (10% Of Cost)	1.00	Lump Sum	88,055.60	88,055.60	U.S. Dollar
2.14	Mob / Demob	1.00	Lump Sum	935,329.16	935,329.16	U.S. Dollar
2.14.1	Equipment Mob	1.00	Lump Sum	51,500.00	51,500.00	U.S. Dollar
2.14.2	Site Facilities	1.00	Lump Sum	2,200.00	2,200.00	U.S. Dollar
2.14.3	Crew Mob & Site Setup	3.00	Day	14,319.85	42,959.56	U.S. Dollar
2.14.4	Crew Demob & Site Cleanup	2.00	Day	14,319.85	28,639.70	U.S. Dollar
2.14.5	Mob-Erection Sub	1.00	Lump Sum	725,000.00	725,000.00	U.S. Dollar
2.14.6	Contractor Markup (10% Of Cost)	1.00	Lump Sum	85,029.90	85,029.90	U.S. Dollar
Total:	**GOLDEN HILLS WIND RETIREMENT - ODOE TEMPLATE**				**9,820,675.98**	
Grand Total:					**9,820,675.98**	

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Estimate Summary
TETRA TECH EC, INC.
Job Code: Golden Hills Decommissioning
Description: Decommissioning Estimate

CBS Position Code	Quantity	UM	Cost Item Description	Days	UM/Day	Cost Source	Currency	Unit Cost	Total Cost
2	1.00	Lump Sum	GOLDEN HILLS WIND RETIREMENT - ODOE TEMPLATE	665.81	0.00	Detail	U.S. Dollar	9,820,675.98	9,820,675.98
2.1	51.00	Each	Remove Blades, Hubs & Nacelles	87.21	0.58	Detail	U.S. Dollar	43,536.67	2,220,370.22
2.1.1	51.00	Each	WTG Removal	0.00	0.00	Detail	U.S. Dollar	15,000.00	765,000.00
2.1.1.1	51.00	Each	Remove Top,Nacell, Rotor	0.00	0.00	Detail	U.S. Dollar	10,000.00	510,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERECT1	Sub-Top, Nacelle, Rotor		25.50	Each	U.S. Dollar	20,000.00	510,000.00

2.1.1.2	51.00	Each	Remove Base & MId	0.00	0.00	Detail	U.S. Dollar	5,000.00	255,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERECT	Erection Sub - Base/Mid		25.50	Each	U.S. Dollar	10,000.00	255,000.00

2.1.2	25.50	Each	Construct & Remove Temporary Crane Pads	34.00	0.75	Detail	U.S. Dollar	7,513.73	191,600.20

Notes: **********
60' x 40' Temporary Crane Pad
****

2.1.2.1	2,550.00	Ton	Crane Pad 4" Stone 8" depth	12.75	200.00	Detail	U.S. Dollar	34.66	88,375.81

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
M4"STONE	4" Stone		2,550.00	Ton	U.S. Dollar	15.00	38,250.00
RDOZER06	CAT D5H XL	127.50	1.00	Each (hourly)	U.S. Dollar	43.56	5,553.26
RROLLR06	CP-563C 84" SMOOTH DRUM	127.50	1.00	Each (hourly)	U.S. Dollar	51.70	6,591.24
L010101	OPERATOR	255.00	2.00	Each (hourly)	U.S. Dollar	48.95	12,481.31
USSTONETRK	Sub-Trucking of Stone		2,550.00	Ton	U.S. Dollar	10.00	25,500.00

2.1.2.2	1,912.50	Ton	Crane Pad 2" Stone 6" depth	12.75	150.00	Detail	U.S. Dollar	37.88	72,438.31

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USSTONETRK	Sub-Trucking of Stone		1,912.50	Ton	U.S. Dollar	10.00	19,125.00
L010101	OPERATOR	255.00	2.00	Each (hourly)	U.S. Dollar	48.95	12,481.31
RDOZER06	CAT D5H XL	127.50	1.00	Each (hourly)	U.S. Dollar	43.56	5,553.26
RROLLR06	CP-563C 84" SMOOTH DRUM	127.50	1.00	Each (hourly)	U.S. Dollar	51.70	6,591.24
M2"STONE	Material - 2" Stone		1,912.50	Ton	U.S. Dollar	15.00	28,687.50

2.1.2.3	25.50	Each	Remove Stone after Erection	8.50	3.00	Detail	U.S. Dollar	1,207.30	30,786.08

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
RDOZER06	CAT D5H XL	85.00	1.00	Each (hourly)	U.S. Dollar	43.56	3,702.18
RFELWH09	CAT 966F LOADER, 4.25CY	85.00	1.00	Each (hourly)	U.S. Dollar	62.97	5,352.45
L010101	OPERATOR	170.00	2.00	Each (hourly)	U.S. Dollar	48.95	8,320.87
L060100	GENERAL LABORER	85.00	1.00	Each (hourly)	U.S. Dollar	38.04	3,233.17
RDUTRK06	CAT D350D, 18CY-24CY	85.00	1.00	Each (hourly)	U.S. Dollar	74.29	6,314.65
L080940	TEAMSTER	85.00	1.00	Each (hourly)	U.S. Dollar	45.44	3,862.77

2.1.3	2,091.00	Ton	Blade T&D - 4.3 MW	0.00	0.00	Detail	U.S. Dollar	95.00	198,645.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		135,915.00	Each	U.S. Dollar	1.00	135,915.00
USDISPOSAL	Disposal Fee's		62,730.00	Each	U.S. Dollar	1.00	62,730.00

2.1.4	370.00	Ton	Blade T&D - 2.5 MW	0.00	0.00	Detail	U.S. Dollar	95.00	35,150.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

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CBS Position Code	Quantity	UM	Description	Cost Item Days	UM/Day	Cost Source	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub			24,050.00	Each		U.S. Dollar	1.00	24,050.00
USDISPOSAL	Disposal Fee's			11,100.00	Each		U.S. Dollar	1.00	11,100.00
2.1.5	41.00	Each	Oil Removal & Disposal - 4.3 MW	8.20	5.00	Detail	U.S. Dollar	239.43	9,816.69
2.1.5.1	41.00	Each	Oil Removal	8.20	5.00	Detail	U.S. Dollar	174.28	7,145.44

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	164.00	2.00	Each (hourly)	U.S. Dollar	38.04	6,238.11
RPUTRK05	F-250 4X4 3/4 TON PICKUP	82.00	1.00	Each (hourly)	U.S. Dollar	11.07	907.33

2.1.5.2	1,640.00	Gallon	Oil Disposal	0.00	0.00	Detail	U.S. Dollar	1.00	1,640.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USDISPOSAL	Disposal Fee's		1,640.00	Each	U.S. Dollar	1.00	1,640.00

2.1.5.3	0.75	Each	Trucking - Per Load	0.00	0.00	Detail	U.S. Dollar	1,375.00	1,031.25

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		1,031.25	Each	U.S. Dollar	1.00	1,031.25
2.1.6	10.00	Each	Oil Removal & Disposal - 2.5 MW	2.00	5.00	Detail	U.S. Dollar	248.65	2,486.54
2.1.6.1	10.00	Each	Oil Removal	2.00	5.00	Detail	U.S. Dollar	174.28	1,742.79

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	40.00	2.00	Each (hourly)	U.S. Dollar	38.04	1,521.49
RPUTRK05	F-250 4X4 3/4 TON PICKUP	20.00	1.00	Each (hourly)	U.S. Dollar	11.07	221.30

2.1.6.2	400.00	Gallon	Oil Disposal	0.00	0.00	Detail	U.S. Dollar	1.00	400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USDISPOSAL	Disposal Fee's		400.00	Each	U.S. Dollar	1.00	400.00

2.1.6.3	0.25	Each	Trucking - Per Load	0.00	0.00	Detail	U.S. Dollar	1,375.00	343.75

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		343.75	Each	U.S. Dollar	1.00	343.75
2.1.7	12,177.00	Ton	Demo & Prepare For Shipment Offsite - 4.3 MW	38.52	316.13	Detail	U.S. Dollar	60.00	730,620.00
2.1.8	1,420.00	Ton	Demo & Prepare For Shipment Offsite - 2.5 MW	4.49	316.13	Detail	U.S. Dollar	60.00	85,200.00
2.1.9	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	201,851.80	201,851.80

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		2,018,518.00	Each	U.S. Dollar	0.10	201,851.80
2.2	26,120.00	Ton	Remove Towers	81.24	321.52	Detail	U.S. Dollar	149.52	3,905,484.20
2.2.1	51.00	Each	WTG Removal	0.00	0.00	Detail	U.S. Dollar	15,000.00	765,000.00
2.2.1.1	51.00	Each	Remove Top,Nacell, Rotor	0.00	0.00	Detail	U.S. Dollar	10,000.00	510,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERECT1	Sub-Top, Nacelle, Rotor		25.50	Each	U.S. Dollar	20,000.00	510,000.00
2.2.1.2	51.00	Each	Remove Base & Mid	0.00	0.00	Detail	U.S. Dollar	5,000.00	255,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERECT	Erection Sub - Base/Mid		25.50	Each	U.S. Dollar	10,000.00	255,000.00
2.2.2	25.50	Each	Construct & Remove Temporary Crane Pads	34.00	0.75	Detail	U.S. Dollar	7,513.73	191,600.20

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CBS Position Code	Quantity	UM	Description	Cost Item Days	Cost UM/Day	Cost Source	Currency	Unit Cost	Total Cost
Notes: ********** 60' x 40' Temporary Crane Pad **********									
2.2.2.1	2,550.00	Ton	Crane Pad 4" Stone 8" depth	12.75	200.00	Detail	U.S. Dollar	34.66	88,375.81

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
M4"STONE	4" Stone		2,550.00	Ton	U.S. Dollar	15.00	38,250.00
RDOZER06	CAT D5H XL	127.50	1.00	Each (hourly)	U.S. Dollar	43.56	5,553.26
RROLLR06	CP-563C 84" SMOOTH DRUM	127.50	1.00	Each (hourly)	U.S. Dollar	51.70	6,591.24
L010101	OPERATOR	255.00	2.00	Each (hourly)	U.S. Dollar	48.95	12,481.31
USSTONETRK	Sub-Trucking of Stone		2,550.00	Ton	U.S. Dollar	10.00	25,500.00

2.2.2.2	1,912.50	Ton	Crane Pad 2" Stone 6" depth	12.75	150.00	Detail	U.S. Dollar	37.88	72,438.31

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USSTONETRK	Sub-Trucking of Stone		1,912.50	Ton	U.S. Dollar	10.00	19,125.00
L010101	OPERATOR	255.00	2.00	Each (hourly)	U.S. Dollar	48.95	12,481.31
RDOZER06	CAT D5H XL	127.50	1.00	Each (hourly)	U.S. Dollar	43.56	5,553.26
RROLLR06	CP-563C 84" SMOOTH DRUM	127.50	1.00	Each (hourly)	U.S. Dollar	51.70	6,591.24
M2"STONE	Material - 2" Stone		1,912.50	Ton	U.S. Dollar	15.00	28,687.50

2.2.2.3	25.50	Each	Remove Stone after Erection	8.50	3.00	Detail	U.S. Dollar	1,207.30	30,786.08

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
RDOZER06	CAT D5H XL	85.00	1.00	Each (hourly)	U.S. Dollar	43.56	3,702.18
RFELWH09	CAT 966F LOADER, 4.25CY	85.00	1.00	Each (hourly)	U.S. Dollar	62.97	5,352.45
L010101	OPERATOR	170.00	2.00	Each (hourly)	U.S. Dollar	48.95	8,320.87
L060100	GENERAL LABORER	85.00	1.00	Each (hourly)	U.S. Dollar	38.04	3,233.17
RDUTRK06	CAT D350D, 18CY-24CY	85.00	1.00	Each (hourly)	U.S. Dollar	74.29	6,314.65
L080940	TEAMSTER	85.00	1.00	Each (hourly)	U.S. Dollar	45.44	3,862.77

2.2.3	22,960.00	Ton	Scrap Trucking Cost - 4.3 MW	0.00	0.00	Detail	U.S. Dollar	65.00	1,492,400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		1,492,400.00	Each	U.S. Dollar	1.00	1,492,400.00

2.2.4	3,160.00	Ton	Scrap Trucking Cost - 2.5 MW	0.00	0.00	Detail	U.S. Dollar	65.00	205,400.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		205,400.00	Each	U.S. Dollar	1.00	205,400.00

2.2.5	12,874.00	Ton	Demo & Prepare For Shipment Offsite - 4.3 MW	40.72	316.13	Detail	U.S. Dollar	60.00	772,440.00
2.2.6	2,060.00	Ton	Demo & Prepare For Shipment Offsite - 2.5 MW	6.52	316.13	Detail	U.S. Dollar	60.00	123,600.00
2.2.7	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	355,044.00	355,044.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		3,550,440.00	Each	U.S. Dollar	0.10	355,044.00

2.3	8,211.00	Cubic Yard	WTG Foundation Removal	112.08	73.26	Detail	U.S. Dollar	63.48	521,269.20
2.3.1	765.00	Cubic Yard	Remove 13' x 3' Cylindrical Pedestal	5.10	150.00	Detail	U.S. Dollar	44.63	34,138.30

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	102.00	2.00	Each (hourly)	U.S. Dollar	38.04	3,879.80
L010101	OPERATOR	153.00	3.00	Each (hourly)	U.S. Dollar	48.95	7,488.78
*REXCAV06C	Excav 100K w/ Hammer	102.00	2.00	Each (hourly)	U.S. Dollar	160.97	16,418.43
*REXCAV06A	Excav 100K w/ Bucket & Grapple	51.00	1.00	Each (hourly)	U.S. Dollar	124.54	6,351.29

2.3.2	7,446.00	Cubic Yard	Remove Top 2' Of Octagonal Base	51.00	146.00	Detail	U.S. Dollar	45.85	341,382.98

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CBS Position Code	Quantity	UM	Description	Cost Item Days	UM/Day	Cost Source	Currency	Unit Cost	Total Cost

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	1,020.00	2.00	Each (hourly)	U.S. Dollar	38.04	38,798.00
L010101	OPERATOR	1,530.00	3.00	Each (hourly)	U.S. Dollar	48.95	74,887.84
*REXCAV06C	Excav 100K w/ Hammer	1,020.00	2.00	Each (hourly)	U.S. Dollar	160.97	164,184.30
*REXCAV06A	Excav 100K w/ Bucket & Grapple	510.00	1.00	Each (hourly)	U.S. Dollar	124.54	63,512.85

2.3.3	8,211.00	Cubic Yard	Concrete Transport Offsite	55.98	146.67	Detail	U.S. Dollar	11.98	98,359.82

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
RDUTRK06	CAT D350D, 18CY-24CY	559.84	1.00	Each (hourly)	U.S. Dollar	74.29	41,590.58
L080940	TEAMSTER	559.84	1.00	Each (hourly)	U.S. Dollar	45.44	25,441.58
L010101	OPERATOR	279.92	0.50	Each (hourly)	U.S. Dollar	48.95	13,701.07
RFELWH09	CAT 966F LOADER, 4.25CY	279.92	0.50	Each (hourly)	U.S. Dollar	62.97	17,626.59

2.3.4	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	47,388.10	47,388.10

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		473,881.00	Each	U.S. Dollar	0.10	47,388.10

2.4	51.00	Each	Pad Mount Transformer Removal	13.46	3.79	Detail	U.S. Dollar	1,686.43	86,007.94

2.4.1	51.00	Each	Oil Removal & Disposal	10.20	5.00	Detail	U.S. Dollar	872.93	44,519.57

2.4.1.1	51.00	Each	Oil Removal	10.20	5.00	Detail	U.S. Dollar	98.20	5,008.43

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	102.00	1.00	Each (hourly)	U.S. Dollar	38.04	3,879.80
RPUTRK05	F-250 4X4 3/4 TON PICKUP	102.00	1.00	Each (hourly)	U.S. Dollar	11.07	1,128.63

2.4.1.2	35,700.00	Gallon	Oil Disposal	0.00	0.00	Detail	U.S. Dollar	1.00	35,700.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USDISPOSAL	Disposal Fee's		35,700.00	Each	U.S. Dollar	1.00	35,700.00

2.4.1.3	2.77	Each	Trucking - Per Load	0.00	0.00	Detail	U.S. Dollar	1,375.00	3,811.14

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		3,811.14	Each	U.S. Dollar	1.00	3,811.14

2.4.2	51.00	Each	Remove & Loadout Transformer	2.55	20.00	Detail	U.S. Dollar	105.76	5,393.72

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
*REXCAV06A	Excav 100K w/ Bucket & Grapple	25.50	1.00	Each (hourly)	U.S. Dollar	124.54	3,175.64
L010101	OPERATOR	25.50	1.00	Each (hourly)	U.S. Dollar	48.95	1,248.13
L060100	GENERAL LABORER	25.50	1.00	Each (hourly)	U.S. Dollar	38.04	969.95

2.4.3	408.00	Ton	Scrap Trucking Cost	0.00	0.00	Detail	U.S. Dollar	65.00	26,520.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		26,520.00	Each	U.S. Dollar	1.00	26,520.00

2.4.4	51.00	Each	Remove Foundations To Subgrade	0.71	71.43	Detail	U.S. Dollar	34.43	1,755.75

2.4.4.1	51.00	Cubic Yard	Excavate / Remove Foundation - Various Depth	0.20	250.00	Detail	U.S. Dollar	16.86	859.72

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	2.04	1.00	Each (hourly)	U.S. Dollar	38.04	77.60
L010101	OPERATOR	4.08	2.00	Each (hourly)	U.S. Dollar	48.95	199.70
*REXCAV06C	Excav 100K w/ Hammer	2.04	1.00	Each (hourly)	U.S. Dollar	160.97	328.37
*REXCAV06A	Excav 100K w/ Bucket & Grapple	2.04	1.00	Each (hourly)	U.S. Dollar	124.54	254.05

2.4.4.2	51.00	Cubic Yard	Concrete Transport Offsite	0.51	100.00	Detail	U.S. Dollar	17.57	896.03

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

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CBS Position Code	Quantity	UM	Description	Cost Item Days	UM/Day	Cost Source	Currency	Unit Cost	Total Cost
RDUTRK06	CAT D350D, 18CY-24CY		5.10	1.00	Each (hourly)		U.S. Dollar	74.29	378.88
L080940	TEAMSTER		5.10	1.00	Each (hourly)		U.S. Dollar	45.44	231.77
L010101	OPERATOR		2.55	0.50	Each (hourly)		U.S. Dollar	48.95	124.81
RFELWH09	CAT 966F LOADER, 4.25CY		2.55	0.50	Each (hourly)		U.S. Dollar	62.97	160.57
2.4.5	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	7,818.90	7,818.90

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		78,189.00	Each	U.S. Dollar	0.10	7,818.90

2.5	102.00	Acre	Turbine Site Restoration	54.88	1.86	Detail	U.S. Dollar	3,114.18	317,646.59
2.5.1	82,314.00	Cubic Yard	Topsoil Placement	54.88	1,500.00	Detail	U.S. Dollar	2.89	237,769.59

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	2,195.04	4.00	Each (hourly)	U.S. Dollar	48.95	107,439.09
RDOZER08	CAT D6N XL	2,195.04	4.00	Each (hourly)	U.S. Dollar	59.38	130,330.50

Notes: **********
Road footprint - 22 miles x 16' = 43 acres
2 acres per turbine location = 102 acres
Misc areas impacted by deconstruction - 10 acres
Assume that topsoil is bermed and available for reclamation
****

2.5.2	102.00	Acre	Re-Seed With Native Vegetation - Roads & Areas Disturbed By Construction	0.00	0.00	Detail	U.S. Dollar	500.00	51,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USLANDSCAPE	Landscape Sub		102.00	Acre	U.S. Dollar	500.00	51,000.00

Notes: **********
Road footprint - 22 miles x 16' = 43 acres
2 acres per turbine location = 102 acres
Misc areas impacted by deconstruction - 10 acres
****

2.5.3	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	28,877.00	28,877.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		288,770.00	Each	U.S. Dollar	0.10	28,877.00

2.6	2.00	Each	MET Tower Removal	1.41	1.42	Detail	U.S. Dollar	4,012.14	8,024.28
2.6.1	2.00	Each	Structure Demo	1.00	2.00	Detail	U.S. Dollar	2,419.99	4,839.97
2.6.2	30.00	Cubic Yard	Remove Foundation	0.21	146.00	Detail	U.S. Dollar	45.85	1,375.44

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	4.11	2.00	Each (hourly)	U.S. Dollar	38.04	156.32
L010101	OPERATOR	6.16	3.00	Each (hourly)	U.S. Dollar	48.95	301.72
*REXCAV06C	Excav 100K w/ Hammer	4.11	2.00	Each (hourly)	U.S. Dollar	160.97	661.50
*REXCAV06A	Excav 100K w/ Bucket & Grapple	2.05	1.00	Each (hourly)	U.S. Dollar	124.54	255.89

2.6.3	30.00	Cubic Yard	Concrete Transport Offsite	0.20	146.67	Detail	U.S. Dollar	11.98	359.37

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
RDUTRK06	CAT D350D, 18CY-24CY	2.05	1.00	Each (hourly)	U.S. Dollar	74.29	151.96
L080940	TEAMSTER	2.05	1.00	Each (hourly)	U.S. Dollar	45.44	92.95
L010101	OPERATOR	1.02	0.50	Each (hourly)	U.S. Dollar	48.95	50.06
RFELWH09	CAT 966F LOADER, 4.25CY	1.02	0.50	Each (hourly)	U.S. Dollar	62.97	64.40

2.6.4	16.00	Ton	Scrap Trucking Cost	0.00	0.00	Detail	U.S. Dollar	45.00	720.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		720.00	Each	U.S. Dollar	1.00	720.00

2.6.5	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	729.50	729.50

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CBS Position Code	Quantity	UM	Description	Cost Item Days	UM/Day	Cost Source	Currency	Unit Cost	Total Cost
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
USMARKUP	10% Markup				7,295.00	Each	U.S. Dollar	0.10	729.50
2.7	1.00	Lump Sum	O&M Building Removal	25.41	0.04	Detail	U.S. Dollar	111,908.71	111,908.71
2.7.1	1.00	Lump Sum	Building Removal	7.20	0.14	Detail	U.S. Dollar	32,447.84	32,447.84
2.7.1.1	80.00	Ton	Structure Demo	3.00	26.67	Detail	U.S. Dollar	181.50	14,519.91
2.7.1.2	300.00	Cubic Yard	Remove Foundations To Subgrade	4.20	71.43	Detail	U.S. Dollar	34.43	10,327.93
2.7.1.2.1	300.00	Cubic Yard	Excavate / Remove Foundation - Various Depth	1.20	250.00	Detail	U.S. Dollar	16.86	5,057.16
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
L060100	GENERAL LABORER			12.00	1.00	Each (hourly)	U.S. Dollar	38.04	456.45
L010101	OPERATOR			24.00	2.00	Each (hourly)	U.S. Dollar	48.95	1,174.71
*REXCAV06C	Excav 100K w/ Hammer			12.00	1.00	Each (hourly)	U.S. Dollar	160.97	1,931.58
*REXCAV06A	Excav 100K w/ Bucket & Grapple			12.00	1.00	Each (hourly)	U.S. Dollar	124.54	1,494.42
2.7.1.2.2	300.00	Cubic Yard	Concrete Transport Offsite	3.00	100.00	Detail	U.S. Dollar	17.57	5,270.77
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
RDUTRK06	CAT D350D, 18CY-24CY			30.00	1.00	Each (hourly)	U.S. Dollar	74.29	2,228.70
L080940	TEAMSTER			30.00	1.00	Each (hourly)	U.S. Dollar	45.44	1,363.33
L010101	OPERATOR			15.00	0.50	Each (hourly)	U.S. Dollar	48.95	734.19
RFELWH09	CAT 966F LOADER, 4.25CY			15.00	0.50	Each (hourly)	U.S. Dollar	62.97	944.55
2.7.1.3	80.00	Ton	Structure T&D	0.00	0.00	Detail	U.S. Dollar	95.00	7,600.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
USTRUCKING	Trucking Sub				5,200.00	Each	U.S. Dollar	1.00	5,200.00
USDISPOSAL	Disposal Fee's				2,400.00	Each	U.S. Dollar	1.00	2,400.00
2.7.2	1.00	Lump Sum	Misc Removal - Septic, Concrete Parking & Fencing	1.00	1.00	Detail	U.S. Dollar	4,689.30	4,689.30
2.7.2.1	1.00	Day	Excavation & Removal	1.00	1.00	Detail	U.S. Dollar	4,214.30	4,214.30
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
L060100	GENERAL LABORER			10.00	1.00	Each (hourly)	U.S. Dollar	38.04	380.37
L010101	OPERATOR			20.00	2.00	Each (hourly)	U.S. Dollar	48.95	978.93
*REXCAV06C	Excav 100K w/ Hammer			10.00	1.00	Each (hourly)	U.S. Dollar	160.97	1,609.65
*REXCAV06A	Excav 100K w/ Bucket & Grapple			10.00	1.00	Each (hourly)	U.S. Dollar	124.54	1,245.35
2.7.2.2	5.00	Ton	T&D	0.00	0.00	Detail	U.S. Dollar	95.00	475.00
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
USTRUCKING	Trucking Sub				325.00	Each	U.S. Dollar	1.00	325.00
USDISPOSAL	Disposal Fee's				150.00	Each	U.S. Dollar	1.00	150.00
2.7.3	3,227.00	Cubic Yard	Site Gravel Removal	6.45	500.00	Detail	U.S. Dollar	10.79	34,811.31
Resource Code	**Description**			**Hours**	**Quantity**	**UM**	**Currency**	**Unit Cost**	**Total Cost**
L010101	OPERATOR			129.08	2.00	Each (hourly)	U.S. Dollar	48.95	6,317.99
L060100	GENERAL LABORER			129.08	2.00	Each (hourly)	U.S. Dollar	38.04	4,909.85
L080940	TEAMSTER			129.08	2.00	Each (hourly)	U.S. Dollar	45.44	5,865.95
RDUTRK06	CAT D350D, 18CY-24CY			129.08	2.00	Each (hourly)	U.S. Dollar	74.29	9,589.35
RFELWH09	CAT 966F LOADER, 4.25CY			129.08	2.00	Each (hourly)	U.S. Dollar	62.97	8,128.17

Notes: **********
4 acres x .5 foot depth
****

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CBS Position Code	Quantity	UM	Description	Cost Item Days	UM/Day	Cost Source	Currency	Unit Cost	Total Cost
2.7.4	1.00	Lump Sum	Site Restoration	10.76	0.09	Detail	U.S. Dollar	29,786.76	29,786.76
2.7.4.1	3,227.00	Cubic Yard	Vegetative Cover	10.76	300.00	Detail	U.S. Dollar	8.61	27,786.76

Notes: **********
Assume that 50% of the topsoil is onsite and available for use
****

2.7.4.1.1	1,613.50	Cubic Yard	Topsoil, Delivered	0.00	0.00	Detail	U.S. Dollar	10.00	16,135.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
IMSOIL	Topsoil		806.75	Cubic Yard	U.S. Dollar	20.00	16,135.00

Notes: **********
Assume that 50% of the topsoil required for restoration
is bermed and stockpiled
****

2.7.4.1.2	3,227.00	Cubic Yard	Placement	10.76	300.00	Detail	U.S. Dollar	3.61	11,651.76

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	107.57	1.00	Each (hourly)	U.S. Dollar	48.95	5,264.99
RDOZER08	CAT D6N XL	107.57	1.00	Each (hourly)	U.S. Dollar	59.38	6,386.77
2.7.4.2	4.00 Acre	Re-Seed With Native Vegetation	0.00	0.00	Detail	U.S. Dollar	500.00	2,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USLANDSCAPE	Landscape Sub		4.00	Acre	U.S. Dollar	500.00	2,000.00
2.7.5	1.00 Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	10,173.50	10,173.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		101,735.00	Each	U.S. Dollar	0.10	10,173.50
2.8	1.00 Each	Substation & Switchyard Removal	20.77	0.05	Detail	U.S. Dollar	126,483.02	126,483.02
2.8.1	1.00 Day	Fence Removal	1.00	1.00	Detail	U.S. Dollar	1,202.19	1,202.19

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	10.00	1.00	Each (hourly)	U.S. Dollar	48.95	489.46
L060100	GENERAL LABORER	10.00	1.00	Each (hourly)	U.S. Dollar	38.04	380.37
RBACKH09	Deere 710J BACKHOE, 1.62CY	10.00	1.00	Each (hourly)	U.S. Dollar	33.24	332.35
2.8.2	1.00 Each	Transformer & Switchyard Equip Removal	2.00	0.50	Detail	U.S. Dollar	57,339.48	57,339.48
2.8.2.1	1.00 Each	Oil Removal & Disposal	1.00	1.00	Detail	U.S. Dollar	28,621.40	28,621.40
2.8.2.1.1	1.00 Each	Oil Removal	1.00	1.00	Detail	U.S. Dollar	871.40	871.40

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	20.00	2.00	Each (hourly)	U.S. Dollar	38.04	760.75
RPUTRK05	F-250 4X4 3/4 TON PICKUP	10.00	1.00	Each (hourly)	U.S. Dollar	11.07	110.65
2.8.2.1.2	25,000.00 Gallon	Oil Disposal	0.00	0.00	Detail	U.S. Dollar	1.00	25,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USDISPOSAL	Disposal Fee's		25,000.00	Each	U.S. Dollar	1.00	25,000.00
2.8.2.1.3	2.00 Each	Trucking - Per Load	0.00	0.00	Detail	U.S. Dollar	1,375.00	2,750.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		2,750.00	Each	U.S. Dollar	1.00	2,750.00
2.8.2.2	150.00 Ton	Demo & Prepare For Shipment Offsite	1.00	150.00	Detail	U.S. Dollar	126.45	18,968.08

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CBS Position Code	Quantity	UM	Description	Cost Item Days	UM/Day	Cost Source	Currency	Unit Cost	Total Cost
2.8.2.3	150.00	Ton	Scrap Trucking Cost	0.00	0.00	Detail	U.S. Dollar	65.00	9,750.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		9,750.00	Each	U.S. Dollar	1.00	9,750.00

2.8.3	1.00	Each	Remove Control Building	0.10	10.00	Detail	U.S. Dollar	2,546.81	2,546.81
2.8.3.1	10.00	Ton	Demo & Prepare For Shipment Offsite	0.10	100.00	Detail	U.S. Dollar	189.68	1,896.81
2.8.3.2	10.00	Ton	Scrap Trucking Cost	0.00	0.00	Detail	U.S. Dollar	65.00	650.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		650.00	Each	U.S. Dollar	1.00	650.00

2.8.4	2.00	Day	UG Utility & Ground Removal	2.00	1.00	Detail	U.S. Dollar	1,202.19	2,404.37

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	20.00	1.00	Each (hourly)	U.S. Dollar	48.95	978.93
L060100	GENERAL LABORER	20.00	1.00	Each (hourly)	U.S. Dollar	38.04	760.75
RBACKH09	Deere 710J BACKHOE, 1.62CY	20.00	1.00	Each (hourly)	U.S. Dollar	33.24	664.70

2.8.5	500.00	Cubic Yard	Remove Foundations To Subgrade	7.00	71.43	Detail	U.S. Dollar	34.43	17,213.22
2.8.5.1	500.00	Cubic Yard	Excavate / Remove Foundation - Various Depth	2.00	250.00	Detail	U.S. Dollar	16.86	8,428.60

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	20.00	1.00	Each (hourly)	U.S. Dollar	38.04	760.75
L010101	OPERATOR	40.00	2.00	Each (hourly)	U.S. Dollar	48.95	1,957.85
*REXCAV06C	Excav 100K w/ Hammer	20.00	1.00	Each (hourly)	U.S. Dollar	160.97	3,219.30
*REXCAV06A	Excav 100K w/ Bucket & Grapple	20.00	1.00	Each (hourly)	U.S. Dollar	124.54	2,490.70

2.8.5.2	500.00	Cubic Yard	Concrete Transport Offsite	5.00	100.00	Detail	U.S. Dollar	17.57	8,784.62

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
RDUTRK06	CAT D350D, 18CY-24CY	50.00	1.00	Each (hourly)	U.S. Dollar	74.29	3,714.50
L080940	TEAMSTER	50.00	1.00	Each (hourly)	U.S. Dollar	45.44	2,272.22
L010101	OPERATOR	25.00	0.50	Each (hourly)	U.S. Dollar	48.95	1,223.66
RFELWH09	CAT 966F LOADER, 4.25CY	25.00	0.50	Each (hourly)	U.S. Dollar	62.97	1,574.25

2.8.6	1.00	Lump Sum	Misc. Material Disposal	0.00	0.00	Detail	U.S. Dollar	1,675.00	1,675.00
2.8.6.1	1.00	Each	Trucking - Per Load	0.00	0.00	Detail	U.S. Dollar	1,375.00	1,375.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		1,375.00	Each	U.S. Dollar	1.00	1,375.00

2.8.6.2	10.00	Ton	Disposal Cost	0.00	0.00	Detail	U.S. Dollar	30.00	300.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USDISPOSAL	Disposal Fee's		300.00	Each	U.S. Dollar	1.00	300.00

2.8.7	1.00	Lump Sum	Restore Yard	8.67	0.12	Detail	U.S. Dollar	32,603.46	32,603.46
2.8.7.1	4.00	Acre	Backfill / Regrade	2.00	2.00	Detail	U.S. Dollar	1,540.15	6,160.62

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	40.00	2.00	Each (hourly)	U.S. Dollar	38.04	1,521.49
L010101	OPERATOR	40.00	2.00	Each (hourly)	U.S. Dollar	48.95	1,957.85
REXCAV06B	Gradall - Excavator	20.00	1.00	Each (hourly)	U.S. Dollar	75.73	1,514.57
*RDOZER08	CAT D6 LGP Dozer	20.00	1.00	Each (hourly)	U.S. Dollar	58.34	1,166.70

2.8.7.2	2,000.00	Cubic Yard	Vegetative Cover	6.67	300.00	Detail	U.S. Dollar	12.22	24,442.84

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CBS Position Code	Quantity	UM	Description	Cost Item Days	Cost UM/Day	Cost Source	Currency	Unit Cost	Total Cost
2.8.7.2.1	1,000.00	Cubic Yard	Topsoil, Delivered	0.00	0.00	Detail	U.S. Dollar	10.00	10,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
IMSOIL	Topsoil		500.00	Cubic Yard	U.S. Dollar	20.00	10,000.00

Notes: **********
Assume that 50% of the topsoil required for restoration is bermed and stockpiled adjacent to the substation
****

2.8.7.2.2	2,000.00	Cubic Yard	Placement	6.67	300.00	Detail	U.S. Dollar	7.22	14,442.84

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	133.33	2.00	Each (hourly)	U.S. Dollar	48.95	6,526.17
RDOZER08	CAT D6N XL	133.33	2.00	Each (hourly)	U.S. Dollar	59.38	7,916.67

2.8.7.3	4.00	Acre	Re-Seed With Native Vegetation	0.00	0.00	Detail	U.S. Dollar	500.00	2,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USLANDSCAPE	Landscape Sub		4.00	Acre	U.S. Dollar	500.00	2,000.00

2.8.8	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	11,498.50	11,498.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		114,985.00	Each	U.S. Dollar	0.10	11,498.50

2.9	4.30	Mile	Transmission Line Removal	21.80	0.20	Detail	U.S. Dollar	30,101.68	129,437.22

2.9.1	4.30	Mile	Conductor Removal	19.55	0.22	Detail	U.S. Dollar	24,531.64	105,486.06

2.9.1.1	4.30	Mile	Cut / Lower Cable, Size & Loadout	19.55	0.22	Detail	U.S. Dollar	22,731.64	97,746.06

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	1,172.73	6.00	Each (hourly)	U.S. Dollar	38.04	44,607.32
L010101	OPERATOR	390.91	2.00	Each (hourly)	U.S. Dollar	48.95	19,133.55
*RXMISC14	MAN LIFT GAS 125ft	195.45	1.00	Each (hourly)	U.S. Dollar	53.52	10,460.73
RLIFTS05	JCB 508C, 8,000lbs FRKLFT	195.45	1.00	Each (hourly)	U.S. Dollar	21.65	4,230.61
*RXMISC19	Material Handler	195.45	1.00	Each (hourly)	U.S. Dollar	98.82	19,313.84

2.9.1.2	172.00	Ton	Salvage & Recovery	0.00	0.00	Detail	U.S. Dollar	45.00	7,740.00

2.9.1.2.1	172.00	Ton	Scrap Trucking Cost	0.00	0.00	Detail	U.S. Dollar	45.00	7,740.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		7,740.00	Each	U.S. Dollar	1.00	7,740.00

2.9.2	45.00	Each	Wood Monopole Removal	2.25	20.00	Detail	U.S. Dollar	270.76	12,184.17

2.9.2.1	45.00	Each	Cut & Load Poles	2.25	20.00	Detail	U.S. Dollar	105.76	4,759.17

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
*REXCAV06A	Excav 100K w/ Bucket & Grapple	22.50	1.00	Each (hourly)	U.S. Dollar	124.54	2,802.04
L010101	OPERATOR	22.50	1.00	Each (hourly)	U.S. Dollar	48.95	1,101.29
L060100	GENERAL LABORER	22.50	1.00	Each (hourly)	U.S. Dollar	38.04	855.84

2.9.2.2	11.00	Each	Trucking - Per Load	0.00	0.00	Detail	U.S. Dollar	675.00	7,425.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		7,425.00	Each	U.S. Dollar	1.00	7,425.00

2.9.3	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	11,767.00	11,767.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		117,670.00	Each	U.S. Dollar	0.10	11,767.00

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CBS Position Code	Quantity	UM	Description	Days	Cost UM/Day	Cost Source	Currency	Unit Cost	Total Cost
2.10	12.00	Each	Remove Junction Box	1.20	10.00	Detail	U.S. Dollar	200.76	2,409.12
2.10.1	12.00	Each	Remove Junction Box	1.20	10.00	Detail	U.S. Dollar	120.22	1,442.62

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	12.00	1.00	Each (hourly)	U.S. Dollar	48.95	587.36
RBACKH09	Deere 710J BACKHOE, 1.62CY	12.00	1.00	Each (hourly)	U.S. Dollar	33.24	398.82
L060100	GENERAL LABORER	12.00	1.00	Each (hourly)	U.S. Dollar	38.04	456.45

2.10.2	0.50	Each	Trucking - Per Load	0.00	0.00	Detail	U.S. Dollar	1,375.00	687.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		687.50	Each	U.S. Dollar	1.00	687.50

2.10.3	2.00	Ton	Disposal Cost	0.00	0.00	Detail	U.S. Dollar	30.00	60.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USDISPOSAL	Disposal Fee's		60.00	Each	U.S. Dollar	1.00	60.00

2.10.4	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	219.00	219.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		2,190.00	Each	U.S. Dollar	0.10	219.00

2.11	22.00	Mile	Access Road Removal	68.84	0.32	Detail	U.S. Dollar	18,564.23	408,413.16
2.11.1	34,418.00	Cubic Yard	Access Road Removal	68.84	500.00	Detail	U.S. Dollar	10.79	371,284.66

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	1,376.72	2.00	Each (hourly)	U.S. Dollar	48.95	67,385.35
L060100	GENERAL LABORER	1,376.72	2.00	Each (hourly)	U.S. Dollar	38.04	52,366.64
L080940	TEAMSTER	1,376.72	2.00	Each (hourly)	U.S. Dollar	45.44	62,564.08
RDUTRK06	CAT D350D, 18CY-24CY	1,376.72	2.00	Each (hourly)	U.S. Dollar	74.29	102,276.53
RFELWH09	CAT 966F LOADER, 4.25CY	1,376.72	2.00	Each (hourly)	U.S. Dollar	62.97	86,692.06

Notes: **********
22 miles x 16'
****

2.11.2	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	37,128.50	37,128.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		371,285.00	Each	U.S. Dollar	0.10	37,128.50

2.12	53.00	Acre	Site Restoration	28.51	1.86	Detail	U.S. Dollar	3,114.18	165,051.64
2.12.1	42,771.00	Cubic Yard	Topsoil Placement	28.51	1,500.00	Detail	U.S. Dollar	2.89	123,546.94

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	1,140.56	4.00	Each (hourly)	U.S. Dollar	48.95	55,826.19
RDOZER08	CAT D6N XL	1,140.56	4.00	Each (hourly)	U.S. Dollar	59.38	67,720.75

Notes: **********
Road footprint - 22 miles x 16' = 43 acres
2 acres per turbine location = 102 acres
Misc areas impacted by deconstruction - 10 acres
Assume that topsoil is bermed and available for reclamation
****

2.12.2	53.00	Acre	Re-Seed With Native Vegetation - Roads & Areas Disturbed By Construction	0.00	0.00	Detail	U.S. Dollar	500.00	26,500.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USLANDSCAPE	Landscape Sub		53.00	Acre	U.S. Dollar	500.00	26,500.00

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CBS Position Code	Quantity	UM	Description	Cost Item Days	Cost UM/Day	Cost Source	Currency	Unit Cost	Total Cost

Notes: **********
Road footprint - 22 miles x 16' = 43 acres
2 acres per turbine location = 102 acres
Misc areas impacted by deconstruction - 10 acres
****

2.12.3	1.00	Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	15,004.70	15,004.70

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		150,047.00	Each	U.S. Dollar	0.10	15,004.70
2.13	1.00 Lump Sum	General Cost	144.00	0.01	Detail	U.S. Dollar	882,841.52	882,841.52
2.13.1	1.00 Lump Sum	Home Office, Project Management (4% Of Cost)	0.00	0.00	Detail	U.S. Dollar	343,080.40	343,080.40
USMARKUP5	4% Markup		8,577,010.00	Each	U.S. Dollar	0.04	343,080.40
2.13.2	24.00 Week	Field Management	144.00	0.17	Detail	U.S. Dollar	18,282.31	438,775.52
L90FXX02	Field - Proj Superintendent	1,440.00	1.00	Each (hourly)	U.S. Dollar	83.18	119,782.08
RPUTRK05	F-250 4X4 3/4 TON PICKUP	5,760.00	4.00	Each (hourly)	U.S. Dollar	11.07	63,734.40
L90FEL00	Field - Engr. Tech	1,440.00	1.00	Each (hourly)	U.S. Dollar	39.57	56,986.59
L90FXX03	Field - SHSO	1,440.00	1.00	Each (hourly)	U.S. Dollar	89.26	128,540.02
L90FEJ00	Field - Asst. Engr.	1,440.00	1.00	Each (hourly)	U.S. Dollar	48.43	69,732.43
2.13.3	6.00 Month	Site Facilities	0.00	0.00	Detail	U.S. Dollar	2,155.00	12,930.00
URCONNEX	Connex Box		12.00	Month	U.S. Dollar	150.00	1,800.00
UROFFTRL	Office Trailer -12x60		6.00	Month	U.S. Dollar	500.00	3,000.00
UO1STAID	1st Aid Supplies		6.00	Month	U.S. Dollar	300.00	1,800.00
UOOFFPHN	Monthly Office Phone		6.00	Month	U.S. Dollar	500.00	3,000.00
UOOFFSUP	Office Supplies($/prs/mo)		6.00	Month	U.S. Dollar	55.00	330.00
UINT	Internet		6.00	Month	U.S. Dollar	200.00	1,200.00
URPRTAJH	Port-a-John Unit(s) (4)		6.00	Month	U.S. Dollar	300.00	1,800.00
2.13.4	1.00 Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	88,055.60	88,055.60
USMARKUP	10% Markup		880,556.00	Each	U.S. Dollar	0.10	88,055.60
2.14	1.00 Lump Sum	Mob / Demob	5.00	0.20	Detail	U.S. Dollar	935,329.16	935,329.16
2.14.1	1.00 Lump Sum	Equipment Mob	0.00	0.00	Detail	U.S. Dollar	51,500.00	51,500.00
UERNTRLG	Rental Equip Transp-Large		10.00	Each	U.S. Dollar	5,000.00	50,000.00
UERNTRSM	Rental Equip Transp-Small		10.00	Each	U.S. Dollar	150.00	1,500.00
2.14.2	1.00 Lump Sum	Site Facilities	0.00	0.00	Detail	U.S. Dollar	2,200.00	2,200.00
UOCONMOB	Connex Box Mob		2.00	Each	U.S. Dollar	300.00	600.00
UOTRLTRN	Trailer Trnsp/Setup/Trdwn		2.00	Each	U.S. Dollar	800.00	1,600.00
2.14.3	3.00 Day	Crew Mob & Site Setup	3.00	1.00	Detail	U.S. Dollar	14,319.85	42,959.56
L060100	GENERAL LABORER	600.00	20.00	Each (hourly)	U.S. Dollar	38.04	22,822.35
L010101	OPERATOR	300.00	10.00	Each (hourly)	U.S. Dollar	48.95	14,683.89
L080940	TEAMSTER	120.00	4.00	Each (hourly)	U.S. Dollar	45.44	5,453.32

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Cost Item								
CBS Position Code	Quantity UM	Description	Days	UM/Day	Cost Source	Currency	Unit Cost	Total Cost
2.14.4	2.00 Day	Crew Demob & Site Cleanup	2.00	1.00	Detail	U.S. Dollar	14,319.85	28,639.70

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	400.00	20.00	Each (hourly)	U.S. Dollar	38.04	15,214.90
L010101	OPERATOR	200.00	10.00	Each (hourly)	U.S. Dollar	48.95	9,789.26
L080940	TEAMSTER	80.00	4.00	Each (hourly)	U.S. Dollar	45.44	3,635.54

2.14.5	1.00 Lump Sum	Mob-Erection Sub	0.00	0.00	Detail	U.S. Dollar	725,000.00	725,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USERECTMOB	Sub-Erection Mobilization		1.00	Each	U.S. Dollar	725,000.00	725,000.00

Notes: **********
Historical pricing from past projects
****

2.14.6	1.00 Lump Sum	Contractor Markup (10% Of Cost)	0.00	0.00	Detail	U.S. Dollar	85,029.90	85,029.90

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USMARKUP	10% Markup		850,299.00	Each	U.S. Dollar	0.10	85,029.90

Report Total:			665.81					9,820,675.98

Category	Total
Labor	1,629,831.04
Rented Equipment	2,235,814.90
Supplies	2,130.00
Materials	160,010.00
Subcontract	5,786,490.04
ODCs	6,400.00

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Attachment 6. Golden Hills Wind Project: Pre-Construction Botanical Survey (PRE-TE-03)

TETRA TECH

MEMO

To:	Matt Hutchinson, Avangrid
From:	Karen Brimacombe, Tetra Tech
Date:	November 6, 2020
Subject:	Golden Hills Wind Project: Pre-Construction Botanical Survey (PRE-TE-03)

1.0 Introduction

This memo describes the methods and results of the botanical survey conducted at the Golden Hills Wind Project (Project) in conformance with Condition PRE-TE-03, which reads as follows:

> *Prior to the beginning of construction but no more than two years prior to the beginning of construction of the facility, the certificate holder shall:*
>
> a. *Submit protocol for field surveys for threatened and endangered species to the Department for review and approval, in consultation with ODFW* [Oregon Department of Fish and Wildlife]. *The survey protocol shall be based on the protocol included on ASC* [Application for Site Certificate] *Exhibit P, Attachment P-1, and shall be updated based on consultation with ODFW.*
>
> b. *Perform new field surveys for threatened and endangered species following the survey protocol as approved per sub(a).*
>
> c. *The certificate holder shall report the results of the field surveys to the Department and ODFW. If the surveys identify the presence of threatened or endangered species within the site boundary, the certificate holder shall implement appropriate measures to avoid a significant reduction in the likelihood of survival or recovery of the species, as approved by the Department in consultation with ODFW.*

Consultation with the Oregon Department of Energy (ODOE) and ODFW occurred on March 17, 2020, during which the condition was reviewed along with information presented in Request for Amendment No. 5 regarding rare plants. The consultation resulted in the conclusion that no state listed wildlife species are expected to occur at the Project; therefore, no wildlife surveys would be conducted under this condition. Based on the same review, the only threatened or endangered plant species with the potential to occur at the Project is the state threatened Laurence's milkvetch (*Astragalus collinus* var. *laurentii*). Therefore, it was determined that botanical surveys would be conducted for Laurence's milkvetch in suitable habitat in the 2020 Habitat Survey Area.

Tetra Tech, Inc.
1750 Harbor Way, Suite 400, Portland, OR 97201
Tel 503.221.8636 Fax 503.227.1287 www.tetratech.com

2.0 Methods

The following methods for Laurence milkvetch surveys were approved by Sarah Esterson (ODOE) on June 29, 2020 (Attachment 1). Jordan Brown (Oregon Department of Agriculture) concurred regarding the suitability of the methods on July 7, 2020 (Attachment 2).

In accordance with Condition PRE-TE-03, the survey protocol was based on the protocol included in the ASC, Exhibit P, Attachment P-1 (Golden Hills 2008). Updates to the previously submitted protocol were limited to the definition of the Rare Plants Survey Area. The Rare Plants Survey Area included all potential suitable Laurence's milkvetch habitat within the 2020 Habitat Survey Area (Figure 1). Agriculture and developed areas are not suitable habitat for this species; therefore, these areas were not surveyed. All other habitat is considered potentially suitable and was included in the Rare Plants Survey Area. Surveys for this species were conducted by a trained botanist during peak flowering and fruiting periods, when this target species is best identified (late June/early July).

During the survey, the botanist followed meandering transects, effectively zigzagging back and forth across the survey corridor. The botanist maintained a list of all vascular plants encountered and made informal collections of unknown species for later identification as necessary.

3.0 Results

Surveys were conducted from June 30 to July 2, 2020, and on July 17, 2020. No populations of Laurence's milkvetch were identified during the survey. No other threatened, endangered, or rare plant species were identified during the survey. A list of vascular plants encountered is included as Attachment 3.

4.0 Summary and Conclusion

This memo provides the required threatened and endangered species survey report (Condition PRE-TE-03) for the Project, conducted according to a protocol approved by ODOE on June 29, 2020. This memo is hereby submitted on August 17, 2020. The surveys did not identify the presence of the target species (state threatened Laurence's milkvetch) or any other threatened or endangered plant species within the Rare Plants Survey Area. Therefore, no measures are required to avoid a significant reduction in the likelihood of survival or recovery of Laurence's milkvetch or any other threatened or endangered rare plant species.

5.0 References

Golden Hills (Golden Hills Wind Farm, LLC). 2008. Application for Site Certificate. September 2008.

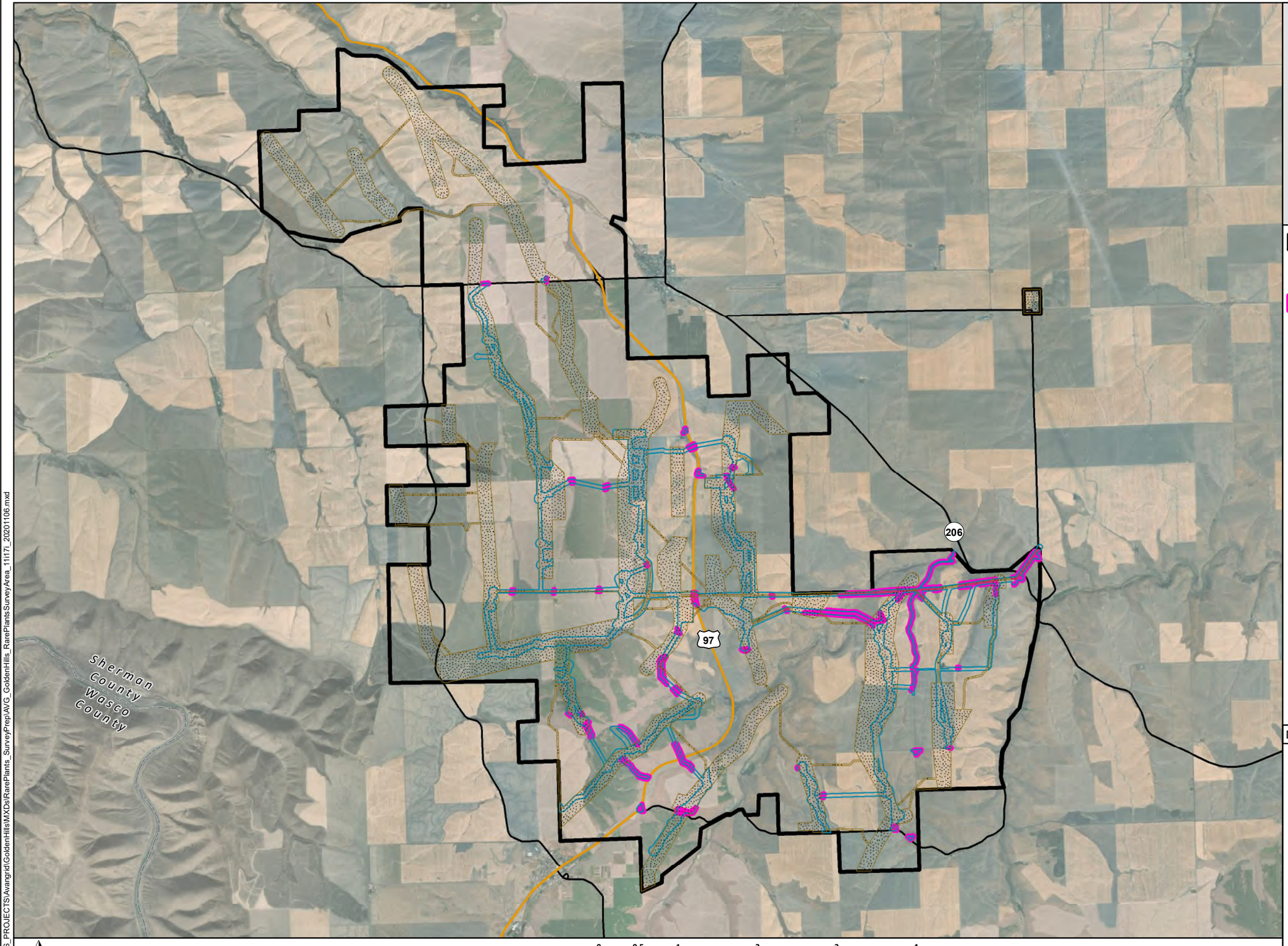
Golden Hills. 2018. Request for Amendment No. 5 to the Site Certificate for the Golden Hills Wind Project. July 2018.

Figure

Golden Hills Wind Project

Rare Plants Survey Area

SHERMAN COUNTY, OREGON



- Site Boundary
- EFSC Corridor-Original (2015)
- Survey Area (07/09/2020)
- Rare Plants Survey Area
- Secondary Highway
- Secondary Road
- County Boundary

TETRA TECH

AVANGRID RENEWABLES

1:74,000 WGS 1984 UTM Zone 10N

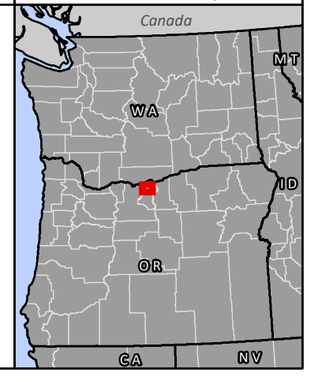
0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



P:\GIS_PROJECTS\Avangrid\GoldenHills\MXDs\RarePlants_SurveyPrep\AVG_GoldenHills_RarePlantsSurveyArea_11i17i_20201106.mxd

Attachment 1. Oregon Department of Energy Concurrence

Brimacombe, Karen

From: ESTERSON Sarah * ODOE
Sent: Monday, June 29, 2020 2:02 PM
To: Konkol, Carrie
Cc: Hutchinson, Matthew; Jordan Brown; THOMPSON Jeremy L
Subject: RE: Golden Hills Wind Project: Rare Plant Survey Protocol

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Hi Carrie and Matt,

My apologies – I must have missed this email last week. Yes – we concur with the protocol for Lawrence's milkvetch (*Astragalus collinus var. laurentii*); it is consistent with previous input received from ODA.

Thanks,
Sarah

OREGON DEPARTMENT OF ENERGY

Sarah T. Esterson
Senior Siting Analyst
550 Capitol St. NE | Salem, OR 97301
P: 503-373-7945
C: 503-385-6128
P (In Oregon): 800-221-8035

Stay connected!

From: Konkol, Carrie <Carrie.Konkol@tetratech.com>
Sent: Monday, June 29, 2020 12:20 PM
To: ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
Cc: Hutchinson, Matthew <matthew.hutchinson@avangrid.com>
Subject: FW: Golden Hills Wind Project: Rare Plant Survey Protocol

Hi Sarah – we're starting this field work tomorrow, do you concur with approach? Should we follow-up directly with ODA and ODOE for any comment?

Carrie Konkol | Senior Project Manager | Tetra Tech
Direct **(503) 721-7225** | Mobile **(503) 830-8587** | carrie.konkol@tetratech.com

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From: Konkol, Carrie <Carrie.Konkol@tetratech.com>
Sent: Thursday, June 25, 2020 3:03 PM
To: ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>; Jeremy Thompson (Jeremy.L.Thompson@state.or.us) <Jeremy.L.Thompson@state.or.us>; Jordan Brown <brownj@science.oregonstate.edu>

Cc: Hutchinson, Matthew <matthew.hutchinson@avangrid.com>; Atkins, Kate <Kate.Atkins@tetratech.com>
Subject: Golden Hills Wind Project: Rare Plant Survey Protocol

Good afternoon,

Golden Hills Wind Project (Project) is an approved but not yet constructed wind energy facility in Sherman County, Oregon. Golden Hills contracted Tetra Tech, Inc. (Tetra Tech) to conduct rare plants surveys for the Project per site certificate condition PRE-TE-03, as follows:

Prior to the beginning of construction but no more than two years prior to the beginning of construction of the facility, the certificate holder shall:

> *a. Submit protocol for field surveys for threatened and endangered species to the Department for review and approval, in consultation with ODFW. The survey protocol shall be based on the protocol included on ASC Exhibit P, Attachment P-1, and shall be updated based on consultation with ODFW.*
>
> *b. Perform new field surveys for threatened and endangered species following the survey protocol as approved per sub(a).*
>
> *c. The certificate holder shall report the results of the field surveys to the Department and ODFW. If the surveys identify the presence of threatened or endangered species within the site boundary, the certificate holder shall implement appropriate measures to avoid a significant reduction in the likelihood of survival or recovery of the species, as approved by the Department in consultation with ODFW.*

As determined in consultation with ODOE and ODFW (March 17, 2020), the target species for these surveys is Lawrence's milkvetch (*Astragalus collinus var. laurentii*).

Updates to the previously submitted protocol, as defined in ASC Exhibit P, Attachment P-1, are limited to the definition of the Survey Area (attached). The Survey Area will include suitable habitat within a 100-foot buffer around all planned disturbance (Figure 1). Category 6 habitat (agriculture and developed areas) are not suitable habitat for this species, and will not be surveyed. All other habitat is considered potentially suitable and will be surveyed. Surveys for this species will be conducted by trained botanists during peak flowering and/or fruiting periods when this target species is best identified (late June/early July). During the survey, botanists will follow meandering transects, effectively zigzagging back and forth across the survey corridor. Botanists will maintain a list of vascular plants encountered, and will make informal collections of unknown species for later identification.

We are seeking concurrence on the above described approach for surveying rare plants at the Project as early as next week.

Please let us know if you have any questions.

Thank you,
Carrie

Carrie Konkol | Senior Project Manager
Direct **(503) 721-7225** | Mobile **(503) 830-8587** | carrie.konkol@tetratech.com

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1750 S Harbor Way | Suite 400 | Portland, OR 97201 | tetratech.com

Attachment 2. Oregon Department of Agriculture Concurrence

Brimacombe, Karen

From: Jordan Brown <brownj@science.oregonstate.edu>
Sent: Tuesday, July 7, 2020 3:25 PM
To: Konkol, Carrie
Cc: ESTERSON Sarah * ODOE; Jeremy Thompson (Jeremy.L.Thompson@state.or.us); Hutchinson, Matthew; Atkins, Kate
Subject: Re: Golden Hills Wind Project: Rare Plant Survey Protocol

⚠ **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠

Hello Carrie,
Apologies for the delayed response.
Your proposed survey methods sound suitable. As I had discussed with ODOE staff, you may consider expanding your survey buffer area in locations where you detect Laurent's milkvetch. This could provide greater context on the extent and distribution of plants in areas where we might need to consider moving proposed infrastructure to avoid impacts. Also, collecting point data for the locations of plants, and clusters of plants, could facilitate more informed decision making by clarifying exactly how many plants may be impacted by specific project components, and whether those impacts may be easily avoidable.
Thanks for the valuable surveying!

Quoting "Konkol, Carrie" <Carrie.Konkol@tetratech.com>:

> Good afternoon,
>
> Golden Hills Wind Project (Project) is an approved but not yet constructed wind energy facility in Sherman County, Oregon. Golden Hills contracted Tetra Tech, Inc. (Tetra Tech) to conduct rare plants surveys for the Project per site certificate condition PRE-TE-03, as follows:
>
> *Prior to the beginning of construction but no more than two years prior to the beginning of construction of the facility, the certificate holder shall:*
>
> *a. Submit protocol for field surveys for threatened and endangered species to the Department for review and approval, in consultation with ODFW. The survey protocol shall be based on the protocol included on ASC Exhibit P, Attachment P-1, and shall be updated based on consultation with ODFW.*
>
> *b. Perform new field surveys for threatened and endangered species following the survey protocol as approved per sub(a).*
>
> *c. The certificate holder shall report the results of the field surveys to the Department and ODFW. If the surveys identify the presence of threatened or endangered species within the site boundary, the certificate holder shall implement appropriate measures to avoid a significant reduction in the likelihood of survival or recovery of the species, as approved by the Department in consultation with ODFW.*
>
> As determined in consultation with ODOE and ODFW (March 17, 2020), the target species for these surveys is Lawrence's milkvetch (*Astragalus collinus var. laurentii*).

Updates to the previously submitted protocol, as defined in ASC Exhibit P, Attachment P-1, are limited to the definition of the Survey Area (attached). The Survey Area will include suitable habitat within a 100-foot buffer around all planned disturbance (Figure 1). Category 6 habitat (agriculture and developed areas) are not suitable habitat for this species, and will not be surveyed. All other habitat is considered potentially suitable and will be surveyed. Surveys for this species will be conducted by trained botanists during peak flowering and/or fruiting periods when this target species is best identified (late June/early July). During the survey, botanists will follow meandering transects, effectively zigzagging back and forth across the survey corridor. Botanists will maintain a list of vascular plants encountered, and will make informal collections of unknown species for later identification.

We are seeking concurrence on the above described approach for surveying rare plants at the Project as early as next week.

Please let us know if you have any questions.

Thank you,

Carrie

Carrie Konkol | Senior Project Manager

Direct **(503) 721-7225** | Mobile **(503) 830-8587** | carrie.konkol@tetratech.com

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TETRA TECH

Jordan Brown
Program Lead / Conservation Biologist
OR Department of Agriculture
Native Plant Conservation Program
Oregon State University, Dept. of Botany
Cordley 2082
Corvallis, OR 97331
office: (541)-737-2346
cell: (541)-224-2245

Attachment 3. List of Vascular Plants

Attachment 1. Vascular Plant Species Observed within the Project Rare Plants Survey Area

Scientific Name[1]	Common Name[2]	Family[1]	Type	Non-Native[3]	Noxious Weed Designation State / Sherman County[3]	Synonyms/Notes[2]
Achillea millefolium	yarrow	Asteraceae	Forb	both		
Achnatherum hymenoides	Indian ricegrass	Poaceae	Graminoid			*Oryzopsis hymenoides, Stipa hymenoides*
Achnatherum thurberianum	Thurber's needlegrass	Poaceae	Graminoid			
Acmispon americanus var. *americanus*	Pursh's lotus	Fabaceae	Forb			*Lotus purshiana*
Acroptilon repens	Russiann knapweed	Asteraceae	Forb	x	Class B / Class A, B[4], T	*Centaurea repens, Rhaponticum repens*
Aegilops cylindrica	jointed goatgrass	Poaceae	Graminoid	x	Class B / Class C	
Agoseris grandiflora	large flowered agoseris	Asteraceae	Forb			
Agoseris heterophylla	annual agoseris	Asteraceae	Forb			
Agropyron cristatum	crested wheatgrass	Poaceae	Graminoid	x		
Allium acuminatum	tapertip onion, Hooker's onion	Amaryllidaceae	Forb			
Amaranthus albus	white pigweed, tumbling pigweed	Amaranthaceae	Forb	x		
Amaranthus blitoides	prostrate pigweed, tumbleweed amaranth	Amaranthaceae	Forb	x		
Ambrosia acanthicarpa	bur ragweed, annual bursage	Asteraceae	Forb			
Amelanchier alnifolia	Saskatoon serviceberry	Rosaceae	Shrub			
Amsinckia sp.	fiddleneck	Boraginaceae	Forb			
Antennaria dimorpha	low pussytoes	Asteraceae	Forb			
Anthriscus caucalis	bur chervil, beaked parsley	Apiaceae	Forb	x		
Apera interrupta	interrupted windgrass	Poaceae	Graminoid	x		*Agrostis interrupta*
Artemisia ludoviciana	white sagebrush, western mugwort	Asteraceae	Forb			
Artemisia tridentata	big sagebrush	Asteraceae	Shrub			
Asclepias fascicularis	narrow-leaved milkweed, narrowleaf milkweed	Apocynaceae	Forb			
Asclepias speciosa	showy milkweed, Greek milkweed	Apocynaceae	Forb		Not listed / Class B	
Astragalus filipes	threadstalk milkvetch	Fabaceae	Forb			
Astragalus purshii	woollypod milkvetch, Pursh's milkvetch	Fabaceae	Forb			
Balsamorhiza careyana	Carey's balsamroot	Asteraceae	Forb			
Bassia scoparia	kochia, mock cypress, burning bush	Amaranthaceae	Forb	x	Class B / Class A, T	*Kochia scoparia*
Blepharipappus scaber	blepharipappus	Asteraceae	Forb			
Bromus diandrus	ripgut brome	Poaceae	Graminoid	x		*Bromus rigidus*
Bromus hordeaceus	soft brome, soft chess	Poaceae	Graminoid	x		*Bromus mollis*
Bromus inermis	smooth brome	Poaceae	Graminoid	x		
Bromus tectorum	cheatgrass	Poaceae	Graminoid	x		
Calochortus macrocarpus var. *macrocarpus*	sagebrush mariposa lily	Liliaceae	Forb			
Centaurea diffusa	diffuse knapweed	Asteraceae	Forb	x	Class B / Class A, B[4], T	
Chaenactis douglasii var. *douglasii*	dustymaidens, hoary false yarrow	Asteraceae	Forb			

Attachment 1. Vascular Plant Species Observed within the Project Rare Plants Survey Area

Scientific Name[1]	Common Name[2]	Family[1]	Type	Non-Native[3]	Noxious Weed Designation State / Sherman County[3]	Synonyms/Notes[2]
Chamaesyce glyptosperma	ribseed sandmat, ridge-seeded spurge	Euphorbiaceae	Forb			*Euphorbia glyptosperma*
Chenopodium album	lamb's quarter, pigweed	Amaranthaceae	Forb	x		
Chenopodium leptophyllum	slimleaf goosefoot	Amaranthaceae	Forb			
Chondrilla juncea	rush skeletonweed	Asteraceae	Forb	x	Class B, T / Class A, T	
Chrysothamnus viscidiflorus	green rabbitbrush, yellow rabbitbrush	Asteraceae	Shrub			
Cirsium arvense	Canada thistle	Asteraceae	Forb	x	Class B / Class A, B[5], T	
Cirsium vulgare	bull thistle	Asteraceae	Forb	x	Class B / Class C	
Collomia grandiflora	large flowered collomia	Polemoniaceae	Forb			
Coniun maculatum	poison hemlock	Apiaceae	Forb	x	Class B / Class C	
Convolvulus arvensis	field bindweed	Convolvulaceae	Forb	x	Class B / Not listed	
Conyza canadensis	Canadian fleabane, horseweed	Asteraceae	Forb		Not listed / Class C	
Crepis spp.	hawksbeard	Asteraceae	Forb			
Croton setiger	turkey mullein, dove weed	Euphorbiaceae	Forb			*C. setigerus, Eremocarpus setigerus*
Descurainia sophia	flixweed	Brassicaceae	Forb	x		
Dieteria canescens	hoary aster	Asteraceae	Forb			*Aster canescens, Machaeranthera canescens*
Dipsacus fullonum	wild teasel, Fuller's teasel	Dipsacaceae	Forb	x		
Distichlis spicata	saltgrass	Poaceae	Graminoid			
Elaeagnus angustifolia	Russian olive, oleaster	Elaeagnaceae	Tree	x		
Elymus elymoides	squirreltail	Poaceae	Graminoid			*Sitanion hystrix*
Elymus lanceolatus subsp. *lanceolatus*	thickspike wheatgrass	Poaceae	Graminoid			
Elumus repens	quackgrass	Poaceae	Graminoid	x	Not listed / Class C	*Agropyron repens; Elytrigia repens*
Epilobium brachycarpum	tall annual willowherb	Onagraceae	Forb			
Equisetum arvense	common horsetail	Equisetaceae	Forb			
Equisetum laevigatum	smooth scouring rush	Equisetaceae	Forb		Not listed / Class B	
Eremogone franklinii	Franklin's sandwort	Caryophyllaceae	Forb			
Ericameria nauseosa	rubber rabbitbrush, gray rabbitbrush	Asteraceae	Shrub			*Chrysothamnus nauseosus*
Erigeron filifolius	threadleaf fleabane	Asteraceae	Forb			
Erigeron poliospermus	cushion fleabane	Asteraceae	Forb			
Erigeron pumilus var. *intermedius*	shaggy fleabane	Asteraceae	Forb			
Eriogonum compositum	arrowleaf buckwheat	Polygonaceae	Forb/Subshrub			
Eriogonum douglasii	Douglas' buckwheat	Polygonaceae	Subshrub			
Eriogonum elatum	tall buckwheat	Polygonaceae	Forb			
Eriogonum strictum var. *proliferum*	Blue Mountain buckwheat	Polygonaceae	Forb/Subshrub			
Eriogonum vimineum	wickerstem buckwheat, broom buckwheat	Polygonaceae	Forb			

Attachment 1. Vascular Plant Species Observed within the Project Rare Plants Survey Area

Scientific Name[1]	Common Name[2]	Family[1]	Type	Non-Native[3]	Noxious Weed Designation State / Sherman County[3]	Synonyms/Notes[2]
Erodium cicutarium	redstem stork's bill, red-stemmed filaree	Geraniaceae	Forb	x		
Erythranthe guttata	common monkeyflower, seep monkeyflower	Phrymaceae	Forb			*Mimulus guttatus*
Festuca idahoensis	Idaho fescue	Poaceae	Graminoid			
Galium aparine	stickwilly, cleavers, common bedstraw	Rubiaceae	Forb			
Galium boreale	northern bedstraw	Rubiaceae	Forb			
Gutierrezia sarothrae	broom snakeweed, matchweed	Asteraceae	Shrub			
Hesperostipa comata subsp. *comata*	needle-and-thread	Poaceae	Graminoid			*Stipa comata*
Heterotheca villosa var. *villosa*	hairy goldaster	Asteraceae	Forb			*Chrysopis villosa* var. *villosa*
Holosteum umbellatum subsp. *umbellatum*	jagged chickweed	Caryophyllaceae	Forb	x		
Hordeum murinum	mouse barley, wall barley, hare barley	Poaceae	Graminoid	x		
Juncus sp.	rush	Juncaceae	Graminoid			
Juniperus occidentalis	western juniper	Cupressaceae	Tree			
Koeleria macrantha	junegrass	Poaceae	Graminoid			
Lactuca serriola	prickly lettuce	Asteraceae	Forb	x	Not listed / Class C	
Lagophylla ramosissima	slender hareleaf, branched lagophylla	Asteraceae	Forb			
Lepidium draba	heart podded hoarycress; whitetop	Brassicaceae	Forb	x	Class B / Class B, T	*Cardaria draba;* potentially is *L. chalapense*, mature fruits not present at time of surveys
Lepidium latifolium	perennial pepperweed, perennial pepperwort	Brassicaceae	Forb	x	Class B, T / Class C	
Lepidium perfoliatum	clasping pepperweed	Brassicaceae	Forb	x		
Leymus cinereus	Great Basin wildrye	Poaceae	Graminoid			
Linum lewisii var. *lewisii*	western blue flax, wild blue flax	Linaceae	Forb			*Linum perenne* var. *lewisii*
Lithospermum ruderale	western gromwell, Columbia puccoon	Boraginaceae	Forb			
Logfia arvensis	field filago	Asteraceae	Forb	x		*Filago arvensis*
Lomatium macrocarpum	large fruited lomatium	Apiaceae	Forb			
Lomatium nudicaule	barestem lomatium, barestem biscuitroot	Apiaceae	Forb			
Lupinus lepidus var. *aridus*	dry ground lupine	Fabaceae	Forb			
Lupinus sulphureus subsp. *subsaccatus*	whitish lupine	Fabaceae	Forb			
Madia exigua	little tarweed, threadstem madia	Asteraceae	Forb			
Madia gracilis	slender tarweed, common tarweed	Asteraceae	Forb			
Matricaria discoidea	pineapple weed	Asteraceae	Forb			
Medicago sativa	alfalfa	Fabaceae	Forb	x		
Melilotus officinalis	sweetclover, common yellow sweetclover	Fabaceae	Forb	x		
Microseris nutans	nodding microseris	Asteraceae	Forb			
Nasturtium officinale	watercress	Brassicaceae	Forb	x		*Rorippa nasturtium-aquaticum*

Attachment 1. Vascular Plant Species Observed within the Project Rare Plants Survey Area

Scientific Name[1]	Common Name[2]	Family[1]	Type	Non-Native[3]	Noxious Weed Designation State / Sherman County[3]	Synonyms/Notes[2]
Nepeta cataria	catnip, catmint	Lamiaceae	Forb	x		
Onopordum acanthium	Scotch thistle	Asteraceae	Forb	x	Class B / Class B, T	
Penstemon speciosus	royal penstemon, showy penstemon	Plantaginaceae	Forb			
Phacelia hastata	lanceleaf phacelia, silverleaf phacelia	Hydrophyllaceae	Forb			
Phalaris arundinaceae	reed canarygras	Poaceae	Graminoid	both		
Phlox longifolia subsp. *longifolia*	long leaved plhox	Polemoniaceae	Forb/Sub-shrub			
Plantago patagonica	woolly plantain, Indian wheat	Plantaginaceae	Forb			
Poa bulbosa	bulbous bluegrass	Poaceae	Graminoid	x		
*Poa ampla**	Sandberg's bluegrass (big bluegrass)	Poaceae	Graminoid			**P. ampla* = horticultural variety of *P. secunda*
Poa secunda	Sandberg's bluegrass	Poaceae	Graminoid			
Polygonum aviculare	prostrate knotweed	Polygonaceae	Forb	x		
Polypogon monspeliensis	rabbitsfoot grass, annual beardgrass	Poaceae	Graminoid	x		
Populus trichocarpa	black cottonwood	Salicaceae	Tree			*Populus balsamifera* subsp. *trichocarpa*
Poteridium occidentale	annual burnet, western burnet	Rosaceae	Forb			*P. annum; Sanguisorba annua; S. occidentalis*
Prunus spp.	cherry tree	Rosaceae	Shrub/Tree	x		Horticulure species; planted
Pseudoroegneria spicata	bluebunch wheatgrass	Poaceae	Graminoid			*Agropyron spicatum; Elymus spicatus*
Ribes aureum	golden currant	Grossulariaceae	Shrub			
Robinia pseudoacacia	black locust	Fabaceae	Tree	x		
Rosa woodsii	pearhip rose, Woods' rose	Rosaceae	Shrub			
Rumex crispus	curly dock	Polygonaceae	Forb	x		
Rumex salicifolius	willow dock	Polygonaceae	Forb			
Salix exigua	narrowleaf willow, coyote willow	Salicaceae	Shrub/Tree			
Salix sp.	willow dock	Salicaceae	Shrub/Tree			
Salsola tragus	prickly Russian thistle, tumbleweed	Amaranthaceae	Forb	x	Not listed / Class C	*Salsola kali* subsp. *kali*
Sambucus mexicana subsp. *cerulea*	blue elderberry	Adoxaceae	Shrub		Not listed / Class C	
Secale cereale	cereal rye, rye	Poaceae	Graminoid	x	not listed / List B	
Silene latifolia	white campion	Caryophyllaceae	Forb	x		
Sisymbrium altissimum	tumble mustard, tall tumblemustard	Brassicaceae	Forb	x		
Solanum triflorum	cutleaf nightshade	Solanaceae	Forb	x		
Stephanomeria paniculata	stiff branched wirelettuce	Asteraceae	Forb			
Tetradymia canescens	gray horsebrush, spineless horsebrush	Asteraceae	Shrub			
Taeniatherum caput-medusae	medusahead rye, medusahead	Poaceae	Graminoid	x	Class B / Class C	
Thinopyrum intermedium subsp. *barbulatum*	pubescent wheatgrass	Poaceae	Graminoid	x		*Agropyrum glaucum; A. intermedium*
Thinopyrum intermedium subsp. *intermedium*	intermediate wheatgrass	Poaceae	Graminoid	x		*Agropyrum intermedium; Elymus hispidus*

Attachment 1. Vascular Plant Species Observed within the Project Rare Plants Survey Area

Scientific Name[1]	Common Name[2]	Family[1]	Type	Non-Native[3]	Noxious Weed Designation State / Sherman County[3]	Synonyms/Notes[2]
Thinopyrum ponticum	tall wheatgrass	Poaceae	Graminoid	x		*Elytrigia pontia subsp. pontica, Agropyron elongatum*
Tragopogon dubius	yellow salsify	Asteraceae	Forb	x		
Triticum aestivum	wheat	Poaceae	Graminoid	x		
Typha sp.	cattail	Typhaceae	Graminoid	both		
Urtica dioica	stinging nettle	Urticaceae	Forb	both		nativity varies by subspecies
Verbascum thapsus	common mullein, flannel mullein	Scrophulariaceae	Forb	x		
Verbena bracteata	bracted verbena	Verbenaceae	Forb			
Veronica anagallis-aquatica	water speedwell	Plantaginaceae	Forb	x		
Vicia villosa	hairy vetch, winter vetch	Fabaceae	Forb	x		
Vulpia microstachys	small fescue, desert fescue	Poaceae	Graminoid			*Festuca arida, Festuca microstachys*
Vulpia myuros	rattail fescue, rat-tail six-weeks grass	Poaceae	Graminoid	x		

1. Scientific names, family, and nativity, follow the Oregon Vascular Plant Checklist (Jaster et al. 2017); available online at: http://www.oregonflora.org/checklist.php#.

2. Sources: Oregon Vacular Plant Checklist (Jaster et al. 2017; http://www.oregonflora.org/checklist.php#); the Natural Resources Conservation Service's PLANTS Database - available online at: https://plants.sc.egov.usda.gov/java/; and the Burke Herbarium Image Collection - available online at: http://biology.burke.washington.edu/herbarium/imagecollection.php.

3. Sources: Oregon Department of Agriculture's 2019 Noxious Weed Policy and Classification System, available online at:https://www.oregon.gov/ODA/programs/Weeds/OregonNoxiousWeeds/Pages/Law.aspx; Sherman County Weed List - available online at: https://www.co.sherman.or.us/noxious-weeds-sherman-county/.

4. "A" Class south of Township 1S to the County line; "B" Class north of Township 1S. The majority of the Project area is north of Township 1S; however, portions of the Project area are in Township 1S.

5. "A" Class south of Township 2S to the County line; "B" Class the rest of the County. As the Project area is all north of Township 2S, would be considered a Class "B" noxious weed in the Project area.

Attachment 7. Golden Hills Wind Farm Condition PRE-TE-01

TETRA TECH

Memo

To:	Sarah Esterson, Oregon Department of Energy
Cc:	Matt Hutchinson, Avangrid; Carrie Konkol, Tetra Tech
From:	Kate Atkins, Tetra Tech
Date:	November 4, 2020
Subject:	Golden Hills Wind Farm Condition PRE-TE-01

Introduction

This memorandum addresses Condition PRE-TE-01 of the Site Certificate for the Golden Hills Wind Farm (Facility), as follows:

> *The certificate holder shall report the results of the database review and consultation to the Department and to ODFW and, if there have been new documentations of nesting bald eagles or peregrine falcons within 2 miles of the facility, the certificate holder shall implement appropriate measures to protect the species from adverse impact, as approved by the Department and ODFW.*

Methods and Results

The Certificate Holder conducted a desktop review in 2020 of Oregon Biodiversity Information Center data to ascertain whether new nesting documentation of bald eagles (*Haliaeetus leucocephalus*) and peregrine falcons (*Falco peregrinus*) has been recorded within 2 miles of the Facility (Golden Hills 2018, ORBIC 2020). An aerial raptor nest survey was also conducted in 2019 and 2020 within a 2-mile buffer of the Facility (WEST 2019, 2020).

The bald eagle was removed from the Oregon threatened and endangered species list in 2012 (ODFW 2020); consequently, it is no longer tracked by ORBIC and no nesting data on bald eagle is available. No bald eagle nests were located near the facility during aerial raptor nest surveys completed in 2019 and 2020 (WEST 2019, 2020).

The data also did not reveal records of peregrine falcons nesting within 2 miles of the Site Boundary (ORBIC 2020). This is an ORBIC-tracked species (ORBIC 2019). In addition, no peregrine falcon aeries were located during raptor nest surveys (WEST 2020). This species was removed from the Oregon threatened and endangered species list in 2007 (ODFW 2007). Although the peregrine

falcon is listed as a sensitive species by ODFW; it is not considered sensitive in the Columbia Plateau Ecoregion, where the Facility is located (ODFW 2007, ODFW 2019).

Conclusion

This memo conveys the database review required by PRE-TE-01. No nesting areas for bald eagles or peregrine falcons were found within 2 miles of the Site Boundary during this review, nor were nesting areas located during raptor nest surveys. Per the conditions of PRE-TE-01, no measures are required to protect these species.

References

Golden Hills (Golden Hills Wind Farm, LLC). 2018. Request for Amendment No. 5. to the Site Certificate for the Golden Hills Wind Project. July 2018.

ODFW (Oregon Department of Fish and Wildlife). 2007. Conservation News: April 2007. Available online at: https://dfw.state.or.us/conservationstrategy/news/2007/April2007.asp. Accessed October 2020.

ODFW. 2019. Oregon Department of Fish and Wildlife Sensitive Species List. Available online at: https://www.dfw.state.or.us/wildlife/diversity/species/docs/Sensitive_Species_List.pdf. Accessed October 2020.

ODFW. 2020. Bald eagle. Available online at: https://myodfw.com/wildlife-viewing/species/bald-eagle. Accessed October 2020.

ORBIC (Oregon Biodiversity Information Center). 2019. Rare, Threatened and Endangered Species of Oregon. Institute for Natural Resources, Portland State University, Portland, Oregon. 133 pp.

ORBIC. 2020. Element Occurrence Record Digital Data Set for rare, threatened or endangered species. ORBIC, Institute for Natural Resources, Portland State University. Portland, OR. Received May 2020.

WEST. (Western EcoSystems Technology, Inc.) 2019 Results of the 2019 Raptor Nest Survey for the Golden Hills Wind Project, Sherman County, Oregon. July 2019.

WEST. 2020. Results of 2020 Raptor Nest Surveys for the Golden Hills Wind Project, Sherman County, Oregon. July 2020.

Attachment 8. Golden Hills Wind Farm Service Provider Letter

November 3, 2020

Ms. Sarah Esterson, Siting Officer

Oregon Department of Energy

550 Capitol Street NE, 1st Floor

Salem, OR 97301

Re: Golden Hills Wind Farm Request for Amendment 6

Dear Ms. Esterson,

We are contacting you regarding the Request for Amendment 6 (RFA6) to the Golden Hills Wind Farm Site Certificate. Please accept the following information in support of the RFA6.

- The Sherman County Emergency Services, North Sherman County Rural Fire Protection District, and Moro Rural Fire Protection District have adequate equipment and staff to provide emergency support services during construction and operation of the Golden Hills Wind Project.
- The Sherman County Sheriff's Office have adequate equipment and staff to provide protection services during construction and operation of the Golden Hills Wind Project.
- The City of Wasco has a water hydrant that can provide adequate quantities of water for construction of the Golden Hills Wind Project.
- The City of Moro has a water hydrant that can provide adequate quantities of water for construction of the Golden Hills Wind Project.
- The revenue generated from existing wind energy projects in the area have allowed Sherman County to build and improve fire houses for both the North Sherman and Moro rural Fire districts and obtain new vehicles and equipment for fire, police and EMS systems.
- Furthermore, revenue from the Golden Hills Wind Project will allow Sherman County to maintain or improve the level of emergency and public support services it has today.
- Revenue from previous wind energy projects allowed Sherman County Ambulance Service to purchase new ambulances and equipment.

We have had wind turbines operating in the county since 2002. We have not had any issue with public services supporting the wind farms during construction or operations over the years as their presence has grown. Avangrid and Sherman County Emergency staff have (police, fire and EMS) annually have held trainings together for specific emergency situations. Examples of this in the past have been Up-tower rescue & coordination, electrical fire safety and most recently, stop-the bleeding class. All of the wind turbines and operations facilities each have individual 911 addresses. Turbine access roads signage at each entrance providing unique turbine identifiers to aid in accurate and quick response times to potential incidents.

We appreciate the opportunity to provide support of the Golden Hills Wind Project. Please feel free to contact me at any time at (541) 565-3416 if you have with any questions or comments.

Sincerely,

Judge Joe Dabulskis

Sherman County Court

Cc: Dana Haner, Sherman County Emergency Management Services

Steve Roark, Fire Chief, North Sherman County Rural Fire Protection District

Michael Henderson, Fire Chief, Moro Rural Fire Protection District

Brad Lohrey, Sheriff, Sherman County Sheriff's Office

James Burgett, Undersheriff, Sherman County Sheriff's Office

Attachment 9. Sherman County Road Use Agreement

Exhibit A
Sherman County Road Use Agreement

Golden Hills Wind Project

Revised: Friday, July 31, 2020

Legend

- Aggregate Source
- Water Source

State Highway to Use

- State Highway Heavy Haul Route

County Road to Use/Maintain

- Heavy Haul Route, Paved
- Heavy Haul Route, Gravel
- Light-duty Vehicle Access Route, Paved
- Light-duty Vehicle Access Route, Gravel
- Turbine - GE 2.5-116, 116RD, 80HH
- Turbine - Vestas V150-4.3, 150RD, 105HH
- Proposed Permanent Met Tower
- Existing Transmission Line
- Proposed Transmission Line
- New Turbine Access Road
- O&M Facility
- Substation
- Golden Hills Boundary
- Interstate Highway
- US Highway
- State Highway/Minor Road
- Minor Road
- Existing Substation

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Miles

AVANGRID RENEWABLES

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Modified Date: 7/31/2020

Attachment 10. Results of the 2019 Raptor Nest Survey for the Golden Hills Wind Project, Sherman County, Oregon

ENVIRONMENTAL & STATISTICAL CONSULTANTS

2725 NW Walnut Boulevard, Corvallis, Oregon 97330
Phone: 307-214-2799 ◆ www.west-inc.com ◆ Fax: 307-637-6981

TECHNICAL MEMORANDUM

DATE: July 26, 2019

TO: Matthew Hutchinson, Avangrid Renewables, LLC

FROM: Andrea Chatfield and Troy Rintz, WEST, Inc.

RE: Results of the 2019 Raptor Nest Survey for the Golden Hills Wind Project, Sherman County, Oregon.

INTRODUCTION

Golden Hills Wind Farm LLC (Certificate Holder), a subsidiary of Pacific Wind LLC, is proposing to develop the Golden Hills Wind Project (Facility) in Sherman County, Oregon. The Certificate Holder contracted Western EcoSystems Technology, Inc. (WEST) to conduct aerial raptor nest surveys in the vicinity of the proposed Facility, consistent with condition PRE-FW-05 in the Fourth Amended Site Certificate (Site Certificate). Surveys for raptor nests were conducted within a 2.0-mile (mi; 3.2-kilometer [km]) buffer of the micrositing corridors during the 2019 breeding season. The primary objectives of the surveys were: 1) to provide baseline data for the long term raptor nest monitoring required by the Wildlife Monitoring and Mitigation Plan (Attachment E of the Site Certificate), and 2) to inform potential construction disturbance constraints related to active raptor nests (condition PRE-FW-02). The following memorandum summarizes the characteristics of the survey area, survey methodology, and results of the 2019 raptor nest survey effort.

SURVEY AREA

The Site Boundary encompasses approximately 33,003 acres (ac; 13,356 hectares [ha]) of privately-owned land in north-central Sherman County, Oregon, approximately 16 mi (26 km) east of The Dalles (Figure 1). The proposed Facility is located in the Columbia Plateau ecoregion, which is characterized by tablelands of moderate to high relief, and irregular plains with open hills (Thorson et al. 2003). WEST developed the raptor nest Survey Area by buffering the Facility's micrositing corridors by 2 mi in a Geographic Information System (GIS; see Figure 1). The majority of the Survey Area is situated on a plateau that is bounded by the Columbia River to the north, the John Day River to the east and south, and the Deschutes River to the west. Elevations within the Survey Area range from about 160 to 2,400 feet (ft; 49 to 732 meters [m]) above sea level. The primary vegetation communities within the Survey Area include dryland agriculture and non-native annual grassland with smaller areas of shrub-steppe.

Suitable raptor nesting habitat is present within the Survey Area primarily in isolated trees along riparian/drainage corridors. The Hay Canyon, Biglow Canyon, and Klondike wind farms are located adjacent the proposed Facility to the east.

METHODS

The 2019 aerial surveys were conducted by two qualified WEST biologists from a Raven 44 II helicopter with bubble windows that provided excellent visibility (Pagel et al. 2010, USFWS 2013). The first aerial survey was conducted on March 8, and a follow-up aerial survey was conducted on May 15. To the extent practicable, surveys were consistent with past survey efforts for the proposed Facility (e.g., 2016 nest surveys) as well as the methods described in the US Fish and Wildlife Service (USFWS) Eagle Conservation Plan Guidance (USFWS 2013), with the limitation that surveys extended out to a 2-mi radius from micrositing corridors, not a 10-mi radius per USFWS (2013).

The initial survey in March was conducted during a time period that overlapped the primary early nesting period of raptors in Oregon, when breeding pairs are exhibiting courtship, nest-building, and/or incubation behaviors. This initial survey consisted of an intensive search of suitable nesting habitat within the Survey Area. Surveys targeted all potential raptor nesting substrates (e.g., cliffs, bluffs, power poles, trees), with an emphasis on tree- and cliff-nesting raptors, such as red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*B. swainsoni*), ferruginous hawk (*B. regalis*), great-horned owl (*Bubo virginianus*), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), and peregrine falcon (*Falcon peregrinus*). In addition to raptor nests, nests of common ravens (*Corvus corax*) were also documented as raptors and ravens are known to use similar-sized nests. During the surveys, the helicopter was positioned to allow thorough visual inspection of all appropriate habitat features. In some cases, multiple passes were required to thoroughly cover nesting habitat. In general, the helicopter was flown approximately 150 to 200 ft (46-61 m) above ground level at an air speed of approximately 50 mi per hour (80 km per hour), with the helicopter maintaining a distance of at least 65 ft (20 m) from nests and cliff faces (Pagel et al. 2010). When a nest was located, the helicopter reduced speed and adjusted the flight track to allow for a clear view of the nest for documentation and photographing. For all nests located within the Survey Area, a Global Positioning System (GPS) location was recorded, and nest attribute data were collected. Nest attributes included species (if known), nest type, nest status, nest condition, substrate, and any other additional relevant information about the nest.

The second aerial survey, conducted in May, was performed at a time when raptors are actively engaged in mid- to late-breeding season reproductive activities (e.g., incubating, brooding, feeding nestlings), and when later-nesting species such as Swainson's hawks would be reliably on or around nests. During the May survey, WEST biologists revisited previously located raptor nests to evaluate reproductive status. Additionally, high-quality nesting habitat was revisited to search for any new nests, including those of later-nesting raptor species.

Nesting status for the 2019 nesting season was categorized using definitions originally proposed by Postupalsky (1974) and largely followed today (USFWS 2013). Nests were

classified as occupied if any of the following were observed at the nest structure: (1) an adult in an incubating position; (2) eggs; (3) nestlings or fledglings; (4) presence of an adult (sometimes sub-adults); (5) a newly constructed or refurbished stick nest in the area where territorial behavior or a raptor had been observed earlier in the breeding season; or (6) a recently repaired nest with fresh sticks (clean breaks) or fresh boughs on top, and/or droppings and/or molted feathers on its rim or underneath. Occupied nests were further classified as active if an egg or eggs were laid. Nests were classified as inactive if no eggs or chicks were present. Nests not meeting the above criteria for "Occupied" during at least two consecutive surveys were classified as "Unoccupied."

RESULTS

During the spring 2019 nest surveys, 49 nests were documented within the Survey Area (Figure 1, Table 1). Of these, 32 nests were determined to be occupied with evidence of active nesting as of the second survey in May. This included 20 red-tailed hawk nests, nine great horned owl nests, two Swainson's hawk nests, and one common raven nest (Figure 1, Table 1). The remaining 17 nests observed during surveys were determined to be unoccupied (Figure 1, Table 1). Nine of the 32 occupied nests (seven red-tailed hawk nests and two great horned owl nests) were located within the Site Boundary; however, each of these nests were located outside of the micrositing corridors (Figure 1). All nests identified during surveys were located in trees, primarily associated with rivers and smaller drainages throughout the Survey Area (Figure 1; Table 1).

The two active Swainson's hawk nests (nests Gh18 and Gh22; Figure 1; Table 1) were located approximately 1.5 and 2.0 mi (2.4 and 3.2 km) south of the micrositing corridors. Both of these nests were identified during the initial aerial survey in March; however, both nests were recorded as inactive at that time. During the follow-up survey in May, both nests contained an adult Swainson's hawk in incubating position and were recorded as active. An additional ground-based visit was made to both nests on July 23 to determine productivity; however, no adults or young were observed at either nest or in the vicinity of the nests. Typical fledging dates for Swainson's hawk nestlings in the region are July 25 – August 5 (Fitzner 1980), suggesting that if these nests were successful, nestlings or newly fledged young would have been visible in or near the nests. While it is possible that the young fledged earlier in the season, given the timing of the visit and the absence of activity at the nest, it is more likely that the nests failed. Additionally, no whitewash, eggshell fragments, or feathers were observed on or beneath either nest, also suggesting these nests had failed at some point prior to fledging.

No bald eagle or golden eagle nests, or nests characteristic of bald or golden eagle nests, and no ferruginous hawk nests, were located with the Survey Area.

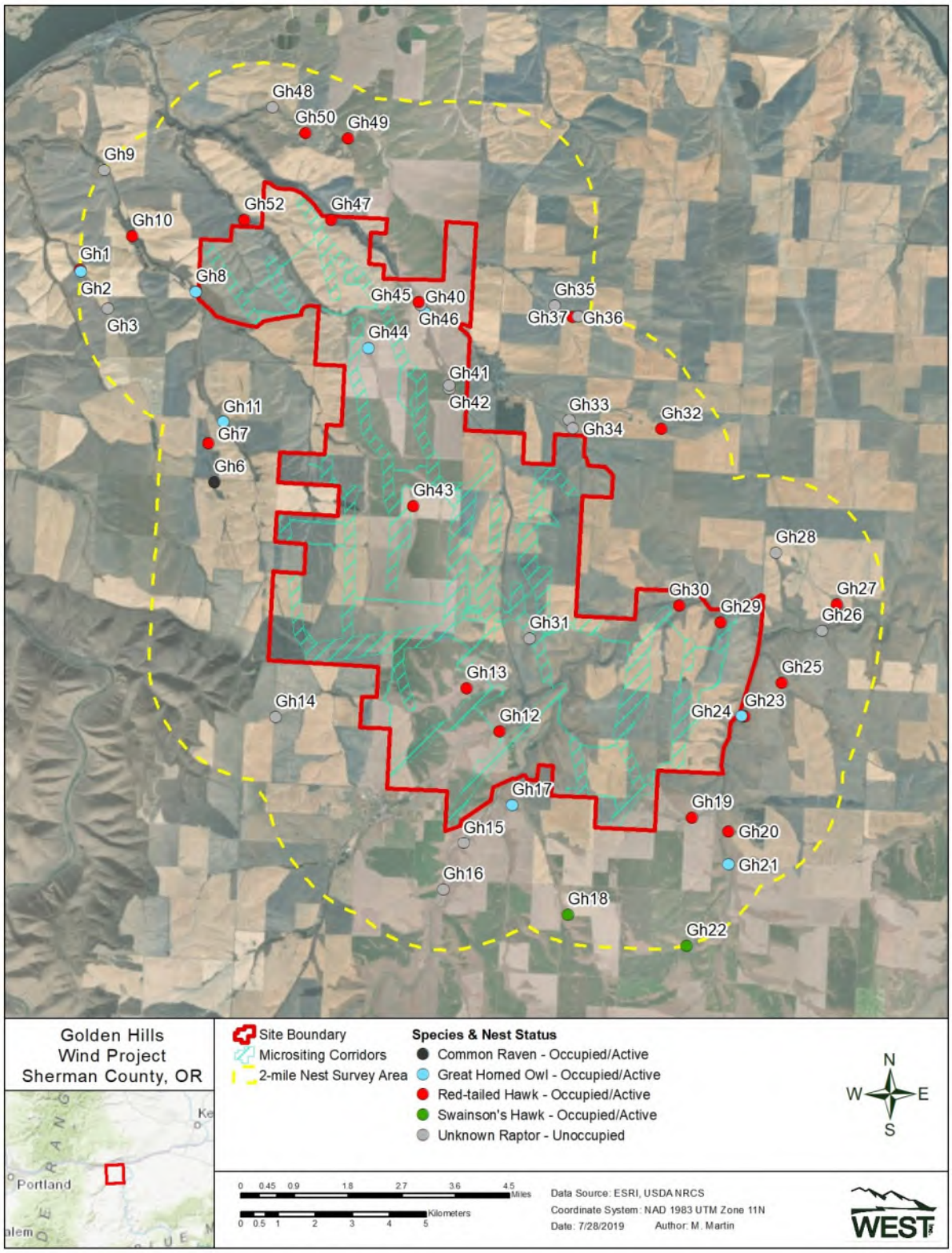

Figure 1. Location of raptor nests documented during aerial surveys for the Golden Hills Wind Project, Sherman County, Oregon, March 8 and May 15, 2019.

Table 1. Results of 2019 raptor nest surveys conducted on March 8 and May 15 for the Golden Hills Wind Project, Sherman County, Oregon.

Nest ID	Species	2019 Nest Status[1]	Nest Substrate	Comments
Gh1	Red-tailed hawk	Occupied/Active	Deciduous tree	1 chick, 2 weeks old in May
Gh2	Great horned owl	Occupied/Active	Deciduous tree	1 chick,7 weeks old in May
Gh3	Unknown	Unoccupied	Deciduous tree	-
Gh4	Great horned owl	Occupied/Active	Deciduous tree	Adult incubating in March; nest empty in May-presumed fledged
Gh5	Unknown	Unoccupied	Deciduous tree	-
Gh6	Common raven	Occupied/Active	Deciduous tree	2 chicks, 4 weeks old in May
Gh7	Red-tailed hawk	Occupied/Active	Deciduous tree	2 chicks,1 week old in May
Gh8	Great horned owl	Occupied/Active	Deciduous tree	1 chick, 7 weeks old in May
Gh9	Unknown	Unoccupied	Conifer tree	-
Gh10	Red-tailed hawk	Occupied/Active	Deciduous tree	Adult brooding in May
Gh11	Great horned owl	Occupied/Active	Deciduous tree	2 chicks, 7 weeks old in May
Gh12	Red-tailed hawk	Occupied/Active	Deciduous tree	3 chicks, 2 weeks old in May
Gh13	Red-tailed hawk	Occupied/Active	Deciduous tree	Adult brooding in May
Gh14	Unknown	Unoccupied	Deciduous tree	-
Gh15	Unknown	Unoccupied	Deciduous tree	-
Gh16	Unknown	Unoccupied	Deciduous tree	-
Gh17	Great horned owl	Occupied/Active	Deciduous tree	1 chick, 5 weeks old in May
Gh18	Swainson's hawk	Occupied/Active	Deciduous tree	Adult incubating in May; nest empty on July 23 – failed?
Gh19	Red-tailed hawk	Occupied/Active	Deciduous tree	Adult brooding in May
Gh20	Red-tailed hawk	Occupied/Active	Deciduous tree	1 chick, 1 week old in May
Gh21	Great horned owl	Occupied/Active	Deciduous tree	Adult incubating in March; could not locate nest in May (foliage too dense)
Gh22	Swainson's hawk	Occupied/Active	Deciduous tree	Adult incubating in May; nest empty on July 23 – failed?
Gh23	Red-tailed hawk	Occupied/Active	Deciduous tree	1 chick, 1 week old in May
Gh24	Great horned owl	Occupied/Active	Deciduous tree	Adult on nest in March; nest empty in May-presumed fledged
Gh25	Red-tailed hawk	Occupied/Active	Deciduous tree	1 chick, 1 week old in May
Gh26	Unknown	Unoccupied	Deciduous tree	-
Gh27	Red-tailed hawk	Occupied/Active	Deciduous tree	2 chicks, 1 week old in May
Gh28	Unknown raptor	Unoccupied	Deciduous tree	-
Gh29	Red-tailed hawk	Occupied/Active	Deciduous tree	3 chicks, 2 weeks old in May
Gh30	Red-tailed hawk	Occupied/Active	Deciduous tree	1 chick, 1 week old in May
Gh31	Unknown	Unoccupied	Conifer tree	-
Gh32	Red-tailed hawk	Occupied/Active	Deciduous tree	1 chick, 1 week old in May
Gh33	Unknown	Unoccupied	Deciduous tree	-

Table 1. Results of 2019 raptor nest surveys conducted on March 8 and May 15 for the Golden Hills Wind Project, Sherman County, Oregon.

Nest ID	Species	2019 Nest Status[1]	Nest Substrate	Comments
Gh34	Unknown	Unoccupied	Deciduous tree	-
Gh35	Unknown	Unoccupied	Deciduous tree	-
Gh36	Red-tailed hawk	Occupied/Active	Deciduous tree	1 chick, 2 weeks old in May
Gh37	Unknown	Unoccupied	Deciduous tree	-
Gh40	Great horned owl	Occupied/Active	Deciduous tree	Adult incubating in March; nest empty in May-presumed fledged
Gh41	Unknown	Unoccupied	Deciduous tree	-
Gh42	Unknown	Unknown	Deciduous tree	-
Gh43	Red-tailed hawk	Occupied/Active	Deciduous tree	1 chick, 1 week old in May
Gh44	Great horned owl	Occupied/Active	Deciduous tree	Adult incubating in March; nest empty in May-presumed fledged
Gh45	Unknown	Unoccupied	Deciduous tree	-
Gh46	Red-tailed hawk	Occupied/Active	Deciduous tree	Adult on nest in March; could not locate nest in May (foliage too dense)
Gh47	Red-tailed hawk	Occupied/Active	Deciduous tree	Adult brooding in May
Gh48	Unknown	Unoccupied	Deciduous tree	-
Gh49	Red-tailed hawk	Occupied/Active	Deciduous tree	2 chicks, 1 week old in May
Gh50	Red-tailed hawk	Occupied/Active	Deciduous tree	2 chicks, 2 weeks old in May
Gh52	Red-tailed hawk	Occupied/Active	Deciduous tree	Adult brooding in May

[1]Highest level of reproductive status determined for the current breeding season: **Occupied** = contained eggs, young, or an incubating eagle, or had a pair of eagles on or near it, or had been recently repaired or decorated. **Active** = an occupied nest in which eggs were laid, as evidenced by the presence of an incubating bird, eggs, young, or any other indication that eggs had been laid in the current year. **Inactive** = no eggs or chicks present. **Unoccupied** = no sign of nesting or territory occupancy in the current nesting season, based on at least two visits.

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Attachment 11. Results of the 2020 Raptor Nest Surveys for the Golden Hills Wind Project, Sherman County, Oregon

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TECHNICAL MEMORANDUM

DATE: July 14, 2020

TO: Matthew Hutchinson, Avangrid Renewables, LLC

FROM: Andrea Chatfield and Joel Thompson, WEST, Inc.

RE: Results of 2020 Raptor Nest Surveys for the Golden Hills Wind Project, Sherman County, Oregon.

INTRODUCTION

Golden Hills Wind Farm LLC (Certificate Holder), a subsidiary of Pacific Wind LLC, is proposing to develop the Golden Hills Wind Project (Project) in Sherman County, Oregon. The Certificate Holder contracted Western EcoSystems Technology, Inc. (WEST) to conduct aerial raptor nest surveys in the vicinity of the proposed Project, consistent with condition PRE-FW-05 in the Fourth Amended Site Certificate (Site Certificate). To supplement raptor nest surveys conducted for the proposed Project in 2019 (See Chatfield and Rintz 2019), WEST conducted a second year of surveys for raptor nests within a 2.0-mile (mi; 3.2-kilometer [km]) buffer of the micrositing corridors during the 2020 breeding season. The primary objectives of the surveys were: 1) to provide baseline data for the long term raptor nest monitoring required by the Wildlife Monitoring and Mitigation Plan (Attachment E of the Site Certificate), and 2) to inform potential construction disturbance constraints related to active raptor nests (condition PRE-FW-02). The following memorandum summarizes the characteristics of the survey area, methodology, and results of the 2020 raptor nest surveys at the Project.

SURVEY AREA

The Site Boundary encompasses approximately 33,003 acres (ac; 13,356 hectares [ha]) of privately-owned land in north-central Sherman County, Oregon, approximately 16 mi (26 km) east of The Dalles (Figure 1). The proposed Project is located in the Columbia Plateau ecoregion, which is characterized by tablelands of moderate to high relief, and irregular plains with open hills (Thorson et al. 2003). WEST developed the raptor nest Survey Area by buffering the Project's micrositing corridors by 2.0 mi in a Geographic Information System (GIS; see Figure 1). The majority of the Survey Area is situated on a plateau that is bounded by the Columbia River to the north, the John Day River to the east and south, and the Deschutes River to the west. Elevations within the Survey Area range from about 160 to 2,400 feet (ft; 49 to 732 meters [m]) above sea level. The primary vegetation communities within the Survey Area include dryland agriculture and

non-native annual grassland with smaller areas of shrub-steppe. Suitable raptor nesting habitat is present within the Survey Area primarily in isolated trees along riparian/drainage corridors, with small cliffs and rocky outcrops providing additional nesting opportunity in the steeper canyons and ravines. The Hay Canyon, Biglow Canyon, and Klondike wind farms are located adjacent the proposed Project to the east.

METHODS

The 2020 aerial surveys were conducted by two qualified WEST biologists from a Raven 44 II helicopter with bubble windows that provided excellent visibility (Pagel et al. 2010, USFWS 2013). The first aerial survey was conducted on March 19, and a follow-up aerial survey was conducted on May 13. To the extent practicable, surveys were consistent with past survey efforts for the proposed Project (e.g., 2016 and 2019 nest surveys) as well as newly released guidance from the Assistant Director of Migratory Birds (USFWS 2020a) and accompanying "Updated Eagle Nest Survey Protocol" (USFWS 2020b) which recommends an eagle nest survey buffer of 2.0 mi from a project's footprint.

The initial survey in March was conducted during the primary early nesting period of raptors in Oregon, when breeding pairs are exhibiting courtship, nest-building, and/or incubation behaviors. This initial survey consisted of an intensive search of suitable nesting habitat within the Survey Area. Surveys targeted all potential raptor nesting substrates (e.g., cliffs, bluffs, power poles, trees), with an emphasis on tree- and cliff-nesting raptors, such as red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*B. swainsoni*), ferruginous hawk (*B. regalis*), great-horned owl (*Bubo virginianus*), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), and peregrine falcon (*Falcon peregrinus*). In addition to raptor nests, nests of common ravens (*Corvus corax*) were also documented, as raptors and ravens are known to use similar-sized nests. During the surveys, the helicopter was positioned to allow thorough visual inspection of all appropriate habitat features. In some cases, multiple passes were required to thoroughly cover nesting habitat. In general, the helicopter was flown approximately 150 to 200 ft (46-61 m) above ground level at an air speed of approximately 50 mi per hour (80 km per hour), with the helicopter maintaining a distance of at least 65 ft (20 m) from nests and cliff faces (Pagel et al. 2010). When a nest was located, the helicopter reduced speed and adjusted the flight track to allow for a clear view of the nest for documentation and photographing. For all nests located within the Survey Area, a Global Positioning System (GPS) location was recorded, and nest attribute data were collected. Nest attributes included species (if known), nest type, nest status, nest condition, substrate, and any other additional relevant information about the nest.

The second aerial survey, conducted in May, was performed at a time when raptors are actively engaged in mid- to late-breeding season reproductive activities (e.g., incubating, brooding, feeding nestlings), and when later-nesting species such as Swainson's hawks would be reliably on or around nests. During the May survey, WEST biologists revisited previously located raptor nests to evaluate reproductive status. Additionally, high-quality nesting habitat was revisited to search for any new nests, including those of later-nesting raptor species.

Nesting status for the 2019 nesting season was categorized using definitions originally proposed by Postupalsky (1974) and largely followed today (USFWS 2013). Nests were classified as occupied if any of the following were observed at the nest structure: (1) an adult in an incubating position; (2) eggs; (3) nestlings or fledglings; (4) presence of an adult (sometimes sub-adults); (5) a newly constructed or refurbished stick nest in the area where territorial behavior or a raptor had been observed earlier in the breeding season; or (6) a recently repaired nest with fresh sticks (clean breaks) or fresh boughs on top, and/or droppings and/or molted feathers on its rim or underneath. Occupied nests were further classified as active if an egg or eggs were laid. Nests were classified as inactive if no eggs or chicks were present. Nests not meeting the above criteria for "Occupied" during both aerial surveys were classified as "Unoccupied."

RESULTS

During the spring 2020 raptor nest survey, 61 nests were documented within the Survey Area (Figure 1, Table 1). Of these, 40 nests were determined to be occupied with evidence of active nesting as of the second survey on May 13. This included 26 red-tailed hawk nests, 11 great horned owl nests, and three common raven nests (Figure 1, Table 1). One additional nest of an unknown raptor species was classified as occupied-inactive as it was found to contain greenery during the March survey, but no further evidence of activity was observed during the follow-up survey in May. Eighteen of the 61 nests observed during surveys were determined to be inactive (if no eggs or young were found during single visit) or unoccupied (if the nest was inactive during both visits; Figure 1, Table 1). Two additional nests were observed during the survey; however, the species and status could not be determined due to dense foliage concealing the nests (Table 1). Three nests, previously recorded during raptor nest surveys in 2019, were not located in 2020 (Table 1, Figure 1).

Twenty of the 61 identified nests were located within the Site Boundary, including 16 active raptor nests (13 red-tailed hawk nests and three great horned owl nests); however, only four active nests (three red-tailed hawk nests and one great horned owl nest) were documented within the micrositing corridors (Figure 1). The majority of nests identified during surveys were located in trees primarily associated with rivers and smaller drainages throughout the Survey Area (Figure 1; Table 1). Three nests were found on cliffs (Table 1).

No occupied bald eagle, golden eagle, or ferruginous hawk nests were located with the Survey Area. A large raptor nest located on a cliff approximately 1.3 mi (2.1 km) to the west of the Site Boundary (Nest K10, Figure 1, Table 1) was recorded as being characteristic of a golden eagle nest based on size and location; however this nest was occupied by red-tailed hawks in 2020.

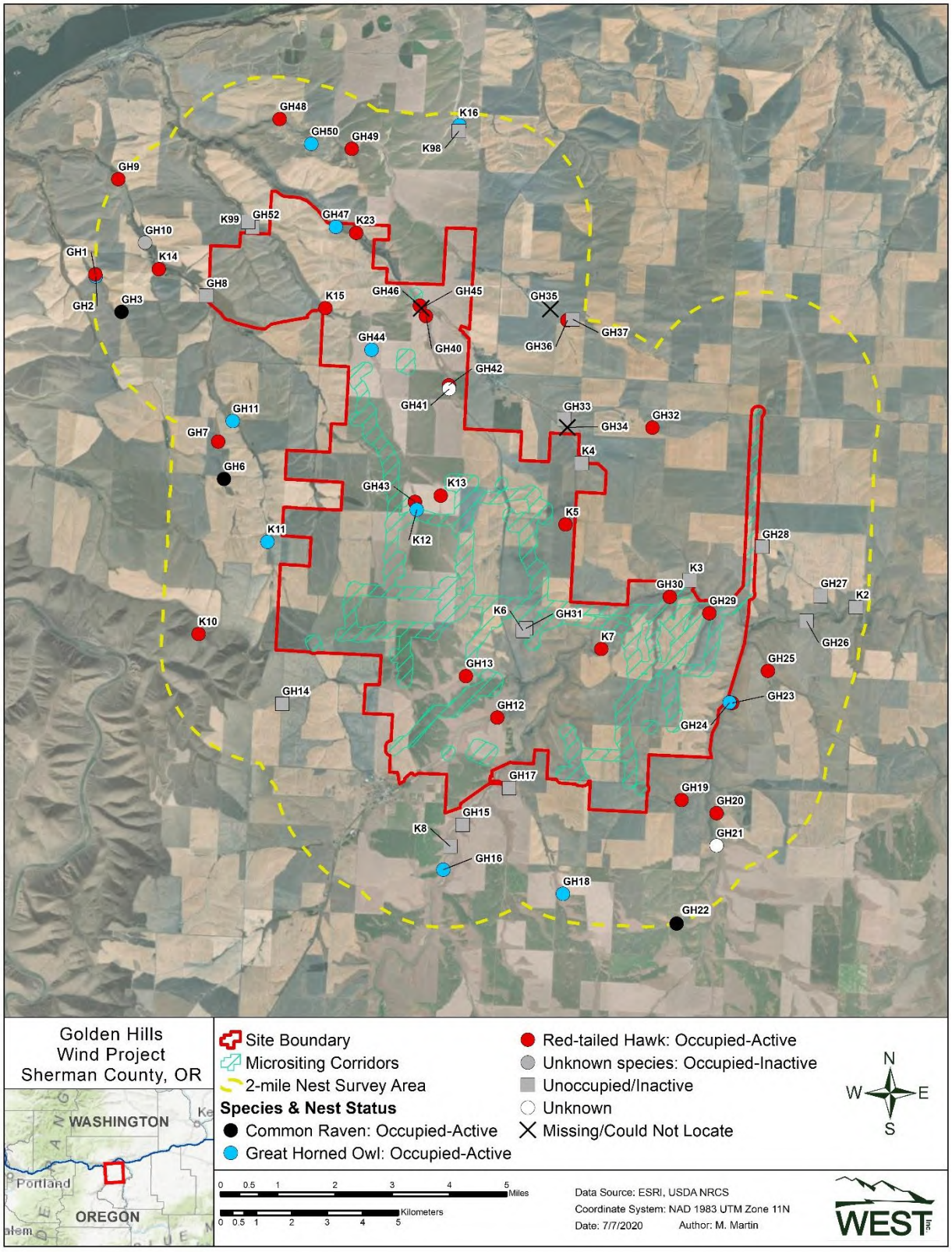

Figure 1. Location of raptor and raven nests documented during aerial surveys for the Golden Hills Wind Project, Sherman County, Oregon, March 19 and May 13, 2020.

Table 1. Results of 2020 raptor nest surveys conducted on March 19 and May 13 for the Golden Hills Wind Project, Sherman County, Oregon.

Nest ID	Species	2020 Nest Status[1]	Nest Substrate	Comments
GH1	Red-tailed hawk	Occupied-Active	Deciduous tree	2 chicks and one egg observed in May
GH2	Great horned owl	Occupied-Active	Deciduous tree	Adult incubating in March; nest empty in May—possibly fledged
GH3	Common raven	Occupied-Active	Deciduous tree	2 nests in tree; 1 chick observed in May
GH6	Common raven	Occupied-Active	Deciduous tree	3 chicks in May
GH7	Red-tailed hawk	Occupied-Active	Deciduous tree	Adult brooding in May
GH8	--	Unoccupied	Deciduous tree	--
GH9	Red-tailed hawk	Occupied-Active	Coniferous tree	2 chicks observed in May
GH10	Unknown	Occupied-Inactive	Deciduous tree	Greenery in nest in March; no sign of active nesting in May
GH11	Great horned owl	Occupied-Active	Deciduous tree	3 nests in tree; adult incubating in March; nest empty in May—possibly fledged
GH12	Red-tailed hawk	Occupied-Active	Deciduous tree	2 chicks in May
GH13	Red-tailed hawk	Occupied-Active	Deciduous tree	Adult brooding in May
GH14	--	Unoccupied	Deciduous tree	--
GH15	--	Unoccupied	Deciduous tree	--
GH16	Great horned owl	Occupied-Active	Deciduous tree	2 chicks observed in nest in May
GH17	--	Inactive	Deciduous tree	Nest not found in March; inactive in May
GH18	Great horned owl	Occupied-Active	Coniferous tree	2 chicks in nest in May
GH19	Red-tailed hawk	Occupied-Active	Deciduous tree	2 chick in nest in May
GH20	Red-tailed hawk	Occupied-Active	Deciduous tree	3 chicks in nest in May
GH21	Unknown	Unknown	Deciduous tree	Could not see into nest due to leaf-out
GH22	Common raven	Occupied-Active	Deciduous tree	2 chicks in nest in May
GH23	Red-tailed hawk	Occupied-Active	Deciduous tree	1 chick in nest in May
GH24	Great horned owl	Occupied-Active	Deciduous tree	Adult incubating in March; nest empty in May—possibly fledged
GH25	Red-tailed hawk	Occupied-Active	Deciduous tree	2 chicks in May
GH26	--	Unoccupied	Deciduous tree	--
GH27	--	Unoccupied	Deciduous tree	--
GH28	--	Unoccupied	Deciduous tree	--
GH29	Red-tailed hawk	Occupied-Active	Deciduous tree	3 chicks in May
GH30	Red-tailed hawk	Occupied-Active	Deciduous tree	2 chicks in May
GH31	--	Unoccupied	Coniferous tree	--
GH32	Red-tailed hawk	Occupied-Active	Deciduous tree	3 chicks in May
GH33	--	Unoccupied	Deciduous tree	Nest in fair condition
GH34	--	Missing	Deciduous tree	Nest in poor condition in March; missing in May
GH35	--	Missing	--	--
GH36	Red-tailed hawk	Occupied-Active	Deciduous tree	Adult incubating in March; nest empty in May—possibly fledged

Table 1. Results of 2020 raptor nest surveys conducted on March 19 and May 13 for the Golden Hills Wind Project, Sherman County, Oregon.

Nest ID	Species	2020 Nest Status[1]	Nest Substrate	Comments
GH37	--	Unoccupied	Deciduous tree	--
GH40	Red-tailed hawk	Occupied-Active	Deciduous tree	Adult incubating in March; nest empty in May—possibly fledged
GH41	Unknown	Unknown	Deciduous tree	Nest inactive in March; unable to see nest in May due to leaf-out
GH42	Red-tailed hawk	Occupied-Active	Deciduous tree	Adult incubating in March; unable to see nest in May due to leaf-out
GH43	Red-tailed hawk	Occupied-Active	Deciduous tree	Adult incubating in March; nest empty in March and in poor condition
GH44	Great horned owl	Occupied-Active	Deciduous tree	2 chicks in May
GH45	--	Missing	--	--
GH46	Red-tailed hawk	Occupied-Active	Deciduous tree	Adult incubating in May
GH47	Great horned owl	Occupied-Active	Deciduous tree	Adult incubating in March; nest empty in May—possibly fledged
GH48	Red-tailed hawk	Occupied-Active	Deciduous tree	3 chicks in May
GH49	Red-tailed hawk	Occupied-Active	Deciduous tree	2 chicks in May
GH50	Great horned owl	Occupied-Active	Deciduous tree	Adult incubating in March; nest empty in May—possibly fledged
GH52	--	Unoccupied	Deciduous tree	--
K2	--	Unoccupied	Cliff	Nest in poor condition
K3	--	Unoccupied	Deciduous tree	--
K4	--	Unoccupied	Deciduous tree	--
K5	Red-tailed hawk	Occupied-Active	Deciduous tree	Adult incubating in May
K6	--	Unoccupied	Deciduous tree	--
K7	Red-tailed hawk	Occupied-Active	Cliff	Adult incubating in May
K8	--	Unoccupied	Deciduous tree	Consistent with black-billed magpie nest
K10	Red-tailed hawk	Occupied-Active	Cliff	2 chicks in May
K11	Great horned owl	Occupied-Active	Deciduous tree	Adult incubating in March; nest empty in May—possibly fledged
K12	Great horned owl	Occupied-Active	Deciduous tree	Adult incubating in March; nest empty in May—possibly fledged
K13	Red-tailed hawk	Occupied-Active	Deciduous tree	Adult brooding in May
K14	Red-tailed hawk	Occupied-Active	Deciduous tree	Adult brooding in May
K15	Red-tailed hawk	Occupied-Active	Coniferous tree	Adult brooding in May
K16	Great horned owl	Occupied-Active	Deciduous tree	Adult incubating in March; nest empty in May—possibly fledged
K23	Red-tailed hawk	Occupied-Active	Deciduous tree	1 chick in May
K98	--	Inactive	Deciduous tree	Nest not located in March; inactive in May
K99	--	Inactive	Deciduous tree	Nest not located in March; inactive in May

[1] Highest level of reproductive status determined for the current breeding season: **Missing** = nest is completely missing or couldn't be found; **Occupied-Active** = evidence of tending the nest and there are eggs, chicks, and/or an adult in incubating/brooding position at the time of the survey; **Occupied-Inactive** = evidence of recent tending of the nest or presence by an adult, but there are no eggs, chicks or an adult in incubating/brooding position; **Inactive** = No evidence of nest tending and no eggs, chicks or adults present; **Unoccupied** = Nest has been classified as inactive for at least 2 consecutive surveys; **Unknown** = Nest is present, but status cannot be determined

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Attachment 12. Golden Hills Residential Verification Field Summary

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Memorandum

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Subject **Golden Hills Residential Verification Field Summary**

Attention Matt Hutchinson/Avangrid

From Mark Bastasch/Jacobs

Date May 11, 2020

This technical memorandum summarizes the targeted residential survey completed by Jacobs of the Golden Hills Wind Facility project area in Sherman County, Oregon. Jacobs conducted the residential survey on March 17, 2020. The purpose of the survey was to review and update existing residential information with new planned or County-permitted residences in the project area.

The final project layout was not available at the time of the March 17 survey. Consequently, Jacobs established a 2-mile buffer from the maximum turbine layout provided by Avangrid. This proved to be a conservative approach for determining potentially relevant residences. The turbine layout has since been determined and Jacobs has verified each structure within the predicted 35 decibels on an A-weighted scale (dBA) sound pressure level contour. Should the turbine layout change again, additional structures may become relevant and require review.

The survey methodology consisted of the following steps:

1) Avangrid provided the maximum turbine project layout, existing documented residences, and associated lease participation status to Jacobs.
2) Jacobs conducted a desktop review of the provided data and utilized available aerial imagery to identify structures and residences for field verification.
3) Jacobs coordinated with Sherman County to identify potential new dwellings in the project area.

Table 1 shows the structures and residences identified for field verification.

Table 1. Structures/Residences Identified for Field Verification

Receiver ID	Address	Participating Status	Coordinates	
			X (m)	Y (m)
R13	66067 LONEROCK RD	Not Participating	678,331	5,038,604
R43	72899 HIGHWAY 97	Participating	680,483	5,048,628
R58	1120 HIGHWAY 206	Not Participating	680,062	5,050,783
R69	71026 N OLD HIGHWAY 97	Participating	678,337	5,052,333
R76	67948 GORDON RIDGE RD	Not Participating	673,081	5,042,862
R128	62500 NISH ROAD	Not Participating	684,827	5,041,434
R130	LOCUST GROVE	Not Participating	672,375	5,052,028

Note: Coordinate system in North American Datum 1983 (NAD83) universal transverse Mercator (meters).

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www.jacobs.com

The following summarizes the field observations for each property identified in Table 1:

- R13 – Confirmed structure is unoccupied. Building has laundry/showers for the RV Park. The "camp host" resides in an RV. Suggest adding to the data set for now and discussing how best to handle should this area become relevant.
- R43 – Further review indicated that the house may not be on property. House was not visible from public land. Property indicated to have easement. As long as 50 dBA are maintained, it should not present a constraint and status of "likely occupied" is suggested.
- R58 – Further review indicated structure was likely unoccupied, although homeless may be squatting in decrepit building. See Photos 1 and 2 in the attached photo log. Status of "likely unoccupied" should be verified if this location becomes relevant.
- R69 – Coordinates of residential structure were confirmed during site visit. Property indicated to have easement.
- R76 – Confirmed trailer that previously occupied property is now gone. See Photo 3 in the attached photo log. Property is now classified as unoccupied. Re-evaluation may be appropriate if this location becomes relevant.
- R128 – Confirmed location is an occupied residence. Coordinates of residential structure were confirmed during site visit. See Photo 4 in the attached photo log.
- R130 – Confirmed location is an occupied residence. Coordinates of residential structure were confirmed during site visit. See Photo 5 in the attached photo log.

In addition to the observations listed above, the west end of the town of Wasco was reviewed for new developments. Two new houses were observed but were found to be outside the 2-mile buffer line and within the area of residences previously identified as "in town" for project purposes. Similarly, the town of Moro was reviewed for new development on the northeast end of town. No new development was observed.

Specific residences identified by the County were also reviewed. Results are described as follows:

- A new home was identified on Locust Grove. This structure is R130.
- A home was identified at 65839 Hay Canyon Road. This location was far from the project area, and therefore was not visited.
- A new home was indicated at 62500 Nish Road. This structure is R128.
- A potential County-permitted site was identified on Pinkerton property. It was unclear where this site was located. Pinkerton property and Pinkerton Road are located at the southeast edge of the town of Moro. New houses are present south of receiver R11. They were not added to the data set as they are south and west of the previously identified "in-town" points. However, coordinates could be added using Google Earth as they are clearly visible.

Attachment
Photo Log

Photo Log



Photo 1. R58



Photo 2. R58



Photo 3. R76



Photo 4. R128



Photo 5. R130

Attachment 13. Golden Hills Wind Farm Pre Construction Wetland and Waters Survey Summary Findings

Golden Hills Wind Farm
Pre Construction Wetland and Waters Survey Summary Findings

Golden Hills Jurisdictional Wetlands and Waters			
Wetland/Stream ID	**Wetland/Stream Type**	**Nearest Facility**	**Avoidance Method**
WT-01*	Palustrine Emergent – Spring/Seep	Transmission Line	Conductor will span over wetland, no disturbance of wetland is expected.
WT-02*	Riverine	Collector Line	Collector line has been moved west to reduce impacts in a narrower section of the wetland/stream. Temporary impacts are expected, but will be less than that requiring permitting. Restoration will be completed after construction.
WT-03	Riverine	Transportation Route	This crossing will be avoided, micrositing corridor has been adjusted.
WT-04*	Riverine	Collector Line	Collector line has been moved north of wetland and will be directionally drilled underneath stream.
WT-05*	Riverine	Transmission Line	Conductor will span over wetland, no disturbance of wetland is expected
WT-06*	Palustrine Emergent – Spring/Seep	Transmission Line	Conductor will span over wetland, no disturbance of wetland is expected.
WT-07	Riverine	Transportation Route	Temporary intersection improvements will be to upland areas northwest of wetland, no disturbance of wetland is expected.
WT-08*	Palustrine Emergent - Spring/Seep	Transmission Line	Conductor will span over wetland, no disturbance of wetland is expected.
ST-01	Perennial Stream	Transportation Route	This crossing will avoided, micrositing corridor has been adjusted.
ST-01A*	Perennial Stream	Transmission Line	Conductor will span over stream to avoid disturbance.
* *Wetland or water resource within new areas of micrositing corridor.*			

Golden Hills Wind Project

Figure 1
Wetland Delineation Findings

SHERMAN COUNTY, OREGON

WT-01
WT-02
WT-03
WT-04
WT-05
WT-07
ST-01
ST-01a

Van Gilder Rd
Sandom Rd
Klondike Rd
Hay Canyon Rd
Monkland Ln
Harris Canyon Rd
4th St
1st St
Lonerock Rd
Moro
206
97

- Site Boundary
- Turbine
- Met Tower
- Gen Tie Structure
- Access Road
- Collection Line
- Crane Walk
- Overhead 230-kV Gen-Tie/Transmission Line
- EFSC Corridor-Original (2015)
- Additions to EFSC Corridor (2020)
- Micrositing Corridors to be Removed
- City/Town
- Secondary Highway
- Secondary Road
- County Boundary
- Span or Bore
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated

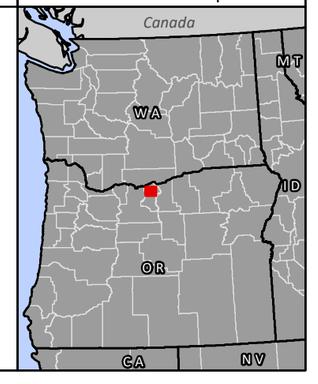
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:45,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

P:\GIS_PROJECTS\Avangrid\GoldenHills\MXDs\RFA6_20201027AVG_GoldenHills_RFA6_Fig5_Wetlands_Waters_11i17i_20201112.mxd

Attachment 14. Golden Hills Wind Project Wetland Delineation Report

Golden Hills Wind Project

Wetland Delineation Report

Prepared for



Prepared by



August 2020

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Acronyms and Abbreviations

Arid West Supplement	*Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* Version 2.0
FAC	Facultative [indicator code]
FACU	Facultative Upland [indicator code]
FACW	Facultative wetland [indicator code]
GPS	Global Positioning System
LRR	Land Resource Region
Manual	Wetlands Delineation Manual, Technical Report Y-87-1
NHD	National Hydrography Dataset
NI	No Indicator [indicator code]
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OAR	Oregon Administrative Rule
OBL	Obligate [indicator code]
Project	Golden Hills Wind Project
Tetra Tech	Tetra Tech, Inc.
UPL	Upland [indicator code]
WETS	Climate Analysis for Wetlands Tables

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1.0 Introduction

Golden Hills Wind Farm, LLC holds a Site Certificate from the Oregon Energy Facility Siting Council to construct and operate the Golden Hills Wind Project (Project) in northern Sherman County, between Wasco and Moro, Oregon (Figure 1). The Project would include up to 125 wind turbines along with related or supporting facilities. Golden Hills Wind Farm, LLC contracted Tetra Tech, Inc. (Tetra Tech) to perform a wetland delineation at some areas that had been surveyed during a previous wetland delineation (DSL 2009) as well as areas not previously delineated for the Project.

2.0 Landscape Setting and Land Use

2.1 Study Area

The approximately 2,200-acre Study Area encompasses all Project components, including the transmission line, potential wind turbine sites, access roads, temporary workspaces, and laydown areas (Figure 1). The Study Area traverses largely unpopulated land used for agriculture. The majority of the Study Area is in a wheat-fallow crop rotation and the remaining portions are a mixture of range, pasture, and steep canyonlands.

Table 1 lists the tax map and tax lots that the Project passes through, which are shown on Figure 2.

Table 1. Tax Maps – Tax Lots

Tax Map	Tax Lot Numbers
01N17E	1200, 1400, 1700, 1800, 4200, 4300, 4400, 4501, 4600, 4700, 4800, 4900, 5000, 5001, 5200, 5500, 5600, 5700, 5701, 5800, 5900, 6000, 6100, 6200, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7301, 7500, 7600, 7700, 7800, 7900,
01N18E	3700, 5100, 5300, 5400, 5500, 5600, 5700
01S17E	100, 1300, 1400, 1500, 1600, 1601, 1700, 2400, 2600, 2700, 300, 3000, 3003, 3100, 3200, 3300, 3400,
01S18E	1101

2.2 Landscape Setting

The Project is located within the Level III Columbia Plateau Ecoregion, and within the further subdivided Level IV, Umatilla Plateau Ecoregion (Thorson et al. 2003). In addition, the Project is within US Department of Agriculture Land Resource Region (LRR) B, Northwestern Wheat and Range Region (NRCS 2006). LRR B, Northwestern Wheat and Range Region overlaps with LRR B Columbia/Snake River Plateau Region within the Project Study Area in the *Regional Supplement to*

the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008) (Arid West Supplement).

Plant species names and associated wetland indicator status ratings are from the 2018 National Wetland Plant List (USACE 2018). The following wetland indicator ratings are ordered according to the percent likelihood of the plant occurring in wetlands; from most likely to least likely: Obligate (OBL), Facultative Wetland (FACW), Facultative (FAC), Facultative Upland (FACU), and Upland (UPL). Species with an indicator of NI (No Indicator) refer to plants that are not listed in the wetland plant list, and are thereby considered to be upland plants.

Dominant shrub and tree species found within the Study Area included black elderberry (*Sambucus nigra,* FACU), gray horsebrush (*Tetradymia canescens*, NI), basin big sagebrush (*Artemisia tridentata* ssp. *tridentata,* NI), rubber rabbitbrush (*Ericameria nauseosa*, NI), narrow-leaf willow (*Salix exigua,* FACW), Russian olive (*Elaeagnus angustifolia,* FAC), and western juniper (*Juniperus occidentalis*, NI).

Dominant grass and herbaceous species found within the Study Area included wheat (*Triticum aestivum*, NI), cheat grass (*Bromus tectorum*, NI), bulbous bluegrass (*Poa bulbosa*, FACU), medusahead (*Taeniatherum caput-medusae*, NI), rattail fescue (*Vulpia myuros*, FACU), prickly lettuce (*Lactuca serriola*, FACU), Canadian thistle (*Cirsium arvense*, FACU), broad-leaf pepperweed (*Lepidium latifolium*, FAC), reed canarygrass (*Phalaris arundinacea*, FACW), tumbleweed (*Salsola tragus*, NI), broad-leaf cat-tail (*Typha latifolia*, OBL), blue water speedwell (*Veronica anagallis-aquatica*, OBL), tall-hedge-mustard (*Sisymbrium altissium*, FACU), and cereal rye (*Secale cereal*, NI).

2.3 NWI, NRCS Soils, and NHD Mapped Features

Prior to field work, Tetra Tech reviewed previous wetland delineation maps from 2007 (DSL 2009), the National Wetlands Inventory (NWI), the National Hydrography Dataset (NHD), hydric soils data, and aerial photographs to identify potential wetlands and other waters, as described below.

Twelve soil map units are mapped in the Study Area (Table 2). Only the Endersby-Hermiston Complex soils, on 1 percent of the Study Area, are listed as having a hydric component (NRCS 2020a, NRCS 2018). Figure 3 shows the mapped soil units within the Study Area.

Digital maps used in the field contained the NWI, NHD, and recent aerial photograph overlays. Figure 4 exhibits NWI-mapped features in the Study Area (NWI 2020, USGS 2020).

Table 2. Soils Mapped in the Project Study Area

Map Unit Code	Map Unit Name	Acres	Percent of Study Area	Percent Hydric Soil
12A	Endersby-Hermiston complex, 0 to 3 percent slopes	16.67	1%	1%
16D	Lickskillet very stony loam, 7 to 40 percent south slopes	25.88	1%	0%
17C	Lickskillet-Bakeoven complex, 2 to 20 percent slopes	39.25	2%	0%

Map Unit Code	Map Unit Name	Acres	Percent of Study Area	Percent Hydric Soil
18E	Lickskillet-Rock outcrop complex, 40 to 70 percent south slopes	4.08	<1%	0%
1B	Anderly silt loam, 1 to 7 percent slopes	73.69	3%	0%
1C	Anderly silt loam, 7 to 15 percent slopes	133.36	6%	0%
21E	Nansene-Rock outcrop complex, 35 to 70 percent north slopes	3.61	<1%	0%
2D	Anderly silt loam, 15 to 35 percent north slopes	21.46	1%	0%
31B	Walla Walla silt loam, 1 to 7 percent slopes	1,585.73	73%	0%
31C	Walla Walla silt loam, 7 to 15 percent slopes	254.53	12%	0%
32D	Walla Walla silt loam, 15 to 35 percent north slopes	20.92	1%	0%
3D	Anderly silt loam, 15 to 35 percent south slopes	4.50	<1%	0%

3.0 Site Alterations

Site alterations are those activities that directly or indirectly impact wetlands and other waters in such a way that the function or area of the feature changes significantly. A significant alteration would be one that renders the feature non-functioning, or one that changes the boundaries.

The majority of the Study Area is in a wheat/fallow rotation; the remaining areas are a mix of small farms and canyonlands. The canyonlands show signs of previous livestock use, but no recent grazing.

Power lines, two-track farm roads, and paved roads crisscross the Study Area and an old railroad grade is still present and being used for field access in Grass Valley Canyon. The only perennial stream that was identified within the Study Area is at the bottom of Grass Valley Canyon and was designated as Stream 01 (ST-01). This stream is considered Essential Salmonid Habitat and small fish were observed, but not identified by species, at the Nish Road crossing. There are several fords across ST-01 but the Nish Road crossing is the only hardened and maintained crossing. The stream itself has contributing flows from a series of springs on the hillsides and bottoms of Grass Valley Canyon that lie outside of the Study Area.

Broad-leaf pepperweed, an invasive perennial, is present in the ST-01 drainage, and in some places is so dense that it has created wetlands (WT-04) where it has slowed the water flow enough to accumulate sediment (Figure 5.15). Another wetland in ST-01 is present at the Nish Road crossing. Sediment from the road crossing has been captured by the cattail growing on the stream edges and has created a wetland (WT-03) that continues downstream (Figure 5.10).

4.0 Precipitation Data and Analysis

Precipitation data for the period preceding and during field work were collected from the Applied Climate Information System data portal (NOAA 2020). Data from the Natural Resources Conservation Service (NRCS) Climate Analysis for Wetlands Tables (WETS) Station, Moro, Oregon, were used to compare historical precipitation data with recent water records (NOAA 2020, NRCS 2020b).

For the Water Year October 1, 2019 through the end of field data collection on July 13, 2020, precipitation was 65 percent of average due to below average precipitation every month except June (Table 3). Based on the precipitation data for the Water Year for the 3 months prior to the site visits, it was estimated that groundwater was below what is usually encountered at this time of year. Lower than average precipitation levels in this Water Year did not affect the delineation of other waters, as determinations of intermittent versus ephemeral streams were made using indicators described in the Streamflow Duration Assessment Method (Nadeau 2015), which relies on multiple indicators independent of the presence or absence of hydrology.

4.1 April 2020 Site Visit

In the 10 days before the April 17, 2020 site visit, there were 0.03 inches of measurable precipitation. Precipitation was well below average for almost every month of the Water Year preceding April.

4.2 June 2020 Site Visits

In the 10 days before the June 15-18, 2020 site visit, there were 0.53 inches of measurable precipitation. The second day of field surveys there was a large rainstorm that resulted in 0.2 inches of rain falling within 6 hours.

4.3 July 2020 Site Visit

There was no precipitation before the site visit on July 13, 2020; however, the month of June had above average precipitation and there was evidence of previously flowing water in several ephemeral drainages.

Table 3. Precipitation Data – Current and Historical (Inches)

Precipitation	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 1-13, 2020	Annual Total to Date (July 13, 2020)
Recorded Monthly Precipitation Totals[1] (inches); (Moro, OR)	0.64	0.32	1.15	1.52	0.21	0.86	0.54	0.78	0.83	0	6.85
WETS Average Monthly Precipitation[2] (inches); (Moro, OR)	0.85	1.64	1.54	1.57	1.14	1.09	0.88	0.88	0.6	0.32	10.51
Recorded Precipitation Relative to WETS Average Monthly Precipitation	75%	20%	75%	97%	18%	79%	61%	89%	138%	0%	65%

1. NOAA 2020

2. WETS Table for Moro, Oregon, years 1971-2000.

5.0 Methods

5.1 Pre-field Work

In preparation for the field work, Tetra Tech reviewed the NWI database, NHD, hydric soils data, and aerial photographs to identify potential wetlands and other waters within the Project Study Area, as described in the preceding sections. Tetra Tech prepared digital field maps with these data and uploaded these maps onto a Samsung Android data collection tablet, using the Collector for ArcGIS application, to assist field staff in identifying the locations of probable wetlands and non-wetland waters within or adjacent to the Project Study Area.

Wetlands and surface water data were obtained from the NWI (NWI 2020) and the NHD (USGS 2020). Soils data were obtained from the NRCS Web Soil Survey (NRCS 2020b). Tetra Tech used the historical orthoimagery available on Google Earth Pro to look for aerial signatures of wetlands and waters (Google Earth Pro 2020).

The following guidance documents and procedures were also reviewed:

- Arid West Supplement (USACE 2008);
- Wetlands Delineation Manual, Technical Report Y-87-1 (the Manual) (USACE 1987);
- Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979);
- A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (OHWM Field Guide; Lichvar and McColley 2008); and
- Streamflow Duration Assessment Method for the Pacific Northwest (Nadeau 2015).

5.2 Field Work

Field investigations for the delineation of wetlands and other waters included pedestrian surveys within the Study Area from June 15-18, 2020, and July 6 and 13, 2020. The desktop wetland data were used to focus the wetland delineation's field effort, while the desktop surface water data were used to focus the non-wetlands water evaluation, as necessary.

5.2.1 Wetland Delineations

Wetland presence was determined per methods in the Manual and the Arid West Supplement. The desktop wetland and surface water data were used to focus the wetland delineation and non-wetlands water evaluation.

- Sample plots were established in all features identified by NWI data (NWI 2020). The sample plot was located within the feature where it was judged most likely to have wetland characteristics (i.e., the lowest or most green place).
- Paired sample plots were established in logical locations to document wetland boundaries.
- The number of sample plots established in wetlands was commensurate with the size and complexity of the wetland, and whether the wetland was bordered by upland or another wetland with a different Cowardin et al. (1979) classification; the number of sample plots per wetland ranged from one to several. Wetland datasheets are provided in Appendix B.
- Photographs were taken to document wetland and upland conditions at the wetland boundary. Photographs were also taken at sample plots documenting upland conditions at locations that NHD mapped as streams.
- Each wetland boundary was recorded as a polygon using Juniper Geode global positioning system (GPS) units. Details on mapping methods are presented in Section 8.0.

5.2.2 Non-wetland Waters Evaluations

- Flow duration for non-wetland waters was determined using criteria in the Streamflow Duration Assessment Method (Nadeau 2015). Details on mapping methods are presented in Section 8.0.
- The centerline of non-wetland waters less than 6 feet in width was recorded as a line feature and buffered to the stream width determined in the field.
- Non-wetland waters greater than 6 feet wide were recorded as left and right bank lines.

6.0 Description of Wetlands, Non-wetland Waters, and Other Features

All wetlands, non-wetland waters, and other features evaluated in the Project Study Area are depicted in Figure 5.

6.1 Wetlands

Wetlands within the Study Area were all found to be palustrine emergent with hydrology coming directly from springs or streams resulting from springs. Details about all wetlands delineated during field investigations are included in Appendix A, Table A-1. The predominant vegetation observed in delineated wetlands include broad-leaf cat-tail, Great Basin Lyme Grass (*Leymus cinereus*, FAC), reed canarygrass, broad-leaf pepperweed, blue water speedwell, and seep monkey-flower (*Mimulus guttatus*, OBL).

6.2 Non-wetland Waters

Ephemeral streams within the Study Area were generally barely discernible and did not have distinct bed or banks or hydrophytic vegetation. The perennial stream within the Study Area (ST-01) had a steady flow originating from the springs within the canyon. It did go subsurface at some points but not within the Study Area boundaries. Oral history from a farmer in the area says that the stream runs year-round at about the same rate. Details about all non-wetland waters delineated during field investigations are included in Appendix A, Table A-2.

6.3 Other Features

Appendix A, Table A-3 lists other features that were identified within the Study Area during field investigations that did not meet the wetlands or waters criteria but were worth documenting.

7.0 Deviations from the NWI

Deviations are features that are mapped by the NWI that differ from field observations. Appendix A, Table A-4 provides a list of the wetlands and waters delineated as deviations. The Study Area does not cross mapped Local Wetland Inventory areas (ODSL 2020).

8.0 Mapping Methods

Wetland boundaries, photograph locations, and sample plot locations were recorded using Juniper Geode series GPS units, configured to differentially correct positions in real-time using the Satellite Based Augmentation System, which typically results in positional error of less than 1 meter (Juniper Systems 2017).

Wetland boundaries were recorded as polygon features using GPS units set to collect vertices every 2 seconds. Field staff walked the perimeter of the wetland with the GPS unit in hand, at a pace consistent with creating an accurate representation of the wetland feature. The location of sample plots was recorded as a point feature consisting of the average of 30 GPS recorded positions.

Delineated wetlands and waters that continue outside of the Study Area are denoted by arrows adjacent to the features in the Figure 5 Mapbook.

9.0 Results and Conclusions

Using methods recommended in the Manual and Arid West Supplement, 8 wetlands and 24 other water features were delineated and documented within the Project Study Area. Table 4 summarizes these wetland features and Table 5 summarizes the other water features by water type.

Table 4. Summary of Identified Wetlands

Wetland Type	Number of Features	Acres
Palustrine Emergent wetland	8	1.54
TOTAL	**8**	**1.54**

Table 5. Summary of Identified Other Waters

Feature	Number of Features	Acres
Perennial	2	0.20
Ephemeral	22	0.30
TOTAL	**24**	**0.50**

10.0 Disclaimer

This disclaimer is included according to Oregon Administrative Rule (OAR) 141-090-0035(12)(j): "This report documents the investigation, best professional judgment, and conclusions of the investigator. It is correct and complete to the best of my knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055."

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Figures

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Golden Hills Wind Project

Figure 1
Project Location

SHERMAN COUNTY, OREGON

Centerville
Goodnoe Hills
Cliffs
Rufus
Maryhill
Wishram
Biggs
Blalock
Wasco
Rock Creek
Moro
Mikkalo
Grass Valley
Klickitat County
Wasco County
Sherman County
Gilliam County

- Study Area
- City/Town
- Interstate Highway
- Secondary Highway
- Secondary Road
- County Boundary

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; ESRI-Roads	Canada, MT, WA, ID, OR, CA, NV

1:200,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2
Tax Lot Index Map

SHERMAN COUNTY, OREGON

Wasco
Moro
Figure 2.1
Figure 2.2
Figure 2.3
Figure 2.4
Figure 2.5
206
97

- Map Grid
- Study Area
- City/Town
- Secondary Highway
- Secondary Road
- County Boundary

TETRA TECH
AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	Canada, MT, WA, ID, OR, CA, NV

1:65,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.1
Tax Lot Map

SHERMAN COUNTY, OREGON

01N16E0000100
01N17E00001300
01N17E00001100
01N17E0000902
01N17E0000800
01N17E04CB500
01N17E0400400
01N17E04CB600
01N17E0000900
01N17E04CB700
01N17E00001400
01N17E00001200
01N16E0000200
01N17E00001500
01N17E04CC400
Wasco
206
01N17E00001701
01N17E00001700
01N17E00001601
01N17E00001600
01N17E0900700
01N17E00001602
01N17E0900800
01N17E0900900
97
01N16E00002100
01N17E00001800
01N17E00001900
01N17E00003100
01N16E00002200
01N17E00004600
01N17E00004400
01N17E00004500
01N17E00004501
01N17E00004300
01N16E00002500
01N17E00004700
01N16E00003500
01N17E00005000
01N17E00005001

1:17,000 WGS 1984 UTM Zone 10N

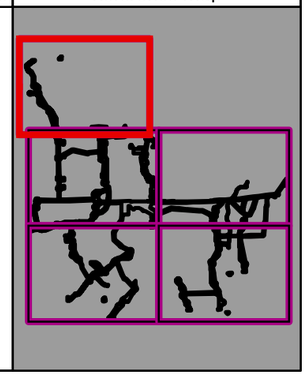
0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

- Tax Lot Boundary
- Study Area
- City/Town
- Secondary Highway
- Secondary Road

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 2.2
Tax Lot Map

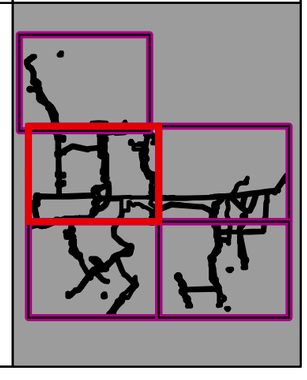
SHERMAN COUNTY, OREGON

01N17E00004500
01N17E00004501
01N17E00004200
01N17E00004700
01N17E00005000
01N17E00004400
01N17E00004300
01N17E00005001
01N17E00005200
01N17E00004800
01N17E00005300
01N17E00004900
01N17E00006300
01N17E00005900
97
01N17E00006000
01N17E00006800
01N17E00006400
01N17E00006900
01N17E00006500
01N17E00006100
01N17E00006700
01N17E00006600
01N17E00006200
01N17E00005800
01N17E00007300
01N17E00007400
01N17E00007000
01N17E00007200
01N17E00007700
01N17E00007301
01N17E00007600
01N17E00007500
01N17E00007800

- Tax Lot Boundary
- Study Area
- Secondary Highway

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

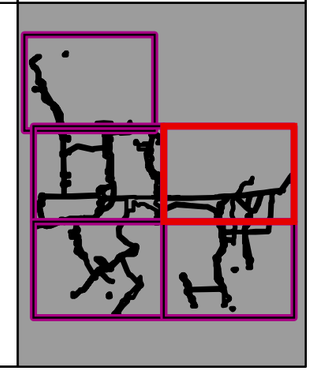
Figure 2.3
Tax Lot Map

SHERMAN COUNTY, OREGON

01N17E00004200
01N17E00004100
01N17E00003900
01N18E00003400
01N18E00003102
01N18E00003600
01N17E00005300
01N17E00005400
01N18E00003500
01N18E00005200
01N18E00003700
206
01N17E00005900
01N17E00005500
01N18E00005300
01N18E00005100
01N18E00005500
01N18E00005400
01N17E00005600
01N18E00005700
01N17E00005800
01N18E00005800
01N18E00005701
01N18E00005900
01N17E00007700
01N18E00006000
01N18E00005600
01N18E00006100
01N17E00005700
01N17E00007900
01N17E00007800
01N18E00004900

Tax Lot Boundary
Study Area
Secondary Road

TETRA TECH
AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.4
Tax Lot Map

SHERMAN COUNTY, OREGON

01N17E00007000
01N17E00007200
01N17E00007600
01N17E00007800
01N17E00007100
01S17E00001102
01S17E00001101
01S17E00001800
01S17E00001700
01S17E00001601
01S17E00001300
01S17E0000700
01S17E0000800
01S16E0000100
01S17E0000901
01S17E0000900
01S17E00001400
01S17E00001602
01S17E00001100
01S17E00001401
01S17E00001900
01S17E00002000
01S17E00001600
01S17E00003003
01S17E00001500
01S17E00003004
97
01S17E00002101
01S17E00002900
01S17E00002700
01S17E00002100
01S17E00002400
01S17E00002600
01S17E00002703
01S17E00002800
01S17E00002500
01S17E00002701
01S17E18AA100
01S17E00002402
01S17E18AA101
01S17E00002401
01S17E00004400
01S17E00003800
01S17E00004501
01S17E17BC1600
01S17E00004100
01S17E00002702
01S17E00003700
01S17E17BC800
01S17E17BC1502

Tax Lot Boundary
Study Area
Secondary Highway
Secondary Road

TETRA TECH
AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 2.5
Tax Lot Map

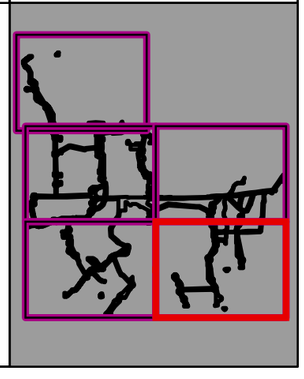
SHERMAN COUNTY, OREGON

01N17E00007800
01N17E00007900
01N17E00005700
01N18E00005600
01N18E00004900
01N17E00005701
01S18E0000900
01S17E00001100
01S18E00001101
01S17E0000300
01S18E00001100
01S17E0000100
01S18E00001000
01S17E0000200
01S17E00003000
01S18E00001200
01S17E00002900
01S18E00001400
01S17E00003200
01S18E00001300
01S17E00003400
01S18E00001500
01S17E00003003
01S17E00003100
01S18E00001401
01S17E00002701
01S17E00003500
01S17E00003700
01S17E00003300
01S17E00003800

- Tax Lot Boundary
- Study Area
- Secondary Road

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 3
National Wetlands Inventory
Index Map

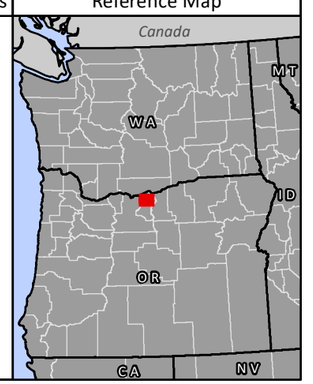
SHERMAN COUNTY, OREGON

Figure 3.1
Figure 3.2
Figure 3.3
Figure 3.4
Figure 3.5

- Map Grid
- Study Area
- City/Town
- Secondary Highway
- Secondary Road
- County Boundary

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; ESRI-Roads	

1:65,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

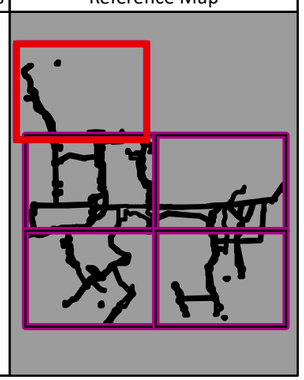
Figure 3.1
National Wetland Inventory Map

SHERMAN COUNTY, OREGON

Study Area
City/Town
Secondary Highway
Secondary Road
Stream
Intermittent
Wetland
Freshwater Emergent Wetland
Freshwater Pond
Riverine

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USFWS-NWI; USGS-NHD; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

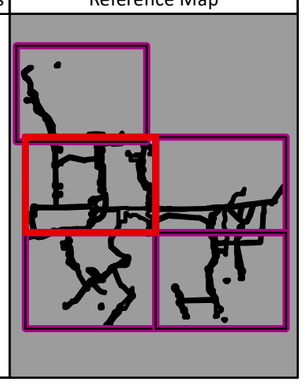
Figure 3.2
National Wetland Inventory Map

SHERMAN COUNTY, OREGON

Study Area
Secondary Highway
Stream
Intermittent
Wetland
Riverine

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USFWS-NWI; USGS-NHD; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 3.3
National Wetland Inventory Map

SHERMAN COUNTY, OREGON

- Study Area
- Secondary Road

Stream
- Artifical Path
- Intermittent
- Perennial

Wetland
- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

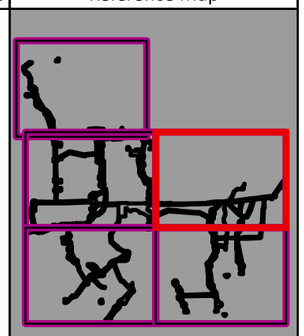
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USFWS-NWI; USGS-NHD; ESRI-Roads

Reference Map



1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 3.4
National Wetland Inventory Map

SHERMAN COUNTY, OREGON

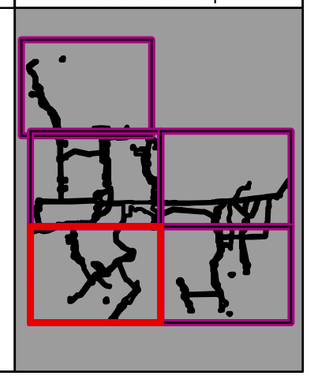
- Study Area
- Secondary Highway
- Secondary Road

Stream
- Artifical Path
- Intermittent
- Perennial

Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USFWS-NWI; USGS-NHD; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 3.5
National Wetland Inventory Map

SHERMAN COUNTY, OREGON

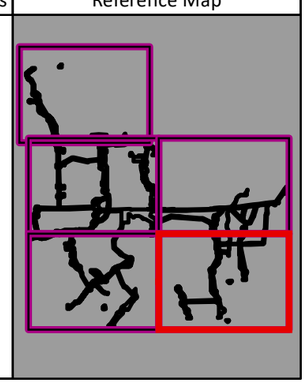
- Study Area
- Secondary Road

Stream
- Artifical Path
- Intermittent
- Perennial

Wetland
- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USFWS-NWI; USGS-NHD; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

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Golden Hills Wind Project

Figure 4
Soils Index Map

SHERMAN COUNTY, OREGON

Wasco

Figure 4.1

Figure 4.2

Figure 4.3

Figure 4.4

Figure 4.5

Moro

206

97

Map Grid
Study Area
City/Town
Secondary Highway
Secondary Road
County Boundary

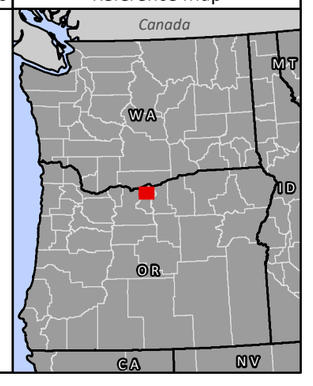
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:65,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 4.1
Soils Map

SHERMAN COUNTY, OREGON

Study Area
City/Town
Secondary Highway
Secondary Road

Hydric Rating
Hydric
Nonnhydric

Wasco
206
97
W

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; Soils-NRCS; ESRI-Roads

Reference Map

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Golden Hills Wind Project

Figure 4.2
Soils Map

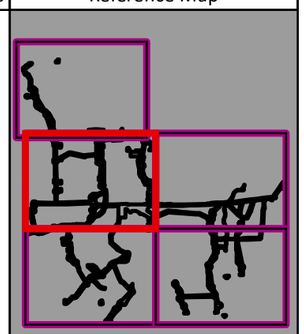
SHERMAN COUNTY, OREGON

Study Area
Secondary Highway

Hydric Rating
Nonnhydric

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; Soils-NRCS; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 4.3
Soils Map

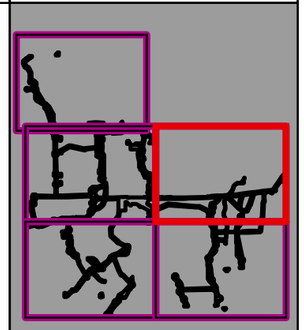
SHERMAN COUNTY, OREGON

Study Area
Secondary Road

Hydric Rating
Hydric
Nonnhydric

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; Soils-NRCS; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 4.4
Soils Map

SHERMAN COUNTY, OREGON

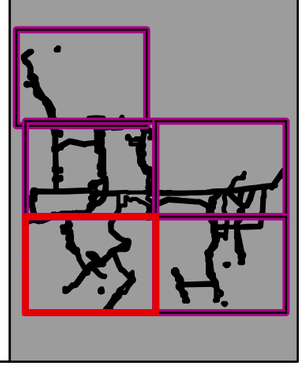
- Study Area
- Secondary Highway
- Secondary Road

Hydric Rating

- Hydric
- Nonnhydric

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; Soils-NRCS; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 4.5
Soils Map

SHERMAN COUNTY, OREGON

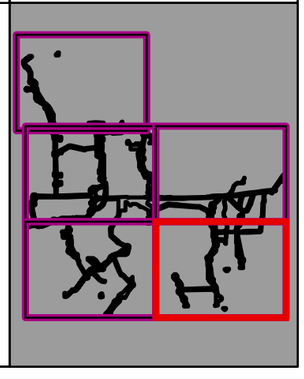
- Study Area
- Secondary Road

Hydric Rating

- Hydric
- Nonnhydric

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; Soils-NRCS; ESRI-Roads	

1:17,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5
Wetland Delineation
Index Map

SHERMAN COUNTY, OREGON

Wasco
Moro
206
97
Figure 5.1
Figure 5.2
Figure 5.3
Figure 5.4
Figure 5.5
Figure 5.6
Figure 5.7
Figure 5.8
Figure 5.9
Figure 5.10
Figure 5.11
Figure 5.12
Figure 5.13
Figure 5.14
Figure 5.15
Figure 5.16
Figure 5.17
Figure 5.18
Figure 5.19
Figure 5.20
Figure 5.21
Figure 5.22
Figure 5.23
Figure 5.24
Figure 5.25
Figure 5.26
Figure 5.27
Figure 5.28
Figure 5.29
Figure 5.30
Figure 5.31
Figure 5.32
Figure 5.33
Figure 5.34
Figure 5.35

- Wetland and Waters Study Area
- Map Index
- City/Town
- Secondary Highway
- Secondary Road
- County Boundary

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	Canada, MT, WA, ID, OR, CA, NV

1:65,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.1
Wetland Delineation

SHERMAN COUNTY, OREGON

XBB-54 *(#122)*

XBB-33 *(#80)*

XBB-34 *(#81)*

XBB-55 *(#123)*

01N16E00002100

01N17E00001700

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

1:2,400 WGS 1984 UTM Zone 10N

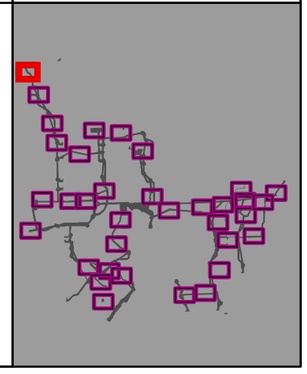
0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

Data Sources

Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads

Reference Map



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Golden Hills Wind Project

Figure 5.2
Wetland Delineation

SHERMAN COUNTY, OREGON

XBB-35 *(#82)*

01N17E00001700

01N17E00001800

XBB-36 *(#83)*

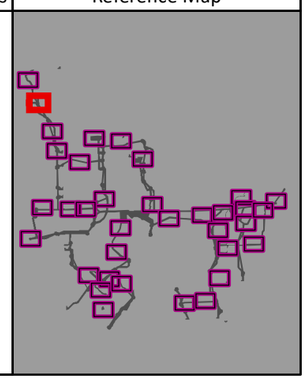
01N17E00004600

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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XBB-37 (#84)

01N17E00004700

XBB-38 (#85)

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.3
Wetland Delineation

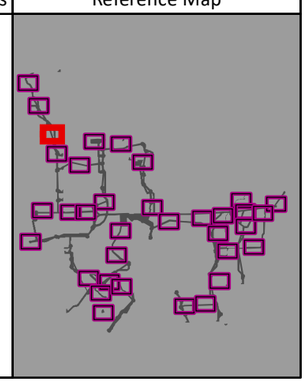
SHERMAN COUNTY, OREGON

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

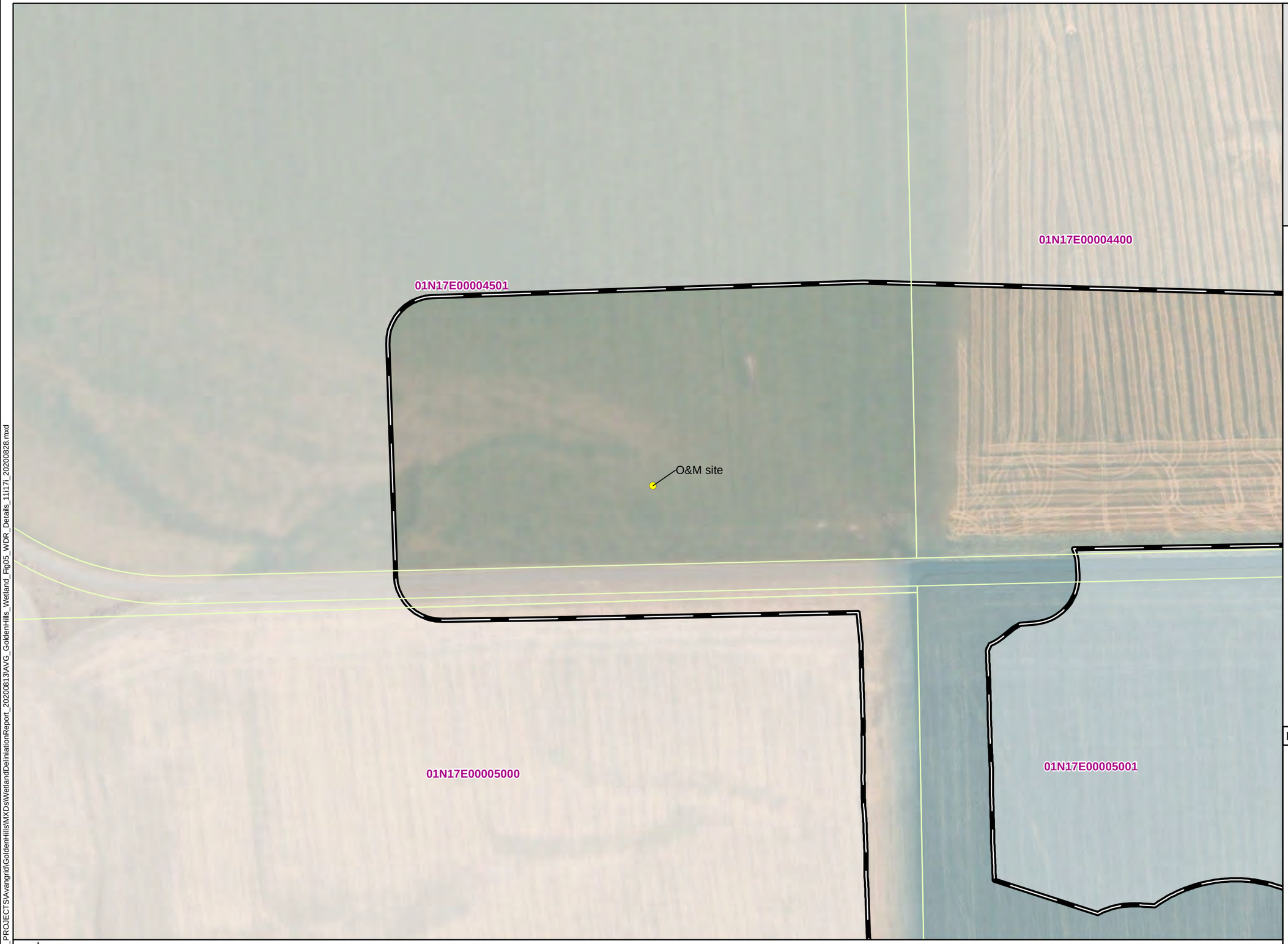
AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

Golden Hills Wind Project

Figure 5.4
Wetland Delineation

SHERMAN COUNTY, OREGON

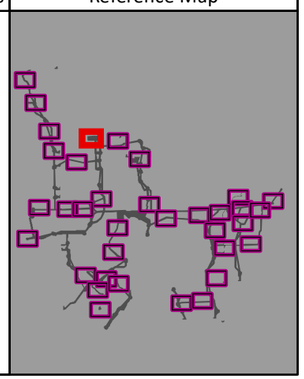


- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

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Golden Hills Wind Project

Figure 5.5
Wetland Delineation

SHERMAN COUNTY, OREGON

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Secondary Highway
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

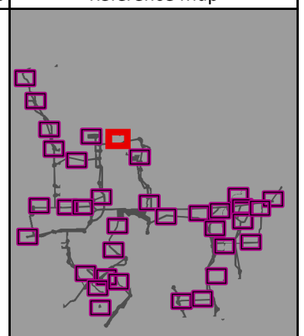
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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XBB-39 *(#86)*

XBB-42 *(#87)*

01N17E00004700

01N17E00005000

Golden Hills Wind Project

Figure 5.6
Wetland Delineation

SHERMAN COUNTY, OREGON

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

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Golden Hills Wind Project

Figure 5.7
Wetland Delineation

SHERMAN COUNTY, OREGON

01N17E00005000

XBB-10 *(#15)*

#31

EPH-06

XBB-09 *(#30)*

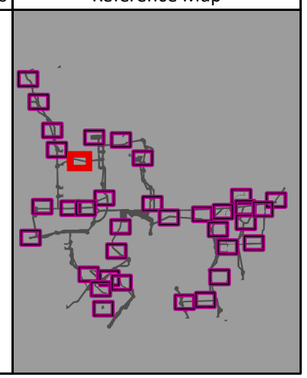
01N17E00004900

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.8
Wetland Delineation

SHERMAN COUNTY, OREGON

01N17E00004300

01N17E00004400

XBB-30 (#3)

D-01

#4

XBB-02 (#2)

XBB-01 (#1)

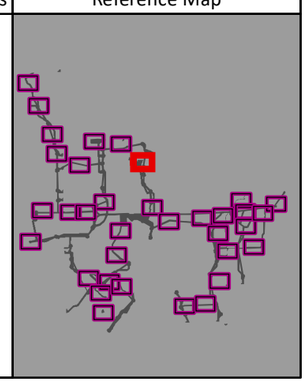
01N17E00005200

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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01N17E00004900

01N17E00006400

XBB-26 (#47)

XBB-25 (#46)

01N17E00006500

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.9
Wetland Delineation

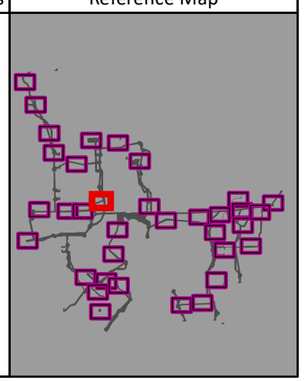
SHERMAN COUNTY, OREGON

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

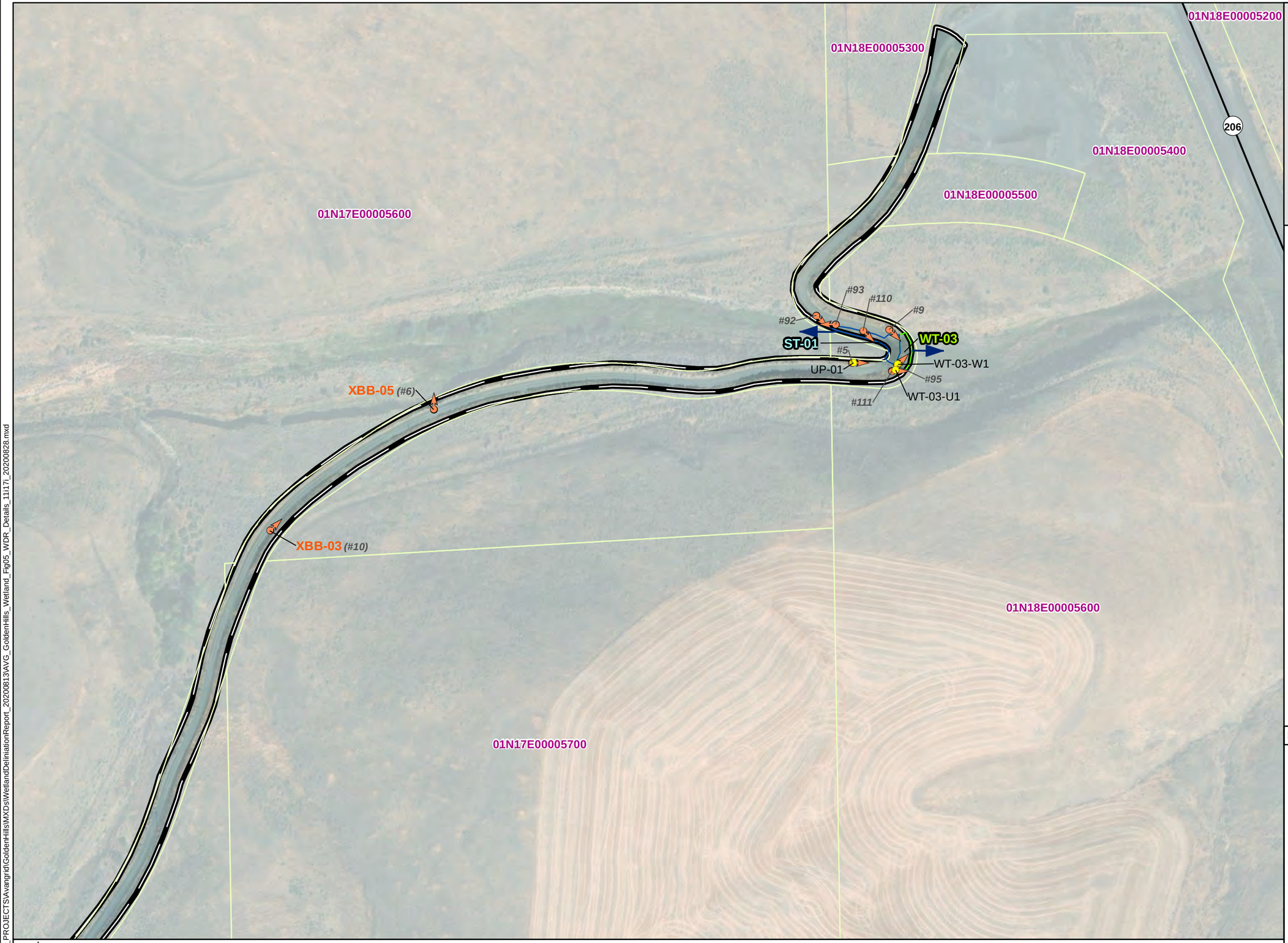
AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

Golden Hills Wind Project

Figure 5.10
Wetland Delineation

SHERMAN COUNTY, OREGON

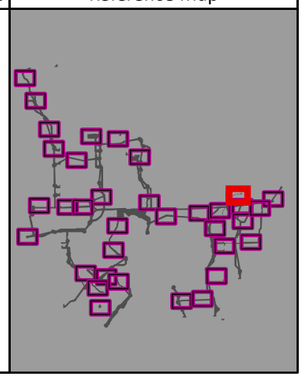


- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Secondary Road
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

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Golden Hills Wind Project

Figure 5.11
Wetland Delineation

SHERMAN COUNTY, OREGON

XBB-21 (#54)

XBB-20 (#53)

XBB-22 (#55)

01N17E00006100

01N17E00005800

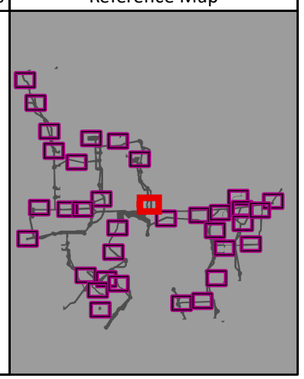
01N17E00007700

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

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Golden Hills Wind Project

Figure 5.12
Wetland Delineation

SHERMAN COUNTY, OREGON

01N17E00006900

01N17E00006800

01N17E00007000

XBB-06 *(#23)*

EPH-02

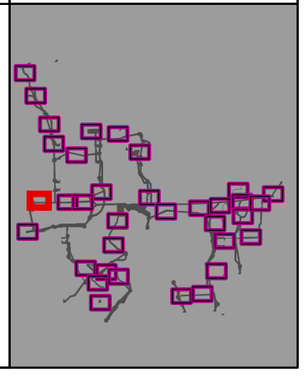
#12

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

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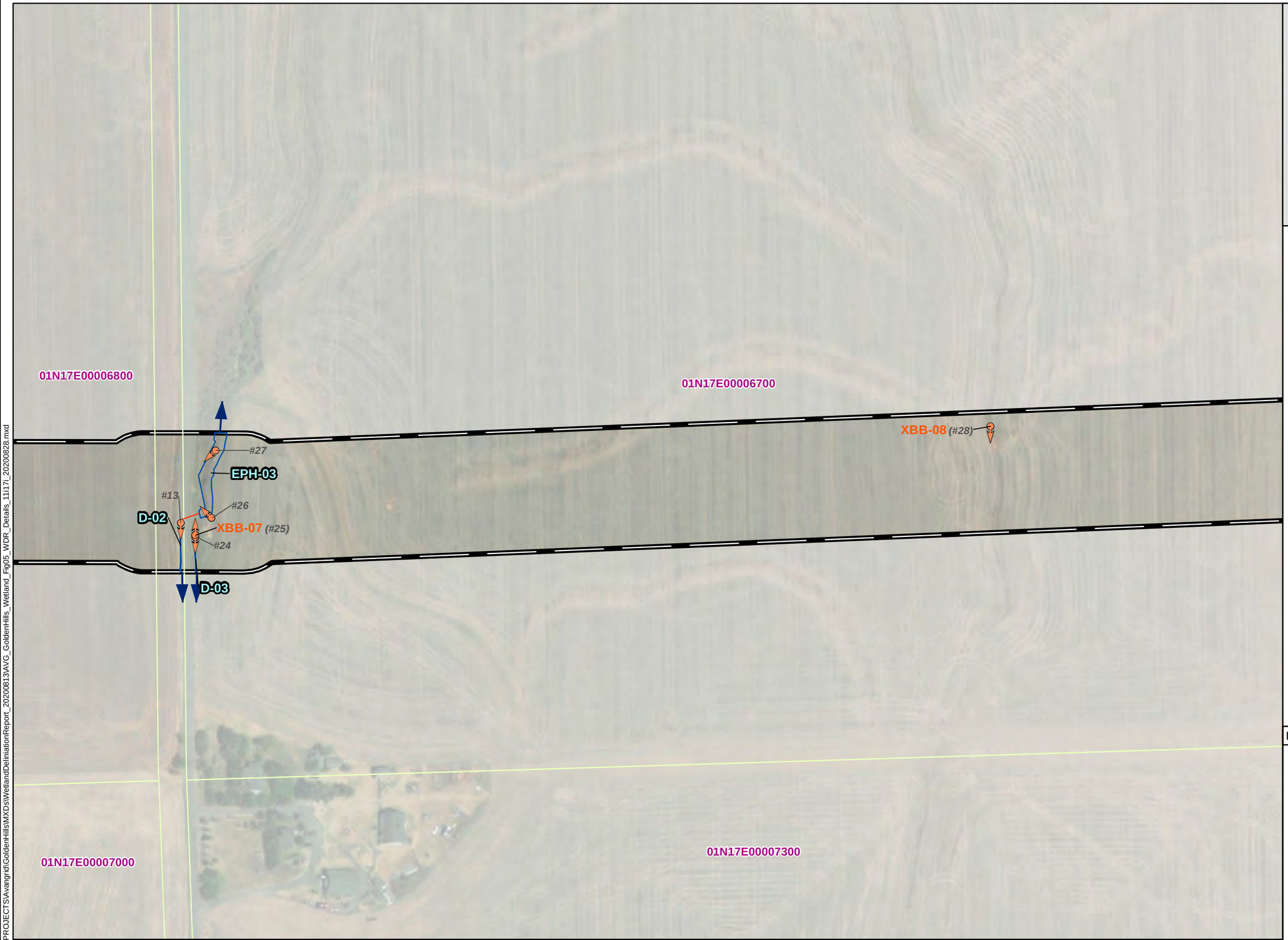
Golden Hills Wind Project

Figure 5.13
Wetland Delineation

SHERMAN COUNTY, OREGON

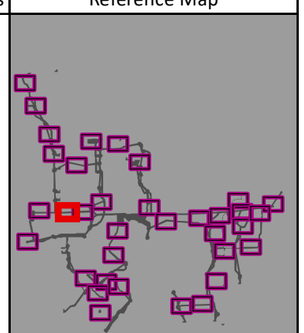


- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

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Golden Hills Wind Project

Figure 5.14
Wetland Delineation

SHERMAN COUNTY, OREGON



- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

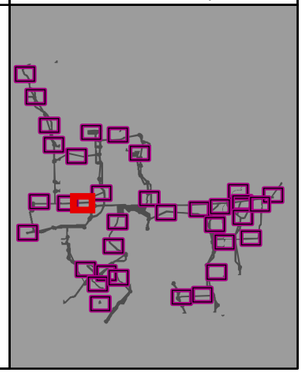
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

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Golden Hills Wind Project

Figure 5.15
Wetland Delineation

SHERMAN COUNTY, OREGON

01N17E00005500

01N17E00005600

01N17E00007900

#51

ST-01a

#52

#61

#94

#60

WT-04-U1

WT-04-W1

WT-04

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

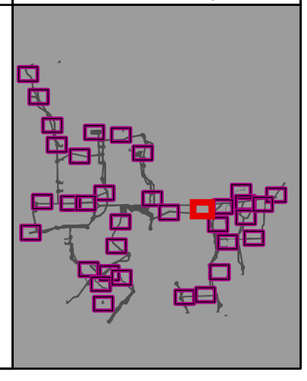
TETRA TECH

AVANGRID RENEWABLES

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 5.16
Wetland Delineation

SHERMAN COUNTY, OREGON

01N17E00005600

01N17E00007900

01N17E00005700

XBB-29 *(#62)*

XBB-48 *(#103)*

XBB-40 *(#67)*

WT-01

WT-08

WT-01-U1

WT-01-W1

WT-08-U1

WT-08-W1

#101 *#102* *#8* *#64* *#100* *#66* *#112* *#97* *#98* *#99* *#65* *#96*

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads

Reference Map

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.17
Wetland Delineation

SHERMAN COUNTY, OREGON

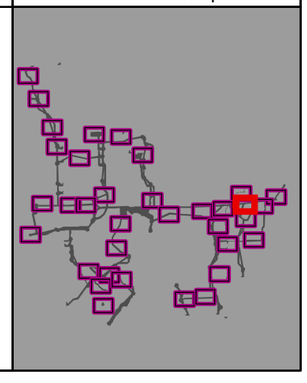
XBB-04 *(#7)*
EPH-01
01N17E00005700
#11
XBB-46 *(#91)*
01N18E00005600

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.18
Wetland Delineation

SHERMAN COUNTY, OREGON

WT-06
#79
#78
WT-06-U1
WT-06-W1
XBB-32 (#88)
01N18E00005600
XBB-45 (#89)

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

Data Sources

Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads

Reference Map

P:\GIS_PROJECTS\Avangrid\GoldenHills\MXDs\WetlandDeliniationReport_20200813\AVG_GoldenHills_Wetland_Fig05_WDR_Details_11i17l_20200828.mxd

Golden Hills Wind Project

Figure 5.19
Wetland Delineation

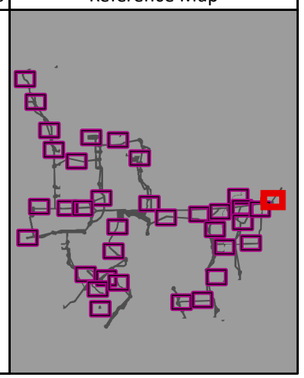
SHERMAN COUNTY, OREGON

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Secondary Road
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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XBB-31 *(#45)*

01N17E00007700

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

Golden Hills Wind Project

Figure 5.20
Wetland Delineation

SHERMAN COUNTY, OREGON

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads

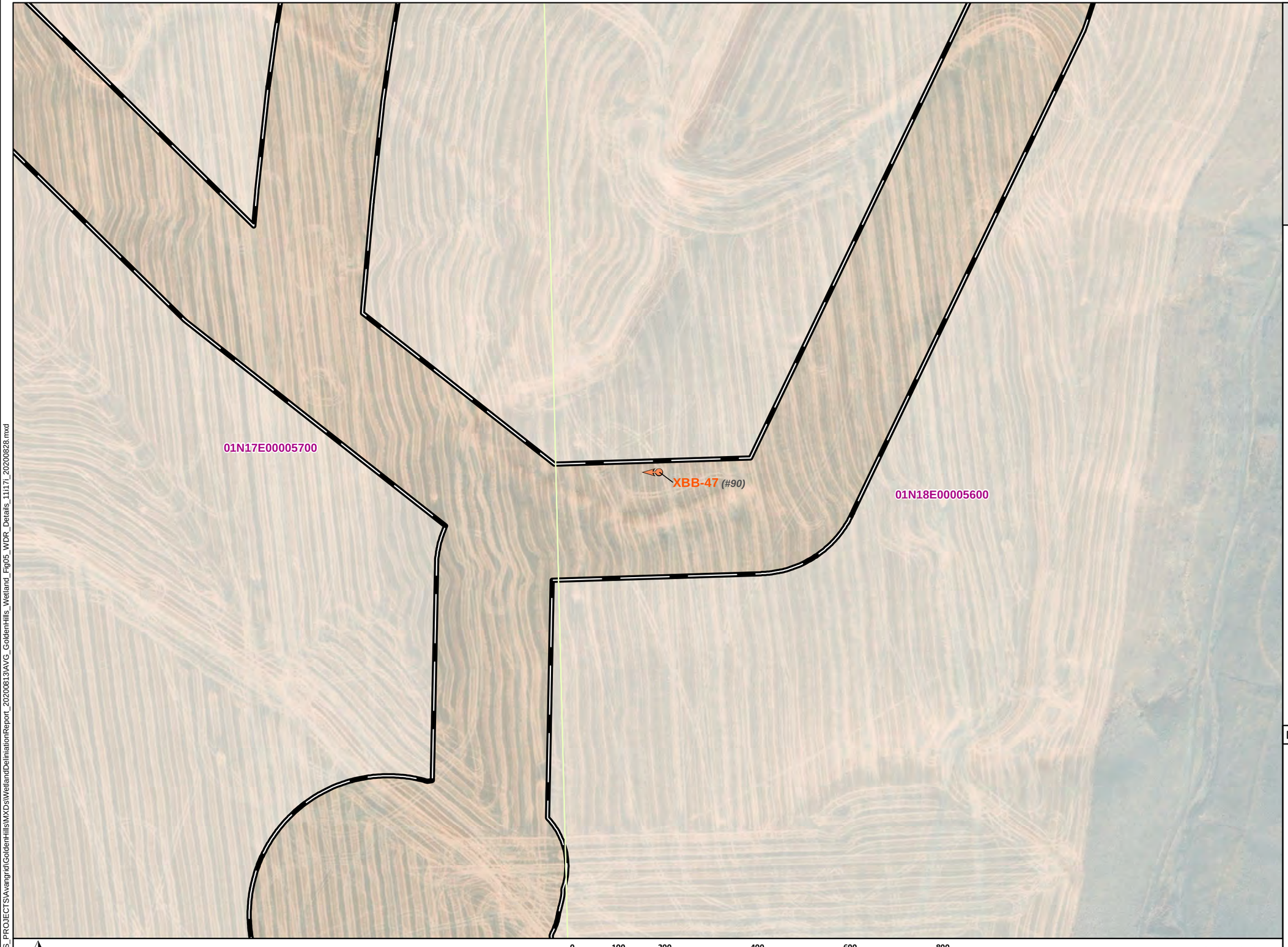
Reference Map

P:\GIS_PROJECTS\AvangridGoldenHills\MXDs\WetlandDeliniationReport_20200813\AVG_GoldenHills_Wetland_Fig05_WDR_Details_11x17_20200828.mxd

Golden Hills Wind Project

Figure 5.21
Wetland Delineation

SHERMAN COUNTY, OREGON



- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

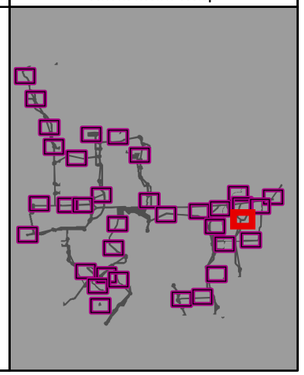
TETRA TECH

AVANGRID RENEWABLES

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 5.22
Wetland Delineation

SHERMAN COUNTY, OREGON

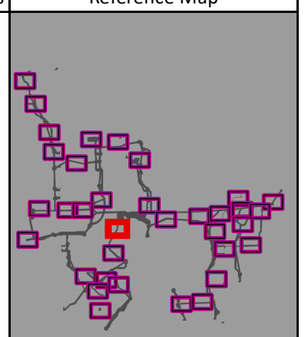


- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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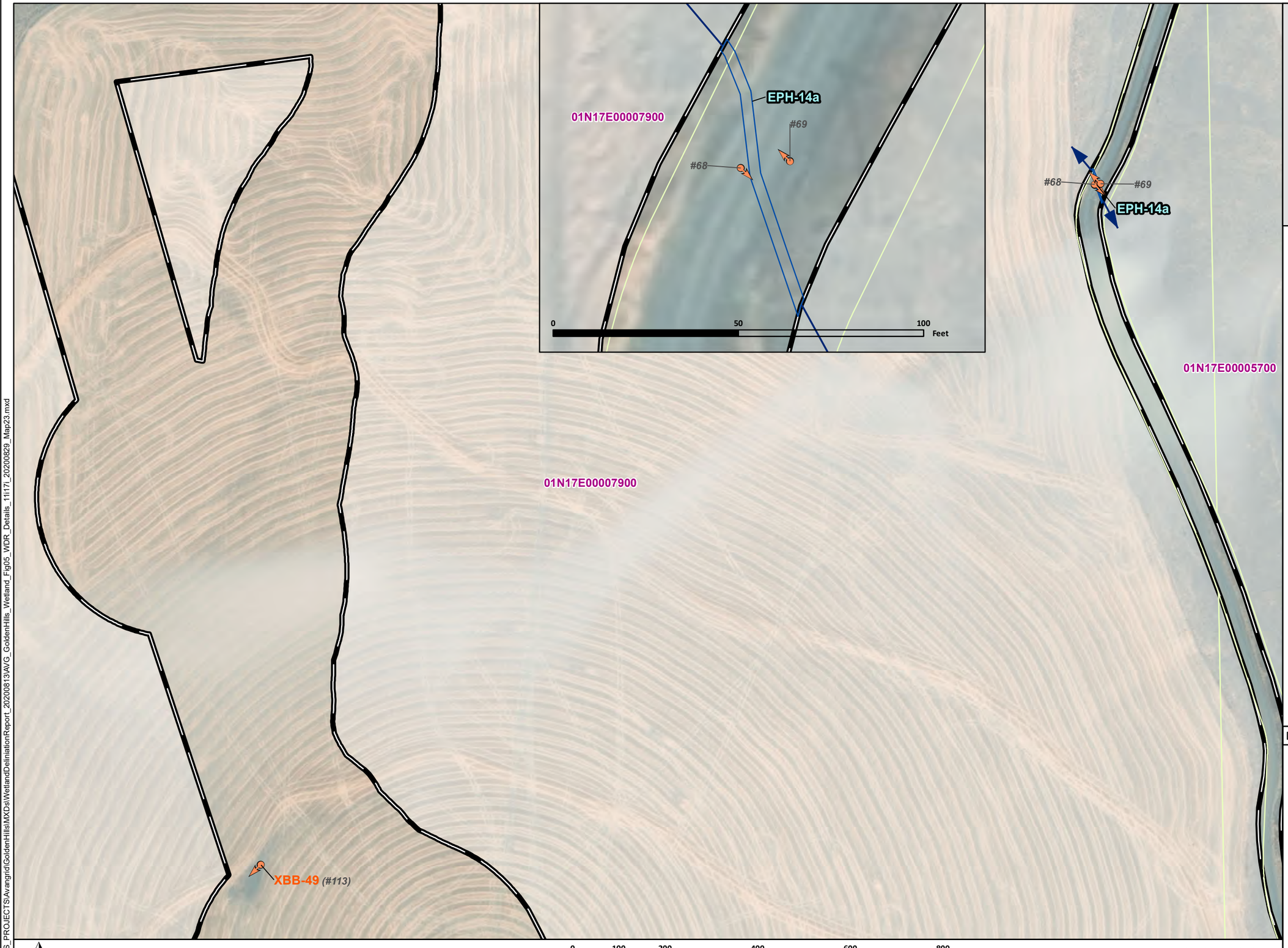


Golden Hills Wind Project

Figure 5.23
Wetland Delineation

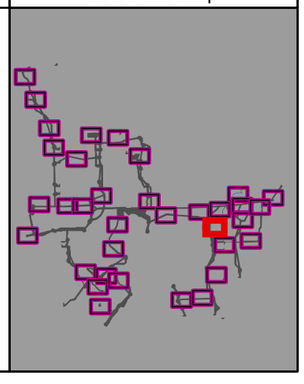
SHERMAN COUNTY, OREGON

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 5.24
Wetland Delineation

SHERMAN COUNTY, OREGON

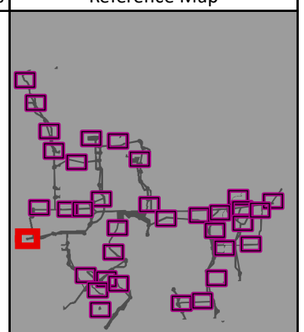


- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.25
Wetland Delineation

SHERMAN COUNTY, OREGON

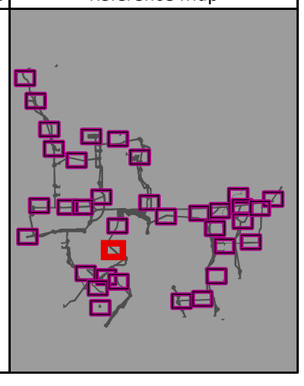


- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 5.26
Wetland Delineation

SHERMAN COUNTY, OREGON

01N17E00007900

01N17E00005700

01S17E0000300

#104

EPH-14c

#105

#71

EPH-14b

XBB-41 (#70)

EPH-10

#22

XBB-19 (#21)

XBB-41
#70

#71

EPH-14b

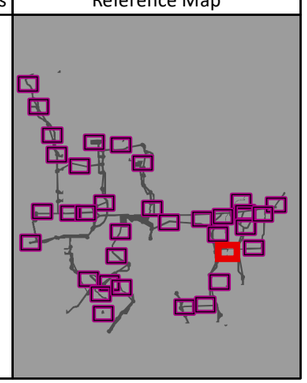
0 5 10 Feet

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.27
Wetland Delineation

SHERMAN COUNTY, OREGON

01N18E00005600

01N17E00005700

01S18E00001101

01S17E0000100

XBB-43 *(#72)*

#74

EPH-15

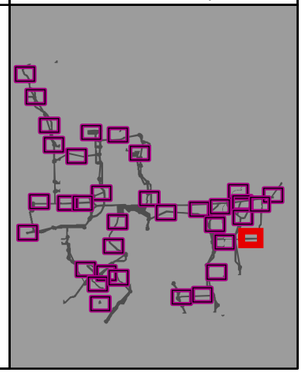
XBB-44 *(#73)*

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.28
Wetland Delineation

SHERMAN COUNTY, OREGON



- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

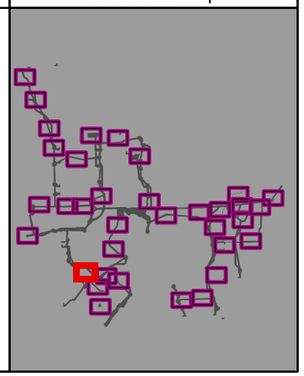
TETRA TECH

AVANGRID RENEWABLES

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 5.29
Wetland Delineation

SHERMAN COUNTY, OREGON

XBB-51 *(#115)*

XBB-13 *(#18)*

01S17E00001500

01S17E00001600

01S17E00002700

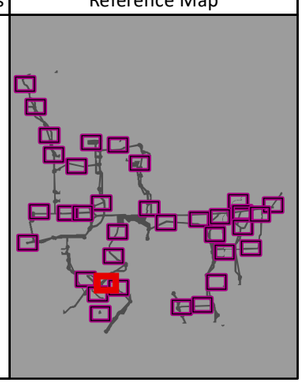
01S17E00002600

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.30
Wetland Delineation

SHERMAN COUNTY, OREGON

XBB-13 (#18)

01S17E00001500

01S17E00001401

#36

EPH-08

XBB-12 (#35)

XBB-11 (#34)

97

#39

#38

WT-02-W1

#40

WT-02

XBB-14 (#37)

#41

WT-02-U1

01S17E00002700

0 50 100 Feet

0 100 200 400 600 800 Feet

1:2,400 WGS 1984 UTM Zone 10N

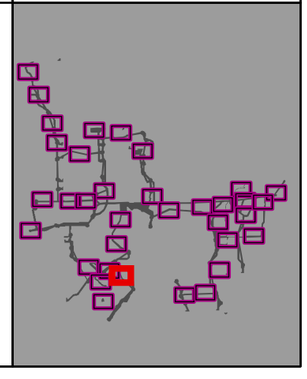
NOT FOR CONSTRUCTION

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Secondary Highway
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

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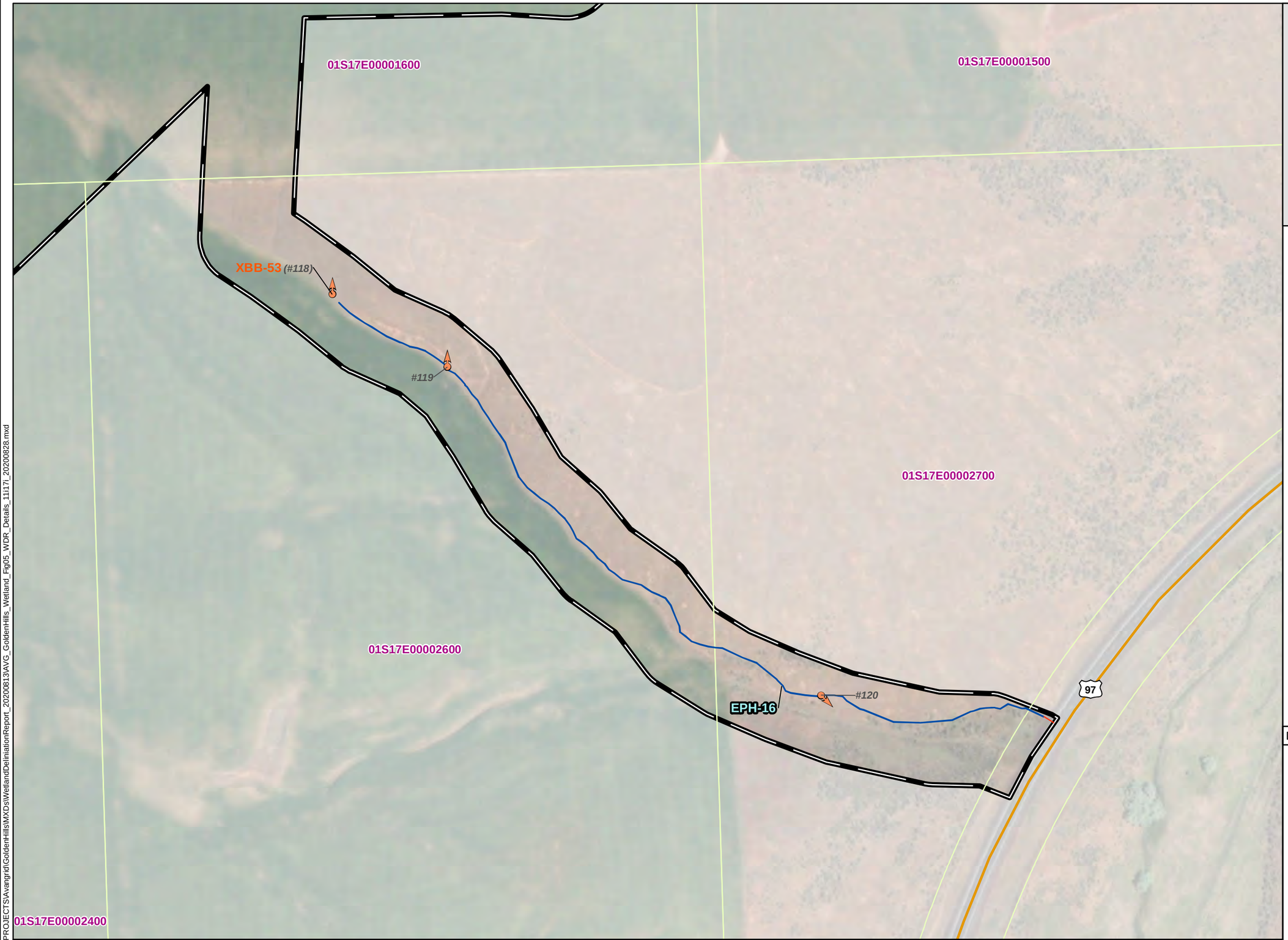


Golden Hills Wind Project

Figure 5.31
Wetland Delineation

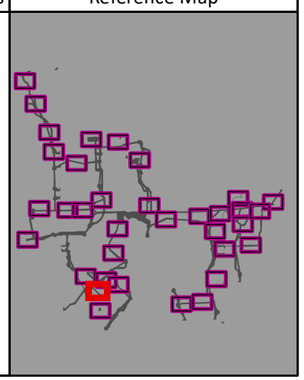
SHERMAN COUNTY, OREGON

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Secondary Highway
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.32
Wetland Delineation

SHERMAN COUNTY, OREGON

01S17E0000100

01S17E0000300

XBB-18 *(#44)*

01S17E0000200

XBB-17 *(#43)*

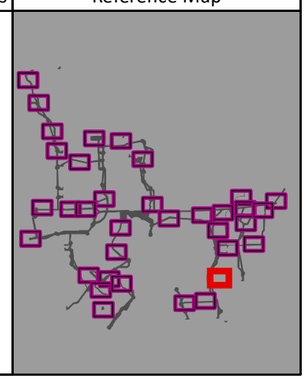
01S17E00003400

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Golden Hills Wind Project

Figure 5.33
Wetland Delineation

SHERMAN COUNTY, OREGON

01S17E00003200

01S17E00003100

01S17E00003400

XBB-16 *(#20)*

01S17E00003300

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

Data Sources

Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads

Reference Map

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Golden Hills Wind Project

Figure 5.34
Wetland Delineation

SHERMAN COUNTY, OREGON

01S17E00003000

01S17E00003100

01S17E00003003

#42

EPH-09

- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

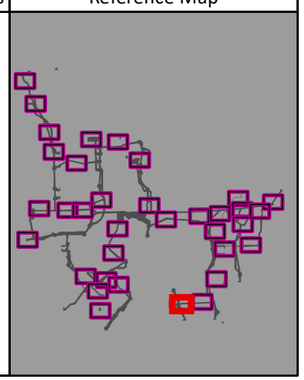
TETRA TECH

AVANGRID RENEWABLES

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

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Golden Hills Wind Project

Figure 5.35
Wetland Delineation

SHERMAN COUNTY, OREGON

01S17E00002600

01S17E00002700

XBB-52 (#116)

XBB-15 (#19)

WT07-W1

WT07-U1

WT-07

#109

#108

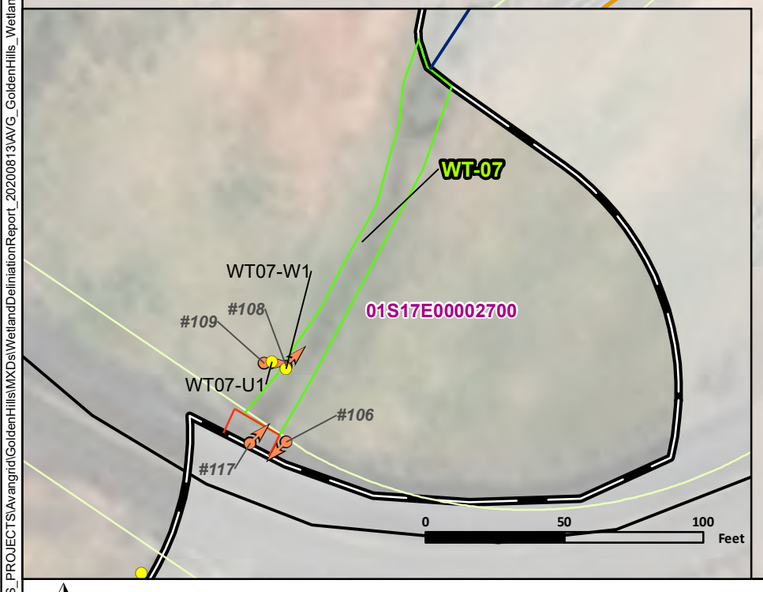
#117

UP-04

#121

#106

#107

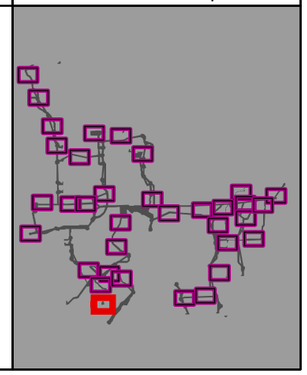


- Wetland and Waters Study Area
- Tax Lot Boundary
- Surveyed Water (Maximum OHWL Width)
- Wetland Boundary-Delineated
- Culvert
- Sample Plot
- Photo Point (# Photo Number)
- Secondary Highway
- Secondary Road
- Wetlands or Waters Continues Beyond Study Area

Wetland and stream channel boundaries and sample plots were collected using survey grade GPS devices. Mapped features are within +/- 1 meter of ground location.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure, Taxlots; USDA-Aerial Imagery; ESRI-Roads	

1:2,400 WGS 1984 UTM Zone 10N

0 100 200 400 600 800 Feet

NOT FOR CONSTRUCTION

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Appendix A. Tables

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Table A-1. Wetlands Delineated

Feature Name	Map Number	Acres Delineated	Latitude	Longitude	Cowardin/HGM	Sample Plots	Photo Number	Additional Notes	Artificially Created
WT-01	16	0.330949217	45.53326797	-120.6348495	Seep_Spring	WT-01-U1, WT-01-W1	8, 64, 66	This wetland is spring fed and originates within the study area and continues beyond.	No
WT-02	30	0.083209559	45.50380325	-120.6971512	Riverine	WT-02-U1, WT-02-W1	38, 39, 40, 41	Wetland is at toe of built up embankment that supports the highway.	No
WT-03	10	0.042866215	45.53845215	-120.6252823	Riverine	WT-03-U1, WT-03-W1	9, 92, 95, 111	Wetland is within the ST-01 drainage.	No
WT-04	15	0.212306678	45.52931595	-120.6520462	Riverine	WT-04-U1, WT-04-W1	60, 61, 94	Wetland is within the ST-01 drainage.	No
WT-05	19	0.501104474	45.53611755	-120.6075058	Riverine	WT-05-U1, WT-05-W1	75, 76, 77	Wetland is within the ST-01 drainage.	No
WT-06	18	0.294705242	45.53433228	-120.6171036	Seep_Spring	WT-06-U1, WT-06-W1	78, 79	Wetland is sourced from two separate springs.	No
WT-07	35	0.038054593	45.49460983	-120.7077942	Riverine	WT-07-U1, WT-07-W1	108, 109, 117	Wetland is in drainage that runs through cow pasture.	No
WT-08	16	0.033883981	45.53323364	-120.6345978	Seep_Spring	WT-08-U1, WT-08-W1	65, 96 97, 98, 99, 100, 101, 112	Wetland is sourced from artificial pond and is contained within a ditch along Nish Road.	No

Table A-2. Delineated Non-Wetland Waters

Feature Name	Map Number	OHWL Width (feet)	Flow Duration	Flow Direction	Photo Number	Additional Notes	Articicially Created/Modified
D-01	8	0.5 Feet	Ephemeral	West	4	Short ephemeral drainage ditch that starts adjacent to road and empties into culvert.	Yes
D-02	13	0.5 Feet	Ephemeral	North	13	Established road side ditch empties into culvert and does not continue down road side.	Yes
D-03	13	0.5 Feet	Ephemeral	North	24	Ephemeral ditch ends in low spot that does not meet hydric criteria.	Yes
EPH-01	17	0.5 Feet	Ephemeral	North	11	Barely discernible drainage at the toe of two slopes. All upland plants in drainage.	No
EPH-02	12	1 Feet	Ephemeral	North	12	Barely discernible drainage.	No
EPH-03	13	2 Feet	Ephemeral	North	27	Ephemeral drainage that begins at large erosional feature caused by a perched culvert. Large amount of trash including appliances and remains of shed have been placed in the erosional feature.	No
EPH-04	14	1.5 Feet	Ephemeral	Northeast	29	Barerly discernible drainage between two slopes.	No
EPH-05	14	0.5 Feet	Ephemeral	Northwest	14	Barerly discernible drainage between two slopes.	No
EPH-06	7	0.5 Feet	Ephemeral	North	31	Visible runoff from adjacent field, no bed or banks.	No
EPH-07	28	0.5 Feet	Ephemeral	East	16	Wide basin with narrow, sometimes barely discernible drainage.	No
EPH-07A	25	1.5 Feet	Ephemeral	East	17	Continuation of EPH-07, this reach disappears for short stretches.	No
EPH-08	30	1.5 Feet	Ephemeral	Southeast	36	Shallow soils with cobble in drainage. Rabbitbrush and lomatium species are growing in bottom.	No

Feature Name	Map Number	OHWL Width (feet)	Flow Duration	Flow Direction	Photo Number	Additional Notes	Articicially Created/Modified
EPH-09	34	0.5 Feet	Ephemeral	North	42	Barely discernible drainage.	No
EPH-10	26	0.5 Feet	Ephemeral	Northeast	22	Short ephemeral drainage from field edge to culvert.	No
EPH-11	22	0.5 Feet	Ephemeral	Southeast	50	Barely discernible drainage.	No
EPH-12	5	0.5 Feet	Ephemeral	North	58	Barely discernible drainage that flows towards large culvert.	No
EPH-13	5	0.5 Feet	Ephemeral	North	57	Barely discernible drainage in swale feature.	No
EPH-14a	23	1.5 Feet	Ephemeral	North	68, 69	NHD shows drainage across road. No sign of water crossing road but bed or banks are present on either side fo the road.	No
EPH-14b	26	0.5 Feet	Ephemeral	North	71	Slight drainage that flows to culvert. Culvert is only visible from upstream side of road, large boulders built up on opposite road side.	No
EPH-14c	26	1.5 Feet	Ephemeral	North	104, 105	Continuation of EPH-14b.	No
EPH-15	27	0.5 Feet	Ephemeral	North	74	Ephemeral drainage less than 1 foot wide created from runoff from agricultural access road through farm field.	No
EPH-16	31	0.5 Feet	Ephemeral	Southeast	119, 120	Barely discernible drainage.	No
ST-01	10	35 Feet	Perennial	East	93, 110	Hardened stream crossing (Nish Road) at hairpin corner. Stream is wider here than other sections of the stream drainage.	No
ST-01a	15	12 Feet	Perennial	North	51, 52	This stream is sourced from springs throughout the canyon.	No

Table A-3. Other Identified Features

Feature Name/Photo Number	Map Number	Feature Characteristics
XBB-01	8	On edge of two wheat fields, no discernable bed or banks. 90% cheatgrass, 10% wheat.
XBB-02	8	Down gradient from XBB-01, culvert present at road however no discernable bed or banks. Most likely tilled annually.
XBB-03	10	Mapped stream does not exist. No sign of even a swale.
XBB-04	17	EPH-01 originates downhill of terrace, no wetlands or water in swale behind terrace.
XBB-05	10	Drainage on NHD is north of project area.
XBB-06	12	No bed or banks in wheat field.
XBB-07	13	Ditch-03 peters out.
XBB-08	13	NHD line is in recently plowed field. No sign of water even with recent rainfall.
XBB-09	7	Game trail through swale, no bed or banks on NHD.
XBB-10	7	Swale feature, no bed or banks.
XBB-11	30	No bed or banks on NHD line.
XBB-12	30	EPH08 ends or goes permanently subsurface.
XBB-13	29, 30	Swale behind terrace, no wetland or water features.
XBB-14	30	No bed or banks on NHD line.
XBB-15	35	No bed or banks or sign of water near culvert.
XBB-16	33	No bed or banks on NHD line.
XBB-17	32	No bed or banks on NHD line.
XBB-18	32	No bed or banks on NHD line.
XBB-19	26	EPH-10 does not extend past this point.
XBB-20	11	No bed or banks on NHD line.
XBB-21	11	No bed or banks on NHD line.
XBB-22	11	No bed or banks on NHD line.
XBB-23	25	No bed or banks on NHD line.
XBB-24	5	No bed or banks on NHD line.
XBB-25	9	Swale behind terrace, no water, bed, or banks present.
XBB-26	9	Swale on opposite side of terrace (downhill side) no bed or banks.
XBB-27	22	No bed or banks in standing wheat
XBB-28	22	No bed or banks in standing wheat
XBB-29	16	No bed or banks.
XBB-30	8	No bed or banks on NHD line.
XBB-31	20	No bed or banks on NHD line.
XBB-32	18	No bed or banks on NHD line.
XBB-33	1	No bed or banks on NHD line.
XBB-34	1	No bed or banks on NHD line.
XBB-35	2	No bed or banks on NHD line.
XBB-36	2	No bed or banks on NHD line.
XBB-37	3	No bed or banks on NHD line.
XBB-38	3	No bed or banks on NHD line.
XBB-39	6	No bed or banks on NHD line.
XBB-40	16	NHD line but stream does not intersect with road or project area.

Feature Name/Photo Number	Map Number	Feature Characteristics
XBB-41	26	No channel on opposite side of side road crossing EPH-14b
XBB-42	6	No bed or banks on NHD line in cropfield
XBB-43	27	No bed or banks on NHD line in cropfield
XBB-44	27	No bed or banks on NHD line in cropfield
XBB-45	18	No bed or banks on NHD line in cropfield
XBB-46	17	No bed or banks on NHD line in cropfield
XBB-47	21	No bed or banks on NHD line in cropfield
XBB-48	16	No bed or banks on NHD line in cropfield
XBB-49	23	No bed or banks on NHD line in cropfield
XBB-50	28	No bed or banks on NHD line in cropfield
XBB-51	29	No bed or banks on NHD line in cropfield
XBB-52	35	No bed or banks on NHD line in cropfield
XBB-53	31	No bed or banks on NHD line in cropfield
XBB-54	1	No bed or banks on NHD line in cropfield
XBB-55	1	No bed or banks on NHD line in cropfield

Table A-4. Deviations from NWI

Feature Name	Map Number	Photograph Number	NWI Classification	Field Cowardin Classification	Reason for Deviation
UP-01	10	5	PEM1C	UPL	Stream has been channelized within the Study Area in this section. The mapped NWI lies outside of the stream channel.
UP-02	28	32	R4SBC	UPL	Ephemeral drainage does not meet hydric criteria.
UP-03	25	33	R4SBC	UPL	Ephemeral drainage does not meet hydric criteria.
UP-04	35	121	PEM1C	UPL	Stream has been channelized within the Study Area in this section. The mapped NWI lies outside of the stream channel.
UP-05	24	124	None	UPL	Sample site to confirm UPL conditions in original study area.

Appendix B. Datasheets

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U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind | City/County: Sherman County | Sampling Date: 6/15/20
Applicant/Owner: Avangrid | State: OR | Sampling Point: UP-01
Investigator(s): Jessica Taylor, Sara Frank | Section, Township, Range: Section 35, T1N, R17E
Landform (hillside, terrace, etc.): canyon | Local relief (concave, convex, none): | Slope (%): 5
Subregion (LRR): LRR B | Lat: 45.538532 | Long: -120.626037 | Datum: NAD83
Soil Map Unit Name: 12A Endersby-Hermiston complex, 0 to 3 percent slopes | NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X
Hydric Soil Present?	Yes	No X
Wetland Hydrology Present?	Yes	No X

Is the Sampled Area within a Wetland? **Yes** **No** X

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Artemisia tridentata*	5	No	UPL
2. *Sisymbrium altissimum*	20	Yes	FACU
3. *Leymus cinereus*	30	Yes	FAC
4.			
5.			
6.			
7.			
8.			
	55 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

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: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	20	x 4 =	80
UPL species	5	x 5 =	25
Column Totals:	55 (A)		195 (B)

Prevalence Index = B/A = 3.55

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

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

Hydrophytic Vegetation Present? **Yes** **No** X

Remarks:

SOIL

Sampling Point: UP-01

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

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

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy 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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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 (minimum of two 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? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 6/16/2020

Applicant/Owner: Avangrid State: OR Sampling Point: UP-02

Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 5, T1N, R17E

Landform (hillside, terrace, etc.): Swale Local relief (concave, convex, none): Drainage Slope (%): 5

Subregion (LRR): LRR B Lat: -120.720630 Long: 45.508557 Datum:

Soil Map Unit Name: 12A Endersby-Hermiston Complex, 0-3% Slopes NWI classification: R4SBC

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Sisymbrium altissimum*	10	Yes	FACU
2. *Bromus tectorum*	10	Yes	UPL
3. *Poa bulbosa*	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	30 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 90 % 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: 3 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	10	x 5 =	50
Column Totals:	30 (A)		130 (B)
Prevalence Index = B/A =			4.33

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:
Soil cracking

SOIL

Sampling Point: UP-02

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

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

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 3

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Erosional feature in EPH-07

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)**
- X 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 on 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 (minimum of two 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): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 6/16/2020
Applicant/Owner: Avangrid State: OR Sampling Point: UP-03
Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 5, T1N, R17E
Landform (hillside, terrace, etc.): Swale Local relief (concave, convex, none): Drainage Slope (%): 5
Subregion (LRR): LRR B Lat: -120.720630 Long: 45.508557 Datum:
Soil Map Unit Name: 12A Endersby-Hermiston Complex, 0-3% Slopes NWI classification: R4SBC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Bromus tectorum*	5	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	5 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 90 % 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: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	5 (A)		25 (B)
Prevalence Index = B/A =	5.00		

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **No X**

Remarks:
Faint soil cracking

SOIL

Sampling Point: UP-03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2						Coarse sandy loam	

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 4

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Erosional feature in EPH-07

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)**
- X 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 on 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 (minimum of two 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): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 6/15/2020

Applicant/Owner: Avangrid State: OR Sampling Point: WT-01-U1

Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 25, T1N, R17E

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): upland Slope (%): 15

Subregion (LRR): LRR B Lat: -120.720630 Long: 45.508557 Datum:

Soil Map Unit Name: 16D Lickskillet very stony loam, 7 to 40 percent south slopes NWI classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Cirsium arvense*	40	Yes	FACU
2. *Leymus cinereus*	70	Yes	FAC
3. *Anthriscus caucalis*	30	Yes	UPL
4.			
5.			
6.			
7.			
8.			
	140 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	40	x 4 =	160
UPL species	30	x 5 =	150
Column Totals:	140 (A)		520 (B)
Prevalence Index = B/A =			3.71

Hydrophytic Vegetation Indicators:

____ Dominance Test is >50%

____ Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:

SOIL

Sampling Point: WT-01-U1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Silt loam	

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Erosional feature in EPH-07

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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 (minimum of two 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? Yes ___ No x Depth (inches): ___
(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 6/15/20
Applicant/Owner: Avangrid State: OR Sampling Point: WT-01-W1
Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 25, T1N, R17E
Landform (hillside, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 15
Subregion (LRR): LRR B Lat: 45.533432 Long: -120.634857 Datum: NAD83
Soil Map Unit Name: 16D Lickskillet very stony loam, 7 to 40 percent south slopes NWI classification: R4SBC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? **Yes** X **No** ____

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Cirsium arvense*	40	Yes	FACU
2. *Juncus nevadensis*	60	Yes	FACW
3. *Typha latifolia*	30	Yes	OBL
4.			
5.			
6.			
7.			
8.			
	130 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	130 (A)		310 (B)

Prevalence Index = B/A = 2.38

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:

SOIL

Sampling Point: WT-01-W1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2						Silt Loam	
10-12	10YR 4/1	70	10YR 4/6	30	C	PL	Sand	Prominent redox concentrations
12-16	10YR 2/1	90	10YR 4/6	10	C	M	Sand	Prominent redox concentrations

[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)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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 on 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 (minimum of two 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water Table Present?	Yes X	No ___	Depth (inches): 7		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind | City/County: Sherman County | Sampling Date: 6/15/20
Applicant/Owner: Avangrid | State: OR | Sampling Point: WT-02-U1
Investigator(s): Jessica Taylor, Sara Frank | Section, Township, Range: Section 4, T1N, R17E
Landform (hillside, terrace, etc.): Drainage | Local relief (concave, convex, none): concave | Slope (%): 15
Subregion (LRR): LRR B | Lat: 45.533432 | Long: -120.634857 | Datum: NAD83
Soil Map Unit Name: 12A Endersby-Hermiston complex, 0 to 3 percent slopes | NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Leymus cinereus*	100	Yes	FAC
2. *Galium aparine*	60	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	160 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

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: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	160 (A)		540 (B)

Prevalence Index = B/A = 3.38

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

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

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:

SOIL

Sampling Point: WT-02-U1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Silt Loam	

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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 (minimum of two 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? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 6/16/2020

Applicant/Owner: Avangrid State: OR Sampling Point: WT-02-W1

Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 4, T1N, R17E

Landform (hillside, terrace, etc.): Toe slope Local relief (concave, convex, none): Drainage Slope (%): 5

Subregion (LRR): LRR B Lat: -120.720630 Long: 45.508557 Datum:

Soil Map Unit Name: 12A Endersby-Hermiston Complex, 0-3% Slopes NWI classification: PEM1C

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Phalaris arundinacea*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks:

SOIL

Sampling Point: WT-02-W1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/1						Mucky silt	

[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.)

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X 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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- X 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 9

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on 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 (minimum of two 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)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No x	Depth (inches): 1
Water Table Present?	Yes ___	No x	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No x	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:
Sulfur smell in some areas

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind | City/County: Sherman County | Sampling Date: 7/6/20
Applicant/Owner: Avangrid | State: OR | Sampling Point: WT-03-U1
Investigator(s): Jessica Taylor, Sara Frank | Section, Township, Range: Section 35, T1N, R17E
Landform (hillside, terrace, etc.): Drainage | Local relief (concave, convex, none): concave | Slope (%): 5
Subregion (LRR): LRR B | Lat: 45.538148 | Long: -120.624783 | Datum: NAD83
Soil Map Unit Name: 12A Endersby-Hermiston complex, 0 to 3 percent slopes | NWI classification: R4SBC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
This wetland is on the edge of the Nish Road crossing. The stream is considered essential salmonid habitat and fry were observed in the water while delineating the wetland. The water slows downstream of the road crossing and vegetation spans the channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Bromus tectorum*	40	Yes	UPL
2.			
3.			UPL
4.			
5.			
6.			
7.			
8.			
	40 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 60 % 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: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 5.00

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

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

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:

SOIL

Sampling Point: WT-03-U1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/2	100					Sand	

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy 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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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 (minimum of two 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? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 7/6/20

Applicant/Owner: Avangrid State: OR Sampling Point: WT-03-W1

Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 35, T1N, R17E

Landform (hillside, terrace, etc.): Streambed Local relief (concave, convex, none): Drainage Slope (%): 5

Subregion (LRR): LRR B Lat: -120.624783 Long: 45.538148 Datum: NAD83

Soil Map Unit Name: 12A Endersby-Hermiston Complex, 0-3% Slopes NWI classification: R4SBC

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
This wetland is on the edge of the Nish Road crossing. The stream is considered essential salmonid habitat and fry were observed in the water while delineating the wetland. The water slows downstream of the road crossing and vegetation spans the channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Typha latifolia*	30	Yes	OBL
2. *Phalaris arundinacea*	30	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	60 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 1.50

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Open water covers 40% of the surface area of this plot

SOIL

Sampling Point: WT-03-W1

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

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

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 3

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Wetland is in drainage where cattail have slowed water enough that vegetation covers most of the channel

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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 on 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 (minimum of two 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)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	X	No		Depth (inches): 4
Water Table Present?	Yes		No	X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	X	No		Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind | City/County: Sherman County | Sampling Date: 6/17/20
Applicant/Owner: Avangrid | State: OR | Sampling Point: WT-04-U1
Investigator(s): Jessica Taylor, Sara Frank | Section, Township, Range: Section 26, T1N, R17E
Landform (hillside, terrace, etc.): Drainage | Local relief (concave, convex, none): concave | Slope (%): 15
Subregion (LRR): LRR B | Lat: 45.533432 | Long: -120.634857 | Datum: NAD83
Soil Map Unit Name: 12A Endersby-Hermiston complex, 0 to 3 percent slopes | NWI classification: R4SBC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Lomatium greyii*	20	Yes	UPL
2. *Thinopyrum ponticum*	30	Yes	UPL
3. *Poa balbosa*	20	Yes	UPL
4. *Bromus tectorum*	20	Yes	UPL
5.			
6.			
7.			
8.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 30 % 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: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	90	x 5 =	450
Column Totals:	90 (A)		450 (B)

Prevalence Index = B/A = 5.00

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

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

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:

SOIL

Sampling Point: WT-04-U1

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

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

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 2

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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 (minimum of two 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): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind | City/County: Sherman County | Sampling Date: 6/17/20
Applicant/Owner: Avangrid | State: OR | Sampling Point: WT-04-W1
Investigator(s): Jessica Taylor, Sara Frank | Section, Township, Range: Section 26, T1N, R17E
Landform (hillside, terrace, etc.): Drainage | Local relief (concave, convex, none): concave | Slope (%): 15
Subregion (LRR): LRR B | Lat: 45.533432 | Long: -120.634857 | Datum: NAD83
Soil Map Unit Name: 12A Endersby-Hermiston complex, 0 to 3 percent slopes | NWI classification: R4SBC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Veronica anagallis-aquatica*	50	Yes	OBL
2. *Lepidium latifolium*	100	Yes	FAC
3. *Mimulus guttatus*	40	Yes	OBL
4.			
5.			
6.			
7.			
8.			
	190	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	=Total Cover	

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	190 (A)		390 (B)

Prevalence Index = B/A = 2.05

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:

SOIL

Sampling Point: WT-04-W1

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

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

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- X Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 2

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Soils are in riverine system.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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 on 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 (minimum of two 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	X	No		Depth (inches): 1
Water Table Present?	Yes		No	X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	X	No		Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind | City/County: Sherman County | Sampling Date: 6/18/2020
Applicant/Owner: Avangrid | State: OR | Sampling Point: WT-05-U1
Investigator(s): Jessica Taylor, Sara Frank | Section, Township, Range: Section 30, T1N, R18E
Landform (hillside, terrace, etc.): Streambed | Local relief (concave, convex, none): Drainage | Slope (%): 5
Subregion (LRR): LRR B | Lat: -120.720630 | Long: 45.508557 | Datum:
Soil Map Unit Name: 12A Endersby-Hermiston Complex, 0-3% Slopes | NWI classification: PEM1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X No ____
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Urtica dioica*	40	Yes	FAC
3. *Anthriscus caucalis*	20	No	UPL
4. *Cirsium arvense*	20	No	FACU
5.			
6.			
7.			
8.			
	120 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	40	x 3 =	120
FACU species	20	x 4 =	80
UPL species	20	x 5 =	100
Column Totals:	120 (A)		380 (B)
Prevalence Index = B/A =			3.17

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:

SOIL

Sampling Point: WT-05-U1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1						Silt loam	
3-16	10YR 3/2						Sandy Loam	

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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 (minimum of two 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 6/18/2020

Applicant/Owner: Avangrid State: OR Sampling Point: WT-05-W1

Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 30, T1N, R18E

Landform (hillside, terrace, etc.): Streambed Local relief (concave, convex, none): Drainage Slope (%): 5

Subregion (LRR): LRR B Lat: -120.720630 Long: 45.508557 Datum:

Soil Map Unit Name: 12A Endersby-Hermiston Complex, 0-3% Slopes NWI classification: PEM1C

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil X , 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 X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Phalaris arundinacea*	100	Yes	FACW
2. *Typha latifolia*	40	Yes	OBL
3. *Equisetum arvense*	30	No	FAC
4.			
5.			
6.			
7.			
8.			
	170 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	100	x 2 =	200
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	170 (A)		330 (B)

Prevalence Index = B/A = 1.94

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks:

SOIL

Sampling Point: WT-05-W1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/2						Silt loam	
5-8	10YR 2/1						Silt loam	
8-16	10YR 3/2						Silt loam	

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Soils are in creek that is slowly choking up with cattails.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X 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 on 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 (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0		
Water Table Present?	Yes X	No ___	Depth (inches): 15		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

Water table at 15 inches, saturated to soil surface

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind | City/County: Sherman County | Sampling Date: 6/18/2020
Applicant/Owner: Avangrid | State: OR | Sampling Point: WT-06-U1
Investigator(s): Jessica Taylor, Sara Frank | Section, Township, Range: Section 31,T1N, R18E
Landform (hillside, terrace, etc.): Streambed | Local relief (concave, convex, none): Drainage | Slope (%): 5
Subregion (LRR): LRR B | Lat: -120.720630 | Long: 45.508557 | Datum: NAD83
Soil Map Unit Name: 17A-Euchre silt loam, 0 to 3 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Pascopyrum smithii*	80	Yes	FAC
2. *Ericameria nauseosa*	20	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

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: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	20	x 5 =	100
Column Totals:	100 (A)		340 (B)
Prevalence Index = B/A =	3.40		

Hydrophytic Vegetation Indicators:
____ Dominance Test is >50%
____ Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:

SOIL

Sampling Point: WT-06-U1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3						Silt loam	

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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 (minimum of two 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? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 6/18/2020

Applicant/Owner: Avangrid State: OR Sampling Point: WT-06-W1

Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 31, T1N, R18E

Landform (hillside, terrace, etc.): Streambed Local relief (concave, convex, none): Drainage Slope (%): 5

Subregion (LRR): LRR B Lat: -120.720630 Long: 45.508557 Datum:

Soil Map Unit Name: 17A-Euchre silt loam, 0 to 3 percent slopes NWI classification:

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Phalaris arundinacea*	60	Yes	FACW
2. *Typha latifolia*	30	Yes	OBL
3. *Urtica dioica*	50	Yes	FAC
4.			
5.			
6.			
7.			
8.			
	140 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	60	x 2 =	120
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		300 (B)
Prevalence Index = B/A =			2.14

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks:

SOIL

Sampling Point: WT-06-W1

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

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

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- X Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 3

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Rock restriction at 3 inches. Large pieces of unbiodegreaded vegetation. Spring fed wetland.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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 on 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 (minimum of two 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)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	X	No		Depth (inches): 1
Water Table Present?	Yes		No	X	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes	X	No		Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 7/6/20
Applicant/Owner: Avangrid State: OR Sampling Point: WT-7-U1
Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 31, T01N, R18E
Landform (hillside, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 5
Subregion (LRR): LRR B Lat: 45.494640 Long: -120.707655 Datum: NAD83
Soil Map Unit Name: 12A Endersby-Hermiston complex, 0 to 3 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:
Wetland is in a drainage with running water. Vegetation forms a closed canopy.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Thinopyrum ponticum*	35	Yes	UPL
2. *Bromus tectorum*	20	Yes	UPL
3. *Leymus cinereus*	25	Yes	FAC
4.			
5.			
6.			
7.			
8.			
	80 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

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

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	55	x 5 =	275
Column Totals:	80 (A)		350 (B)

Prevalence Index = B/A = 4.38

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

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

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:

SOIL

Sampling Point: WT-7-U1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Silt Loam	

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Very shallow riverine soils, wetland plants and running water in channel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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 (minimum of two 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? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind | City/County: Sherman County | Sampling Date: 7/6/20
Applicant/Owner: Avangrid | State: OR | Sampling Point: WT-7-W1
Investigator(s): Jessica Taylor, Sara Frank | Section, Township, Range: Section 31, T01N, R18E
Landform (hillside, terrace, etc.): drainage | Local relief (concave, convex, none): concave | Slope (%): 5
Subregion (LRR): LRR B | Lat: 45.494640 | Long: -120.707655 | Datum: NAD83
Soil Map Unit Name: 12A Endersby-Hermiston complex, 0 to 3 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____
Are Vegetation ____, Soil X, 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 X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Wetland is in a drainage with running water. Vegetation forms a closed canopy.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Lepidium latifolium*	20	No	FAC
2. *Phalaris arundinacea*	20	No	FACW
3. *Veronica anagallis-aquatica*	100	Yes	OBL
4.			
5.			
6.			
7.			
8.			
	140 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

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

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	20	x 2 =	40
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		200 (B)

Prevalence Index = B/A = 1.43

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:

SOIL

Sampling Point: WT-7-W1

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

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

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 2

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Very shallow riverine soils, wetland plants and running water in channel.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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 on 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 (minimum of two 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 2		
Water Table Present?	Yes ___	No X	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 7/6/20
Applicant/Owner: Avangrid State: OR Sampling Point: WT-8-U1
Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 09, T01S, R17E
Landform (hillside, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 5
Subregion (LRR): LRR B Lat: 45.494640 Long: -120.707655 Datum: NAD83
Soil Map Unit Name: Lickskillet very stony loam, 7 to 40 percent south slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

Remarks:
Wetland is in a drainage ditch with running water. Vegetation forms a closed canopy. Hydrology comes from impounded spring that is being used as a recreational pond.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Thinopyrum ponticum*	60	Yes	UPL
2. *Bromus tectorum*	20	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	80 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 0 % 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: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	80	x 5 =	400
Column Totals:	80 (A)		400 (B)

Prevalence Index = B/A = 5.00

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

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

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:

SOIL

Sampling Point: WT-8-U1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	100					Silt Loam	

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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 on 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 (minimum of two 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? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Golden Hills Wind City/County: Sherman County Sampling Date: 7/6/20
Applicant/Owner: Avangrid State: OR Sampling Point: WT-8-W1
Investigator(s): Jessica Taylor, Sara Frank Section, Township, Range: Section 09, T01S, R17E
Landform (hillside, terrace, etc.): drainage Local relief (concave, convex, none): concave Slope (%): 5
Subregion (LRR): LRR B Lat: 45.494640 Long: -120.707655 Datum: NAD83
Soil Map Unit Name: Lickskillet very stony loam, 7 to 40 percent south slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? **Yes** X **No** ____

Remarks:
Wetland is in a drainage ditch with running water. Vegetation forms a closed canopy. Hydrology comes from impounded spring that is being used as a recreational pond.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Veronica anagallis-aquatica*	80	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	80 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 1.00

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:

SOIL

Sampling Point: WT-8-W1

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

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

[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)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 2

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Wetland is at edge of road that is graded regularly. Soils were full of gravel and are likely disturbed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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 on 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 (minimum of two 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)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	X	No		Depth (inches): 1
Water Table Present?	Yes		No	X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	X	No		Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Appendix C. Photolog

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Photo 1. Feature XBB-01. On NHD line, no bed or banks. Looking NW. Photo taken 6/15/2020. Lat/Long: -120.6821747, 45.55337906.



Photo 2. Feature XBB-02. Culvert at the bridge, but no bed or banks. It's possible that annual tillage occurs that would obscure any drainage patterns. Looking NE. Photo taken 6/15/2020. Lat/Long: -120.6833649, 45.55503082.



Photo 3. Feature XBB-30. Drainage ditch does not extend east of this point. Looking E. Photo taken 6/15/2020. Lat/Long: -120.6830978, 45.55528259.



Photo 4. Feature D-01. Narrow ditch, less than 1 foot wide. Looking E. Photo taken 6/15/2020. Lat/Long: -120.683403, 45.55522919.



Photo 5. Feature UP-01. Site is in NWI/NHD, but no hydric conditions exist. Looking N. Photo taken 6/15/2020. Lat/Long: -120.6257248, 45.53839874.



Photo 6. Feature XBB-05. No drainage present on NHD line; drainage does occur north of the Project Study Area. Looking N. Photo taken 6/15/2020. Lat/Long: -120.6292496, 45.53819656.



Photo 7. Feature XBB-04. Drainage disappears before built up terrace. No wetland present. Looking NW. Photo taken 6/15/2020. Lat/Long: -120.6295471, 45.53367233.



Photo 8. Feature WT-01. Overview of site conditions within Study Area at northeastern section. Looking W. Photo taken 6/15/2020. Lat/Long: -120.634346, 45.53366089.



Photo 9. Feature WT-03. Overview of ST-01. Looking SE. Photo taken 6/15/2020. Lat/Long: -120.6254044, 45.53858948.



Photo 10. Feature XBB-03. No stream on NHD line at road crossing. Looking NE. Photo taken 6/15/2020. Lat/Long: -120.630661, 45.53750992.



Photo 11. Feature EPH-01. Barely discernible ephemeral drainage. Looking NE. Photo taken 6/15/2020. Lat/Long: -120.6294937, 45.53343201.



Photo 12. Feature EPH-02. Barely discernible ephemeral drainage. Looking S. Photo taken 6/16/2020. Lat/Long: -120.7397614, 45.53507996.



Photo 13. Feature D-02. Ditch adjacent to county road. Looking S. Photo taken 6/16/2020. Lat/Long: -120.7292633, 45.53487778.



Photo 14. Feature EPH-05. Barely discernible ephemeral drainage. Looking SE. Photo taken 6/16/2020. Lat/Long: -120.7171097, 45.53510284.



Photo 15. Feature XBB-10. On NHD line, no bed or banks. Looking N. Photo taken 6/16/2020. Lat/Long: -120.7235794, 45.55488968.



Photo 16. Feature EPH-07. Wide basin with narrow, sometimes barely discernible channel. Looking NW. Photo taken 6/16/2020. Lat/Long: -120.7204514, 45.50847626.



Photo 17. Feature EPH-07A. Barely discernible channel. Looking E. Photo taken 6/16/2020. Lat/Long: -120.6980591, 45.51662827.



Photo 18. Feature XBB-13. On NHD line, no bed or banks. Looking W. Photo taken 6/16/2020. Lat/Long: -120.6988754, 45.50651169.

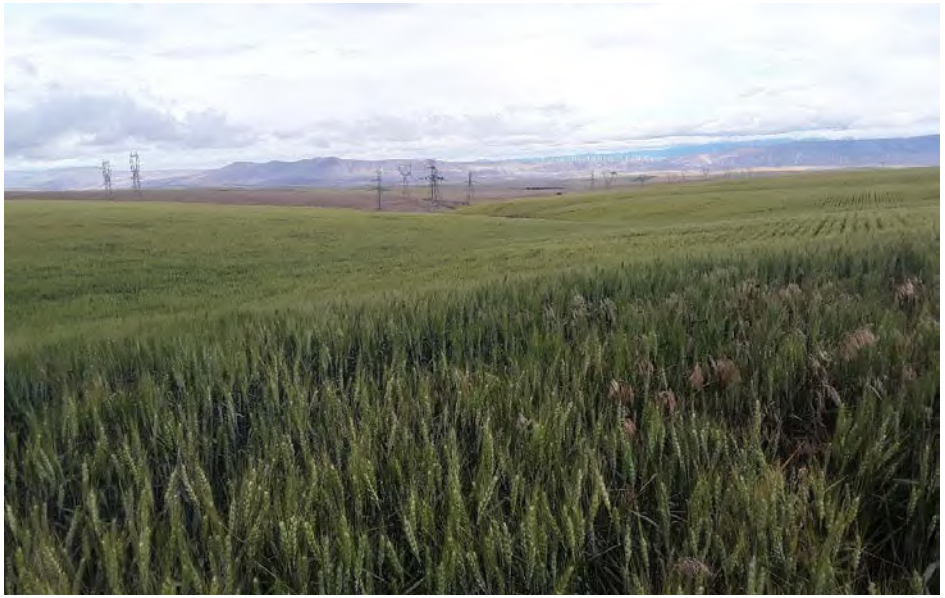

Photo 19. Feature XBB-15. No ditch present. Looking SW. Photo taken 6/16/2020. Lat/Long: -120.708725, 45.49452209.



Photo 20. Feature XBB-16. On NHD line, no bed or banks. Looking S. Photo taken 6/16/2020. Lat/Long: -120.6494446, 45.49664307.



Photo 21. Feature XBB-19. On NHD line, no bed or banks. Looking SW. Photo taken 6/16/2020. Lat/Long: -120.6365891, 45.5156517.



Photo 22. Feature EPH-10. Short drainage from field edge to culvert. Looking NE. Photo taken 6/16/2020. Lat/Long: -120.636528, 45.51571655.



Photo 23. Feature XBB-06. On NHD line, no bed or banks. Looking NW. Photo taken 6/16/2020. Lat/Long: -120.7455444, 45.53585052.



Photo 24. Feature D-03. Ditch peters out into field. Looking S. Photo taken 6/16/2020. Lat/Long: -120.7291489, 45.53479385.



Photo 25. Feature XBB-07. Ditch along road does not continue past this point. Looking N. Photo taken 6/16/2020. Lat/Long: -120.7291489, 45.53480148.



Photo 26. Feature Culvert. Trash at end of culvert. Looking NW. Photo taken 6/16/2020. Lat/Long: -120.7290039, 45.53490067.



Photo 27. Feature EPH-03. Wide channel at mouth of culvert. All upland plants and no signs of recent flows. Looking SW. Photo taken 6/16/2020. Lat/Long: -120.7289505, 45.53530121.



Photo 28. Feature XBB-08. On NHD line, no bed or banks. Looking S. Photo taken 6/16/2020. Lat/Long: -120.7224274, 45.53531265.



Photo 29. Feature EPH-04. Facing flow direction. Looking NE. Photo taken 6/16/2020. Lat/Long: -120.7176514, 45.53475952.



Photo 30. Feature XBB-09. Active agriculture with game trail through where NHD line is, no bed or banks. Looking N. Photo taken 6/16/2020. Lat/Long: -120.7148132, 45.55335999.



Photo 31. Feature EPH-06. Near origin of drainage, sagebrush around curve of drainage. Looking NW. Photo taken 6/16/2020. Lat/Long: -120.71492, 45.55387115.



Photo 32. Feature UP-02. Erosional feature in EPH-07. Looking W. Photo taken 6/16/2020. Lat/Long: -120.7201462, 45.50852966.



Photo 33. Feature UP-03. Photo of UP-03 sample plot. Looking SW. Photo taken 6/16/2020. Lat/Long: -120.6981888, 45.51648331.



Photo 34. Feature XBB-11. No visible drainage. Looking NW. Photo taken 6/16/2020. Lat/Long: -120.6972427, 45.50452042.



Photo 35. Feature XBB-12. Drainage does not continue down hill. Looking S. Photo taken 6/16/2020. Lat/Long: -120.69767, 45.5050354.



Photo 36. Feature EPH-08. Drainage ends near sagebrush in photo. Looking SE. Photo taken 6/16/2020. Lat/Long: -120.6978302, 45.50526428.



Photo 37. Feature XBB-14. No visible drainage. Looking S. Photo taken 6/16/2020. Lat/Long: -120.6971436, 45.5037117.



Photo 38. Feature WT-02. Photo of WT-02 from center of wetland. Looking W. Photo taken 6/16/2020. Lat/Long: -120.6973877, 45.50375366.



Photo 39. Feature WT-02. Swath of cattails and nightshade in center of WT-02. Looking E. Photo taken 6/16/2020. Lat/Long: -120.6972351, 45.50380325.



Photo 40. Feature WT-02. Sample plot at WT-02. Looking E. Photo taken 6/16/2020. Lat/Long: -120.6974716, 45.50371552.



Photo 41. Feature WT-02. Upland sample plot at WT-02-U1. Looking SW. Photo taken 6/16/2020. Lat/Long: -120.6974487, 45.50370407.



Photo 42. Feature EPH-09. Overview of drainage. Looking S. Photo taken 6/16/2020. Lat/Long: -120.6606979, 45.49650955.



Photo 43. Feature XBB-17. No bed or banks. Looking SW. Photo taken 6/16/2020. Lat/Long: -120.6375198, 45.50405502.



Photo 44. Feature XBB-18. No bed or banks. Looking NE. Photo taken 6/16/2020. Lat/Long: -120.6458893, 45.50631332.

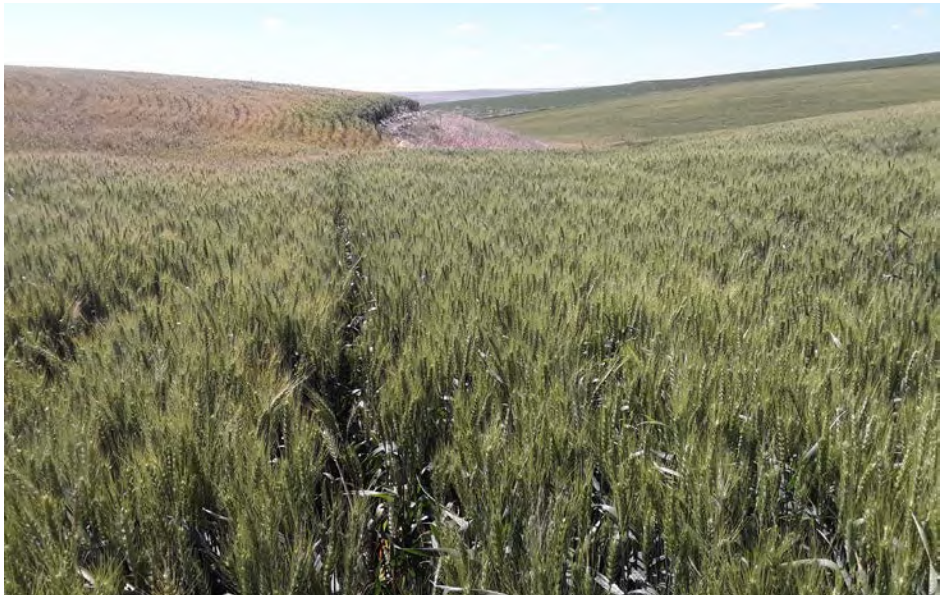

Photo 45. Feature XBB-31. No discernible channel or evidence of water flow, despite precipitation during last 72 hours. Looking NE. Photo taken 6/17/2020. Lat/Long: -120.6689072, 45.530159.

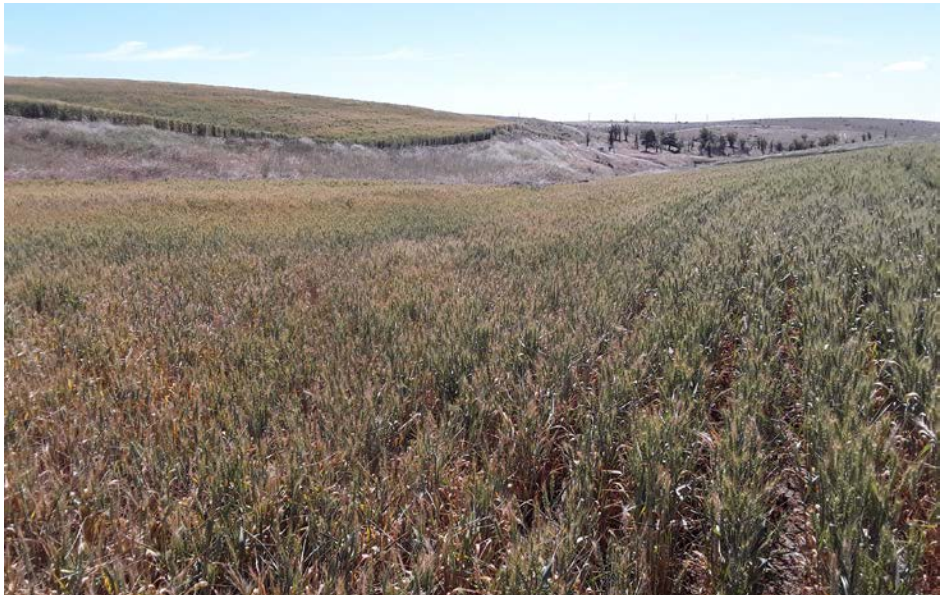

Photo 46. Feature XBB-25. Swale behind terrace on NHD, no bed or banks. Looking NW. Photo taken 6/17/2020. Lat/Long: -120.7056656, 45.53851318.



Photo 47. Feature XBB-26. No bed or banks on NHD line downhill side of terrace. Looking W. Photo taken 6/17/2020. Lat/Long: -120.7058716, 45.53885269.



Photo 48. Feature XBB-27. No bed or banks in active agriculture. Looking SE. Photo taken 6/17/2020. Lat/Long: -120.6973724, 45.52754211.



Photo 49. Feature XBB-28. No bed or banks. Looking SE. Photo taken 6/17/2020. Lat/Long: -120.6972351, 45.52679443.



Photo 50. Feature EPH-11. Barely discernible channel. Looking SE. Photo taken 6/17/2020. Lat/Long: -120.6968079, 45.5267067.



Photo 51. Feature ST-01a. Running water in stream channel. Small fish present. Looking W. Photo taken 6/17/2020. Lat/Long: -120.6485672, 45.5332222.



Photo 52. Feature ST-01a. Overview of stream and riparian conditions. Looking E. Photo taken 6/17/2020. Lat/Long: -120.6488495, 45.53300858.



Photo 53. Feature XBB-20. No discernible drainage. Looking E. Photo taken 6/17/2020. Lat/Long: -120.6772995, 45.53630829.



Photo 54. Feature XBB-21. No bed or banks. Looking NW. Photo taken 6/17/2020. Lat/Long: -120.679039, 45.53695297.



Photo 55. Feature XBB-22. No bed or banks. Looking SW. Photo taken 6/17/2020. Lat/Long: -120.6795197, 45.53547287.



Photo 56. Feature XBB-23. Fairly dense sage fills narrow canyon, no bed or banks. Looking SW. Photo taken 6/17/2020. Lat/Long: -120.702179, 45.51879501.



Photo 57. Feature EPH-13. Overview of drainage. Looking S. Photo taken 6/17/2020. Lat/Long: -120.692627, 45.56072617.



Photo 58. Feature EPH-12. Drainage into culvert. Looking S. Photo taken 6/17/2020. Lat/Long: -120.6942062, 45.56348801.



Photo 59. Feature XBB-24. No bed or banks where agricultural fields meet. Looking SW. Photo taken 6/17/2020. Lat/Long: -120.6993179, 45.56031418.



Photo 60. Feature WT-04. Photo of WT-04-W1. Looking NW. Photo taken 6/17/2020. Lat/Long: -120.6519852, 45.52958679.



Photo 61. Feature WT-04. Upland sample plot for WT-04-U1. Looking NW. Photo taken 6/17/2020. Lat/Long: -120.6519012, 45.52959442.



Photo 62. Feature XBB-29. Downstream from Project Area, no bed or banks. Looking S. Photo taken 6/17/2020. Lat/Long: -120.6417313, 45.53347397.



Photo 63. Feature WT-01. Active flow and OBL plants in roadside ditch/stream. Looking W. Photo taken 6/18/2020. Lat/Long: -120.6344376, 45.53339386.



Photo 64. Feature WT-08. Source of WT-08 hydrology. Looking W. Photo taken 6/18/2020. Lat/Long: -120.6352692, 45.53266144.



Photo 65. Feature WT-01. General conditions at upper part of WT-01. Cattails, willow, mimulus. Looking S. Photo taken 6/18/2020. Lat/Long: -120.6350632, 45.53311157.



Photo 66. Feature XBB-40. NHD line, stream does not intersect with road. Looking N. Photo taken 6/18/2020. Lat/Long: -120.6366577, 45.53051758.



Photo 67. Feature EPH-14a. Ephemeral drainage, no sign of water crossing Nish Road. Looking SE. Photo taken 6/18/2020. Lat/Long: -120.6373138, 45.52647018.



Photo 68. Feature EPH-14a. Ephemeral drainage, no sign of water crossing Nish Road. Looking NW. Photo taken 6/18/2020. Lat/Long: -120.6372604, 45.526474.



Photo 69. Feature XBB-41. Ephemeral channel does not continue on this side of side road. Looking NW. Photo taken 6/18/2020. Lat/Long: -120.6359711, 45.51790619.



Photo 70. Feature EPH-14b. Barely discernible channel goes through culvert under road, but culvert does not appear on downstream end. Looking SW. Photo taken 6/18/2020. Lat/Long: -120.6360245, 45.51789093.



Photo 71. Feature XBB-43. No bed or banks. Looking NW. Photo taken 6/18/2020. Lat/Long: -120.6167984, 45.51978683.



Photo 72. Feature XBB-44. No bed or banks. Looking S. Photo taken 6/18/2020. Lat/Long: -120.624733, 45.51862717.



Photo 73. Feature EPH-15. Runoff from agricultural access road on NHD line, no bed or banks. Looking SE. Photo taken 6/18/2020. Lat/Long: -120.6248398, 45.51898193.



Photo 74. Feature WT-05. General conditions at WT-05. Looking E. Photo taken 6/18/2020. Lat/Long: -120.6077805, 45.53609848.



Photo 75. Feature WT-05. Sample site WT-05-W1. Looking W. Photo taken 6/18/2020. Lat/Long: -120.6075134, 45.5359726.



Photo 76. Feature WT-05. Sample site WT-05-U1. Looking NE. Photo taken 6/18/2020. Lat/Long: -120.60746, 45.53594208.



Photo 77. Feature WT-06. Sample site WT-06-U1. Looking SW. Photo taken 6/18/2020. Lat/Long: -120.6169586, 45.53436661.



Photo 78. Feature WT-06. Overview of WT-06. Looking SW. Photo taken 6/18/2020. Lat/Long: -120.6170273, 45.53435135.

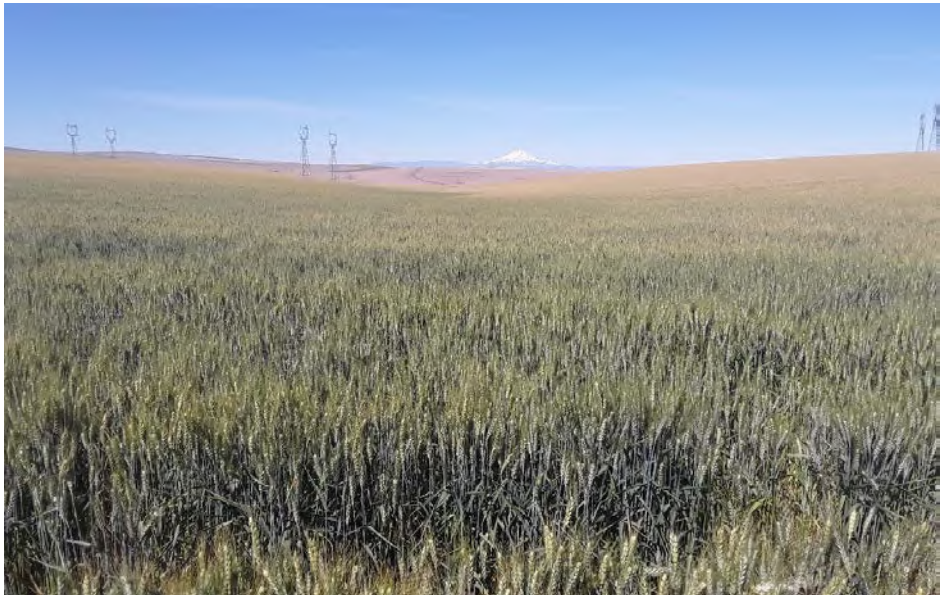

Photo 79. Feature XBB-33. No bed or banks. Looking NW. Photo taken 6/18/2020. Lat/Long: -120.7473373, 45.5874176.



Photo 80. Feature XBB-34. No bed or banks. Looking E. Photo taken 6/18/2020. Lat/Long: -120.7453232, 45.58580017.



Photo 81. Feature XBB-35. No bed or banks. Looking W. Photo taken 6/18/2020. Lat/Long: -120.7434082, 45.58011627.

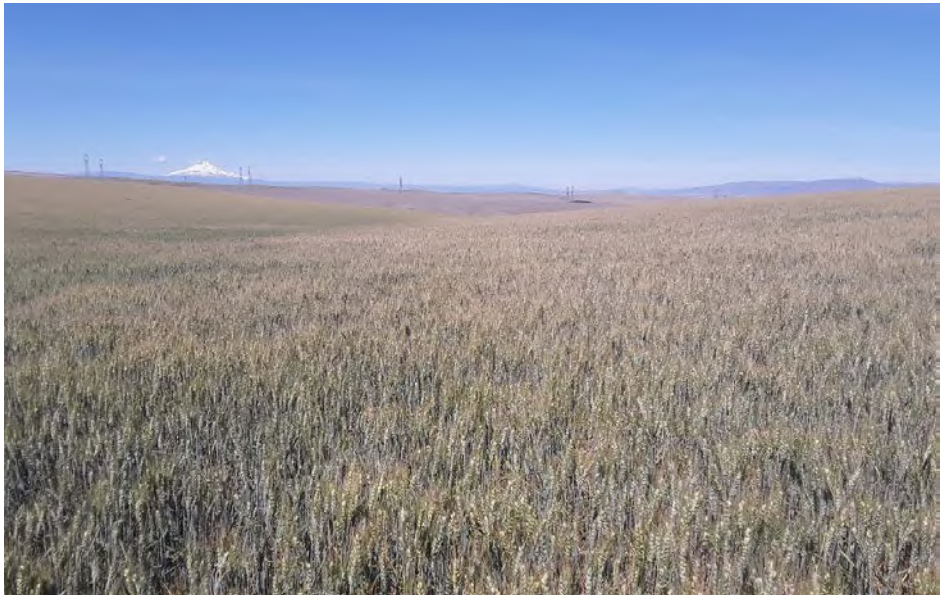

Photo 82. Feature XBB-36. No bed or banks. Looking NE. Photo taken 6/18/2020. Lat/Long: -120.7412338, 45.57628632.



Photo 83. Feature XBB-37. Photo taken from vantage point uphill. No bed or banks. Looking NW. Photo taken 6/18/2020. Lat/Long: -120.735527, 45.56906509.



Photo 84. Feature XBB-38. No bed or banks. Looking W. Photo taken 6/18/2020. Lat/Long: -120.7334213, 45.56483459.



Photo 85. Feature XBB-39. No bed or banks. Looking W. Photo taken 6/18/2020. Lat/Long: -120.7325439, 45.56022263.



Photo 86. Feature XBB-42. No bed or banks. Looking SE. Photo taken 6/18/2020. Lat/Long: -120.7324142, 45.55692291.



Photo 87. Feature XBB-32. No bed or banks. Looking E. Photo taken 6/18/2020. Lat/Long: -120.6141434, 45.53394318.



Photo 88. Feature XBB-45. No bed or banks. Looking SE. Photo taken 6/18/2020. Lat/Long: -120.614502, 45.53055954.



Photo 89. Feature XBB-47. No bed or banks. Looking W. Photo taken 6/18/2020. Lat/Long: -120.6251602, 45.52737045.



Photo 90. Feature XBB-46. Swale, no bed or banks. Looking N. Photo taken 6/18/2020. Lat/Long: -120.622963, 45.53386307.



Photo 91. Feature WT-03. Slow moving water running east. Looking SE. Photo taken 7/6/2020. Lat/Long: -120.6260147, 45.53868484.



Photo 92. Feature ST-01. Stream narrows up stream and becomes more marshy in this section. Looking W. Photo taken 7/6/2020. Lat/Long: -120.6258545, 45.53862762.

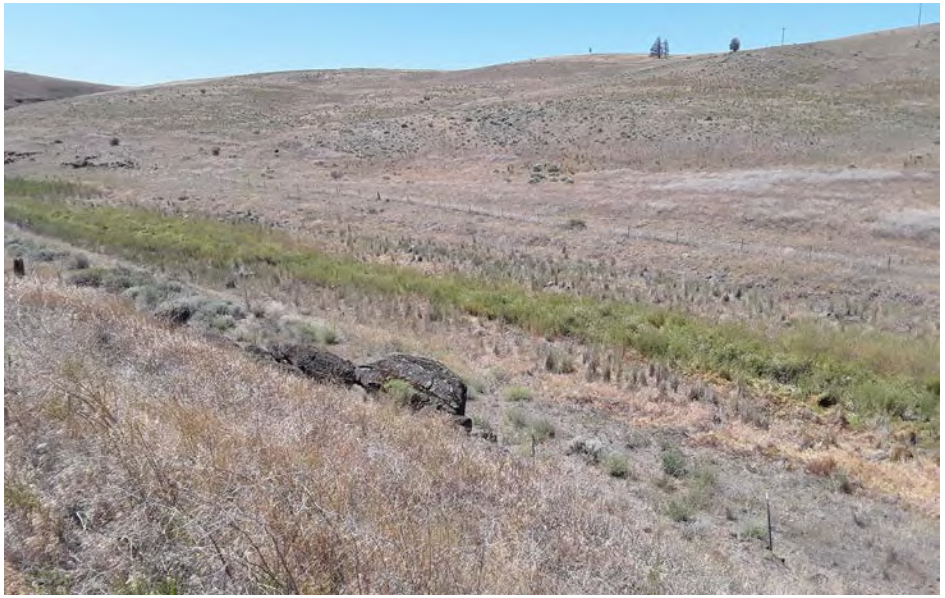

Photo 93. Feature WT-04. Vegetation grows across entire channel. Looking SW. Photo taken 7/6/2020. Lat/Long: -120.6516037, 45.52964401.



Photo 94. Feature WT-03. Wetland sample site at downstream side of road crossing. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.625351, 45.53837585.



Photo 95. Feature WT-08. Obligate plants at edge of running water. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.6352768, 45.53264999.



Photo 96. Feature WT-08. Second channel from pond drains to ditch/wetland. Looking SE. Photo taken 7/6/2020. Lat/Long: -120.6352005, 45.53271103.



Photo 97. Feature WT-08. Vegetation canopies over open running stream. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.6349335, 45.53290939.



Photo 98. Feature WT-08. Sample site. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.6348419, 45.53297806.



Photo 99. Feature WT-08. Overview of WT-08 conditions. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.6345596, 45.53325653.



Photo 100. Feature WT-08. Abandoned pipe in ditch/wetland. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.6340866, 45.53374863.



Photo 101. Feature Culvert. Culvert drains WT-08 under road. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.6339264, 45.53385925.



Photo 102. Feature XBB-48. No bed or banks. Looking SW. Photo taken 7/6/2020. Lat/Long: -120.6338272, 45.5339241.



Photo 103. Feature EPH-14c. Barely discernible drainage at this section of EPH-14. Looking SW. Photo taken 7/6/2020. Lat/Long: -120.6363449, 45.51947784.



Photo 104. Feature EPH-14c. Erosion from road at head of where discernible channel EPH14c begins. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.6359177, 45.51850128.



Photo 105. Feature Culvert. Wetland/stream goes through culvert and flows out of project area. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.7079086, 45.49441528.



Photo 106. Feature Culvert. Southwest side of culvert. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.7081223, 45.49426651.



Photo 107. Feature WT-07. Sample site. Looking NE. Photo taken 7/6/2020. Lat/Long: -120.707901, 45.49449158.



Photo 108. Feature WT-07. Sample site. Looking E. Photo taken 7/6/2020. Lat/Long: -120.7079315, 45.49449539.



Photo 109. Feature ST-01. Wetland fringe about 1 foot wide. Looking SE. Photo taken 7/6/2020. Lat/Long: -120.6256256, 45.53858948.



Photo 110. Feature WT-03. Sample site. Looking E. Photo taken 7/7/2020. Lat/Long: -120.6253967, 45.53834534.



Photo 111. Feature WT-08. Sample site. Looking NE. Photo taken 7/7/2020. Lat/Long: -120.6348267, 45.53299332.



Photo 112. Feature XBB-49. No bed or banks, soil is very rocky. Looking SW. Photo taken 7/7/2020. Lat/Long: -120.6445007, 45.52259064.



Photo 113. Feature XBB-50. No bed or banks. Orthoimage showed possible drainage. Looking SW. Photo taken 7/13/2020. Lat/Long: -120.7117615, 45.50942612.



Photo 114. Feature XBB-51. No bed or banks. Looking NW. Photo taken 7/13/2020. Lat/Long: -120.7086792, 45.50674057.



Photo 115. Feature XBB-52. No bed or banks on this side of the culvert. Looking E. Photo taken 7/13/2020. Lat/Long: -120.7084656, 45.49467468.



Photo 116. Feature WT-07. Overview of WT-07. Looking NE. Photo taken 7/13/2020. Lat/Long: -120.7079544, 45.49441528.

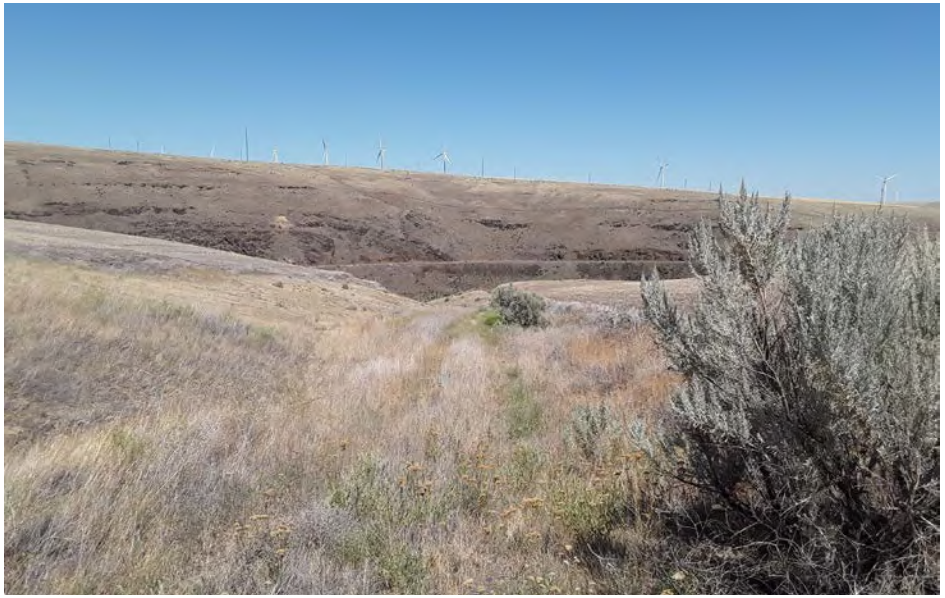

Photo 117. Feature XBB-53. No bed or banks. Looking N. Photo taken 7/13/2020. Lat/Long: -120.7117081, 45.50334167.



Photo 118. Feature EPH-16. Ephemeral drainage is barely discernible. Looking N. Photo taken 7/13/2020. Lat/Long: -120.7107544, 45.50289154.



Photo 119. Feature EPH-16. Ephemeral drainage is barely discernible. Looking SE. Photo taken 7/13/2020. Lat/Long: -120.707695, 45.50088882.



Photo 120. Feature UP-04. No bed or banks. Looking SE. Photo taken 7/13/2020. Lat/Long: -120.7081833, 45.49426651.



Photo 121. Feature XBB-54. No bed or banks. Looking NE. Photo taken 4/17/2020. Lat/Long: -120.748642, 45.58884811.



Photo 122. Feature XBB-55. Swale, no bed or banks. Looking SW. Photo taken 4/17/2020. Lat/Long: -120.7457809, 45.58583832.



Photo 123. Feature UP-05. No bed or banks. Looking E. Photo taken 4/17/2020. Lat/Long: -120.7486343, 45.52360153.



Photo 124. Feature UP-05. No bed or banks. Looking W. Photo taken 4/17/2020. Lat/Long: -120.7484589, 45.52362442.