

Final
Habitat Mitigation Plan
for the Golden Hills Wind Farm

Prepared for:
Golden Hills Wind Farm, LLC

March 2022

Amended April July August 2024

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1.0 Introduction

Golden Hills Wind Farm, LLC (Certificate Holder) holds a Site Certificate from the Oregon Energy Facility Siting Council (Council) authorizing the construction and operation of the Golden Hills Wind Farm (Facility) in Sherman County, Oregon. This Habitat Mitigation Plan (HMP) is intended to comply with Site Certification Condition PRE-FW-01 regarding the Certificate Holder's obligation to mitigate for temporary and permanent impacts on wildlife habitat as a result of the Facility. Condition PRE-FW-01 references a "Habitat Mitigation and Revegetation Plan," which was a plan to address both habitat restoration in the construction area plus offsite habitat mitigation; however, the Certificate Holder has elected to split these topics into two plans for ease of implementation. The Revegetation Plan (May 2021) addresses restoration methods to temporarily disturbed areas and monitoring of areas within the construction site, and this Habitat Mitigation Plan addresses habitat mitigation, habitat enhancements, and long-term monitoring of the off-site mitigation area. Both plans rely on the habitat assessments completed for the construction area in 2020 (Appendix A), as required by condition PRE-DC-02 (Tetra Tech 2020a, Tetra Tech 2020b).

As described in the Final Order, the Certificate Holder agrees to mitigate for habitat impacts associated with the temporary and temporal loss of habitat, as well as permanent habitat impacts. Temporary impacts are generally associated with areas disturbed by construction activities that will be restored at the end of construction, such as construction workspace and staging areas, crane walks, underground electric cable trenches, and workspace around each turbine and transmission line structure. Restoration and monitoring of such temporarily impacted areas at the Facility are addressed in the Revegetation Plan (Tetra Tech 2021). Permanent habitat impacts are those associated with the footprint of facilities, such as roads, turbines, substation, and transmission line structures. Permanent impacts may also include areas that were used for temporary workspace and revegetated but fail to recover after 5 years.

This HMP addresses mitigation for such permanent disturbances and for the temporal loss of select areas of temporarily impacted habitat. This HMP describes how enough mitigation will be developed to meet the mitigation goals of the Oregon Energy Facility Siting Council's (EFSC) Fish and Wildlife Habitat standard in Oregon Administrative Rules (OAR) 345-022-0060, which implements the Oregon Department of Fish and Wildlife's (ODFW) Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0000 through 0025).

2.0 Habitat Impacts

As required by Condition PRE-DC-02, the Certificate Holder conducted pre-construction habitat assessments in 2020 to update and field verified the habitat subtypes and habitat categories of all areas that could be affected by construction of the Facility (Appendix A). Nearly 95 percent of the Facility's project area is composed of agricultural lands used for dry-land wheat farm; these areas are considered Category 6 habitat that do not require compensatory habitat mitigation. Remaining

habitats are remnant patches of grassland and shrub steppe habitat of varying quality (e.g., categories 2, 3, 4, and 5). There is no Category 1 habitat in the project area.

This HMP presents habitat impacts based on the final design of permanent facilities plus areas of temporary disturbances estimated by the construction contractor (i.e., “limits of disturbances”), but actual impacts may vary; therefore, the Certificate Holder will use the as-built drawings of actual impacts to determine final habitat mitigation needs. As-built drawings will be provided within 90 days of commercial operation per condition OPR-LU-02, and final habitat mitigation acreages will be reported in the first annual report.

The Certificate Holders estimates that construction of the Facility may result in 751.6 acres of temporary disturbances and 89.3 acres of permanent impacts, which is about 43 acres less than previously described in the Final Order on RFA3 for permanent impacts (Table 1; EFSC 2017).

Table 1. Facility Habitat Impacts by Category

Category and Description		Temporary Impacts (acres)		Permanent Impacts (acres)	
Type	Subtype	Final Order ¹	Final Design	Final Order ¹	Final Design
Category 2					
Agriculture – Planted Grasslands	PG	0.0	0.3	0.0	0.1
Riparian Forest and Natural Shrubland Complexes – Eastside (interior) Riparian	RI	2.0	0.0	0.0	0.0
Wetlands – Emergent Wetlands	EW	0.0	0.2	0.0	0.0
Shrub-Steppe – Sagebrush/Shrub-Steppe	SSS	0.9	0.4	0.0	0.3
Grassland-Steppe – Grassland	GR	0.0	0.0	0.0	0.0
Category 2 - Subtotal		2.9	0.8	0.0	0.4
Category 3					
Agriculture – Planted Grasslands	PG	17.2	0.0	1.3	0.0
Riparian Forest and Natural Shrubland Complexes – Eastside (interior) Riparian	RI	0.0	1.0	0.0	0.0
Shrub-Steppe – Sagebrush/Shrub-Steppe	SSS	< 0.1	0.2	0.0	0.0
Grassland-Steppe – Grassland	GR	39.8	0.0	4.2	0.0
Category 3 - Subtotal		57.0	1.2	5.5	0.0
Category 4					
Agriculture – Planted Grasslands	PG	0.0	2.6	0.0	1.1
Open Water – Lakes, Rivers, Streams Intermittent or Ephemeral	IES	0.0	< 0.1	0.0	0.0
Shrub-Steppe Sagebrush/Shrub-Steppe	SSS	0.0	1.2	0.0	0.5
Grassland-Steppe – Grassland	GR	6.5	19.8	0.1	0.2

Category and Description		Temporary Impacts (acres)		Permanent Impacts (acres)	
Type	Subtype	Final Order ¹	Final Design	Final Order ¹	Final Design
Riparian Forest and Natural Shrubland Complexes – Eastside (interior) Riparian	RI	0.0	0.0	0.0	0.0
Category 4 - Subtotal		6.5	23.6	0.1	1.9
Category 5					
Agriculture – Planted Grasslands	PG	0.0	1.9	0.0	0.1
Open Water – Lakes, Rivers, Streams Intermittent or Ephemeral	IES	0.0	0.0	0.0	0.0
Shrub-Steppe – Sagebrush/Shrub-Steppe	SSS	0.0	< 0.1	0.0	0.0
Grassland-Steppe – Grassland	GR	0.0	4.0	0.0	< 0.1
Category 5 - Subtotal		0.0	5.8	0.0	0.1
Category 6					
Agriculture – Non-Irrigated Cropland, Developed – Developed	NIC/DE	1000.2	720.1	126.7	86.9
Category 6 - Subtotal		1000.2	720.1	126.7	86.9
Grand Total		1066.6	751.6	132.3	89.3
1. EFSC 2017.					

For temporary impacts there will be a temporal loss of habitat function, as it will take time to restore habitats to a pre-impact level of habitat function. The Certificate Holder will provide compensatory habitat mitigation to account this temporal loss of habitat function for habitat types that are expected to take at least 5 years to recovery. Based on pre-construction surveys, the habitat subtypes Eastside (interior) Riparian (RI), Planted Grasslands (PG), and Grassland (GR) are reasonably expected to be restored within a shorter duration timeframe (2-3 years) than Sagebrush/Shrub-Steppe (5+ years). Therefore, Eastside Riparian, Planted Grassland, and Grassland habitat subtypes would not be expected to result in temporal loss, but temporary impacts to Sagebrush/Shrub-Steppe habitat would require compensatory mitigation beyond the established revegetation requirements shown in Table 2. Temporary impacts to the remaining Category 2, 3, and 4 habitat subtypes, including Eastside (interior) Riparian, Planted Grasslands, and Grassland would be addressed through required revegetation efforts, as described in the Revegetation Plan. In the event that temporary impacts to Eastside (interior) Riparian, Planted Grasslands, and native Grassland habitat subtypes within Category 3 and 4 habitat are not restored within 5 years following completion of construction, the Oregon Department of Energy (ODOE), in consultation with ODFW, may require compensatory mitigation. Habitat mitigation for temporary impacts are presented in Table 2.

Table 2. Habitat Mitigation for Temporary Impacts

Habitat Description	Temporary Impact (Acres)	Mitigation Ratio (Mitigation: Impact)	Mitigation Area (Acres)
Sagebrush/Shrub-steppe (SSS)			
Category 2	0.4	0.5:1	0.2
Category 3	0.2	0.5:1	0.1
Category 4	2.9	0.5:1	1.5
Mitigation Area Required for Temporal Loss of Sagebrush/Shrub Steppe Habitat =			1.8
Note: All other habitat types will be revegetated to restore to preconstruction condition.			

Construction of the Facility would result in permanent impacts to Category 2, 4, 5, and 6 habitat due to the occupation of habitat by facilities. Based on pre-construction surveys, 0.4 acres of Category 2 habitat, less than 1.9 acres of Category 4, 0.1 acres of Category 5, and 86.9 acres of Category 6 habitat will be permanently disturbed (Table 3). Permanent impacts to Category 2, 4, and 5 habitat will require mitigation. No mitigation will be implemented for impacts on Category 6 developed areas.

To address the permanent loss of Category 2 habitat quality, and to satisfy ODFW's Category 2 habitat mitigation goal of "no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality," the Certificate Holder agrees to enhance or create 40 percent more habitat than disturbed by the project (e.g., a 1.4:1 acre mitigation ratio) within a mitigation area (Table 3). To address the permanent loss of Category 4 habitat, and to satisfy ODFW's Category 4 habitat mitigation goal of "no net loss of either habitat quantity or quality," the Certificate Holder will conserve 0.1 acres of higher-quality Category 2 or 3 habitat (e.g., a 1:1.1 acres mitigation ratio). Category 5 habitat will be mitigated at 1:1 mitigation ratio to achieve a "net benefit in habitat quantity or quality" standard. Conservation and enhancement actions are discussed in Section 3.1.

Table 3. Summary of Estimated Permanent Wildlife Habitat Impacts

Habitat Description	Permanent Impact (Acres)	Mitigation Ratio (Mitigation: Impact)	Mitigation Area (Acres)
Category 2			
Agriculture – Planted Grasslands (PG)	0.1	1.4:1	0.14
Sagebrush/Shrub-Steppe (SSS)	0.3	1.4:1	0.42
Category 2 Total =	0.4	1.4:1	0.6
Category 4			
Planted Grassland (PG)	1.1	1.1:1	1.21
Sagebrush/Shrub-Steppe (SSS)	0.5	1.1:1	0.55

Habitat Description	Permanent Impact (Acres)	Mitigation Ratio (Mitigation: Impact)	Mitigation Area (Acres)
Grassland (GR)	0.2	1:1.1	0.22
Category 4 Total =		1:1.1	2.0
Category 5			
Agriculture – Planted Grasslands (PG)	0.1	1:1	0.1
Mitigation Area Required for Permanent Loss of Category 2 and 4 Habitat =			2.7

The total compensatory mitigation area is 4.5 acres (Table 2 + Table 3) .

3.0 Description of Habitat Mitigation Area

The Certificate Holder will mitigate for habitat impacts at the KBC mitigation area in Gilliam County. The Golden Hills habitat mitigation area will be adjacent to the mitigation areas associated with the Montague Wind Power, Leaning Juniper I & II Wind, and Pebble Springs Wind projects. These mitigation areas combine form a 440-acre area reserved for habitat conservation (Figure 1).

The Certificate Holder has a conservation easement on 12 acres at the KBC mitigation areas within Township 2 South, Range 23 East, and Section 8 (eastern 396 feed of norther one-half of the southeast quarter; 12 acres) for the habitat mitigation related to the Golden Hills. Of the 12 acres in the conservation easement, 4.5 acres are assigned to the habitat mitigation (i.e., Table 2 + Table 3) and 7.5 acres are held in reserve for future use, or to account for discrepancies between the estimated habitat impacts and actual impacts.

In the Application for Site Certificate (Golden Hills 2008), the Golden Hills habitat mitigation site was described as a 20-acre parcel south of the Facility known as the “Miller Property.” However, the Certificate Holder conducted habitat surveys at the Miller Property in 2020 and found that its habitat quality has been seriously degraded in the intervening years due to grazing and weed encroachment. Habitat restoration at the Miller Property has a low likelihood of success and would not meet the mitigation goals outlined in the Final Order. Therefore, the Certificate Holder has transferred the Golden Hills habitat mitigation to the KBC mitigation area, and the conservation easement on the Miller Property has been terminated.

The KBC mitigation area is consistent with EFSC’s Fish and Wildlife Habitat Standard in OAR 345-022-0060 and findings in the Final Order, because it is “in-proximity” habitat being in the same ecoregion (i.e., Columbia Plateau) as the Facility and is “in-kind” habitat mitigation because it contains the same habitat subtypes (e.g., shrub-steppe) as those disturbed at the Facility. In 2021, the Certificate Holder completed a reconnaissance-level of the Golden Hills habitat mitigation area to field verify that the KBC mitigation site has suitable habitat quality and quantity to offset habitat

impacts for the Facility. These survey results are provided as Appendix C, and Section 3.2.1, below, outlines the long-term monitoring for the habitat mitigation area.

3.1 Habitat Mitigation Area Management Actions

The Certificate Holder will implement the following actions to conserve and enhance habitat at the Golden Hills mitigation site.

3.1.1 Conservation Easement

The Golden Hills mitigation area will be held in conservation easement that prohibits development or other land uses (i.e., agricultural) that conflict with habitat conservation. If the Facility is decommissioned, then conservation easement will be terminated, and the land will be returned to the landowner's control.

3.1.2 Grazing Restrictions

The Certificate Holder shall limit grazing within the habitat mitigation area. Minimizing livestock grazing within the mitigation area will facilitate recovery of native bunchgrass and sagebrush in areas where past grazing has occurred, potentially resulting in better vegetative structure and complexity for a variety of wildlife. Reduced livestock grazing may be used as a vegetation management tool.

The parcel is partially fenced but the surrounding parcels are generally not used for cattle grazing. The Certificate Holder will search for evidence of cattle trespass during monitoring and will work with the landowner to address any cattle issues.

3.1.3 Sage Brush Plantings

If, at any time, monitoring results indicate that the survival and growth of sagebrush recruits are not adequate to mitigate Project related impacts, the Department may require supplemental sagebrush planting as originally stipulated in the HMP. If directed by the Department, the Certificate Holder will plant sage brush seedlings within a 0.62 acre of Category 4 shrub steppe habitat. Seeding rates will be up to at 240 seedlings per acre, or 0.1 pounds per acre of pure live seed depending on the needs of the site. Sage brush plantings will be installed within 3 years after the project reaches commercial operation.

3.1.4 Weed Control

The Certificate Holder shall implement a weed control program. Under the weed control program, the Certificate Holder shall monitor the habitat mitigation area to locate weed infestations that are on the current Oregon Department of Agriculture noxious weed list during the years of annual monitoring. The Certificate Holder shall continue weed control monitoring, as needed, for the life of the facility. As needed, the Certificate Holder shall use appropriate methods to control Oregon Department of Agriculture-listed weeds. Weed control will reduce the spread of noxious weeds within the habitat mitigation area and immediate vicinity. The Certificate Holder may consider

weeds to be successfully controlled when weed clusters have been eradicated or reduced to a non-competing level. Weeds may be controlled with herbicides or hand-pulling. The Certificate Holder shall notify the landowner of the specific chemicals to be used on the site and when spraying will occur. To protect locations where young, desirable forbs may be growing, spot-spraying may be used instead of total area spraying.

3.1.5 Wildfire Response

If the habitat mitigation area is burned in a wildfire, then the Certificate Holder will implement a seeding program to restore damaged areas. The Certificate Holder acknowledges that wildfires are natural part of shrub steppe ecology and post-fire restoration actions would focus on reestablishment of native vegetation and control of weeds. Restoration actions would be coordinated with ODOE and described in the Facility's annual report.

3.1.6 Maintenance

This may include such maintenance activities as fence repair, periodic chemical or mechanical weed control, monitoring of improvement success, and re-seeding (in areas where native species establishment falls below the percentages specified in the success criteria described below). The Certificate Holder will manage maintenance activities based on the results of monitoring.

3.2 Monitoring

3.2.1 Pre-Management Inventory

Prior to any management implementation, the Certificate Holder will conduct a habitat inventory of the mitigation parcel, to be conducted by a qualified botanist or revegetation specialist. This person will examine a representative cross-section of plots within the mitigation parcel. The mitigation area habitat assessment will include an analysis and supporting figures, including the following:

- ODFW habitat categories for the entire site;
- Photos representing the habitat at each plot;
- Assessment of dominant plant species at each plot;
- Percentage of vegetative ground cover at each plot;
- Records of any wildfires within the mitigation area and remedial action taken on the entire site;
- Assessment of the presence of invasive weeds on the entire site; and
- Assessment of special status plants and animals within the mitigation area, based on literature review and any recorded observations.

3.2.2 Monitoring Procedures

The Certificate Holder shall hire a qualified investigator (an independent botanist, wildlife biologist, or revegetation specialist) to conduct a monitoring program for the mitigation area. The purpose of this monitoring is to evaluate on an ongoing basis the protection of habitat quality and the results of management actions. The investigator shall monitor the habitat mitigation area ~~semi-annually every other year for the first 10 years of operation, and then every 5 years thereafter~~ until the Facility is decommissioned. If agreed upon by ODOE, after the 10 years of annual monitoring, the Certificate holder may align monitoring intervals to coincide with adjacent certificate holder responsible monitoring sites (i.e. align monitoring for the HMAs for Leaning Juniper II A/B, and Montague Wind, in years divisible by 5). The investigator shall visit the site as necessary to carry out the following monitoring procedures:

1. Assess vegetation cover (species, structural stage, etc.) and progress toward meeting the success criteria. This will be completed primarily through photo-monitoring on an annual basis at permanent photo points.
2. Record environmental factors (such as precipitation at the time of surveys and precipitation levels for the year).
3. Record any wildfire that occurs within the mitigation area and any remedial actions taken to restore habitat quality in the damaged area, if applicable.
4. Assess the success of the weed control program, if applicable, and recommend remedial action, if needed.

The Certificate Holder shall report the investigator's findings and recommendations regarding the monitoring of the mitigation area to ODOE ~~on an annual basis~~ in years in which monitoring is conducted. In the mitigation area report, the Certificate Holder shall describe all habitat mitigation actions carried out during the reporting year. The mitigation area report may be included as part of the annual report on the Facility that is required by the site certificate.

3.2.3 Success Criteria

Mitigation of the permanent and temporal habitat impacts of the Facility may be considered successful if the Certificate Holder protects and enhances sufficient habitat within the mitigation area to meet the ODFW goals of no net loss of habitat in Categories 2, 3 and 4 and a net benefit in habitat quantity or quality for impacts to habitat in Categories 2.

The Certificate Holder may demonstrate improvement of habitat quality based on evidence of indicators such as absence of cattle grazing, more abundant seed production of desirable native bunchgrass, natural recruitment of sagebrush and successful weed control. If the Certificate Holder cannot demonstrate that the habitat mitigation area is trending toward the habitat quality goals described above within 5 years, the Certificate Holder shall investigate the cause of the failure and report the results of the investigation to ODOE within in the monitoring report submitted in the annual report. If the investigation shows that the site is unlikely to reach the required habitat

quality, then the Certificate Holder shall propose an alternate site for Department approval in time for the next planting season. If the investigation shows that the cause of the failure was inadequate implementation of the habitat improvement procedures, then the Certificate Holder shall repeat those procedures and begin post implementation monitoring as before.

ODOE may require other corrective measures and additional monitoring as necessary to ensure that the habitat quantity goals are achieved and maintained.

4.0 Amendment of the Plan

This HMP may be amended from time to time by agreement of the Certificate Holder and ODOE. For example, the Certificate Holder may change the acreage of compensatory mitigation to account for changes in the facility design or add mitigation if revegetated in portions of the construction site are unsuccessful. Such amendments may be made without amendment of the Site Certificate. EFSC authorizes ODOE to agree to amendments to this plan. ODOE may elect to notify EFSC of amendments, and seek EFSC's approval, rejection, or modification of an amendment of this plan agreed to by ODOE.

5.0 References

EFSC (Oregon Energy Facility Siting Council). 2017. Final Order on the Request for Contested Case and Amendment No. 3 of the Site Certificate for the Golden Hills Wind Project. February 2017.

EFSC 2018. Final Order on the Request for Contested Case and Amendment No. 5 of the Site Certificate for the Golden Hills Wind Project. October 2018.

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

Tetra Tech (Tetra Tech, Inc.). 2020a. Golden Hills Spring 2020 Pre-Construction Habitat Survey (PRE-DC-02, PRE-FW-01, PRE-FW-04). May 2020. Prepared for Golden Hills Wind Farm, LLC.

Tetra Tech. 2020b. Golden Hills Wind Farm Habitat Survey Report. November 2020. Prepared for Golden Hills Wind Farm, LLC.

Tetra Tech. 2021. Final Revegetation Plan for Golden Hills Wind Farm Facility. February 2021. Prepared for Golden Hills Wind Farm, LLC.

Figures

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Appendix B. KBC Conservation Easement

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Appendix C. MB&G Habitat Mitigation Area Survey Report

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