CARTY GENERATING STATION – PROPOSED ORDER ON REQUEST FOR SITE CERTIFICATE AMENDMENT 4

To:	Oregon Energy Facility Siting Council
From:	Chase McVeigh-Walker, Senior Siting Analyst
Date:	October 30, 2026
Re:	Proposed Order on Request for Amendment 4 of the Carty Generating Station Site Certificate

Certificate Holder:	Portland General Electric Company (PGE)
Operational Facility:	Carty Generating Station is an operational 450 megawatt (MW) natural gas-fueled combined-cycle unit (Unit 1). The site boundary encompasses approximately 4,997 acres.
Proposed Amendment:	Expand the site boundary by 252 net acres to construct and operate a 200 MW solar photovoltaic power generation facility within a 901.9-acre (1.41 sq. miles) micrositing area separated into northern and southern solar areas. Add related or supporting facilities including a 200 MW battery energy storage system, and amend site certificate conditions.
Facility Site Location:	North Morrow and North Gilliam counties
Staff Recommendation:	The Oregon Department of Energy (Department) recommends that the Energy Facility Siting Council (EFSC or Council) find that Portland General Electric Company (PGE) (Certificate Holder) demonstrates that, based on a preponderance of evidence on the record, the facility as amended, complies with all applicable laws and Council standards.

BEFORE THE
ENERGY FACILITY SITING COUNCIL
OF THE STATE OF OREGON

In the Matter of Request for Amendment 4 of the Carty Generating Station Site Certificate	))))	PROPOSED ORDER

October 30, 2026

Table of Contents

I. INTRODUCTION 1
I.A. SITE CERTIFICATE PROCEDURAL HISTORY 2
I.B. NAME AND ADDRESS OF CERTIFICATE HOLDER 3
I.C. OPERATIONAL FACILITY DESCRIPTION 3
I.C.1. Energy Facility Description 3
I.C.2. Facility Location and Site Boundary 4
I.D. REQUESTED AMENDMENT 6
I.D.1. Amended Site Boundary and Facility Layout 9
I.D.2. Proposed Solar Photovoltaic Power Generation Facilities 11
I.D.3. Proposed Related or Supporting Facilities 13
I.D.4. Construction Commencement and Completion Deadlines 15
I.D.5. RFA4 Proposed Changes to Site Certificate Conditions 15
II. COUNCIL REVIEW PROCESS FOR AMENDMENTS 16
II.A. SCOPE OF COUNCIL REVIEW: OAR 345-027-0375 16
II.B. AMENDMENT PROCESS 16
II.B.1. Request for Amendment 16
II.B.2. Proposed Order 20
II.B.3. Draft Final Order 21
II.B.4. Final Order 21
III. EVALUATION OF COUNCIL STANDARDS 23
III.A. GENERAL STANDARD OF REVIEW: OAR 345-022-0000 23
III.A.1. Findings of Fact 24
III.A.2. Conclusions of Law 27
III.B. ORGANIZATIONAL EXPERTISE: OAR 345-022-0010 27
III.B.1. Findings of Fact 28
III.B.2. Conclusions of Law 33
III.C. STRUCTURAL STANDARD: OAR 345-022-0020 33
III.C.1. Findings of Fact 34
III.C.2. Conclusions of Law 38
III.D. SOIL PROTECTION: OAR 345-022-0022 38
III.D.1. Findings of Fact 38

III.D.2. Conclusions of Law 47
III.E. LAND USE: OAR 345-022-0030 47
III.E.1. Findings of Fact 49
III.E.2. Conclusions of Law 86
III.F. PROTECTED AREAS: OAR 345-022-0040 87
III.F.1. Findings of Fact 88
III.F.2. Conclusions of Law 92
III.G. RETIREMENT AND FINANCIAL ASSURANCE: OAR 345-022-0050 92
III.G.1. Findings of Fact 92
III.G.2. Conclusions of Law 100
III.H. FISH AND WILDLIFE HABITAT: OAR 345-022-0060 101
III.H.1. Findings of Fact 101
III.H.2. Conclusions of Law 115
III.I. THREATENED AND ENDANGERED SPECIES: OAR 345-022-0070 115
III.I.1. Findings of Fact 115
III.I.2. Conclusions of Law 118
III.J. SCENIC RESOURCES: OAR 345-022-0080 118
III.J.1. Findings of Fact 119
III.J.2. Conclusions of Law 123
III.K. HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES: OAR 345-022-0090 123
III.K.1. Findings of Fact 123
III.K.2. Conclusions of Law 126
III.L. RECREATION: OAR 345-022-0100 126
III.L.1. Findings of Fact 127
III.L.2. Conclusions of Law 130
III.M. PUBLIC SERVICES: OAR 345-022-0110 130
III.M.1. Findings of Fact 130
III.M.2. Conclusions of Law 137
III.N. WILDFIRE PREVENTION AND RISK MITIGATION: OAR 345-022-0115 137
III.N.1. Findings of Fact 138
III.N.2. Conclusions of Law 149
III.O. WASTE MINIMIZATION: OAR 345-022-0120 149
III.O.1. Findings of Fact 150

III.O.2. Conclusions of Law 153
III.P. SITING STANDARDS FOR TRANSMISSION LINES – OAR 345-024-0090 154
III.P.1. Findings of Fact 154
III.P.2. Conclusions of Law 155
IV. EVALUATION OF OTHER APPLICABLE REGULATORY REQUIREMENTS 156
IV.A. Noise Control Regulations: OAR 340-035-0035 156
IV.A.1. Findings of Fact 157
IV.A.2. Conclusions of Law 160
IV.B. Removal-Fill 160
IV.B.1. Findings of Fact 160
IV.B.2. Conclusions of Law 161
IV.C. Water Rights 161
IV.C.1. Findings of Fact 161
IV.C.2. Conclusions of Law 162
V. PROPOSED CONCLUSIONS AND ORDER 163

TABLES

Table 1: Operational Facility Components 3
Table 2: Proposed Solar Facility Components 6
Table 3: Reviewing Agency Comments on pRFA4 18
Table 4: Proposed Order Public Comment Process and Deadlines 20
Table 5: NRCS Soil Types in RFA4 Analysis Area 40
Table 6: Morrow County Applicable Substantive Criteria 50
Table 7: Protected Areas in RFA4 Analysis Area 89
Table 8: Facility Proposed in RFA4 Decommissioning Tasks and Cost Estimate 95
Table 9: Habitat Categorization and Corresponding Mitigation Requirements 104
Table 10: RFA4 Estimated Habitat Impacts and Mitigation Needs 107
Table 11: Scenic Resources in Analysis Area 120
Table 12: Recreational Opportunities in the Analysis Area 128
Table 13: Electric and Magnetic Field Modeling Results for the proposed 34.5 kV Collector Line 155
Table 14: Statistical Noise Limits for Industrial and Commercial Noise Sources 157

FIGURES

Figure 1: Approved Site Boundary and Vicinity 5
Figure 2: RFA4 Requested Changes to Site Boundary 8
Figure 3: Preliminary Site Plan of Facility Proposed in RFA4 10
Figure 4: Seismic Risks in Analysis Area 36

Figure 5: Non-Seismic Risk of Flood or Landslides 37
Figure 6: Land Use Zones within the Analysis Area 51
Figure 7: Protected Areas Within the Analysis Area 91
Figure 8: Habitat Types and Categories within the Analysis Area 103
Figure 9: Proposed Habitat Mitigation Area 110
Figure 10: Scenic Resources within RFA4 Analysis Area 122
Figure 11: Recreational Resources within RFA4 Analysis Area 129
Figure 12: Overall Wildfire Risk 142
Figure 13: Morrow County WUIs with Coal Fire WUI 144
Figure 14: Noise Sensitive Receptors and Modeled Operational Noise 159

ATTACHMENTS

Attachment A: Draft Fourth Amended Site Certificate
Attachment B: Reviewing Agency Comments on pRFA4
Attachment C-1: Draft Construction Vegetation and Soil Management Plan
Attachment C-2: Draft Operational Vegetation and Soil Management Plan
Attachment D-1: Draft Habitat Mitigation Plan
Attachment D-2: Draft Amended Wildlife Habitat Monitoring and Mitigation Plan
Attachment E: Draft Inadvertent Discovery Plan
Attachment F: Retirement Cost Estimate
Attachment G-1: Draft Construction Wildfire Mitigation Plan
Attachment G-2: Draft Operational Wildfire Mitigation Plan

ABBREVIATIONS AND ACRONYMS

ACEC	Area of Critical Environmental Concern
APP	Avian Protection Plan
AVA	American Viticulture Area
BCP	Boardman Coal Plant
BESS	battery energy storage system
BLM	Bureau of Land Management
BMP	Best Management Practices
CSZ	Cascadia Subduction Zone
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
CUP	Conditional Use Permit
CWPP	Community Wildfire Protection Plan
dBA	A-weighted decibel
Department	Oregon Department of Energy
DEQ	Oregon Department of Environmental Quality
DSL	Department of State Lands
EFSC	Energy Facility Siting Council
EFU	Exclusive Farm Use
ESCP	Erosion Sediment Control Plan
Final Order on ASC	Final Order on the Application for Site Certificate
FM	fuel model
gpd	gallons per day
HMA	Habitat Mitigation Area
HMP	Habitat Mitigation Plan
HPRCSIT	Historic Property of Religious and Cultural Significance to Indian Tribes
HVAC	Heat, Ventilation and Air Conditioning
IDP	Inadvertent Discovery Plan
ISU	Inverter Step up
kV	kilovolt
LCDC	Oregon Land Conservation and Development Commission
MCZO	Morrow County Zoning Ordinance
MG	Industrial Zone
Mgal	Million gallons
MSCCAA	Multi-Species Candidate Conservation Agreement with Assurances
MW	Megawatt
NOAA	National Oceanic Atmospheric Association
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	Noise sensitive receptor
O&M	Operations and Maintenance

ABBREVIATIONS AND ACRONYMS

ODAg	Oregon Department of Agriculture
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
ONHT	Oregon National Historic Trail
OPUC	Oregon Public Utilities Commission
OWRD	Oregon Water Resources Department
PGA	peak ground acceleration
PGE	Portland General Electric, Certificate Holder
PV	photovoltaic
RAI	Request for Additional Information
RFA4	Request for Amendment 4
RNA	Research Natural Area
ROW	Right-of-Way
SAG	Special Advisory Group
SCADA	Supervisory Control and Data Acquisition System
T&E	Threatened and Endangered
USFWS	United States Fish and Wildlife Service
VSMP	Vegetation and Soil Management Plan
WGS	Washington Ground Squirrel
WHMMP	Wildlife Habitat Monitoring and Mitigation Plan
WMP	Wildfire Mitigation Plan
WPCF	Water Pollution Control Facility
WUI	Wildland Urban Interface

I. INTRODUCTION

On October 29, 2026, Pacific General Electric Company (Certificate Holder), filed Request for Amendment 4 of the Site Certificate for the Carty Generating Station (RFA4).

As described below, the Carty Generating Station (facility) is an operational 450 megawatt (MW), combined-cycle natural gas-fueled electric generating power plant (Unit 1). The facility is located within an overall site boundary of approximately 4,997 acres within northern Morrow and Gilliam counties. RFA4 activities are limited to portions of the site boundary located within Morrow County. RFA4 does not propose any changes to Unit 1.

As described in Section II of this Order, RFA4 seeks authorization from the Energy Facility Siting Council (EFSC or Council) to:

1. Increase and amend the approved site boundary by 252 net acres, from 4,997 acres to approximately 5,249 acres by expanding further into the former Boardman Coal Plant site boundary. A small portion of the existing site boundary would also be removed.
2. Construct and operate solar photovoltaic power generation components[1] within the approved and expanded site boundary to be constructed in two separate locations, one south of the Carty Reservoir (Southern Solar Area) and the other to the north of the Carty Reservoir (Northern Solar Area). The northern portion is proposed mostly within the footprint of the former Boardman Coal Plant and the southern area includes the former BCP ash disposal site. Solar photovoltaic power generation components would use, occupy or cover up to 860 acres (1.3 sq. miles).
3. Add new related or supporting facilities including: a Battery Energy Storage System (BESS)[2], an above and below ground 34.5 kilovolt (kV) collector line system, a new 34.5-kV to 500-kV step up collector substation, a new operations and maintenance (O&M) building, approximately 9.9 miles of new access roads, and approximately 14.7 miles of 8-foot, chain-link perimeter fencing.
4. Amend existing site certificate conditions related to RFA4 proposed changes (See RFA4 Attachment 1).

In accordance with OAR 345-027-0365, the Oregon Department of Energy (Department), as staff to the Energy Facility Siting Council (EFSC or Council), issues this Proposed Order recommending approval of the Request, subject to the recommended new site certificate conditions set forth in this Order. This Order, and the analysis and recommendations contained therein do not constitute a final determination by the Council.

[1] RFA4 proposed 200 MW of solar power generation within this footprint, bringing the overall facility generating capacity to 650 MW. The MW generating capacity for solar facilities is for informational purpose and is not a limiting factor that, if changed or increased based on construction of facility components, would trigger an amendment. See ORS 469.300(12)(a)(D).

[2] RFA4 proposes 200 MW of BESS capacity over an undefined time period (i.e., proposed MW-hours are not specified)

I.A. SITE CERTIFICATE PROCEDURAL HISTORY

The Council issued its *Final Order on the Application for Site Certificate for the Carty Generating Station (Final Order on ASC)* on June 29, 2012. The site certificate became effective on July 2, 2012. The final order authorized the construction and operation of a natural gas fuel combined-cycle generating plant producing up to 900 megawatts (MW) of electrical power, and related or supporting facilities.

On December 14, 2018, Council issued its *Final Order on Amendment 1* and granted an amended site certificate on December 14, 2018, which approved the construction and operation of a 50 MW photovoltaic solar unit, construction and operation of a 34.5 kilovolt (kV) interconnection transmission line, five interconnection transmission line routing options and three interconnection options, use of temporary construction laydown and parking areas, removal of reference to previously approved but not yet constructed Unit 2 and its associated components and related or supporting facilities, site boundary modification (reduction from 3,800 to 1,581 acres), amendment to the Water Pollution Control Facilities (WPCF) Permit, and condition amendments. As such, no additional natural gas generation capacity beyond Unit is authorized by the site certificate. The deadlines to commence and complete construction were February 4, 2022 and February 4, 2025 respectively, unless extended.

On November 19, 2020, Council issued its *Final Order on Amendment 2* and granted an amended site certificate on December 09, 2020, which approved a site boundary change; incorporated shared infrastructure and existing facilities from the Boardman Coal Plant ([BCP], prior to BCP decommissioning); construction of new infrastructure; and amendment of the WPCF permit. Components approved in the Final Order on Amendment 2 that have been constructed include the Carty Substation and onsite septic system; components not yet constructed include the security guard station, office, and warehouse.

On July 22, 2023 the Council issued its *Final Order on Amendment 3* (Final Order on AMD3) and granted an amended site certificate (issued August 7, 2023) to approve the change of construction start and completion dates for the solar facility authorized in RFA1 to Feb 4, 2025 and Feb 4, 2028, respectively. Construction of the solar facility did not commence by the Feb 4, 2025 deadline and the Department did not receive a subsequent request for deadline extension, so authorization to construct the facility components described in RFA1 has expired, as have the Site Certificate conditions associated with them.

On February 16, 2024 the Certificate Holder submitted RFA4 requesting to amend the site boundary, expand and increase solar generation capacity of solar facility components authorized in RFA1, add new related or supporting facilities including battery storage, and changes to existing site certificate conditions. Since the initial submission date, characterization of the project has changed. Because authorization to construct the RFA1 solar facility has lapsed, RFA4 no longer represents an addition to that facility; it encompasses the entirety of the proposed solar facility at the site. On October 29, 2026, the Certificate Holder submitted a complete RFA4 that reflects that change. As such, this order evaluates the entirety of the

proposed solar facility, including areas and components that were previously evaluated and approved in RFA1.

I.B. NAME AND ADDRESS OF CERTIFICATE HOLDER

Portland General Electric Company
121 SW Salmon Street, 3WTC0403
Portland, OR 97204

Individual responsible for submitting this amendment request:

Forrest Carithers
Senior Director, Environmental Health and Safety
Portland General Electric Company
121 SW Salmon Street, 3WTC0403
Portland, OR 97204
972-400-2936
Forrest.Carithers@pgn.com

I.C. OPERATIONAL FACILITY DESCRIPTION

I.C.1. Energy Facility Description

Carty Generating Station is an operational, 450-MW natural-gas-fueled generating unit (Unit 1) consisting of one high efficiency combustion turbine generator, and its associated components including a heat recovery steam generator, steam turbine generator, natural-gas fueled auxiliary boiler, and cooling tower cell.

Table 1: Operational Facility Components

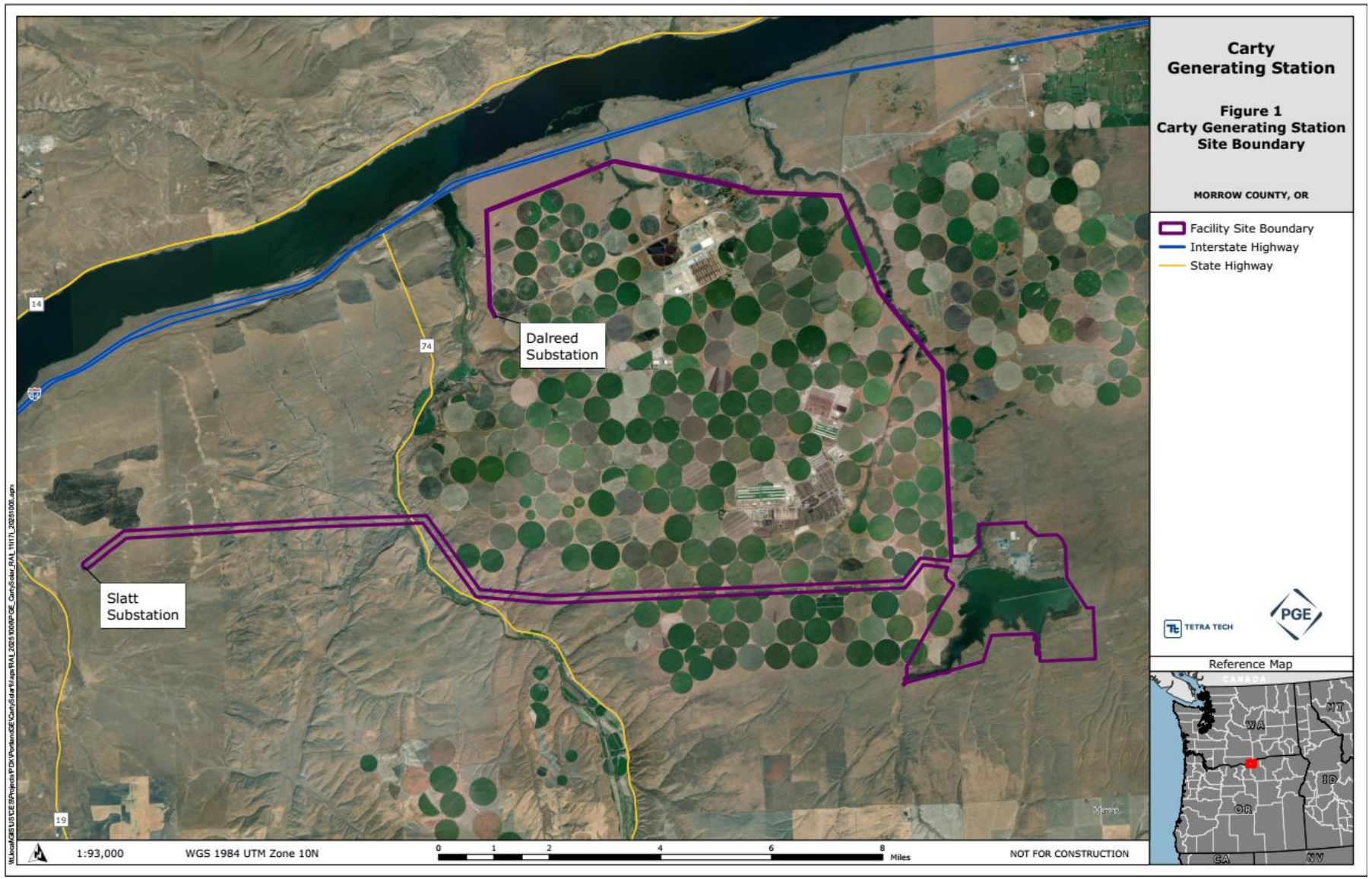
Component and Design Standard	Approved Facility	
	No.	Unit
Site Boundary		
Site Boundary	4,997	acres
Natural gas fueled combined-cycle electric generating turbine		
Generating capacity	450	MW
High efficiency combustion turbine generator	1	Each
Heat recovery steam generator	1	Each
Steam turbine generator	1	Each
Cooling tower	1	Each
Carty Reservoir and portions of the raw water intake system		
400-gallon sodium hypochlorite tank	1	Each
1,100-gallon anti-scalant	1	Each

Component and Design Standard	Approved Facility	
	No.	Unit
400-gallon sodium hypochlorite tote	1	Each
500-kV transmission line (Unit 1 to the Grassland Switchyard)		
Length	1	Mile
Support Structures (steel lattice)	4	Each
Max Height of Support Structures	150	feet
500-kV transmission line (Grassland Switchyard to Slatt Substation)		
Length	17	Miles
230-kV transmission line (the Carty Substation to the Dalreed substation)		
Length	16	Miles
Grassland Switchyard	8.5	acres

I.C.2. Facility Location and Site Boundary

As shown in Figure 1 below, the approved site boundary is approximately 4,997 acres of land in Gilliam and Morrow counties, Oregon. The facility is located southwest of the City of Boardman and adjacent to the Carty Reservoir, in the following Public Land Survey System sections: Township 2 north, Range 24 east, Sections 2, 3, 4, 5, 8, 9, 10, and 11; and Township 3 north, Range 24 east, Sections 32, 33, 34, and 35, Willamette Meridian.

Figure 1: Approved Site Boundary and Vicinity



I.D. REQUESTED AMENDMENT

In RFA4, the Certificate Holder seeks authorization to increase the approved site boundary by 252 acres, from 4,997 acres to approximately 5,249 acres, to construct and operate a 200 MW solar photovoltaic power generation facility in two separate solar areas. The Certificate Holder proposes new related or supporting facilities including a Battery Energy Storage System (BESS) with up to 200 MW discharge capacity, applying uniform construction commencement and completion dates, and the addition and modification of site certificate conditions. The dimensions and specifications for the facility components proposed in RFA4 are summarized in Table 2 below. The entirety of the portion of the facility considered in RFA4 is in Morrow County.

Under OAR 345-025-0006(3) the Certificate Holder must design, construct, operate and retire the facility substantially as described in the site certificate. The following sections are provided in the Draft Amended Site Certificate included as Attachment A to this order.

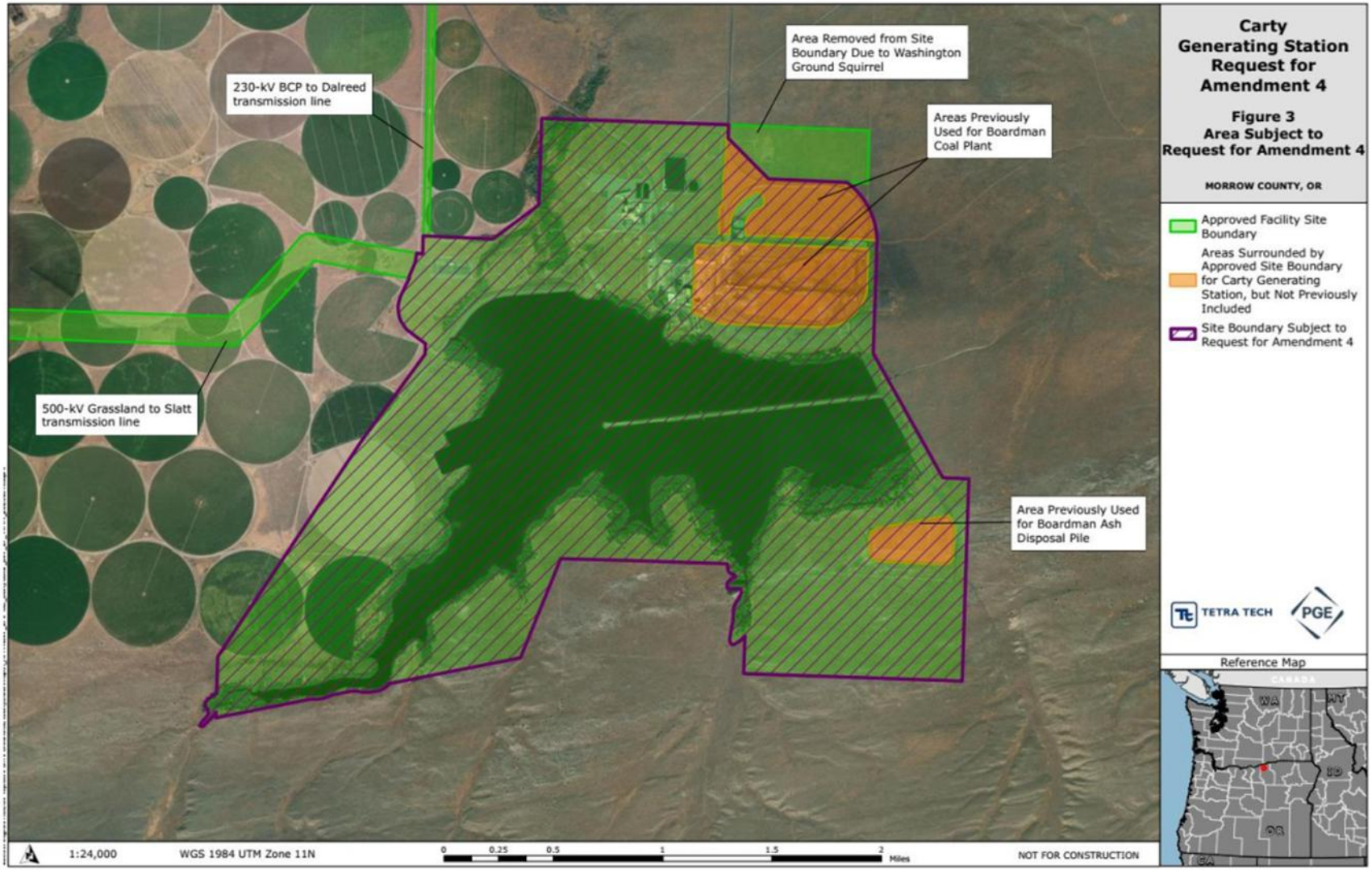
Table 2: Proposed Solar Facility Components

Component	**Number**	**Unit**
Site Boundary	5,249	Acres
Solar micrositing area	901.9	Acres
Solar Facility Footprint	859.9	Acres
PV Solar Facility		
Approx. Module number	390,879	Each
Approx. Solar Panel number	390,879	Each
Max Height at full-tilt	12	Feet
Solar Module Strings	14,477	Strings
modules per string	27	Modules per string
Inverters/Step-up Transformer Units		
Total number	44	Each
Transformer Oil	640	Gallons/per transformer
Racking Systems		
Single Axis Trackers (max height)	12	Feet
Fixed Tilt System (Max height)	12	Feet
Foundations		
Posts	72,000	Posts
Posts Max height	5	Feet
Concrete ballast (if fixed tilt)	9,750	Posts
Combiner Boxes		
Approx. Total number	660	Each
34.5 kV Collection System		
Collector line length, aboveground	2	Miles
Maximum Pole Height	70	Feet

Table 2: Proposed Solar Facility Components

Component	Number	Unit
Collector line length, underground	25	Miles
Collector Substation		
Size	3.2	Acres
500 kV Substation Connector Line		
Length	300	Feet
Generator Step Up Transformer		
Total number	1	Each
BESS		
BESS Yard Size	6.2	Acres
Battery Containers (of Battery Containers on foundations with integrated inverters, HVAC and fire suppression systems, SCADA		
Approx. Number of BESS Containers	330	Each
Approx. Number of BESS Inverters	58	Each
Approx. Dimensions (HxWxL)	10x6x33	Feet
Noise level during discharge	96	dBA
Approx. Number of ISU Transformers	30	
ISU Transformer Height	10	Feet
ISU Transformer Noise Level	97	dBA
ISU Transformer oil-containing capacity	640	Gallons
Operations and Maintenance Building		
Size	20,000	Square feet
Perimeter Fence		
Length	14.7	Miles
Height	11	Feet
Roads - Solar		
length	9.9	Miles
width	14	Feet
Temporary Construction Area		
Size	21.4	acres

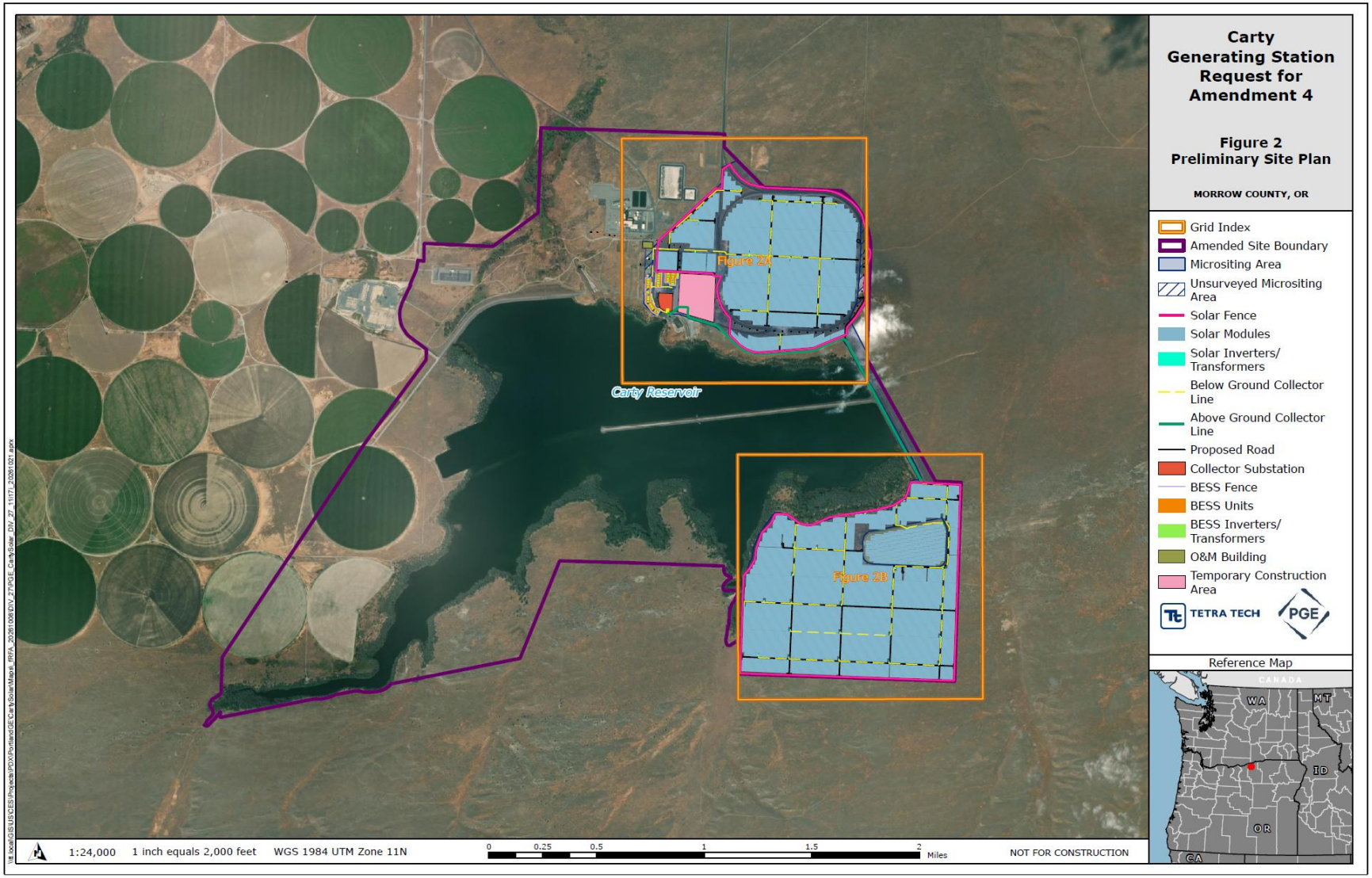
Figure 2: RFA4 Requested Changes to Site Boundary



I.D.1. Amended Site Boundary and Facility Layout

RFA4 proposes to increase and amend the approved site boundary by 252 acres, from 4,997 acres to approximately 5,249 acres, expanding into the former Boardman Coal Plant site boundary and maximizing the buildable area southeast of Carty Reservoir. A small portion of the existing site boundary would also be removed. RFA4 proposes to add 859.9 acres of solar photovoltaic power generation equipment within a 901.9-acre micrositing area in the amended site boundary to be constructed in two separate locations, one south of the Carty Reservoir (Southern Solar Area) and the other to the north of the Carty Reservoir (Northern Solar Area). The micrositing area and preliminary solar layout for the Northern and Southern solar areas and the locations for the BESS, proposed collector substation, and connection between the proposed substation and existing dead-end structure are shown below on Figure 3.

Figure 3: Preliminary Site Plan of Facility Proposed in RFA4



I.D.2. Proposed Solar Photovoltaic Power Generation Facilities

As described above, RFA4 proposes to add a 200 MW solar photovoltaic power generation component to the existing facility, increasing overall facility generating capacity from 450 MW to 650 MW. Solar photovoltaic power generation facilities typically consist of solar modules, racking systems, posts/piles, and related electrical equipment (i.e., inverters and transformers). These components are combined to form a solar array.

Individual components proposed in RFA4 are discussed in detail in the following section:

Solar Modules
RFA4 proposes 390,879 solar modules. The modules used in current preliminary site design each have a nameplate rating of 545 watts and measure 7.4 feet by 3.7 feet by 1.4 inches. The modules will be connected in series to form rows or strings. The rows of modules will be connected via combiners, cables, and switchboards. The configuration of multiple rows (the array) can vary depending on the module technology, topography, spacing, mounting equipment, and other design criteria, which are subject to change during final design. The modules will be connected in series to form rows or strings. The rows of modules are then connected via combiners, cables, and switchboards.

Each string of panels using the single-axis tracking system described below is expected to be separated by at least 10 to 15 feet of open space that will be either graveled (e.g., for access roads) or revegetated. Each string of panels using the fixed tilt tracking system described below is expected to be separated by approximately 25 to 30 feet. Spacing between strings of panels will depend on the racking configuration and manufacturer's specifications, which will be determined during detailed design.

Racking System
Single Axis Tracking System
RFA4 estimates that a single axis tracking system would consist of 27 modules per one-string rack, 54 modules per two-string rack, and 81 modules per three-string rack with a maximum top edge height of 12 feet. Each set of modules are expected to be mounted approximately 5 feet off the ground on a single axis tracker that rotates 60 degrees to the east and west.

Fixed Tilt Tracking System
RFA4 estimates that a fixed tilt tracking system would consist of 54 modules per two-string rack. The top edge of the solar modules on the fixed tilt system is anticipated to be approximately 9 to 12 feet in height from the ground surface and a maximum top edge height of 12 feet. Each set of modules is anticipated to be mounted approximately 2 to 5 feet above the ground surface. The racking system and associated concrete ballast foundations for the fixed tilt system, are expected to be specifically designed to be compatible with the synthetic cap installed on the BCP Ash Disposal Area.

Foundations: Posts and Concrete Ballast

Posts

Each single-axis tracking string will be supported by multiple steel posts, which could be hollow steel sections, screw piles, or pile-type posts. Post depth could vary depending on soil conditions, but the posts are typically installed 5 to 9 feet below the surface and extend approximately 5 feet above grade. RFA4 assumes that approximately 72,000 posts will be installed for the single-axis tracker system and that all the posts may require pre-drilling and/or concrete grouting as backfill.

Concrete Ballast

Each fixed-tilt string is anticipated to be supported on concrete ballasted racking systems in the BCP Ash Disposal Area, as the disposal area is capped with a liner system(s). Therefore, direct driven, post-style systems cannot be used. RFA4 estimates that approximately 9,750 posts will be installed and supported on concrete ballast for the fixed-tilt strings.

Cabling & Combiner Boxes or Harness Technology

Cables will collect and aggregate the DC before it is converted to AC by the inverters and sent to the proposed collector substation. Cables will connect to inverters via either a combiner box or a harness technology, which will be determined in final facility design.

Combiner Boxes

If combiner box technology is used, low-voltage cabling will connect the solar modules of each tracker string in parallel and combine at a single combiner box. Cabling from multiple combiner boxes will connect to a single inverter, which will convert the DC to AC and connect to the buried AC collection system. The cabling system evaluated for RFA4 connects 27 modules in series per string, 54 modules (two strings), or 81 modules (three strings) per tracker rack, for approximately 660 combiner boxes. A larger DC cable will run between each combiner box and then to the module block inverter. This cable will hang underneath the modules. Cabling could be mounted to the tracker system, placed in cable trays, or buried within the solar array fenced area.

Harness Technology

Harness technology involves an aboveground aluminum trunk system that combines the functionality of cable assemblies, combiner boxes, and fusing into one system. If harnesses are used, the amount of cabling will be similar to the amount of cabling used with combiner box technology, but the cables would be above ground, attached in parallel to the panel racking.

Solar Inverters and Solar Inverter Step Up Transformers

The inverters and step-up transformers will be located amongst the solar modules within the same perimeter fence for each solar area. Each solar inverter will be positioned on the same concrete pad next to a step up transformer. The combination of the inverters and transformers are called a power conversion station. RFA4 estimates 44 PCS will be needed for the solar array,

however the final number will depend on the final design and solar generating capacity and output.

I.D.3. Proposed Related or Supporting Facilities

Collector Line System

Electrical power produced by the Carty Solar Farm would be collected and routed via a new 34.5 kV collection system to an interconnection with a proposed collector substation located to the north of the Carty Reservoir. The majority of the underground 34.5 kV collector lines will be within the fenced perimeter for the solar areas and then extend outside these fenced areas to the collector substation. Approximately 25 miles of 34.5-kV collector line will be installed underground between the transformers and collector substation. One segment of collector line, approximately 2 miles long, will be installed aboveground and routed along support poles that are approximately 70 feet in height. This segment extends from the perimeter fence on the north side of the Southern Solar Area, along the eastern shore of the Carty Reservoir, to a point just south of the Northern Solar Area where the line goes back underground until entering the proposed collector substation.

Collector Substation

The collector substation will collect energy generated by the Carty Solar Farm and step it up from 34.5-kV to 500-kV, and then interconnect with the existing transmission system infrastructure remaining from the BCP. The collector substation will be in an area formerly used for the BCP, on the west side of the Northern Solar Area and next to the BESS. The collector substation will have one GSU to step up the electrical output from 34.5 kV to 500 kV. Additional substation equipment may include a 34.5-kV switch, 34.5-kV feeder breakers, 500/34.5-kV transformer, 500-kV breaker, 500-kV switch, surge arrestors, control enclosure, metering equipment, grounding, and associated control wiring. The substation will occupy approximately 3.2 acres of graveled and fenced area and will include its own perimeter fence, separate from fencing for other areas.

Battery Energy Storage System (BESS)[3]

RFA4 proposes the construction and operation of a BESS with up to 200 MW of output capacity. RFA4 estimates that the BESS will include approximately 330 modular containers, 58 inverters, and 30 inverter step-up (ISU) transformers. Each container will be placed on a concrete slab-on-grade foundation and the BESS park area is expected to be surfaced with stone aggregate. The

[3] Design of BESS will be in accordance with applicable Underwriters Laboratories (specifically, 1642, 1741, 1973, 9540A as of the date of this order), National Electric Code, and National Fire Protection Association (specifically 855) standards, which require industry testing and certification related to fire safety and/or other regulatory requirements applicable to battery storage at the time of construction. Transportation of lithium-ion batteries is subject to 49 CFR 173.185 – Department of Transportation Pipeline and Hazardous Material Administration.

BESS components include fire sensors, smoke and hydrogen and/or carbon monoxide detectors, alarms, emergency ventilation systems, and employment of fire control panels with 24-hour battery backup and a cooling system placed either on top of the containers or along the side. Battery and inverter/transformer equipment will be electrically connected via a combination of underground conduit, covered cable trenches, and aboveground cable trays. The BESS will interconnect with the collector substation via underground feeder lines.

Operations and Maintenance Building

One new O&M building is proposed to be approximately 20,000 square feet (0.5 acres) with additional area for parking, maneuvering, and buffer. The pre-fabricated metal building will include approximately 10,000 square feet of office space and 10,000 square feet of warehouse space. The building will be approximately 20 feet in height and resemble the other existing buildings in the Facility. The building will include parking, electricity, heating, ventilation, and air conditioning (HVAC), potable water, and a sewer connection for toilets. The potable water will be obtained from the Facility's existing potable water system, with an expected usage of approximately 250 gallons per day (gpd). The potable water is supplied by an existing well located within the Approved Site Boundary. The sanitary sewer will be collected and treated by the Facility's existing sanitary septic system.

Communications and SCADA System

A communication system consisting of fiber optic and copper communication lines will connect the solar areas, BESS, and substation to the SCADA control rooms and to the internet service provider. The control rooms located within the proposed O&M building and proposed collector substation will have the capability of communicating with the existing CGS control room and with PGE offices in Portland. The communication lines as well as the on-site sensors will be buried or overhead within a cable management system. Where buried, the communication lines will be placed above the collector lines in the same trench and, where overhead, will run alongside the collector lines/conductors.

Facility Access Roads

RFA4 states the facility will utilize existing access roads to the extent practicable. The facility will be accessed from U.S. Interstate 84 (I-84), which generally runs east to west approximately 10 miles to the north. From I-84, construction and operations personnel will travel south on Tower Road and then into the site along existing access roads. Once constructed, the Northern and Southern solar areas will include new internal access roads. Approximately 9.9 miles of new access roads are expected to be constructed within the solar perimeter fencing to access infrastructure. All newly constructed roads within the solar areas will be graveled to meet load requirements for all equipment. These internal access roads are expected to be approximately 14 feet in width. Existing roads outside the solar areas are not anticipated to require improvements or alterations.

Fencing

Chain-link perimeter fencing, up to 11 feet in height, will enclose the proposed collector substation. The top of the fencing for the solar areas, BESS, and proposed substation will include an additional 1-foot of razor or barb wire. The length of proposed fence will total approximately 14.7 miles (77,794 feet) of fence. The perimeter fencing will have lockable vehicle access gates, a minimum of four access gates total (three gates for the Northern Solar Area and a minimum of one gate for the Southern Solar Area); additional gates may be included for emergency exits or for removal of wildlife.

Temporary Staging and Construction Laydown Areas

During construction, one temporary construction area (laydown area) will be used to support construction, store supplies and equipment, and facilitate the delivery and assembly of materials and equipment. The construction area is approximately 21.4 acres and may contain up to five temporary aboveground 1,000-gallon diesel tanks located within designated secondary containment areas.

I.D.4. Construction Commencement and Completion Deadlines

The Certificate Holder requests six years from the effective date of the Fourth Amended Site Certificate (if approved), and a construction completion deadline three years from the construction commencement date. This is addressed in Section III.A., General Standard of Review.

I.D.5. RFA4 Proposed Changes to Site Certificate Conditions

The Certificate Holder also proposes amended and new Site Certificate Conditions, as proposed in RFA4 Attachment 1.

The Certificate Holder has requested numerous changes to existing site certificate conditions in RFA4. These requested changes are generally related to the expiration of authorization for the solar facility components authorized under RFA1, and the addition of solar facility components proposed in RFA4. The Certificate Holder's requested site certificate changes can be seen in RFA4 Attachment 1.

To ensure the facility proposed in RFA4 is subject to conditions informed by a project-specific analysis of RFA4 and to improve site certificate clarity, the Department recommends the Council approve an amended site certificate as shown in Attachment A of this Order. These changes include restructuring site certificate conditions to preserve those conditions still applicable to Carty Unit 1, while creating a separate set of new conditions applicable to the facility proposed in RFA4. Legacy references in the site certificate to the solar facility approved in RFA1 are also stripped out because authorization for that facility has expired. This

restructuring will better clarify for both the Certificate Holder and Department compliance staff which conditions are applicable to which facility components. Each condition applicable to RFA4 is shown and described within the section(s) to which it is relevant this order.

II. COUNCIL REVIEW PROCESS FOR AMENDMENTS

With some exceptions, under OAR 345-027-0350(4), an amendment to a site certificate is required to design, construct, or operate a facility in a manner different from that described in the site certificate, if the proposed change (1) Could result in a significant adverse impact that the Council has not addressed in an earlier order and the impact affects a resource or interest protected by an applicable law or Council standard; (2) Could impair the Certificate Holder's ability to comply with a site certificate condition; or (3) Could require a new condition or a change to a condition in the site certificate.[4] Because RFA4 essentially adds a new solar power generation facility to the site certificate, it would require new conditions or a change to conditions in the site certificate, so a site certificate amendment is required.

II.A. SCOPE OF COUNCIL REVIEW: OAR 345-027-0375

Under OAR 345-027-0375, in making a decision to grant or deny issuance of the amended site certificate, the Council must determine whether the preponderance of evidence on the record supports the conclusions that the facility, with the proposed change, complies with all applicable laws and Council standards. In making these findings, the Council must apply the applicable laws and standards in effect on the date the Council issues its final order. The recommended findings of fact and conclusions of law provided in this order in Section III., *Evaluation of Council Standards*, support the recommendations under OAR 345-027-0375.

II.B. AMENDMENT PROCESS

The standard amendment review process, set forth in OAR 345-027-0360 through 345-027-0375, is the default review process and applies to the Council's review of a request for amendment proposing a change described in OAR 345-027-0350(2), (3), (4), or (5).[5] These steps are detailed in Section II.C. *Council Review Process for Amendments*, below.

II.B.1. Request for Amendment

On February 16, 2024 the Certificate Holder submitted its preliminary Request for Amendment 4 (pRFA4). The Department reviewed pRFA4 to determine whether the request contained sufficient information for the Council to make findings.

[4] See OAR 345-027-0350(1)-(3) for a list of other changes that require an amendment, including a transfer of ownership, application of later adopted laws, or construction deadline extension.
[5] OAR 345-027-0351(2).

On February 28, 2024 the Department issued Public Notice that the preliminary Request had been received as required by OAR 345-027-0360(2). The Public Notice was mailed to adjacent property owners, the ODOE General Mailing List, Click Dimensions electronic mailing list, and reviewing agencies. Reviewing agency comments were received from Oregon Department of Agriculture, Oregon Department of Aviation, Oregon Department of State Lands, Oregon Department of Fish and Wildlife, Oregon State Historic Preservation Office, Oregon Department of Geology and Mineral Industries, and the Morrow County Board of Commissioners, the Special Advisory Group (SAG) for the facility (see Attachment B of this order). Reviewing agency and SAG comments are summarized in Table 3 below.

Table 3: Reviewing Agency Comments on pRFA4

Reviewing Agency	Commenter/ Reviewer	EFSC Standard / See PO Section	Comment Summary
Oregon Department of Agriculture	Jordan Brown, Native Plant Conservation Program	Threatened and Endangered Species Section III.I	Lawrence's milkvetch has the potential to be present, surveys as of 2024 are not protocol level, protocol-level preconstruction surveys required per condition to determine if present or any impacts.
Oregon Department of Agriculture	Danielle Marshall, Native Plant Conservation Program	Threatened and Endangered Species Section III.I	ODA concurs with the methodology and results of the 2026 Lawrence's Milkvetch surveys.
Oregon Department of Aviation	Brandon Pike, Aviation Planner	Siting Standards for Transmission Lines Section III.P	If transmission lines proposed as part of amendment, may require aeronautical evaluation by FAA and ODAv
Oregon Department of State Lands	Peter Ryan, Aquatic Resource Specialist	Removal Fill Section IV.B	Wetlands Delineation report with accompanying signed form needs to be submitted to DSL. No current permit on file. Wetlands Determination for this area expired in November 2023 (verbal comment)
Oregon State Historic Preservation Office	Stacy Scott, Archaeologist	Historic, Cultural and Archaeological Resources Section III.K	SHPO Concurrence Letter No Historic Properties Affected for RFA4
Oregon Department of Fish and Wildlife	Lindsay Somers, Habitat Biologist	Fish & Wildlife Habitat, Threatened & Endangered Species Sections III.H and III.I	ODFW concurs with methods for identifying habitat and estimating impacts and required mitigations, recommendations for WHMMP, post-construction fatality monitoring, and Revegetation and Noxious Weed Plan monitoring for F&W standard; Concurs that all Cat 1 WGS habitat should be avoided.

Table 3: Reviewing Agency Comments on pRFA4

Reviewing Agency	Commenter/ Reviewer	EFSC Standard / See PO Section	Comment Summary
Oregon Department of Geology and Mineral Industries	Jason McLaughry, Geological Surveys and Services Program Manager	Structural Section III.C	DOGAMI concurs with sources and methods to support findings in Exhibit H. Minor comment on methods for site-specific studies to be conducted prior to construction – analysis area for soils and groundwater per Section 5.2 #1.
Morrow County Board of Commissioners, Special Advisory Group	David Sykes, Jeff Wenholz and Roy Drago, Morrow County Board of Commissioners	Land Use, Waste Minimization Sections III.E and III.O	County requests better maps. Goal 3 exception request should clearly describe how loss of EFU land will be mitigated. Requests conditions require: County Road Use Agreement, a Weed Abatement Plan and an Agricultural Mitigation Plan. Also requires a Conditional Use Permit and Zoning Permit. County Solid Waste Management ordinance applies and Exhibit V should include specific steps for disposal of photovoltaic components & requests that site certificate conditions require it.

On April 16, 2024 the Department notified the Certificate Holder that pRFA4 was incomplete and issued requests for additional information (RAIs) related to standards potentially impacted by the changes proposed in pRFA4. The Department requested the Certificate Holder submit the additional information on or before July 15, 2024.

The Certificate Holder submitted responses to the Department's RAIs on October 7, 10, 17 and 22, 2026. On October 29, 2026, the Department notified the Certificate Holder that pRFA4 was complete.[6] On the same date, the Certificate Holder filed a complete RFA4 under OAR 345-027-0363(6) that included all revisions to pRFA4 and all additional information requested by the Department. On October 30, 2026, the Department issued Public Notice of the Proposed Order and Complete Request for Amendment as required by OAR 345-027-0365 and -0367.

II.B.2. **Proposed Order**

A Public Notice of the complete RFA4, Proposed Order, and Public Hearing was issued concurrently with this Order and sent via mail or email to individuals identified in OAR 345-027-0367(4).[7] The Public Notice of the Proposed Order initiates a public comment period on RFA4 and the Proposed Order. The comment period includes a new public comment process, based on recently amended rules effective October 2025. The new public comment process includes additional steps and deadlines, as presented in the table below.

Table 4: Proposed Order Public Comment Process and Deadlines

Process Step	Explanation	Deadline[1]
Comment Period	Opportunity to provide comments with sufficient specificity.[2]	October 30 – December 14, 2026
Certificate Holder/Department responses	Opportunity for Certificate Holder and Department to identify whether comments were raised with sufficient specificity, and to respond with explanation of deficiencies or additional information, evaluation and proposed conditions.	December 28, 2026
Commenter Reply	Opportunity for commenter to supplement their initial comments or determine whether the issue is resolved by the Certificate Holder or Department's additional information, evaluation or proposed conditions.	January 11, 2027

[6] A request for amendment is complete when the Department finds that the Certificate Holder has submitted information adequate for the Council to make findings or impose conditions on all applicable laws and Council standards. OAR 345-027-0363(5). The completeness letter issued by the Department identified that the proposed order would be issued by November 19, 2026. OAR 345-027-0365(1).

[7] (A) All persons on the Council's general mailing list as defined in OAR 345-011-0020;
(B) All persons on any special mailing list established for the facility;
(C) The reviewing agencies for the facility, as defined in OAR 345-001-0010(52); and
(D) The property owners on the list provided under OAR 345-027-0360.

Table 4: Proposed Order Public Comment Process and Deadlines

Process Step	Explanation	Deadline[1]
Certificate Holder/Department sur-replies	Final opportunity for Certificate Holder and Department to resolve issues raised, based on any clarification or supplemental information provided in commenter replies.	January 18, 2027

Notes:
1. If no comments are received by the December 14, 2026 deadline, the subsequent process steps and deadlines will not apply.
2. OAR 345-027-0367(7) explains that to provide comments with "sufficient specificity," comments should reference recommended findings of fact, conclusions of law or conditions of approval identified in the Proposed Order to which you object; identify the Council standard or other applicable state and local requirements on which your objection is based; and/or, present facts or statements supporting your objection.

II.B.3. **Draft Final Order**

No later than 21 days after the deadline for sur-replies, or if no comments are received, no later than 21 days after the close of the record of the Proposed Order, the Department must issue a draft of the Final Order (draft Final Order).[8] The draft Final Order will include written analysis of any comments on the Proposed Order, including analysis of any responses, replies, and sur-replies, and indicate whether it recommends any changes to the Proposed Order.[9] If the Department recommends any changes, it will include them in a draft Final Order.

Concurrent with issuing the draft Final Order, the Department will issue a Notice of the draft Final Order which will be mailed or emailed to all persons, agencies, or organizations who commented during the public comment period.[10] The Department will post an announcement of the draft Final Order on the Department's webpage for the facility. The Notice of the Draft Final Order will include the date of Council's review.

II.B.4. **Final Order**

At the meeting designated in the Notice of the draft Final Order, Council will review the draft Final Order including all related comments, responses, replies, sur-replies, and the Department's analysis, if applicable. During Council's review of the draft Final Order, the Department may summarize the analysis it conducted to produce the order.[11] During its review, Council, at its discretion, may pose questions to the Department, the Department of Justice, persons who commented on the Proposed Order, and/or the Certificate Holder.[12]

[8] The Department may issue the draft of the final order at a later date, but the Department must post an update of the date by which it will issue the draft of the Final Order on the Department's webpage for the facility. OAR 345-027-0371(2).
[9] OAR 345-027-0371(1).
[10] OAR 345-027-0371(3).
[11] OAR 345-027-0371(5).
[12] OAR 345-027-0371(6).

After reviewing the written analysis of the comments, responses, replies, and sur-replies, along with the draft Final Order, the Council, based on the considerations described in OAR 345-027-0375[13] must either grant or deny issuance of an amended site certificate in a written Final Order. The Council's Final Order may adopt, modify or reject the Department's draft Final Order. If the Council grants issuance of an amended site certificate, the Council must then issue an amended site certificate, which is effective upon execution by the Council Chair and by the Certificate Holder.[14]

Judicial review of the Council's final order either granting or denying an amended site certificate is as provided in ORS 469.403(3).[15]

[13] See Section II.A., *Scope of Council Review*, in this Order.
[14] OAR 345-027-0371(7).
[15] OAR 345-027-0371(8).

III. EVALUATION OF COUNCIL STANDARDS

Under ORS 469.310, the Council is charged with ensuring that the "siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety." ORS 469.401(2) further provides that the Council must include in the amended site certificate "conditions for the protection of the public health and safety, for the time for completion of construction, and to ensure compliance with the standards, statutes and rules described in ORS 469.501 and ORS 469.503."[16] The Council implements this statutory framework by adopting findings of fact, conclusions of law, and conditions of approval concerning the ability of the Certificate Holder and facility to continue to demonstrate compliance with EFSC standards set forth in OAR Chapter 345, Divisions 22 and 24 as well as all other applicable statutes, rules and standards (including those of other state or local agencies).

This Order includes the Department's analysis of whether the Certificate Holder and facility, with RFA4 changes, would continue to meet each applicable Council standard (with mitigation and subject to compliance with existing and recommended new and amended conditions, as applicable), based on the information in the record.

III.A. GENERAL STANDARD OF REVIEW: OAR 345-022-0000

> *(1) To issue a site certificate for a proposed facility or to amend a site certificate, the Council shall determine that the preponderance of evidence on the record supports the following conclusions:*
>
> *(a) The facility complies with the requirements of the Oregon Energy Facility Siting statutes, ORS 469.300 to 469.570 and 469.590 to 469.619, and the standards adopted by the Council pursuant to 469.501 or the overall public benefits of the facility outweigh any adverse effects on a resource or interest protected by the applicable standards the facility does not meet as described in section (2);*
>
> *(b) Except as provided in OAR 345-022-0030 for land use compliance and except for those statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council, the facility complies with all other Oregon statutes and administrative rules identified in the project order, as amended, as applicable to the issuance of a site certificate for the proposed facility. If the Council finds that applicable Oregon statutes and rules, other than those involving federally delegated programs, would impose conflicting requirements, the Council shall resolve*

[16] ORS 469.401(2).

the conflict consistent with the public interest. In resolving the conflict, the Council cannot waive any applicable state statute.
*****.[17]

(4) In making determinations regarding compliance with statutes, rules and ordinances normally administered by other agencies or compliance with requirements of the Council statutes if other agencies have special expertise, the Department of Energy shall consult with such other agencies during the notice of intent, site certificate application, and site certificate amendment processes. Nothing in these rules is intended to interfere with the state's implementation of programs delegated to it by the federal government.

III.A.1. Findings of Fact

OAR 345-022-0000 provides the Council's General Standard of Review and requires the Council to find that a preponderance of evidence on the record supports the conclusion that the facility proposed in RFA4 would comply with the requirements of EFSC statutes, and the siting standards adopted by the Council and that the facility proposed in RFA4 changes would comply with all other Oregon statutes and administrative rules applicable to the issuance of a site certificate for the facility.

The requirements of OAR 345-022-0000 are discussed in the sections that follow. The Department consulted with other state agencies, and the Morrow County Board of Commissioners, as the appointed Special Advisory Group (SAG) for the facility proposed in RFA4, during review of RFA4 to aid in the evaluation of whether the facility proposed in RFA4 would satisfy the requirements of applicable statutes, rules and ordinances otherwise administered by other agencies. Additionally, in many circumstances the Council relies upon these reviewing agencies' special expertise in evaluating compliance with the requirements of Council standards.

Certificate Expiration [OAR 345-027-0313]

A site certificate, or amended site certificate, becomes effective upon execution by the Council Chair and the Certificate Holder. A site certificate, or amended site certificate, expires if construction has not commenced on or before the construction commencement deadline, as established in the site certificate and statutorily required under ORS 469.370(12).

The Certificate Holder expects construction of the facility proposed in RFA4 to last 24-months (or 2 years). Construction is expected to begin in Q4 of 2027, and continue through Q3 of 2029.[18] Despite the projected timelines, the Certificate Holder requests Council establish a new construction commencement deadline for the facility proposed in RFA4, that is 6 years from the effective date of the Fourth Amended Site Certificate, and a construction completion deadline that is three years from the construction commencement date.

[17] OAR 345-022-0000, effective March 8, 2017.
[18] CGSAMD4 Exhibits A-F Div27. Section 4.1.5

The Council is required to impose a condition requiring the Certificate Holder to begin and complete construction of the facility, or facility as amended, by the dates specified in the site certificate or amended site certificate.[19] ORS 469.370(12) establishes that the earliest construction commencement deadline for a facility approved through an ASC proceeding is six (6) years from the date the Council issues a site certificate. Consistent with this requirement, the Department recommends that the Council establish the construction commencement deadline for the facility proposed in RFA4 at 6 years from the date of Council approval, if approval is granted. The duration of construction activities is forecasted at two (2) years. The Department recommends that the Council establish the construction completion deadline at three (3) years from the actual construction commencement date to allow maximum flexibility to complete construction in phases within a reasonable timeframe.

The Department recommends that the Council impose General Standard Condition 1 and 2, as shown below.

> **Recommended General Standard Condition 1 (GEN):** The Certificate Holder must begin construction of the solar facility on or before XX date [6 years from approval date] Within 7 days of construction commencement, the Certificate Holder must provide the Department with written verification that it has met the deadline by satisfying applicable preconstruction conditions and completing at least $250,000 work at the site. [Mandatory Condition OAR 345-025-0006(4), GEN-GS-01; Final Order on AMD4]
>
> **Recommended General Standard Condition 2 (GEN):** The Certificate Holder must complete construction of the solar facility or phase, as applicable, within 3 years of the actual construction commencement date, which must have commenced by XX date [6 years from approval date]. Within 7 days after completing construction, the Certificate Holder shall provide the Department written verification that it has met the deadline. [Mandatory Condition OAR 345-025-0006(4), GEN-GS-02; Final Order on AMD4]

Site-Specific Conditions in Site Certificates [OAR 345-025-0010]

OAR 345-025-0010 lists site specific conditions that the Council must adopt in every site certificate, if applicable. As described in Section III.P. *Siting Standards for Transmission Lines* below, the Council previously imposed Site Certificate Conditions 6.5, 7.1, and 7.9 in accordance with the site specific conditions for transmission lines under OAR 345-025-0010(4) and(5), and would be maintained for the facility proposed in RFA4.

Monitoring and Mitigation Conditions: OAR 345-025-0016

Under ORS 469.402, if the Council elects to impose conditions on a site certificate or an amended site certificate that requires subsequent review and approval of a future action, the

[19] OAR 345-025-0006(4).

Council may delegate the future review and approval to the Department if, in the Council's discretion, the delegation is warranted under the circumstances of the case.

As a matter of practicality, most site certificate conditions include some form of Department review or approval. Some conditions require that a Certificate Holder demonstrate that it has received proper permits or documentation or require a demonstration that facility design adheres to established specifications. In these circumstances, the Department's role in finding compliance with the condition is to verify that the future action described in the condition was completed.

The primary circumstance necessitating the application of ORS 469.402 is associated with the uncertainty of financing, developing, engineering, and designing large energy facilities prior to having secured permits. Typically, a proposal in an ASC or RFA to construct and operate an energy facility is based on a facility design that is approximately 30 percent complete. This stage in the facility design includes design features, dimensions, setbacks and resource avoidance areas that are informed by field surveys and desktop analysis conducted in preparation of an ASC or RFA, but may not be informed by final facility design and capacity needs, final engineering studies, and the selection of manufacturer and component specifications.

The timeline for permitting and construction of large energy facilities also necessitates the application of ORS 469.402. As presented above, the Department recommends that the Council establish a construction commencement deadline of six years from the date of Council approval, and then three years from the actual construction commencement date to complete construction. In this timespan, circumstances or conditions at the site change, which is why some conditions or mitigation plans include "truing up" information based on the final facility design which must be reviewed and approved prior to construction. Additionally, in the timeframe between EFSC approval and construction, permits, approvals or filings with other agencies or local governments may expire, which would necessitate resubmission.

Under OAR 345-027-0363(5), a Request for Amendment is complete when the Department finds that the Certificate Holder has submitted information, including any draft mitigation or monitoring plans, adequate for the Council to make findings or impose conditions on all applicable Council standards, and Council must include conditions that address monitoring and mitigation to ensure compliance with the standards contained in OAR Chapter 345, Division 22 and Division 24, including conditions requiring the future review and approval of the plans. Conditions requiring review and approval of such plans in this Order include:

- Soil Protection Conditions 2, 4, and 5: Draft Comprehensive Solar Revegetation and Soil Management Plan
- Fish and Wildlife Conditions 1 and 2: Draft Habitat Mitigation Plan
- Wildfire Prevention and Risk Mitigation Conditions 1 through 4: Construction and Operations Wildfire Mitigation Plans; Wildfire Prevention and Risk Mitigation

In accordance with OAR 345-025-0016, Certificate Holder developed draft plans in consultation with the Department, state agencies and local governments, and importantly, the Department

provided additional edits to the mitigation plans that were presented in redline format to the plans that are attached to the Proposed Order. As discussed in the applicable sections of this order, these mitigation plans are in draft form because they include preliminary assessments, impact totals, criteria for avoidance and minimization of impacts to resources, as well as success criteria to determine short and long term success of the mitigation measures defined in the plans. These plans are in preliminary or draft form because, as discussed above, they are based on the design of the facility as presented in RFA4 and will be updated prior to construction and operation of the final designed facility, which could be several years in the future when it is important to capture circumstances at the site at that time.

Lastly, the mitigation plans include specific monitoring and success criteria to determine short and long term success of the mitigation measures defined in the plans. The mitigation plans listed above have an "amendment clause," which under ORS 469.402, allows Council and the Department, in conjunction with the Certificate Holder, to amend mitigation plans without a site certificate amendment under OAR 345-027-0350 through OAR 345-027-0375. The circumstances that necessitate the subsequent review and approval of a future action (amendment of a finalized mitigation plan) under ORS 469.402 are associated with ongoing compliance with the monitoring and success criteria. Ongoing compliance with monitoring and success criteria may need to be adapted based on site specific changes, environmental conditions, failing criteria, or new or emerging technologies or practices that could be more effective at mitigating an impact or restoring the site. As described in the amendment clause, the Department is required to notify the Council of all Plan amendments, and the Council retains the authority to approve, reject, or modify any amendment of the Plans agreed to by the Department because the delegation is not absolute.

III.A.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the recommended conditions described above, the Department recommends that the Council find that the facility proposed in RFA4 would comply with the requirements of ORS 469.300 to 469.570 and 469.590 to 469.619, the Council's standards in OAR chapter 345, and all other Oregon statutes and administrative rules applicable to the issuance of an amended site certificate.

III.B. ORGANIZATIONAL EXPERTISE: OAR 345-022-0010

> *(1) To issue a site certificate, the Council must find that the applicant has the organizational expertise to construct, operate and retire the proposed facility in compliance with Council standards and conditions of the site certificate. To conclude that the applicant has this expertise, the Council must find that the applicant has demonstrated the ability to design, construct and operate the proposed facility in compliance with site certificate conditions and in a manner that protects public health and safety and has demonstrated the ability to restore the site to a useful, non-hazardous condition. The Council may*

consider the applicant's experience, the applicant's access to technical expertise and the applicant's past performance in constructing, operating and retiring other facilities, including, but not limited to, the number and severity of regulatory citations issued to the applicant.

(2) The Council may base its findings under section (1) on a rebuttable presumption that an applicant has organizational, managerial and technical expertise, if the applicant has an ISO 9000 or ISO 14000 certified program and proposes to design, construct and operate the facility according to that program.

(3) If the applicant does not itself obtain a state or local government permit or approval for which the Council would ordinarily determine compliance but instead relies on a permit or approval issued to a third party, the Council, to issue a site certificate, must find that the third party has, or has a reasonable likelihood of obtaining, the necessary permit or approval, and that the applicant has, or has a reasonable likelihood of entering into, a contractual or other arrangement with the third party for access to the resource or service secured by that permit or approval.

(4) If the applicant relies on a permit or approval issued to a third party and the third party does not have the necessary permit or approval at the time the Council issues the site certificate, the Council may issue the site certificate subject to the condition that the Certificate Holder shall not commence construction or operation as appropriate until the third party has obtained the necessary permit or approval and the applicant has a contract or other arrangement for access to the resource or service secured by that permit or approval.[20]

III.B.1. <u>Findings of Fact</u>

Relevant Experience and Expertise to Construct and Operate the Facility Components Proposed in RFA4

Portland General Electric (PGE, Certificate Holder) is an Investor-Owned Utility based in Portland, Oregon. PGE was established as a separate, legal entity in 1930, with restated Articles of Incorporation registered in the State of Oregon dated July 31, 2023. PGE currently serves over 900,000 customers in 51 cities and currently owns or operates six natural gas facilities, five wholly-owned and two co-owned hydroelectric facilities, three wind facilities, and five solar facilities.

[20] OAR 345-022-0010, effective April 3, 2002.

The Certificate Holder has not yet selected contractors for construction of the facility proposed in RFA4. The qualifications, experience, and specific construction practices of the contractors who will ultimately perform the work are not yet known. Because the contractors have not yet been selected, and because construction activities will occur after approval of the amended site certificate, if approval is granted, the Department recommends that the Council impose the following conditions to ensure that contractor identity and contact information is provided to the Department; and that their work is performed in accordance with the approved plans, applicable requirements, and conditions of approval.

> **Recommended Organizational Expertise Condition 1 (PRE):** Prior to construction of the solar facility or phase, the Certificate Holder must provide the name, telephone number, and e-mail address of the primary construction contractor(s); the Certificate Holder representative(s) responsible for site certificate compliance; and any other contractors responsible for site certificate condition compliance monitoring. The Certificate Holder must report any changes.
> [PRE-OE-01, Final Order on AMD4]
>
> **Recommended Organizational Expertise Condition 2 (CON):** During construction, there must be at least one environmental inspector onsite while ground-disturbing activities and reclamation and revegetation activities are ongoing. The environmental inspector shall oversee site certificate compliance and shall prepare weekly reports documenting status of compliance requirements and corrective actions. Records shall be provided to the Department on a bi-weekly basis.
> [CON-OE-01, Final Order on AMD4]

The Department recommends that the Council impose a condition to incorporate Construction progress reporting requirements established in OAR 345-026-0080(1) but increasing the frequency of reporting from semi-annual to every three months to allow the Department to track more closely the ability of the participating entity to adequate manage site certificate compliance during construction, as presented below:

> **Recommended Organizational Expertise Condition 3 (CON):**
> a. Within three months after beginning construction of any phase or component of the solar facility, and every three months thereafter during construction, the Certificate Holder shall submit a construction progress report to the Department.
> b. Each construction progress report shall describe:
> i. Any significant changes to major milestones for construction;
> ii. 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.

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 reporting period 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.
[CON-OE-02, Final Order on AMD4]

PGE would operate the facility proposed in RFA4. As described above, PGE has experience in operating energy facilities throughout the State of Oregon. The Certificate Holder also has significant experience in developing and implementing mitigation to demonstrate compliance with the Division 22 and 24 standards, specifically regarding impacts on habitat. PGE's experience in completing mitigation requirements for EFSC approved facilities include the Boardman Coal Plant Multi-Species Candidate Conservation Agreement with Assurances (MSCCAA), the Carty Generating Station Wildlife and Habitat Monitoring and Mitigation Plan (WHMMP), and the Biglow Canyon Wind Farm Habitat Mitigation Plan (HMP).

As of Q3 2026, the PGE biologists include personnel with the following experience:

- 15 years experience in natural resources conservation research, management, and compliance monitoring
- 35 years experience in natural resources conservation research, management, and monitoring/compliance roles
- 17 years experience in Terrestrial Biology – 17 years
- 23 years experience in environmental and natural resource compliance, permitting, and mitigation
- 15 years experience as a biological technician (fish and wildlife surveys and monitoring including, but not limited to, TES species, Washington ground squirrels, nesting raptors, breeding birds, bats, noxious weeds, native vegetation, and revegetation projects)

In addition to retaining qualified staff with the company, the Certificate Holder maintains a close relationship with Tetra Tech, a global technical and engineering services firm that focuses on water, environment, and sustainable infrastructure. Tetra Tech biologist have significant experience and expertise in implementing and completing mitigation requirements for EFSC approved facilities, including categorizing habitat within the HMA for the Biglow Canyon Wind Farm.

Ability to Restore the Site to a Useful, Non-Hazardous Condition

The Certificate Holder's ability to restore the facility site to a useful, non-hazardous condition is evaluated in *Section III.G, Retirement and Financial Assurance* of this order, in which the Department recommends that Council find that the Certificate Holder has demonstrated an ability to restore the site to a useful, non-hazardous condition, and comply with the Retirement and Financial Assurance standard. In addition, the Certificate Holder's ability to construct and operate the facility proposed in RFA4 in a manner that protects public health and safety is addressed in *Section III.C., Structural Standard; Section III.M, Public Services; and Section III.P.1, Siting Standards for Transmission Lines*, of this order.

The process of designing, constructing and operating a facility in compliance with an EFSC issued site certificate is costly. Resolving compliance issues is costly. Decommissioning the facility proposed in RFA4 and restoring the site to a useful, nonhazardous condition is estimated at $16.52 million. To protect the State from risk that $16.5 million is no longer adequate to decommission the facility proposed in RFA4 and restore the site due to failure to comply and or operate the facility in a manner that protects public health and safety, the Department recommends that the Council impose Organizational Expertise Condition 4 (GEN-OE-02), as presented below:

Recommended Organizational Expertise Condition 4 (GEN):
The Certificate Holder shall, as soon as reasonably possible:

a. Report incidents or circumstances that may violate the terms or conditions of the site certificate, terms or conditions of any order of the Council, to the Department. In the report to the Department, the Certificate Holder shall provide all pertinent facts including an estimate of how long the conditions or circumstances existed, how long they are expected to continue before they can be corrected, and whether the conditions or circumstances were discovered as a result of a regularly scheduled compliance audit;
b. Initiate and complete appropriate action to correct the conditions or circumstances and to minimize the possibility of recurrence;
c. Submit a written report within 30 days of discovery to the Department. The report must refer to the language in (d) of the condition and contain:
    i. A discussion of the cause of the reported conditions or circumstances;
    ii. The date of discovery of the conditions or circumstances by the responsible party;
    iii. A description of immediate actions taken to correct the reported conditions or circumstances;
    iv. A description of actions taken or planned to minimize the possibility of recurrence; and
    v. For conditions or circumstances that may violate the terms or conditions of a site certificate, an assessment of the impact on the resources

considered under the standards of OAR Chapter 345 Divisions 22 and 24 as a result of the reported conditions or circumstances.

d. Upon receipt of the written report in sub(c) of this condition, the Department may review the facility record for incidents or circumstances reported or reportable under sub(a) related to public health and safety, the environment, or other resources protected under Council standards. If these incidents are determined by the Department to impact the adequacy of the facility decommissioning cost, the Department or Council may adjust the contingencies identified in Final Order on AMD4 Table 8 and Attachment F and shall request and receive an updated bond or letter of credit from Certificate Holder in the adjusted amount.
[OAR 345-029-0010, GEN-OE-02, Final Order on AMD4]

Third-party Permits

In RFA4, the Certificate Holder indicates that it would rely on third-party contractors to obtain any required permits needed during construction and operation of the facility, including but limited to the Oregon Department of Environmental Quality's (DEQ) National Pollutant Discharge Elimination System (NPDES) 1200-C and 1200-A Construction Stormwater permits, and the Onsite Sewage Disposal Construction Installation Permit required for the O&M Buildings.

Under OAR 345-022-0010(4), if the Certificate Holder relies on a permit or approval issued to a third-party contractor, and the third party does not have the permit, the Council may issue an amended site certificate subject to the condition that the Certificate Holder shall not commence construction or operation as appropriate until the third party has obtained the necessary permits or approvals and the Certificate Holder has a contract or other arrangement for access to the resource or service secured by that permit or approval.

Construction water would be obtained from Carty Reservoir, of which PGE maintains a water right, through a third-party limited water use license from Oregon Department of Water Quality, a permit for which the Council would ordinarily determine compliance.[21] Because the Certificate Holder has not selected its third-party contractor, the necessary permit and approval have not yet been obtained. Therefore, the Department recommends Council impose the following conditions, Organizational Expertise Conditions 5 and 6, which prohibits the Certificate Holder from commencing construction until the third party permit is issued:

Recommended Organizational Expertise Condition 5 (PRE): Prior to construction of the solar facility or phase, as applicable, the Certificate Holder must provide evidence to the Department that a limited water use license has been obtained by its third-party-contractor from Oregon Department of Water Quality.
[PRE-OE-02, Final Order on AMD4]

[21] CGSAMD4 pRFA4 A-F w Attachments and Figures 2024-02-16. Section 5.4, Table 5.

Recommended Organizational Expertise Condition 6 (CON): During construction of the solar facility or phase, provide to the Department in the three-month Construction Reports under Condition CON-OE-02, documentation of the record of all water use, as required by the third-party's limited water use license, demonstrating that the allowable total and per minute water use (total gallons and gallons per minute) have not been exceeded.
[CON-OE-03, Final Order on AMD4]

III.B.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with recommended conditions, the Department recommends Council find that the Certificate Holder has the organizational expertise to construct, operate and retire the facility proposed in RFA4 in compliance with Council standards and conditions of the site certificate.

III.C. STRUCTURAL STANDARD: OAR 345-022-0020

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that:

(a) The applicant, through appropriate site-specific study, has adequately characterized the seismic hazard risk of the site; and

(b) The applicant can design, engineer, and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site, as identified in subsection (1)(a);

(c) The applicant, through appropriate site-specific study, has adequately characterized the potential geological and soils hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility; and

(d) The applicant can design, engineer and construct the facility to avoid dangers to human safety and the environment presented by the hazards identified in subsection (c).

(2) The Council may not impose the Structural Standard in section (1) to approve or deny an application for an energy facility that would produce power from wind, solar or geothermal energy. However, the Council may, to the extent it determines appropriate, apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

(3) The Council may not impose the Structural Standard in section (1) to deny an application for a special criteria facility under OAR 345-015-0310. However, the Council may, to the extent it determines appropriate, apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.[22]

III.C.1. Findings of Fact

The analysis area for the Structural Standard is the area within the proposed amended site boundary. Earthquakes and faults are evaluated within 50-miles of the proposed amended site boundary.

Seismic Hazard Risk at Site

Potential seismic hazards in the analysis area result from two principal types of earthquake sources: Cascadia Subduction Zone (CSZ) interface and local crustal faults. Potential seismic hazards from a design seismic event for the facility include seismic shaking or ground motion, fault displacement, instability from landslides or subsurface movement, and adverse effects from groundwater or surface water. The analysis area is over 200 miles from the CSZ, no mapped active crustal faults are located within six miles of the site, and risk of fault rupture is low. (See Figure 4 below).

The Cascadia earthquake hazard is moderate, but ground shaking seismic hazards in the analysis area are generally relatively low. Due to the gently sloping topography of the site, the risk of seismically-induced landslides is low. Additionally, the site is not located near a body of water large enough to develop a significant tsunami wave resulting from a seismic event. Therefore, the risk of tsunami inundation at the site is extremely low to non-existent.

The USGS earthquake hazard tool analysis was run for the proposed amended site boundary; the design event (6.3 magnitude earthquake) has a 2 percent probability of exceedance in 50 years, or a 2,475-year return period. This event has a peak ground acceleration (PGA) of 0.2454 acceleration from gravity at the bedrock surface. The values of PGA on rock are an average representation of the acceleration most likely to occur at the site for all seismic events (crustal, intraplate, or subduction).

Seismic design parameters were developed following IBC 2021. Using current information, the facility proposed in RFA4 will be designed for Site Class D, according to IBC. Site Class D represents the loess (eolian sand and ash) deposits that are rated very strong, and Site Class C represents the Missoula Flood deposits that consist of silts, sands, and fine gravels that are predominant. Previous geotechnical studies have used Site Class D for project designs. Probabilistic seismic hazard analysis were completed for disaggregation at a 475-year and 2,475-year period return to estimate the likelihood of ground shaking at the site.

[22] OAR 345-022-0020, effective October 18, 2017, as amended by minor correction filed May 28, 2019.

Non-seismic Geologic and Soils Hazards

Potential non-seismic hazards in the analysis area include landslides, flooding, erosion and volcanic eruption. As shown in Figure 5, the risk of non-seismic landslide and erosion in the analysis area is low.

Figure 4: Seismic Risks in Analysis Area

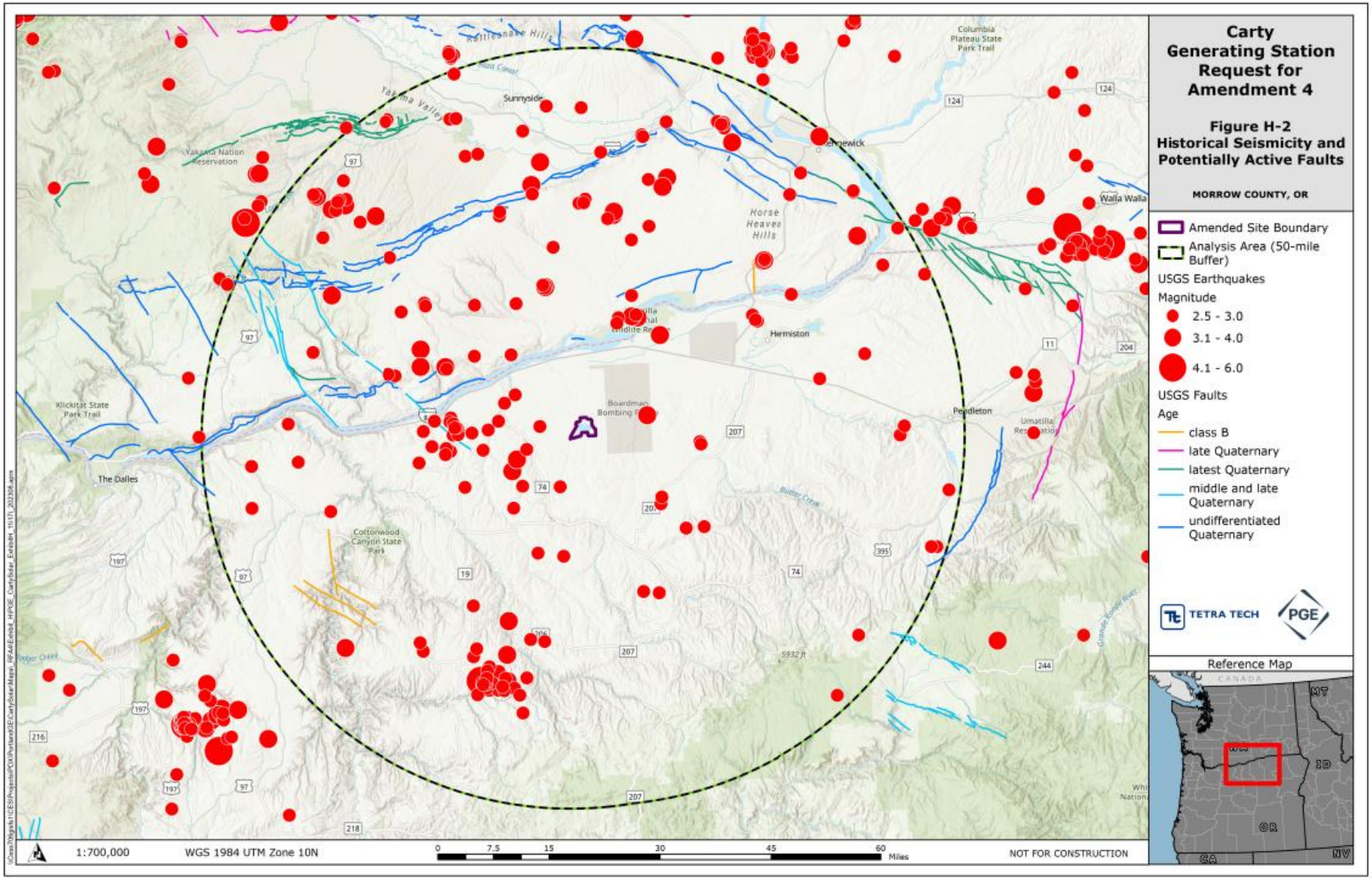
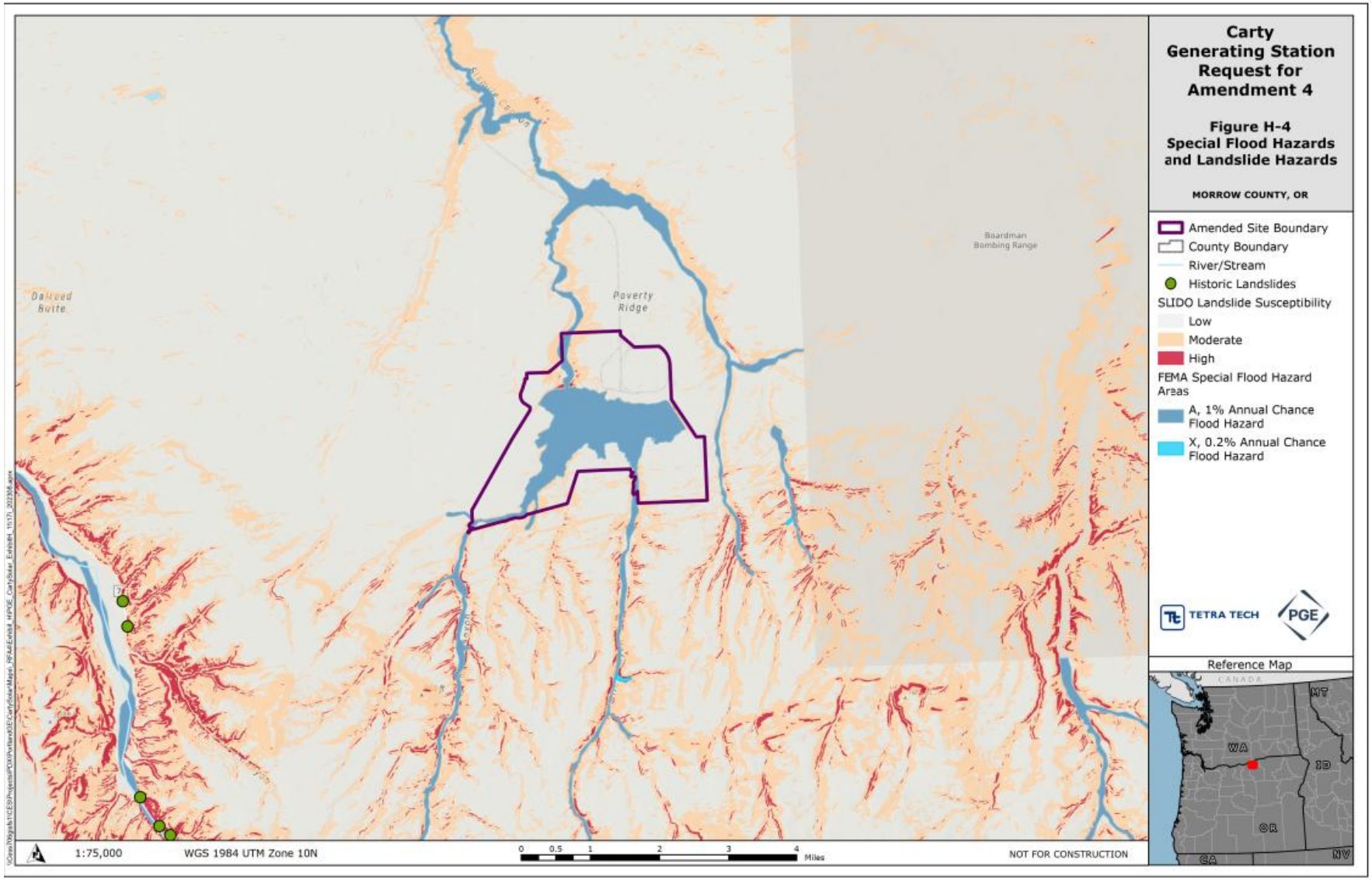


Figure 5: Non-Seismic Risk of Flood or Landslides



Measures to Minimize Seismic and Non-seismic Hazards

The Department recommends that the Council impose the following conditions to ensure that the preconstruction, site specific geotechnical investigation is completed and submitted to the Department, and that the evaluation demonstrates that final facility design is based on applicable building and structural requirements at the time of construction, as presented below:

> **Recommended Structural Standard Condition 1 (PRE):** Prior to construction of the solar facility or phase, as applicable, the Certificate Holder shall submit a site-specific geotechnical investigation report, consistent with the Oregon State Board of Geologist Examiners Guideline for Preparing Engineering Geologic Reports, or newer guidelines if available to the Department, for review in consultation with its third-party consultant. [PRE-SS-01; Final Order on AMD4]
>
> **Recommended Structural Standard Condition 2 (GEN):** The Certificate Holder shall design, engineer, and construct the facility in accordance with the versions of the International Building Code, Oregon Structural Specialty Code, and local building codes in effect at the time of construction.
> [GEN-SS-01; Final Order on AMD4]

III.C.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the recommended site certificate conditions described above, the Department recommends that the Council find the Certificate Holder has adequately characterized potential seismic and geologic hazards at the site and can design, engineer and construct the facility, with the proposed changes, to avoid dangers to human safety and the environment presented by those hazards.

III.D. SOIL PROTECTION: OAR 345-022-0022

> *To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are not likely to result in a significant adverse impact to soils including, but not limited to, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills.*[23]

III.D.1. Findings of Fact

The analysis area for Soil Protection is the area within the proposed amended site boundary.

[23] OAR 345-022-0022, effective May 15, 2007.

Current Land Use

The analysis area is zoned Exclusive Farm Use (EFU) and General Industrial (MG) by Morrow County (see RFA4 Exhibit K and *Section III.E: Land Use* of this Order). The MG zoned land is the former location of the now-decommissioned Boardman Coal Plant. The EFU-zoned land is owned by the Certificate Holder and Threemile Canyon Farms, an operational agricultural entity. The EFU land owned by the Certificate Holder is vacant. The EFU land within the analysis area that is owned by Threemile Canyon Farms includes portions of actively cultivated land with several irrigated crop circles. In RFA4 the Certificate Holder states that the construction and operations of the Carty Solar Farm, with RFA4 proposed changes, will not disturb any areas used for irrigated crop circles or for other agricultural activities.

Identification of Soils in Analysis Area

For RFA4, the Certificate Holder conducted an updated desktop analysis for the analysis area relying on the Natural Resources Conservation Service (NRCS) 2023 Soil Survey Database for Morrow County[24] resulting in the identification of the following 11 soil types as shown in Table 5 and in Figures 4 and 5, below. In addition to identifying soil types, RFA4 included information on "sensitive soils" within the analysis area. Soil types identified as sensitive are moderately-to-highly prone to erosion by stormwater, have high fugitive dust resistance, and low soil compaction resistance.

The Department reviewed the source and information relied upon in RFA4 to identify and characterize the soils within the RFA4 analysis area and recommends that Council find that the Certificate Holder has relied upon accurate information and has adequately and accurately identified and characterized soil types and potential risks associated with those soil types for the RFA4 analysis area.

[24] NRCS (Natural Resources Conservation Service). 2023. Gridded Soil Survey Geographic Database for Oregon. United States Department of Agriculture, Natural Resources Conservation Service. Requested for RFA4 September 2023. Available at: https://gdg.sc.egov.usda.gov . Accessed by the Department 2024-03-29.

Table 5: NRCS Soil Types in RFA4 Analysis Area

Soil Unit (NRCS Soil Type ID)	Formation Setting	Percent of Analysis Area	Permeability	Runoff	K-factor	Hazard for Erosion	Wind Erosion Rating[1]	Sensitive Soils		
								Erosion Hazard Stormwater	Fugitive Dust Resistance	Soil Compaction Resistance
Dune land (9)	Eolian sand	3.42%	Not rated	Not rated	(0.15-0.15)	Not rated	1	Not rated	Low resistance to dust propagation	Low
Royal silt loam, 0 to 3 percent slopes (53A)	Alluvium and glaciofluvial deposits reworked by wind	2.32%	Very High	Low	(0.28-0.28)	Slight	2	Slight	Slight	High
Sagehill fine sandy loam, 2 to 5 percent slopes (54B)	Sandy eolian deposits and loess over lacustrine deposits	37.59%	High	Moderately Low	(0.32-0.32)	Moderate	3	Slight	Slight	Medium
Sagehill fine sandy loam, 12 to 20 percent slopes (54D)	Sandy eolian deposits and loess over lacustrine deposits	3.72%	High	Moderately Low	(0.32-0.32)	Severe	3	Moderate	Moderate	Medium
Sagehill fine sandy loam, hummocky, 2 to 5 percent slopes (55B)	Sandy eolian deposits and loess over lacustrine deposits	17.41%	High	Moderately Low	(0.32-0.32)	Moderate	3	Slight	Slight	Medium
Sagehill fine sandy loam,	Sandy eolian deposits and	8.63%	High	Moderately Low	(0.32-0.32)	Severe	3	Slight	Slight	Medium

Table 5: NRCS Soil Types in RFA4 Analysis Area

Soil Unit (NRCS Soil Type ID)	Formation Setting	Percent of Analysis Area	Permeability	Runoff	K-factor	Hazard for Erosion	Wind Erosion Rating[1]	Sensitive Soils		
								Erosion Hazard Stormwater	Fugitive Dust Resistance	Soil Compaction Resistance
hummocky, 5 to 12 percent slopes (55C)	loess over lacustrine deposits									
Taunton fine sandy loam, 2 to 5 percent slopes (58B)	Eolian sands over strongly cemented alluvium	21.45%	Moderate	Moderately High	(0.28-0.28)	Moderate	3	Slight	Slight	Medium
Taunton fine sandy loam, 5 to 12 percent slopes (58C)	Eolian sands over strongly cemented alluvium	4.65%	Moderate	Moderately High	(0.28-0.28)	Severe	3	Slight	Slight	Medium
Warden silt loam, 20 to 40 percent slopes (71E)	Loess over calcareous lacustrine deposits	0.07%	High	Moderately Low	(0.55-0.55)	Severe	3	Moderate	Moderate	High
Xeric Torriorthents, nearly level (78)	Eolian sands and alluvium	0.73%	Very High	Low	(0.24-0.24)	Slight	3	Slight	Slight	Medium

Figure 4: Soils Identified in RFA4 Analysis Area

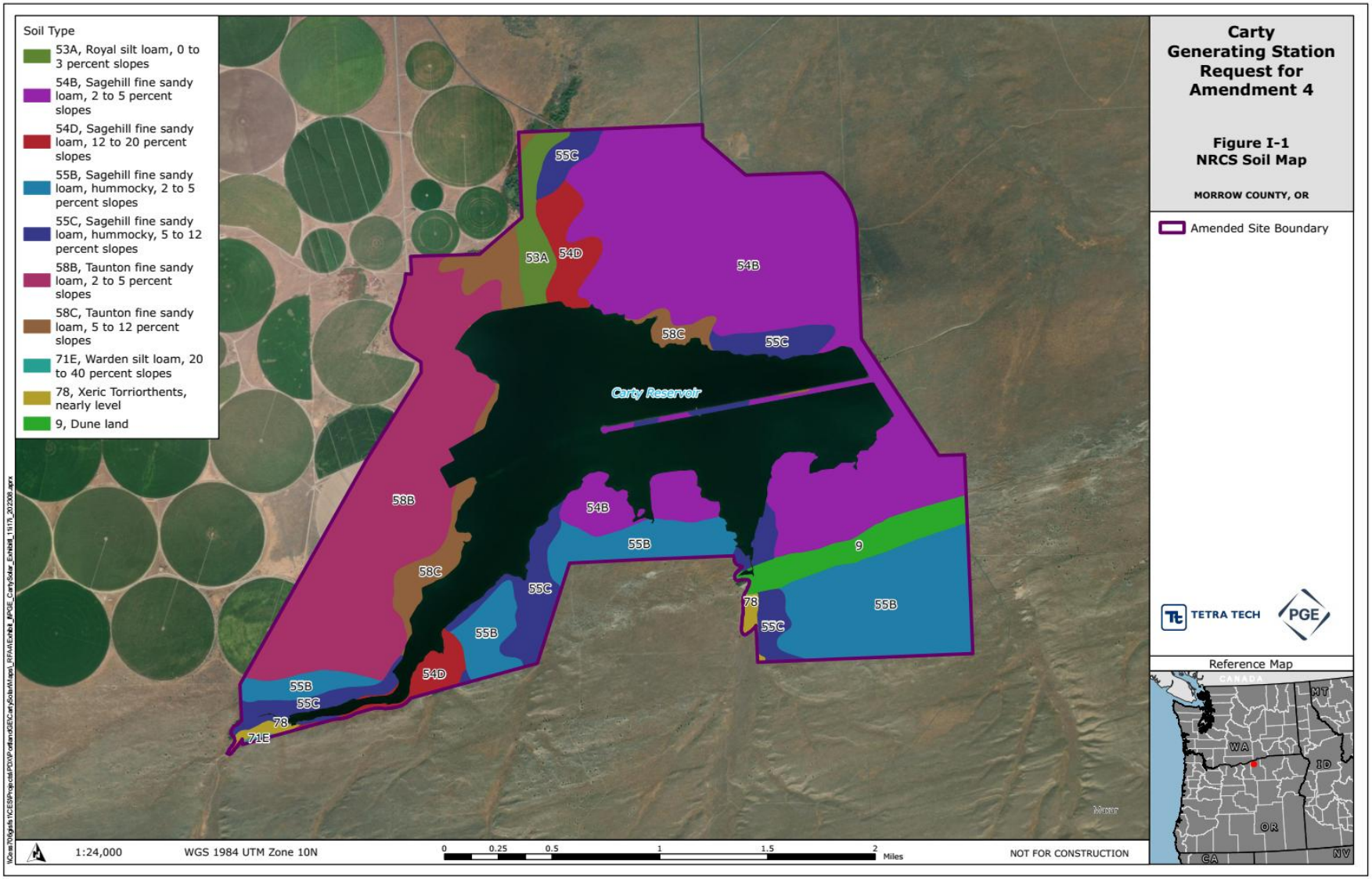
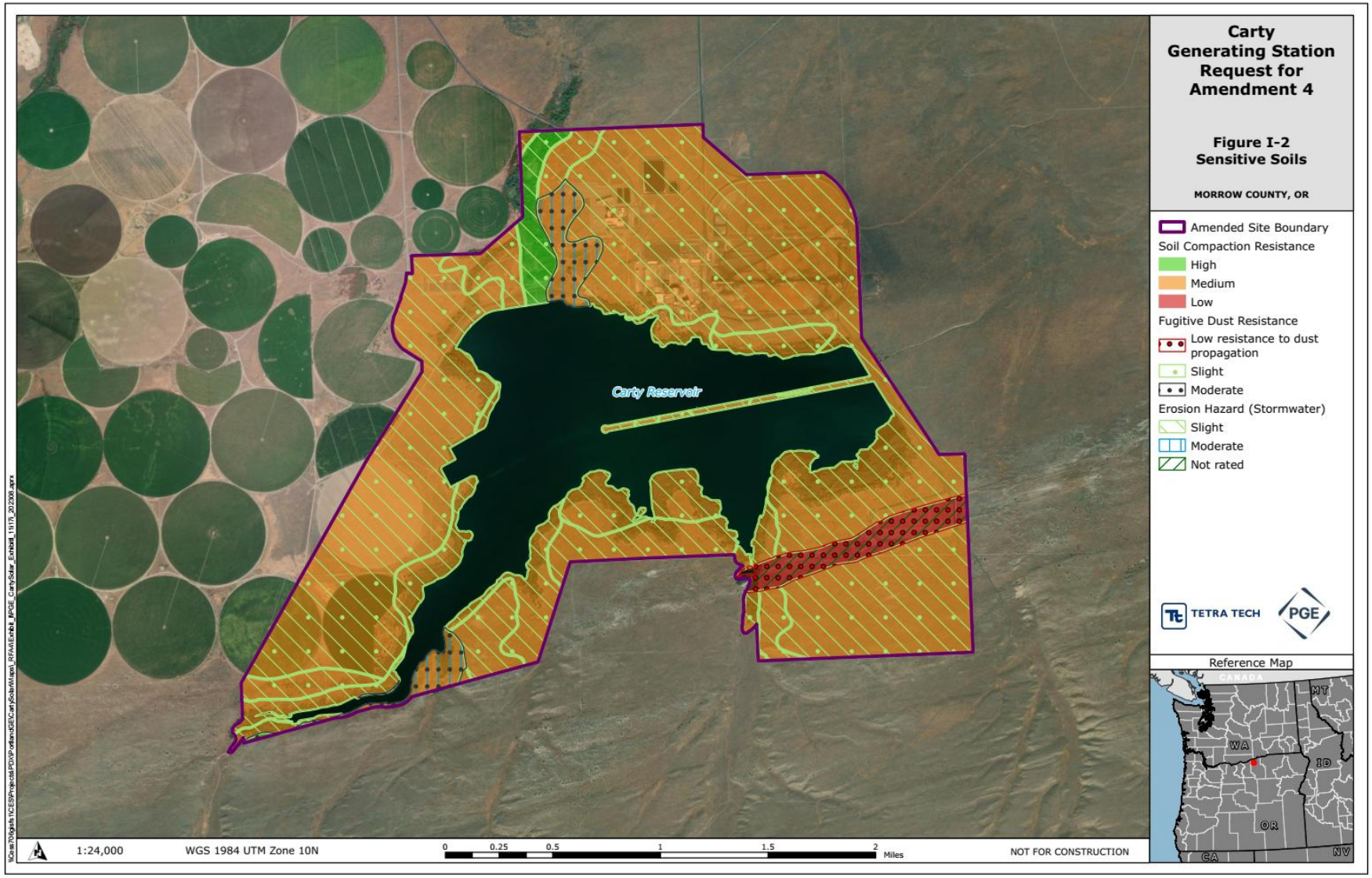


Figure 5: Sensitive Soils Identified in RFA4 Analysis Area



RFA4 Potential Impacts to Soils

Construction

Construction of the facility components proposed in RFA4 will require many ground-disturbing activities that could adversely impact soils including:

- Clearing and grubbing vegetation around temporary construction areas, solar arrays, the collector lines, the battery energy storage system foundation, collector circuits, substation construction areas, and new access roads;
- Grading and excavation activities;
- Constructing new access roads and improving existing roads;
- Operating and moving cranes;
- Using heavy equipment and hauling trucks to delivery aggregates, concrete, water, solar components, and construction supplies; and
- Fueling or maintaining construction equipment or vehicles.

In RFA4, the Certificate Holder commits to implementing the following Best Management Practices (BMPs) in addition to those identified and required in the ESCP:

- Stabilized Construction Entrances/Exits – Stabilized construction entrances or exits will be installed where construction vehicles move from newly constructed roads or disturbed areas to paved roads. The stabilized construction entrances and exits will be inspected and maintained for the life of the Facility.
- Dust Abatement Measures – Compact filling and appropriate dust abatement measures such as restricting vehicle speeds; watering active areas stockpiles, and roadways; track-out control at site exits; and other measures may be used.
- Preserving Existing Vegetation – To the extent practicable, existing vegetation will be preserved. Where vegetation clearing is necessary, root systems would be conserved if possible.
- Silt Fencing – Silt fencing will be installed throughout the construction area as a perimeter control, material stockpile perimeter control, and on the contour downgradient of excavations.
- Straw Wattles – Straw wattles may be used to decrease the velocity of sheet flow stormwater to prevent erosion. Wattles will be used along the downgradient edge of access roads adjacent to slopes or sensitive areas.
- Mulching – Mulch may be used to stabilize areas of soil disturbance quickly and during reseeding.
- Stabilization Matting – Jute matting, straw matting, or turf reinforcement matting may be used with mulching to stabilize steep slopes exposed during access road installation.
- Soil Binders and Tackifiers – Soil binders and tackifiers may be used on exposed slopes to stabilize them until vegetation is established.
- Concrete Washout Area – Concrete chutes and trucks will be washed out in dedicated areas near foundation construction locations or areas previously impacted by the Boardman Coal Plant. This will keep concrete washout water in a localized area.

- Stockpile Management – Soil from excavations will be temporarily stockpiled and used onsite. Soils will be stockpiled and reused to prevent productive topsoils from mixing with deeper subsoils. Silt fence will be installed around the stockpile material as a perimeter control. Mulch or plastic sheeting will be used to cover the stockpiled material, if needed. Stockpiles will be watered, if needed, to reduce erosion.
- Revegetation – The site will be revegetated with an approved seed mix after construction activities. When required, the seed will be applied with mulch or stabilization matting to protect the growing grass seed. Revegetation will occur as soon as is practicable following construction.
- Pollutant Management – During construction, source control measures will be implemented to minimize the likelihood of chemicals polluting surface water or groundwater. Chemical pollution could occur as a release of diesel fuel or lubricating oils or improper debris and waste handling. Small quantities of fuels and oils may be kept onsite in a dedicated area during construction and operation. Construction vehicles will be fueled and maintained only in dedicated areas. Any spills would be cleaned up immediately.
- Construction Timing – Whenever possible, construction activities will be scheduled in the dry season when soils are less susceptible to compaction.

Vegetation Management and Weed Control

The management of noxious weeds and other undesirable plants is important for maintaining long-term soil health at the site and ensuring the site can be returned to a useful, non-hazardous, condition after the facility components proposed in RFA4 are decommissioned. The treatment methods, monitoring procedures, and management objectives that will be used to control the introduction and spread of weeds have been incorporated into Appendix G of the Comprehensive Solar Revegetation and Soil Management Plan.

Weed Control BMPs required under the plan include flagging and treating areas of noxious weed infestations prior to construction, cleaning vehicles and equipment prior to ground disturbance, strategic use of herbicide, mechanical removal and revegetation of disturbed soils. Additional steps may include monitoring areas of disturbance for noxious weeds after construction, training construction and operations staff and limiting vehicle traffic in noxious weed-infested areas.

Prior to and during construction and operation of the facility components proposed in RFA4, the Certificate Holder will be required to hire a Weed Control Contractor responsible for performing weed control in accordance with the Comprehensive Solar Revegetation and Soil Management Plan under recommended Soil Protection Conditions 1 through 3.

The Department recommends that the Council finds that the methods, monitoring protocols, and reporting requirements related to revegetation, soil management, dust control, stormwater management, identified in the draft Construction and Operational Comprehensive Solar Revegetation and Soil Management Plan included as Attachments C-1 and C-2 to this

Order, demonstrate that the facility components proposed in RFA4 can be designed, constructed, and operated, in a manner that are not likely to result in a significant adverse impact to soils from erosion, compaction, or topsoil loss. To ensure the Certificate Holder finalizes and implements the plan, the Department recommends that the Council impose the following conditions:

Recommended Soil Protection Condition 1 (PRE): Prior to construction of the solar facility or phase, as applicable, the Certificate Holder shall obtain a NPDES 1200-C Permit from DEQ. A copy of the approved permit and attached Erosion and Sediment Control Plan (ESCP) must be submitted to the Department.
[PRE-SP-01; Final Order on AMD4]

Recommended Soil Protection Condition 2 (PRE): Prior to construction of the solar facility or phase, as applicable, the Certificate Holder shall:

a. Finalize the draft Comprehensive Solar Revegetation and Soil Management Plan included as Attachment C-1 to the Final Order on AMD4 based on final facility design. The final Comprehensive Solar Revegetation and Soil Management Plan shall be submitted to the Department for review and approval.
b. Complete all items included in the Pre-construction Compliance Checklist in the final plan, as applicable to the facility components or phase.

[PRE-SP-02, Final Order on AMD4]

Recommended Soil Protection Condition 3 (CON): During construction of the solar facility or phase, as applicable, the Certificate Holder shall:

a. Conduct all work in compliance with the NPDES 1200-C Permit and Erosion and Sediment Control Plan (ESCP) or revised ESCP if applicable. The ESCP shall be revised if determined necessary by the Certificate Holder, Certificate Holder's contractor(s) or the Department. Any Department-required ESCP revisions shall be implemented within 14-days, unless otherwise agreed to by the Department based on a good faith effort to address erosion issues.
b. Conduct all work in compliance with the Fugitive Dust Control Plan. The Fugitive Dust Control Plan may be amended, as needed, to ensure that control measures are effective at the site.

[CON-SP-01; Final Order on AMD4]

Recommended Soil Protection Condition 4 (CON) During and following construction of the solar facility or phase, as applicable, the Certificate Holder shall conduct all work in compliance with the Comprehensive Solar Revegetation and Soil Management Plan required under Condition PRE-SP-01.
[CON-SP-02, Final Order on AMD4]

Recommended Soil Protection Condition 5 (OPR) During operation of the solar facility, the Certificate Holder shall monitor and maintain vegetation and any necessary erosion controls in compliance with the Comprehensive Solar Revegetation and Soil

Management Plan required under Condition PRE-SP-01, as amended. The Certificate Holder shall include any reports required by the plan in the annual facility operations reports required under Condition OPR-OE-01.
[OPR-SP-01, Final Order on AMD4]

III.D.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the recommended site certificate conditions described above, the Department recommends the Council find that the facility, with proposed changes, is not likely to result in a significant adverse impact to soils.

III.E. LAND USE: OAR 345-022-0030

(1) To issue a site certificate, the Council must find that the proposed facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission.

(2) The Council shall find that a proposed facility complies with section (1) if:

(a) The applicant elects to obtain local land use approvals under ORS 469.504(1)(a) and the Council finds that the facility has received local land use approval under the acknowledged comprehensive plan and land use regulations of the affected local government; or

(b) The applicant elects to obtain a Council determination under ORS 469.504(1)(b) and the Council determines that:

(A) The proposed facility complies with applicable substantive criteria as described in section (3) and the facility complies with any Land Conservation and Development Commission administrative rules and goals and any land use statutes directly applicable to the facility under ORS 197.646(3);

(B) For a proposed facility that does not comply with one or more of the applicable substantive criteria as described in section (3), the facility otherwise complies with the statewide planning goals or an exception to any applicable statewide planning goal is justified under section (4); or

(C) For a proposed facility that the Council decides, under sections (3) or (6), to evaluate against the statewide planning goals, the proposed facility complies with the applicable statewide planning goals or that an exception to any applicable statewide planning goal is justified under section (4).

(3) As used in this rule, the "applicable substantive criteria" are criteria from the affected local government's acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application. If the special advisory group recommends applicable substantive criteria, as described under OAR 345-021-0050, the Council shall apply them. If the special advisory group does not recommend applicable substantive criteria, the Council shall decide either to make its own determination of the applicable substantive criteria and apply them or to evaluate the proposed facility against the statewide planning goals.

(4) The Council may find goal compliance for a proposed facility that does not otherwise comply with one or more statewide planning goals by taking an exception to the applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide planning goal pertaining to the exception process or any rules of the Land Conservation and Development Commission pertaining to the exception process, the Council may take an exception to a goal if the Council finds:

(a) The land subject to the exception is physically developed to the extent that the land is no longer available for uses allowed by the applicable goal;

(b) The land subject to the exception is irrevocably committed as described by the rules of the Land Conservation and Development Commission to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or

(c) The following standards are met:

(A) Reasons justify why the state policy embodied in the applicable goal should not apply;

(B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility; and

(C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.

(5) If the Council finds that applicable substantive local criteria and applicable statutes and state administrative rules would impose conflicting requirements, the Council shall resolve the conflict consistent with the public interest. In resolving the conflict, the Council cannot waive any applicable state statute.

(6) If the special advisory group recommends applicable substantive criteria for an energy facility described in ORS 469.300(11)(a)(C) to (E) or for a related or supporting facility that does not pass through more than one local government jurisdiction or more than three zones in any one jurisdiction, the Council shall apply the criteria recommended by the special advisory group. If the special advisory group recommends applicable substantive criteria for an energy facility described in ORS 469.300(11)(a)(C) to (E) or a related or supporting facility that passes through more than one jurisdiction or more than three zones in any one jurisdiction, the Council shall review the recommended criteria and decide whether to evaluate the proposed facility against the applicable substantive criteria recommended by the special advisory group, against the statewide planning goals or against a combination of the applicable substantive criteria and statewide planning goals. In making the decision, the Council shall consult with the special advisory group, and shall consider:

(a) The number of jurisdictions and zones in question;

(b) The degree to which the applicable substantive criteria reflect local government consideration of energy facilities in the planning process; and

(c) The level of consistence of the applicable substantive criteria from the various zones and jurisdictions.[25]

III.E.1. Findings of Fact

For RFA4, the Certificate Holder requested a Council determination that the facility proposed in RFA4 complies with the statewide land use planning goals under ORS 469.504(1)(b).

As presented in Figure 6 below, the facility proposed in RFA4 includes a photovoltaic solar power generation facility, to be located within Morrow County in two zones, Exclusive Farm Use (EFU) and General Industrial (MG). The Certificate Holder elected to obtain a Council determination of compliance with the applicable substantive criteria from Morrow County's acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals.[26] As provided in OAR 345-015-0180(4)(b)(A), the applicable substantive criteria in effect on the date the preliminary Request for Amendment was submitted, February 16, 2024, are considered in this review.

III.E.1.a. Local Applicable Substantive Criteria

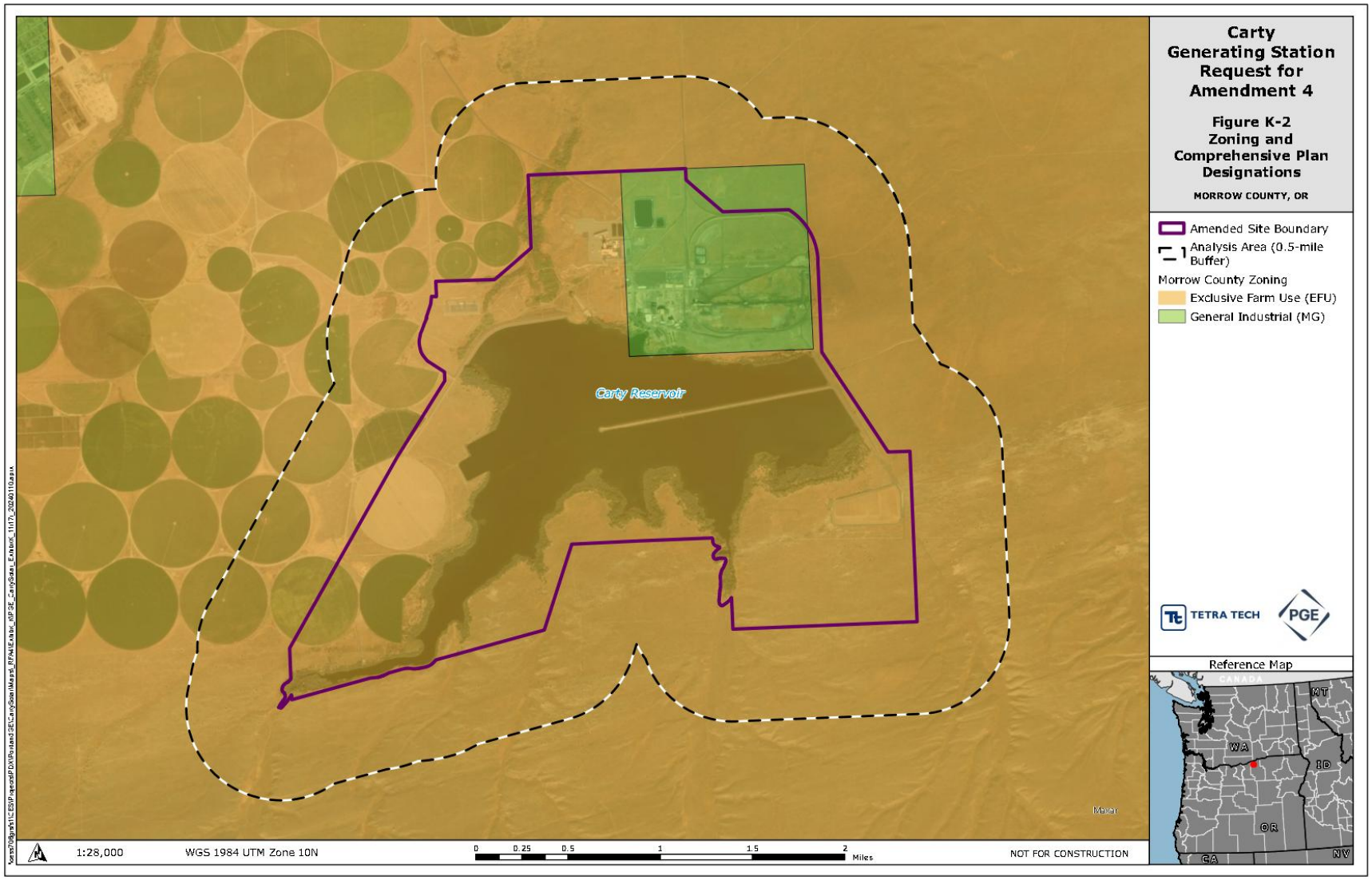
[25] OAR 345-022-0030, effective September 3, 2003, as amended by minor correction filed May 28, 2019.
[26] CGSAMD4 Exhibit K, Section 1.0.

Applicable substantive criteria for this use within EFU and MG zoned lands are presented in Table 6 below.

Table 6: Morrow County Applicable Substantive Criteria

Morrow County Zoning Ordinance (MCZO)	
*Article 1 – Introductory Provisions**	
Section 1.050	Zoning Permit
Article 3 – Use Zones	
Section 3.010	Exclusive Farm Use, EFU Zone
3.010.M	Yards
3.010.N	Transportation Impacts
Section 3.070	General Industrial Zone, MG
3.070.D	Dimensional Requirements
3.070.E	Transportation Impacts
Article 4 – Supplementary Provisions	
Section 4.040	Off-Street Vehicle Parking Requirements
Article 6 – Conditional Uses	
Section 6.020	General Criteria
Section 6.025	Resource Zone Standards for Approval
Section 6.030	General Conditions

Figure 6: Land Use Zones within the Analysis Area



MCZO 1.050: Zoning Permit

> *Prior to the construction, reconstruction, alteration, or change of use of any structure larger than 100 square feet or use for which a zoning permit is required, a zoning permit for such construction, reconstruction, alteration, or change of use or uses shall be obtained from the Planning Director or authorized agent thereof. A zoning permit shall become void after 1 year unless the development action has commenced. A 12-month extension may be granted when submitted to the Planning Department prior to the expiration of the approval period. At the Planning Director's sole discretion, the Director may refer any Zoning Permit application to the Planning Commission for consideration and decision, following notice and public hearing consistent with the public hearing procedures in Section 9.050.*

Because the facility proposed in RFA4 would be larger than 100 square feet, the Certificate Holder must obtain a Zoning Permit from the Morrow County Planning Director prior to construction. As discussed in more detail below, solar photovoltaic power generation facilities are conditionally allowed use in Morrow County's EFU Zone, and as such, a Conditional Use Permit (CUP) would also be required. Because Carty Generating Station is an existing facility with a county-issued CUP, the CUP would need to be amended.[27]

To ensure the Certificate Holder obtains the necessary local land use permits, the Department recommends that the Council impose Land Use Condition 1, as presented below.

> **Land Use Condition 1 (PRE):** Prior to construction of the solar facility or phase, as applicable, the Certificate Holder must provide to the Department a copy of the approved amended Conditional Use Permit and applicable Zoning Permit(s). [PRE-LU-01; Final Order on AMD4]

Based on compliance with the above recommended condition, the Department recommends that the Council find that the Certificate Holder would comply with MCZO 1.050.

MCZO 3.010.C.24 and K.3: Commercial Photovoltaic Solar Power Generation Facilities

> *C. Conditional Uses. The following uses are permitted subject to county review, any specific standards for the use set forth in Section D, Article 6, the general standards for the zone, and any other applicable standards and review process in the ordinance:*
>
> *****

[27] CGSAMD4 pRFA4 Morrow County SAG Comment 2024-04-03. Special Advisory Group, Morrow County Board of Commissioners, identified that the Certificate Holder would be required to amend to amend the CUP to address the changes presented in RFA4.

24. Photovoltaic solar power generation facilities as commercial utility facilities for the purpose of generating power for public use by sale subject to Subsection K.3.

MCZO 3.010.C.24 identifies "photovoltaic solar power generation facility" as a conditional use in the EFU zone, subject to the requirements in MCZO 3.010.K.3. MCZO 3.010.K.3 establishes the applicable conditional use requirements for the use within the zone. These requirements mirrored Land Conservation and Development Commission's (LCDC) administrative rules governing conditional uses in EFU zones in 2018, specifically OAR 660-033-0130(38). However, LCDC has since amended OAR 660-033-0130(38) resulting in inconsistent requirements under MCZO 3.010.K.3.[28] The Certificate Holder is required to comply with OAR 660-033-0130(38).[29] The Council is not required to apply both the current OAR 660-033-0130(38) rules and the local code mirroring a prior version of 660-033-0130(38), and instead must only apply OAR 660-033-0130(38) in effect at the time of this Order. OAR 660-033-0130(38) is evaluated under the subheading *Directly Applicable State Rules and Statutes*.

MCZO 3.010.M: Yards

In an EFU Zone, the minimum yard setback requirements shall be as follows:

1. The front yard setback from the property line shall be 20 feet for property fronting on a local minor collector or marginal access street ROW, 30 feet from a property line fronting on a major collector ROW, and 80 feet from an arterial ROW unless other provisions for combining accesses are provided and approved by the County.

2. Each side yard shall be a minimum of 20 feet except that on corner lots or parcels the side yard on the street side shall be a minimum of 30 feet.

3. Rear yards shall be a minimum of 25 feet[.]

4. Stream Setback. All sewage disposal installations such as outhouses, septic tank and drainfield systems shall be set back from the high-water line or mark along all streams and lakes a minimum of 100 feet, measured at right angles

[28] LCDC 2019 amendments to OAR 660-033-0130(38) including clarifying the 12- and 20-acreage threshold phrasing from "preclude" to "using, occupying or covering"; added restrictions for development on highest value soils; and, revised soil siting criteria.

[29] The Council's Land Use standard requires that an applicant or Certificate Holder demonstrate compliance with applicable substantive criteria, any LCDC administrative rules and goals, and any land use statutes directly applicable to the facility under ORS 197.646(3). OAR 345-022-0030(3) defines "applicable substantive criteria" as "criteria from the affected local government's acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application." Thus, it is only the applicable substantive criteria that are subject to the "goal post" rule.

to the high-water line or mark. All structures, buildings, or similar permanent fixtures shall be set back from the high-water line or mark along all streams or lakes a minimum of 100 feet measured at right angles to the high-water line or mark.

MCZO 7.010(B) establishes exceptions to yard requirements and includes exceptions for non-building features. "Buildings" are defined as structure built for support, shelter, or enclosure of persons, animals, chattels, or property of any kind."[30] Facility components proposed in RFA4 including solar modules and supporting structures, underground facilities, access roads and driveways, and fences are not subject to the setback requirements in MCZO 3.010.M as these facility components are not "buildings."

The proposed O&M building and substation, however, would constitute a "building" within the meaning of the MCZO and be subject to applicable setback standards. There are no major collector or arterial rights-of-way (ROWs) within or near the site boundary so the applicable EFU setbacks for the O&M building and substation are the rear and side yard setbacks in MCZO 3.010(2) and (3). The Department recommends that the Council impose Land Use Condition 2, requiring compliance with the applicable setback requirements, as presented below.

Recommended Land Use Condition 2 (PRE): Prior to construction of the operations and maintenance building and substation, as applicable, the Certificate Holder shall demonstrate that the final design adheres to the following setbacks:

a. Side yard setbacks from the building to the property line must be at least 20 feet except that on corner lots or parcels the side yard on the street side shall be a minimum of 30 feet.
b. Rear yard setbacks from the building to the property line must be at least 25 feet.

[PRE-LU-02; Final Order on AMD4]

Subject to compliance with this recommended condition, the Department recommends that the Council find that the facility as proposed in RFA4 complies with the requirements of MCZO 3.010.M.

MCZO 3.010.N: Transportation Impacts

1. Traffic Impact Analysis (TIA). In addition to the other standards and conditions set forth in this section, a TIA will be required for all projects generating more than 400 passenger car equivalent trips per day. Heavy vehicles – trucks, recreational vehicles and buses – will be defined as 2.2 passenger car equivalents. A TIA will include: trips generated by the project, trip distribution for the project, identification of intersections for which the project adds 30 or more peak hour passenger car equivalent trips, and level of

[30] MCZO 1.030 defines a "building" as "a structure built for support, shelter, or enclosure of persons, animals, chattels, or property of any kind."

service assessment, impacts of the project, and, mitigation of the impacts. If the corridor is a State Highway, use ODOT standards. (MC-C-8-98)

Construction of the facility proposed in RFA4 will generate approximately 433 trips per day (includes both passenger car equivalent and truck trips). Operation of the facility proposed in RFA4 will generate approximately 12 two-way car equivalent trips per day.

As evaluated in Section III.M. Public Services, the Department recommends that Council impose a condition requiring that, prior to construction, the Certificate Holder be required to develop a finalize a Construction Traffic Management Plan, governed by a Road Use Agreement executed between Certificate Holder and county Road Department. Subject to compliance with these conditions, the Department recommends that the Council find that the facility as proposed in RFA4 complies with the requirements of MCZO 3.010.N.

MCZO 3.070. MG A. Uses Permitted Outright

The General Industrial Zone is intended to provide, protect and recognize areas well suited for medium and heavy industrial development and uses free from conflict with commercial, residential and other incompatible land uses. This district is intended to be applied generally only to those areas which have available excellent highway, rail or other transportation.

In an M-G Zone, the following uses and their accessory uses are permitted outright; except as limited by subsection C of this section. A Zoning Permit is required and projects larger than 100 acres are subject to Site Development Review (Article 4 Supplementary Provisions Section 4.170 Site Development Review).

15. Utility, transmission and communications towers less than 200 feet in height.

The facility proposed in RFA4 includes approximately 300 feet of a new 500-kV transmission line connecting the proposed collector substation to an existing 100-foot-tall transmission line dead-end structure. Because the proposed transmission line will be less than 200 feet tall, it is a use permitted outright in the MG zone.

However, the MG zone does not identify power generation facilities, including photovoltaic (PV) solar facilities, as permitted outright or conditional uses. Although Morrow County applied the MG zone to the former Boardman Coal Plant (BCP) site in recognition of its use as a power plant, the proposed solar generation components are not identified as an allowable use in the zone.

The facility proposed in RFA4 includes PV solar generation in the area formerly occupied by the BCP, referred to as the Northern Solar Area. Because solar generation is not an allowable use in the MG zone, the Council must find that the facility proposed in RFA otherwise complies with applicable Statewide Planning Goals, as presented under the subheading, Stateline Planning Goals of this section.

MCZO 3.070. MG; D. Dimension Requirements

The following Dimensional requirements apply to all buildings and structures constructed, placed or otherwise established in the MG zone.

1. *Lot size and frontage: A minimum lot size has not been determined for this zone although the lot must be of a size necessary to accommodate the proposed use, however, it is anticipated that most, if not all uses will be sited on lots of at least two acres. The determination of lot size will be driven by the carrying capacity of the land given the proposed use. Minimum lot frontage shall be 300 feet on an arterial or collector; 200 feet on a local street.*

The portion of the facility proposed in RFA4 proposed to be located on MG-zoned lots were previously used for the Boardman Coal Plant. The lots are large enough to accommodate the proposed facility and are owned by PGE. Access will be provided via Tower Road, which extends approximately 5,000 feet onto PGE property. The proposed changes do not alter the existing lot configuration, ownership, or access arrangements. Based on these recommended findings of fact, the Department recommends that the Council find that the facility as proposed in RFA4 complies with the requirements of MCZO 3.070.MG.1.

2. *Setbacks: No specific side or rear yard setbacks are identified within this zone, but may be dictated by provisions of the Building Code or other siting requirements. The minimum setback between a structure and the right-of-way of an arterial shall be 50 feet. The minimum setback of a structure from the right-of-way of a collector shall be 30 feet, and from all lower class streets the minimum setback shall be 20 feet. There shall be no setback requirement where a property abuts a railroad siding or spur if the siding or spur will be utilized by the permitted use.*

MCZO 7.010(B) establishes exceptions to yard requirements and includes exceptions for non-building features. "Buildings" are defined as structure built for support, shelter, or enclosure of persons, animals, chattels, or property of any kind."[31] Facility components proposed in RFA4 including solar modules and supporting structures, underground facilities, access roads and driveways, and fences are not subject to the setback requirements in MCZO 3.070.D.2 as these facility components are not "buildings."

The proposed O&M building and substation, however, would constitute a "building" within the meaning of the MCZO and be subject to applicable setback standards. There are no major collector or arterial ROWs within or near the site boundary so the applicable EFU setbacks for the O&M building and substation are the rear and side yard setbacks in MCZO 3.010(2) and (3).

[31] MCZO 1.030 defines a "building" as "a structure built for support, shelter, or enclosure of persons, animals, chattels, or property of any kind."

The Department recommends that the Council impose Land Use Condition 2, requiring compliance with the applicable setback requirements, as presented under MCZO 3.010.M.

Subject to compliance with this recommended condition, the Department recommends that the Council find that the facility as proposed in RFA4 complies with the requirements of MCZO 3.070.MG.2.

> 3. *Stream Setback: All sewage disposal installations such as outhouses, septic tank and drainfield systems shall be set back from the high-water line or mark along all streams and lakes a minimum of 100 feet, measured at right angles to the high-water line or mark. All structures, buildings, or similar permanent fixtures shall be set back from the high-water line or mark along all streams or lakes a minimum of 10 feet measured at right angles to the high-water line or mark.*

The existing septic system is not located within 100 feet of streams or lakes as confirmed by the 2023 wetland and waters delineation. Therefore, the Department recommends that the Council find that the facility as proposed in RFA4 complies with the requirements of MCZO 3.070.MG.3.

> 4. *Uses adjacent to residential uses. A sight-obscuring fence shall be installed to buffer uses permitted in the General Commercial Zone from residential uses. Additional landscaping or buffering such as diking, screening, landscaping or an evergreen hedge may be required as deemed necessary to preserve the values of nearby properties or to protect the aesthetic character of the neighborhood or vicinity.*

The are no residential uses adjacent to or within proximity of the portion of the facility proposed in RFA4 proposed to be located on MG-zoned. Therefore, the Department recommends that the Council find that the facility as proposed in RFA4 complies with the requirements of MCZO 3.070.MG.4.

<u>MCZO 3.070. MG; E. Transportation Impacts</u>

> *1. Traffic Impact Analysis (TIA). In addition to the other standards and conditions set forth in this section, a TIA will be required for all projects generating more than 400 passenger car equivalent trips per day. Heavy vehicles B trucks, recreational vehicles and buses B will be defined as 2.2 passenger car equivalents. A TIA will include: trips generated by the project, trip distribution for the project, identification of intersections for which the project adds 30 or more peak hour passenger car equivalent trips, and level of service assessment, impacts of the project, and, mitigation of the impacts. If the corridor is a State Highway, use ODOT standards. (MC-C-8-98)*

This is the same evaluation required in EFU zoned land, and is not repeated here. See the evaluation of MCZO 3.010.N.

Section 4.040 Off-Street Vehicle Parking Requirements

Because vehicle parking facilities can occupy large amounts of land, they must be planned and designed carefully to use the land efficiently while maintaining the visual character of the community. At the time of construction, reconstruction, or enlargement of a structure, or at the time a use is changed in any zone, off-street parking space shall be provided as follows unless greater requirements are otherwise established. When the requirements are based on the number of employees, the number counted shall be those working on the premises during the largest shift at peak season. Fractional space requirements shall be counted as a whole space. Off-street parking spaces may include spaces in garages, carports, parking lots, and/or driveways if vehicles are not parked in a vehicle travel lane (including emergency or fire access lanes), public right-of-way, pathway or landscape area. The County may allow credit for "on-street parking", as provided in Section 4.050. For uses not specified in Table 4.040-1, parking requirements shall be determined by the use in Table 4.040-1 found to be most similar in terms of parking needs.

During construction, off-street parking will be made available at the temporary laydown areas. During operation, a total of at least 12 off-street parking spaces will be provided at the O&M building. No on-street parking is proposed.

Section 6.020 General Criteria

In judging whether or not a conditional use proposal shall be approved or denied, the Commission shall weigh the proposal's appropriateness and desirability, or the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed and, to approve such use, shall find that the following criteria are either met or can be met by observance of conditions.

A. The proposal will be consistent with the Comprehensive Plan and the objectives of the Zoning Ordinance and other applicable policies and regulations of the County.

Compliance with the applicable objectives of the Zoning Ordinance is provided in RFA4 and in this Land Use Section, including an evaluation of the request for a Goal 3 exception for the objectives that are not satisfied.

B. If located within the Urban Growth Boundary of a city, that said city has had an opportunity to review and comment on the subject proposal.

The facility proposed in RFA4 is not located within the Urban Growth Boundary of a city; therefore, this criterion is not applicable.

C. The proposal will not exceed carrying capacities of natural resources or public facilities.

Carrying capacity of natural resources and public facilities are addressed in the Soil Protection, Fish and Wildlife, Threatened and Endangered species, and Public Services sections of this order; the facility proposed in RFA4 as conditioned will not exceed any carrying capacities. Similarly, proposed design and recommended conditions together will avoid adverse impacts that could otherwise result from the authorization of the facility proposed in RFA4, while the public will benefit from the facility's production of emissions-free electricity. As such, the Department recommends the Council find that the facility proposed in RFA4 would be consistent with MCZO Section 6.020.

Section 6.025 Resource Zone Standards for Approval

A. In the Exclusive Farm Use zone a conditional use may be approved only when the County finds that the use will not:

1. *Force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; or*
2. *Significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.*

MCZO 6.025.A mirrored LCDC's administrative rules governing conditional uses in EFU zones in 2020, specifically OAR 660-033-0130(5). However, LCDC has since amended OAR 660-033-0130(5) resulting in inconsistent requirements under MCZO 6.025. The Certificate Holder is required to comply with OAR 660-033-0130(5). The Council is not required to apply both the current OAR 660-033-0130(5) rules and the local code mirroring a prior version of 660-033-0130(5), and instead must only apply OAR 660-033-0130(5) in effect at the time of this Order. OAR 660-033-0130(5) is evaluated under the subheading *Directly Applicable State Rules and Statutes*.

Section 6.030 General Conditions

In addition to the standards and conditions set forth in a specific zone, this article, and other applicable regulations; in permitting a new conditional use or the alteration of an existing conditional use, the Commission may impose conditions which it finds necessary to avoid a detrimental impact and to otherwise protect the best interests of the surrounding area or the County as a whole. These conditions may include the following:

A. Limiting the manner in which the use is conducted including restricting the time an activity may take place and restraints to minimize such environmental effects as noise, vibration, air pollution, glare and odor.

Operation of the facility proposed in RFA4 will not produce noticeable vibration, air pollution, or odors. Noise associated with the facility proposed in RFA4 would be minimal, as presented in RFA4 Exhibit X and evaluated in Section IV.A Noise Control Regulation of this Order. The facility proposed in RFA4 has the potential to increase light pollution in a manner that impacts adjacent habitats, but those potential impacts will be avoided by the conditions discussed in the Fish and Wildlife and Threatened and Endangered Species sections of this order. With respect to glare, the Federal Aviation Administration has issued a determination of no hazard.

B. Establishing a special yard or other open space or lot area or dimension.

The facility proposed in RFA4 does not include the creation or reconfiguration of any lots. Recommended Land Use Condition 2 requires compliance with the yard and setback requirements of the MG zone and the EFU zone.

C. Limiting the height, size or location of a building or other structure

As discussed in the Scenic Resources, Protected Areas, and Recreation sections of this order, the proposed structures would not have any adverse visual impacts, making conditions limiting height to an elevation below what is currently proposed unnecessary. The micrositing area and various conditions (e.g., requirements to avoid Category 1 habitat impacts) evaluated in this order limit the location and size of the proposed facility to the extent appropriate.

D. Designating the size, number, location and nature of vehicle access points.

1. Where access to a county road is needed, a permit from Morrow County Public Works department is required. Where access to a state highway is needed, a permit from ODOT is required.

RFA4 does not propose or request new vehicle access to a county road or state highway.

2. In addition to the other standards and conditions set forth in this section, a Traffic Impact Analysis (TIA) will be required for all projects generating more than 400 passenger car equivalent trips per day. A TIA will include: trips generated by the project, trip distribution for the project, identification of intersections for which the project adds 30 or more peak hour passenger car equivalent trips, and level of service assessment, impacts of the project, and mitigation of the impacts. If the corridor is a State Highway, use ODOT standards. (MC-C-8-98)

This is the same evaluation required in EFU zoned land, and is not repeated here. See the evaluation of MCZO 3.010.N.

E. Increasing the amount of street dedication, roadway width or improvements within the street right-of-way.

1. It is the responsibility of the landowner to provide appropriate access for emergency vehicles at the time of development. (MC-C-8-98)

Tower Road provides access to the site. No new access or street dedication is necessary.

F. Designating the size, location, screening, drainage, surfacing or other improvement of a parking area or loading area.

The facility proposed in RFA4 includes an operations and maintenance building with designated parking, which will include 12 standard parking spots and one ADA spot. Larger temporary parking areas will be used during construction. Proposed parking will be adequate to serve demand at the facility and no conditions are necessary to specify parking details.

G. Limiting or otherwise designating the number, size, location, height, and lighting of signs.

RFA4 does not propose or request any signs.

H. Limiting the location and intensity of outdoor lighting and requiring its shielding.

Condition 6.14 regulates outdoor lighting at the facility.

I. Requiring diking, screening, landscaping or another facility to protect adjacent or nearby property and designating standards for its installation and maintenance.

As discussed in the Scenic Resources section of this order, the facility proposed in RFA4 is not adjacent to any uses that require or would otherwise benefit from diking, screening, landscaping or other protection.

J. Designating the size, height, location and materials for a fence.

The perimeter fencing around Northern Solar Area, Southern Solar Area, and BESS will be chain-link, up to 8 feet in height, with an additional 1 foot of razor or barb wire. The collector substation perimeter fence will be chain-link, up to 11 feet in height, with an additional 1 foot of razor or barb wire.

K. Protecting and preserving existing trees, vegetation, water resources, wildlife habitat or other significant natural resources.

Protection of these resources is covered in the findings and conditions in the Soil Protection, Wetlands, Fish and Wildlife, and Threatened and Endangered Species sections of this order.

L. Other conditions necessary to permit the development of the County in conformity with the intent and purpose of this Ordinance and the policies of the Comprehensive Plan.

To the extent that such other additional conditions are needed, they are described and imposed under the sections of this order that cover compliance with the other Council standards.

Directly Applicable State Rules and Statutes

OAR 660-033-0130(5) – Farm Impacts Test

(5) Approval requires review by the governing body or its designate under ORS 215.296. Uses may be approved only where such uses:

(a) Will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; and
(b) Will not significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.

(c) For purposes of subsection (a) and (b), a determination of forcing a significant change in accepted farm or forest practices on surrounding lands devoted to farm and forest use or a determination of whether the use will significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use requires:

A. Identification and description of the surrounding lands, the farm and forest operations on those lands, and the accepted farm practices on each farm operation and the accepted forest practices on each forest operation;

For purposes of evaluating OAR 660-033-0130(5)(c), "surrounding lands" have been established as the parcels, or portions of parcels, within Morrow County that are immediately adjacent to and within 0.5 miles of the proposed amended site boundary (consistent with the Land Use analysis area).

The surrounding lands consist of cultivated croplands and non-cultivated lands, including portions associated with the Carty Generating Station. Cultivated lands are shown in RFA4 Land Use Exhibit, Figure K-9. Accepted farming practices primarily consist of irrigated crop cultivation. Non-productive agricultural areas between irrigated crop circles are used by Threemile Canyon Farms for access to cultivated fields but not for agricultural production

Lands north, east, and south of the proposed amended site boundary are entirely non-cultivated. Much of this land lies within a conservation area established under the MSCCAA and implemented through the MSCCAA Management Plan, as shown in RFA4 Land Use Exhibit, Figure K-10.

> *B. An assessment of the individual impacts to each farm and forest practice, and whether the proposed use is likely to have an important influence or effect on any of those practices; and*
>
> *C. An assessment of whether all identified impacts of the proposed use when considered together could have a significant impact to any farm or forest operation in the surrounding area in a manner that is likely to have an important influence or effect on that operation.*
>
> *D. For purposes of this subsection, examples of potential impacts for consideration may include but are not limited to traffic, water availability and delivery, introduction of weeds or pests, damage to crops or livestock, litter, trespass, reduction in crop yields, or flooding.*
>
> *E. For purposes of subsection (a) and (b), potential impacts to farm and forest practices or the cost of farm and forest practices, impacts relating to the construction or installation of the proposed use shall be deemed part of the use itself for the purpose of conducting a review under subsections (a) and (b).*
>
> *F. In the consideration of potentially mitigating conditions of approval under ORS 215.296(2), the governing body may not impose such a condition upon the owner of the affected farm or forest land or on such land itself, nor compel said owner to accept payment to compensate for the significant changes or significant increases in costs described in subsection (a) and (b).*

Potential impacts to farm practices on surrounding lands were evaluated, including traffic, water availability and delivery, introduction of weeds or pests, damage to crops or livestock, litter and trespass, and reduction in crop yields.

Traffic and Adjacent Access

Traffic impacts are expected to be manageable and not significantly interfere with agricultural activities based on the following findings of fact:

- Construction traffic will increase, with potential impacts to state and county roads, particularly during summer and early fall harvest periods.
- Traffic impacts on I-82 and I-84 are expected to be inconsequential.
- Coordination with ODOT and Morrow County will address road closures, construction impacts, and required permits.

- A Construction Traffic Management Plan/Road Use Agreement will address traffic impacts and mitigation.
- Operational traffic will be substantially lower than construction traffic, with up to 12 permanent employees and occasional service and delivery vehicles.

Water Availability and Delivery

No additional water rights are required, and impacts to existing water availability and delivery are not anticipated based on the following findings of fact:

- Existing water rights support irrigation at surrounding farms and power generation at the Carty Generating Station.
- Construction water will come from Carty Reservoir under an existing water right; the existing allocation is sufficient for construction needs.
- Potable water during construction will come from the existing facility water system or bottled water.
- Operational water use will be limited to domestic needs of no more than 5,000 gallons per day, with occasional solar panel washing supplied from Carty Reservoir if needed.

Weeds

Impacts to surrounding farming operations from noxious weeds are not anticipated based on the following findings of fact:

- A Vegetation and Soil Management Plan (VSMP) will address prevention, monitoring, and control of noxious weeds during construction and operation.
- Monitoring will occur before construction, during construction, and during operation.
- The final VSMP will be approved by the appropriate County weed control authorities before construction.

Damage to Crops or Livestock

Crop or livestock damage within the surrounding lands is not anticipated based on the following findings of fact:

- Construction will occur on non-cultivated land within the proposed amended site boundary.
- No livestock operations or grazing occur within the analysis area.
- Construction and operation are not expected to damage crops, impede agricultural operations, or prevent crops from receiving necessary sunlight, water, and nutrients.

Litter and Trespass

Significant impacts to farming practices from litter or trespass are not anticipated based on the following findings of fact:

- Construction waste will be collected in designated containers and removed for reuse, recycling, or disposal at approved facilities.
- Operational waste, including damaged equipment and routine maintenance materials, will be managed and disposed of in accordance with applicable requirements.
- Local landfills will be confirmed to have adequate capacity before construction.

- Law enforcement agencies have indicated that they can provide services without significantly affecting existing service levels.
- The facility will not be open to the public and will use locked gates, doors, lighting, and signage to restrict access.

Reduction in Crop Yields
Reduced crop yields on surrounding lands are not anticipated based on the following recommended findings of fact:

- No reduction in surrounding crop yields is anticipated because construction will occur on non-cultivated land.
- Dust and erosion will be controlled through water application and best management practices under the Erosion and Sediment Control Plan (ESCP).
- Traffic management measures will minimize disruption to agricultural activities and farm management schedules.
- Weed control measures will limit the spread of noxious weeds to surrounding agricultural lands.
- Existing water rights will continue to support surrounding irrigation needs.
- Reduced crop yields on surrounding lands are not anticipated.

Flooding
Flooding impacts to surrounding lands are not anticipated based on the following recommended findings of fact:

- Permanent facility structures will avoid mapped floodplains.
- The solar fenceline will result in 1.56 acres of permanent and 0.21 acres of temporary floodplain impacts along a southeastern reservoir drainage.
- Construction stormwater, erosion, and sediment will be managed under the NPDES 1200-C permit and ESCP.
- The ESCP will include erosion controls, spill prevention and response, proper disposal, equipment maintenance, and employee training.
- Construction and operational water use is expected to be low, with excess water primarily lost through evaporation and infiltration.
- Wastewater and solar panel wash water will be managed under the existing Water Pollution Control Facility (WPCF) permit and its addendum.

Based on the above recommended findings of fact and compliance with conditions recommended in this order, the Department recommends that the Council find that the potential impacts discussed above are not significant because either no impacts to farming operations within the surrounding lands are anticipated or compliance with recommended site certificate conditions will limit impacts to minimal levels.

<u>OAR 660-033-0130(38) – Minimum Standards for Photovoltaic Solar Power Generation Facilities</u>

(38) A proposal to site a photovoltaic solar power generation facility except for a photovoltaic solar power generation facility in eastern Oregon subject to the provisions of paragraphs (44)(a)(B) and (C) shall be subject to the following definitions and provisions:

(a) "Arable land" means land in a tract that is predominantly cultivated or, if not currently cultivated, predominantly comprised of arable soils.

(b) "Arable soils" means soils that are suitable for cultivation as determined by the governing body or its designate based on substantial evidence in the record of a local land use application, but "arable soils" does not include high-value farmland soils described at ORS 195.300(10) unless otherwise stated.

(c) "Dual-use development" means developing the same area of land for both a photovoltaic solar power generation facility and for farm use.

(d) "Nonarable land" means land in a tract that is predominantly not cultivated and predominantly comprised of nonarable soils.

(e) "Nonarable soils" means soils that are not suitable for cultivation. Soils with an NRCS agricultural capability class V–VIII and no history of irrigation shall be considered nonarable in all cases. The governing body or its designate may determine other soils, including soils with a past history of irrigation, to be nonarable based on substantial evidence in the record of a local land use application.

(f) "Photovoltaic solar power generation facility" includes, but is not limited to, an assembly of equipment that converts sunlight into electricity and then stores, transfers, or both, that electricity. This includes photovoltaic modules, mounting and solar tracking equipment, foundations, inverters, wiring, storage devices and other components. Photovoltaic solar power generation facilities also include electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, all necessary grid integration equipment, new or expanded private roads constructed to serve the photovoltaic solar power generation facility, office, operation and maintenance buildings, staging areas and all other necessary appurtenances. For purposes of applying the acreage standards of this section, a photovoltaic solar power generation facility includes all existing and proposed facilities on a single tract, as well as any existing and proposed facilities determined to be under common ownership on lands with fewer than 1320 feet of separation from the tract on which the new facility is proposed to be sited. Projects connected to the same parent company or individuals shall be considered to be in common ownership, regardless of the operating business structure. A photovoltaic solar power generation facility does not include a net metering project established consistent with ORS 757.300 and OAR chapter 860, division 39 or a Feed-in-Tariff project established consistent with ORS 757.365 and OAR chapter 860, division 84.

The site of the facility proposed in RFA4 encompasses approximately 900 acres, 510 acres are within EFU zoned land; 390 acres are within MG-zoned land. The site of the facility proposed in RFA4 is located on soils meeting the definition of "arable land" and, based on its location within the Columbia Valley American Viticulture Area (AVA), and meeting certain requirements for elevation, slope, and aspect, portions of the site are also "high-value farmland" pursuant to ORS 195.300(10)(f)(C).

> *(g) For high-value farmland described at ORS 195.300(10), a photovoltaic solar power generation facility shall not use, occupy, or cover more than 12 acres unless the provisions of paragraph (h)(H) are satisfied.*

The facility proposed in RFA4 would use, occupy or cover approximately 85 acres of high-value farmland from use as a commercial agricultural enterprise. Accordingly, an exception to the acreage standard in OAR 660-033-0130(38)(g) must be taken to find that the facility proposed in RFA4 complies with the Council's Land Use Standard.

> *(h) The following criteria must be satisfied in order to approve a photovoltaic solar power generation facility on high-value farmland described at ORS 195.300(10).*
>
> *(A) The proposed photovoltaic solar power generation facility will not create unnecessary negative impacts on agricultural operations conducted on any portion of the subject property not occupied by project components. Negative impacts could include, but are not limited to, the unnecessary construction of roads dividing a field or multiple fields in such a way that creates small or isolated pieces of property that are more difficult to farm, and placing photovoltaic solar power generation facility project components on lands in a manner that could disrupt common and accepted farming practices;*

As presented in RFA4 Exhibit K Figure K-3, there are three tracts within the analysis area, two of which are owned by the Certificate Holder and one is owned by Threemile Canyon Farms, LLC. Within the subject property of the facility proposed in RFA4, the Certificate Holder is the landowner and does not have history of and is not currently using any of the subject property for agricultural operations. Therefore, the Department recommends that the Council find that the facility proposed in RFA4 would not have likely to create unnecessary negative impacts on agricultural operations on any portion of the subject property not occupied by proposed facility components.

> *(B) The presence of a photovoltaic solar power generation facility will not result in unnecessary soil erosion or loss that could limit agricultural productivity on the subject property. This provision may be satisfied by the submittal and county approval of a soil and erosion control plan*

prepared by an adequately qualified individual, showing how unnecessary soil erosion will be avoided or remedied. The approved plan shall be attached to the decision as a condition of approval;

The construction of the facility components proposed in RFA4 could create stormwater runoff or other erosion issues that, if unmitigated, could result in erosion or soil loss on the subject property. As described in Section III.D, Soil Protection, recommended Soil Protection Conditions 1 to 3, would require the Certificate Holder to finalize and implement a Comprehensive Solar Revegetation and Soil Management Plan. The plan would require the Certificate Holder to construct the facility in compliance with a NPDES 1200-C Construction Stormwater Permit and implement BMPs to prevent the discharge of stormwater from the site.

The Department recommends that the Council find that, subject to compliance with recommended Soil Protection Conditions 1, 2 and 3, the construction and operation of the facility components proposed in RFA4 are not likely to result in unnecessary soil erosion or soil loss that could limit agricultural productivity on the subject property.

(C) Construction or maintenance activities will not result in unnecessary soil compaction that reduces the productivity of soil for crop production. This provision may be satisfied by the submittal and county approval of a plan prepared by an adequately qualified individual, showing how unnecessary soil compaction will be avoided or remedied in a timely manner through deep soil decompaction or other appropriate practices. The approved plan shall be attached to the decision as a condition of approval;

Construction of the facility components proposed in RFA4 could result in soil compaction, particularly in areas that are cleared of vegetation or graded, although less than 4 percent of soils within the analysis area are highly susceptible to compaction. Recommended Soil Protection Conditions 1 to 3, would require the Certificate Holder to finalize and implement a Comprehensive Revegetation and Soil Management Plan during construction of the facility components proposed in RFA4. The draft Plan, included as Attachment C-1 to this Order includes provisions for soils compaction testing and monitoring and establishes remediation that will be implemented if excessive compaction is detected.

Subject to compliance with these conditions, and the Comprehensive Revegetation and Soil Management Plan, the Department recommends that the Council find that the construction and operation of the facility components proposed in RFA4 will not result in unnecessary soil compaction that reduces the productivity of soil for crop production.

(D) Construction or maintenance activities will not result in the unabated introduction or spread of noxious weeds and other undesirable weed species. This provision may be satisfied by the submittal and county approval of a weed control plan prepared by an adequately qualified

individual that includes a long-term maintenance agreement. The approved plan shall be attached to the decision as a condition of approval;

Under ORS 569.175, noxious weeds are plants designated by the Oregon State Weed Board as a top priority for action by weed control programs. Under the Oregon Department of Agriculture's Noxious Weed Classification System, weeds are included on either the A or B Weed List and may also be included on the T list. A-listed weeds are weeds of economic importance that are subject to eradication or intensive control when found due to their limited distribution. B-listed weeds are subject to limited to intensive control as determined on a site-specific basis, with biological control being the preferred primary control method. T-listed weeds have been identified as a priority for control by the Oregon State Weed Board. Morrow County has developed its own Noxious Weed Lists classifying weeds as either "Noxious Weeds" (A list) or "Weeds of Economic Importance" (B list), where the B-listed weeds are subject to intensive control or eradication where feasible.

Surveys were conducted at the site of the facility components proposed in RFA4 in July 2023, where incidental observations of noxious weeds were recorded. Observed A-listed noxious weeds include: Houndstongue, Star Thistle and Scotch Thistle. Observed B-listed noxious weeds include: Broadleaved Pepperweed, Canada Thistle, Medusa Head and Diffuse Knapweed. Locations were recorded, as presented in Exhibit P Attachment P-1 Figure 5. As described in Section III.D, Soil Protection, Soil Protection Conditions 1 to 3 would require the Certificate Holder to finalize and implement a Comprehensive Revegetation and Soil Management Plan that establishes the actions the Certificate Holder would be required to take to prevent the introduction of new noxious weed populations and spread of existing noxious weed populations.

Based on compliance with recommended Soil Protection Conditions 1 to 3, the Department recommends that the Council find that the construction and operation of the facility components proposed in RFA4 are not likely to result in the unbated spread or introduction of noxious or undesirable weeds into adjacent properties.

(E) Except for electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, the project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(a);

OAR 660-033-0020(8)(a) identifies predominant soil types within a tract that are classified by the NRCS as Class I, Class II, prime, or unique as high-value farmland soils. As presented in the RFA4 Land Use Exhibit Table K-3, none of the subject tracts are predominately (50% or more) Class I, Class II, prime, or unique soils and therefore would not be considered high value farmland soils listed in OAR 660-033-0020(8)(a). The Department recommends that the Council find that the facility proposed in RFA4 would comply with this requirement.

(F) The project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) or arable soils unless it can be demonstrated that:

i. Non high-value farmland soils are not available on the subject tract;

ii. Siting the project on non high-value farmland soils present on the subject tract would significantly reduce the project's ability to operate successfully; or

iii. The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract than other possible sites also located on the subject tract, including those comprised of non high-value farmland soils; and

The facility proposed in RFA4 will not be located on high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) and therefore does not need to satisfy (i) – (iii). The Department recommends that the Council find that the facility proposed in RFA4 would comply with this requirement.

(G) A study area consisting of lands zoned for exclusive farm use located within one mile measured from the center of the proposed project shall be established and:

(i) If fewer than 48 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits within the study area, no further action is necessary.

(ii) When at least 48 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits, either as a single project or as multiple facilities within the study area, the local government or its designate must find that the photovoltaic solar power generation facility will not materially alter the stability of the overall land use pattern of the area. The stability of the land use pattern will be materially altered if the overall effect of existing and potential photovoltaic solar power generation facilities will make it more difficult for the existing farms and ranches in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland, acquire water rights, or diminish the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the study area.

The area within 1 mile of the center of the facility proposed in RFA4 includes uncultivated lands and the Carty Reservoir. Accordingly, the Department recommends that the Council find that

no further action is required to find that the facility proposed in RFA4 complies with the provisions of OAR 660-033-0130(38)(h)(G).

> *(i) For arable lands, a photovoltaic solar power generation facility shall not use, occupy, or cover more than 20 acres. The governing body or its designate must find that the following criteria are satisfied in order to approve a photovoltaic solar power generation facility on arable land:*

The facility proposed in RFA4 is anticipated to use, occupy or cover approximately 492 acres acre of arable land from use as a commercial agricultural enterprise. Accordingly, an exception to the acreage standard in OAR 660-033-0130(38)(i) must be taken to find that the facility proposed in RFA4 complies with the Council's Land Use Standard.

> *A. Except for electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, the project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(a);*

OAR 660-033-0020(8)(a) identifies predominant soil types within a tract that are classified by the NRCS as Class I, Class II, prime, or unique as high-value farmland soils. As presented in the RFA4 Land Use Exhibit Table K-3, none of the subject tracts are predominately (50% or more) Class I, Class II, prime or unique soils and therefore would not be considered high value farmland soils listed in OAR 660-033-0020(8)(a). The Department recommends that the Council find that the facility proposed in RFA4 would comply with this requirement.

> *B. The project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) or arable soils unless it can be demonstrated that:*
>
> *i. Nonarable soils are not available on the subject tract;*
>
> *ii. Siting the project on nonarable soils present on the subject tract would significantly reduce the project's ability to operate successfully; or*
>
> *iii. The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract than other possible sites also located on the subject tract, including those comprised of nonarable soils;*

The facility proposed in RFA4 will not be located on high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) and therefore does not need to satisfy (i) – (iii). The Department recommends that the Council find that the facility proposed in RFA4 would comply with this requirement.

> *C. No more than 12 acres of the project will be sited on high-value farmland soils described at ORS 195.300(10);*

The facility proposed in RFA4 would be sited on approximately 85 acres of high-value farmland as defined in ORS 195.300(10). Accordingly, an exception to the acreage standard in OAR 660-

033-0130(38)(g) and OAR 660-033-0130(38)(i)(C) must be taken to find that the facility proposed in RFA4 complies with the Council's Land Use Standard.

> *D. A study area consisting of lands zoned for exclusive farm use located within one mile measured from the center of the proposed project shall be established and:*
>
> *i. If fewer than 80 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits within the study area, no further action is necessary.*
>
> *ii. When at least 80 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits, either as a single project or as multiple facilities within the study area, the local government or its designate must find that the photovoltaic solar power generation facility will not materially alter the stability of the overall land use pattern of the area. The stability of the land use pattern will be materially altered if the overall effect of existing and potential photovoltaic solar power generation facilities will make it more difficult for the existing farms and ranches in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland, acquire water rights, or diminish the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the study area; and*

The area within 1 mile of the center of the facility proposed in RFA4 includes uncultivated lands and the Carty Reservoir. Accordingly, the Department recommends that the Council find that no further action is required to find that the facility proposed in RFA4 complies with the provisions of OAR 660-033-0130(38)(i)(D).

> *E. The requirements of paragraphs (h)(A), (B), (C) and (D) are satisfied.*

The Department recommends that the Council find that the Certificate Holder would satisfy the requirements of OAR 660-033-0130(38)(h)(A)-(C), as presented above under the criteria for high value farmland.

> *(j) For nonarable lands, a photovoltaic solar power generation facility shall not use, occupy, or cover more than 320 acres. The governing body or its designate must find that the following criteria are satisfied in order to approve a photovoltaic solar power generation facility on nonarable land:*

The facility proposed in RFA4 would use, occupy or cover approximately 8 acres of nonarable lands. The Department recommends that the Council find that the Certificate Holder would satisfy the OAR 660-033-0130(38)(j) acreage threshold.

> *A. Except for electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, the project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(a);*

OAR 660-033-0020(8)(a) identifies predominant soil types within a tract that are classified by the NRCS as Class I, Class II, prime, or unique as high-value farmland soils. As presented in the RFA4 Land Use Exhibit Table K-3, none of the subject tracts are predominately (50% or more) Class I, Class II, prime or unique soils and therefore would not be considered high value farmland soils listed in OAR 660-033-0020(8)(a). The Department recommends that the Council find that the facility proposed in RFA4 would comply with this requirement.

B. The project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) or arable soils unless it can be demonstrated that:

i. Siting the project on nonarable soils present on the subject tract would significantly reduce the project's ability to operate successfully; or

ii. The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract as compared to other possible sites also located on the subject tract, including sites that are comprised of nonarable soils;

The facility proposed in RFA4 will not be located on high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) and therefore does not need to satisfy (i) – (iii). The Department recommends that the Council find that the facility proposed in RFA4 would comply with this requirement.

C. No more than 12 acres of the project will be sited on high-value farmland soils described at ORS 195.300(10);

The facility proposed in RFA4 would be sited on approximately 85 acres of high-value farmland as defined in ORS 195.300(10). Accordingly, an exception to the acreage standard in OAR 660-033-0130(38)(g) and OAR 660-033-0130(38)(j)(C) must be taken to find that the facility proposed in RFA4 complies with the Council's Land Use Standard.

D. No more than 20 acres of the project will be sited on arable soils;

The facility proposed in RFA4 is anticipated to be sited on approximately 492 acres acre of arable soils. Accordingly, an exception to the acreage standard in OAR 660-033-0130(38)(i) and OAR 660-033-0130(38)(j)(D) must be taken to find that the facility proposed in RFA4 complies with the Council's Land Use Standard.

E. The requirements of paragraph (h)(D) are satisfied;

The Department recommends that the Council find that the Certificate Holder would satisfy the requirements of OAR 660-033-0130(38)(h)(D) as presented above under the criteria for high value farmland.

F. If a photovoltaic solar power generation facility is proposed to be developed on lands that contain a Goal 5 resource protected under the county's comprehensive plan, and the plan does not address conflicts between energy facility development and the resource, the applicant and the county, together with any state or federal agency responsible for protecting the resource or habitat supporting the resource, will cooperatively develop a specific resource management plan to mitigate potential development conflicts. If there is no program present to protect the listed Goal 5 resource(s) present in the local comprehensive plan or implementing ordinances and the applicant and the appropriate resource management agency(ies) cannot successfully agree on a cooperative resource management plan, the county is responsible for determining appropriate mitigation measures; and

There are no known Goal 5 resources within the site of the facility proposed in RFA4.

G. If a proposed photovoltaic solar power generation facility is located on lands where, after site specific consultation with an Oregon Department of Fish and Wildlife biologist, it is determined that the potential exists for adverse effects to state or federal special status species (threatened, endangered, candidate, or sensitive) or habitat or to big game winter range or migration corridors, golden eagle or prairie falcon nest sites or pigeon springs, the applicant shall conduct a site-specific assessment of the subject property in consultation with all appropriate state, federal, and tribal wildlife management agencies. A professional biologist shall conduct the site-specific assessment by using methodologies accepted by the appropriate wildlife management agency and shall determine whether adverse effects to special status species or wildlife habitats are anticipated. Based on the results of the biologist's report, the site shall be designed to avoid adverse effects to state or federal special status species or to wildlife habitats as described above. If the applicant's site-specific assessment shows that adverse effects cannot be avoided, the applicant and the appropriate wildlife management agency will cooperatively develop an agreement for project-specific mitigation to offset the potential adverse effects of the facility. Where the applicant and the resource management agency cannot agree on what mitigation will be carried out, the county is responsible for determining appropriate mitigation, if any, required for the facility.

The Department recommends that Council incorporate the evaluation presented in RFA4 Fish and Wildlife Habitat and RFA4 Threatened and Endangered Species exhibits and associated sections of this Order (Section III.H and III.I.), and find that the Certificate Holder has demonstrated compliance with this provision.

(k) An exception to the acreage and soil thresholds in subsections (g), (h), (i), and (j) of this section may be taken pursuant to ORS 197.732 and OAR chapter 660, division 4.

As described above, the Department recommends that the Council find that the facility components proposed in RFA4 would use more high-value farmland and arable land than permitted under OAR 660-033-0130(38)(g) and (i) and that the facility components proposed in RFA4 cannot be approved unless the Council takes an exception to the goal under ORS 469.504(2). Whether or not an exception is justified is evaluated below.

> *(l) The county governing body or its designate shall require as a condition of approval for a photovoltaic solar power generation facility, that the project owner sign and record in the deed records for the county a document binding the project owner and the project owner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).*

The Department recommends that the Council impose the following condition requiring that the Certificate Holder sign a binding document described in the rule:

> **Land Use Condition 3 (PRE)** Prior to construction of the solar facility or phase, the Certificate Holder must sign and record in the deed records for the county a document binding the project owner and the project owner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).
> [PRE-LU-03, Final Order on AMD4]

> *(m) Nothing in this section shall prevent a county from requiring a bond or other security from a developer or otherwise imposing on a developer the responsibility for retiring the photovoltaic solar power generation facility.*

As described in Section III.G, Retirement and Financial Assurance, recommended Retirement and Financial Assurance Conditions 1, 2 and 3 would require the Certificate Holder to submit, and maintain at all times until the facility proposed in RFA4 has been retired, 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.

Goal 3 Exception, OAR 345-022-0030(4)

Statewide Planning Goal 3 (OAR 660-015-0000(3)) seeks to preserve and maintain agricultural land for farm use, consistent with existing and future needs for agricultural products, forest and open space and with the state's agricultural land use policy expressed in ORS 215.243 and 215.700. Because the facility proposed in RFA4 does not comply with the 12- or 20-acre maximum established for solar photovoltaic power generation facilities sited on high-value farmland under OAR 660-033-0130(38)(g) and agricultural (arable) lands under OAR 660-033-0130(38)(i), an exception to Goal 3 must be taken in order for the Council to approve the facility.

Under ORS 469.504(2) and OAR 345-022-0030(4) the Council may take an exception to a goal if it finds:

> *(a) The land subject to the exception is physically developed to the extent that the land is no longer available for uses allowed by the applicable goal;*
>
> *(b) The land subject to the exception is irrevocably committed as described by the rules of the Land Conservation and Development Commission to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or*
>
> *(c) The following standards are met:*
>
> *(A) Reasons justify why the state policy embodied in the applicable goal should not apply;*
>
> *(B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility; and*
>
> *(C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.*

The provisions of ORS 469.504(2)(a) and (b) / OAR 345-022-0030(4)(a) and (b) are not applicable to the facility proposed in RFA4. Under ORS 469.504(2)(c) and OAR 345-022-0030(4)(c), an exception can be granted if the above criteria in (A) through (C) are met. Under ORS 469.504(2)(c)(A) and OAR 345-022-0030(4)(c)(A), Council must find "reasons justify why the state policy embodied in the applicable goal should not apply."

<u>Proposed Reasons to Justify an Exception: ORS 469.504(2)(c)(A) and OAR 345-022-0030(4)(c)(A)</u>

The Certificate Holder proposes that the following reasons justify taking an exception to Statewide Planning Goal 3:

1. The facility would cause minimal loss to productive agriculture
2. The facility is locationally dependent (proximity to regional transmission grid, existing energy infrastructure, and major transportation corridors).

The Certificate Holder's proposed reasons for justifying an exception to Goal 3, the Department's recommended findings of facts, followed by an analysis for each of the proposed "reasons", are presented below.

1. The facility would cause minimal loss to productive agriculture

Facts: Minimal Impacts to Agriculture

The estimated maximum area of permanent farmland loss for the facility proposed in RFA4 is 500 acres of EFU-zoned land, which includes 492 acres of arable land, 85 acres of which is high-value farmland. Approximately 46 acres of the land designated as arable due to soil type cannot be cultivated due to its prior use as the ash disposal area for the Boardman Coal Plant. The northern portion of the facility proposed in RFA4 would be primarily sited on 360 acres of General Industrial-zoned land (the site of the former Boardman Coal Plant). None of the EFU land proposed for development is currently cultivated, nor is there a known history of cultivation. The site does not contain irrigation infrastructure nor maintain irrigation water rights. Irrigation would require the installation of irrigation infrastructure and the transfer of water rights from farmland that likely already had that infrastructure installed. The Certificate Holder asserts that irrigation is typically necessary for cultivation in the area due to Morrow County's climate; however, Morrow County is one of the largest producers of winter wheat in the U.S., with the significant majority of that production being non-irrigated.[32]

The proposed locations of facility proposed in RFA4 are a mile or more away from the nearest farmland in active cultivation, and are separated from those areas by the reservoir, Carty Unit 1, and Tower Road. This distance and these obstacles reduce the feasibility of extending farming operations to the proposed site due to access challenges for farm equipment. It also provides a significant buffer between areas of active agricultural production and the facility proposed in RFA4, reducing the potential for facility construction and operational impacts to existing farming operations.

Finally, the Certificate Holder anticipates that construction and operational traffic on Tower Road, a well-maintained paved county road primarily used for industrial and agricultural traffic, will not adversely impact agricultural operations because operational traffic will be minimal and construction traffic will be managed through a Construction Traffic Management Plan (see recommended Public Services Condition 1 and 2).

Analysis: Minimal Impacts to Agriculture

The facility proposed in RFA4 would occupy 446 acres of functionally arable[33] land, 85 acres of which are considered high value farmland. High-value farmland, as defined in ORS 195.300(10), includes several criteria, any one of which can independently qualify land for this designation. Criteria generally relate to combinations of certain soil classifications, location, and the presence/availability of irrigation. The 85 acres of high-value farmland at the proposed site of qualify due to their elevation and slope characteristics within the Columbia Valley American Viticultural Area. Because only areas with 0% to 15% slope are considered high value farmland under this criterion, and the site is not flat, areas of high-value farmland are fragmented across the site (see Land Use Exhibit, Figure K-7). The site also does not qualify as high-value farmland

[32] U.S. Department of Agriculture, National Agriculture Statistics Service.

[33] Functionally arable here means areas with arable soils outside of areas with industrial waste due to their use by the Boardman Coal Plant for ash disposal

under the other potential qualifying criteria listed by ORS 195.300(10); including because it does not have high enough soil classification and lacks available irrigation options. Overall, while the site of the facility proposed in RFA4 would occupy 85 acres of high-value farmland, the farmland itself does not actually have the same degree of utility for farming uses that many other areas of high-value farmland have.

With respect to irrigation, as noted above, the site is a considerable distance from the nearest irrigated farming operation. The construction of irrigation infrastructure at the site, along with the likely need to fallow areas of existing irrigated farmland (where irrigation infrastructure already exists) in order to transfer the requisite water right to irrigate the proposed solar farm site, makes irrigated agriculture at the site generally infeasible. This lack of available irrigation impacts the value of the farmland that the site; indeed, were irrigation to be present/available, much more of the site would be classified as high value farmland. However, the Certificate Holder's assertion that irrigation is necessary for agriculture at the site due to Morrow County's climate ignores common practice of dryland winter wheat cultivation common in the County. Dryland cultivation may be feasible at the site.

Overall, the site of the facility proposed in RFA4 is both distant from existing agricultural operations and physically separated from them by various physical barriers (e.g., the reservoir), making the integration of the site into existing farming operations challenging and unlikely. Finally, nearly half of the site of the facility proposed in RFA4 would be in areas zoned General Industrial or in EFU-zoned areas where cultivation is infeasible due to the presence of industrial waste. Avoiding agricultural impacts by utilizing the footprint of a former coal-fired power plant presents an opportunity to minimize agricultural impacts that is unique to the proposed site.

The Department, therefore, recommends the Council find that use of the site would have minimal impacts to high value farmland and agricultural practices within the proposed amended site boundary. The Department recommends Council find that, based on these facts, minimal impacts to agriculture within the proposed amended site boundary is a reason that justifies an exception to Goal 3.

2. *The facility is locationally dependent (proximity to regional transmission grid, existing energy infrastructure, and major transportation corridors).*

Facts: Locational Dependency

The site of the facility proposed in RFA4 is adjacent to Carty Unit 1, and partially within the footprint of the former Boardman Coal Plant. These facilities include supporting infrastructure owned and operated by the Certificate Holder. The solar farm collector substation is proposed adjacent to an existing electrical transmission dead-end structure for a 500-kV transmission line, which used to serve the Boardman Coal Plant. The new substation will use the existing dead-end structure and the existing 500-kV transmission line, which connects to the existing Grassland Switchyard. From the Grassland Switchyard, electrical output will be routed to BPA's existing Slatt Substation through the existing 500-kV Grassland to Slatt transmission line (approximately 17 miles long).

The proposed site is within 18 travel miles of the Port of Morrow, allowing for the delivery of materials via barge with minimal additional over land travel required once materials are offloaded at the Port. The site is accessible from a federal highway (I-84) by a well-maintained paved county road (Tower Road).

Carty Generating Station is already staffed on a 24-hour basis, locating the facility proposed in RFA4 in close proximity to these existing facilities will enable personnel to respond quickly should any maintenance or operational issues arise.

Analysis: Locational Dependency

The proposed siting of facility proposed in RFA4 adjacent to Unit 1 and partially within the footprint of the former Boardman Coal Plant has significant locational advantages. In particular, the use of the existing Boardman Coal Plant 500-kV transmission line and Grassland to Slatt transmission line allows for efficient use of transmission infrastructure to connect to the regional grid while consolidating land use impacts to a specific area and avoiding the need to construct additional transmission lines. Furthermore, accessibility to the Port of Morrow, I-84, and Tower Road provide site access without the need for new major road construction. Overall, the proposed siting makes efficient use of existing infrastructure.

While the Certificate Holder asserts that the availability of Carty Generating Station staff provides further locational benefit, the facility proposed in RFA4 includes fully separate operations and maintenance facilities, and the Certificate Holder has stated they expect it will require up to 12 personnel for daily maintenance activities during operations. Therefore, it would seem to be staffed separately from the Carty Generating Station. As such, while there may be some degree of marginal benefit to siting the facility proposed in RFA4 in close proximity to existing facilities for purposes of allowing personnel at the latter to address issues at the proposed solar facility, there is inadequate evidence to conclude that any such benefit justifies a goal exception.

Similarly, while it is true that the site receives significant solar radiation and has topography that can accommodate a solar farm, these characteristics are generally common throughout central and eastern Oregon and are therefore inadequate to justify a goal exception in this case.

Based on the above recommended findings of facts and analysis, the Department recommends the Council accept the Certificate Holder's argument that proximity to and use of the existing transmission infrastructure and grid interconnection associated with Carty Unit 1 and the decommissioned Boardman Coal Plant, along with proximity to existing major transportation corridors, supports a locational dependence reason that would, in part, justify an exception to Statewide Planning Goal 3.

Department's Recommendations on Reasons for Exception

In summary, the Department recommends Council find the following reasons justify taking an exception to Goal 3:

1. The facility would have minimal impacts to agriculture, particularly due to the unique opportunity to avoid many agricultural impacts presented by the use of the former Boardman Coal Facility site.
2. The facility site is locationally dependent on its proximity to major transportation corridors and existing infrastructure, including transmission infrastructure that connects to the BPA regional transmission grid.

Significant Environmental, Economic, Social and Energy Consequences

Under OAR 345-022-0030(4)(c)(B) and ORS 469.504(2)(c)(B), for the Council to determine whether to grant an exception to a statewide planning goal, the Certificate Holder must show that "the significant environmental, economic, social and energy consequences" of the solar facility have been identified and will be mitigated in accordance with Council standards.

Environmental Consequences

The facility must satisfy the requirements of all applicable EFSC standards, rules and statutes. Applicable environmental EFSC standards include Soil Protection standard; Protected Areas standard; Recreation Standard; Scenic Resources standard; Fish and Wildlife Habitat standard; and the Threatened and Endangered Species standard, as evaluated in this order. Based on the recommended findings of fact, conclusions of law, and conditions of approval presented in this order related to these EFSC standards, the Department recommends Council find that the facility, including mitigation, would not cause significant adverse environmental consequences or impacts.

Social and Economic Consequences

Social and economic consequences that could result from construction and operation of the facility proposed in RFA4 include potential impacts to providers of public services. As described in Section III.M, the Department recommends the Council find that, subject to compliance with conditions, the facility proposed in RFA4 will not significantly impact sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care or schools.

The Department recommends the Council find that the significant economic and social consequences anticipated as a result of the facility proposed in RFA4 have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the facility proposed in RFA4.

Energy Consequences

The facility proposed in RFA4 would produce up to 200 MW of renewable, emissions-free energy.

The construction and operation of the facility proposed in RFA4 will also have positive effects on the availability of renewable energy for sale to the public, will promote the energy and economic development goals of Morrow County, and could support utility efforts to meet Oregon's Renewable Portfolio Standard and clean energy targets.

Therefore, the Department recommends Council conclude that the facility proposed in RFA4 would not cause significant adverse energy consequences and would have a positive energy consequence by producing clean, renewable electricity.

Compatibility With Adjacent Uses

Under OAR 345-022-0030(4)(c)(C) (and ORS 469.504(2)(c)(C)), in order for the Council to determine whether to grant an exception to a statewide planning goal, the Certificate Holder must show that the facility is compatible with other adjacent land uses or will be made compatible through mitigation measures. The following uses are adjacent to the facility proposed in RFA4.

Carty Generating Station Unit 1 is a PGE-owned and operated combined cycle natural gas-fired generating facility. The facility proposed in RFA4 would be located directly adjacent to Unit 1 but will not effect and are fully compatible with this use.

The Carty Reservoir provides water for Unit 1. The facility proposed in RFA4 will be located directly adjacent to the Carty Reservoir but will not interfere with any of the reservoir infrastructure. Water from the Carty Reservoir will be used for construction of the solar farm and for washing solar modules during operation, under PGE's existing water right. The potential risk of sedimentation into the reservoir during construction is addressed under the Council's Soil Protection Standard and associated conditions.

Threemile Canyon Farms cultivates extensive areas using center pivot irrigation. The nearest center pivot circles are over a mile west of the western edge of the facility proposed in RFA4.

As described in the section evaluating MCZO Section 6.025(A) above, construction and operation of the facility proposed in RFA4 will not impact agricultural operations in the area provided the potential adverse impacts from dust, weeds, and traffic are addressed. As such, the Department recommends Council impose conditions to minimize and mitigate these potential effects. These conditions are discussed in the soil protection and public services section of this order.

A Nature Conservancy Conservation Easement is located immediately to the east and south of the proposed facility and is managed under the terms of an ODFW conservation easement, a sublease with Threemile Canyon Farms, LLC (i.e., underlying landowner), and a management

plan approved by the U. S. Fish and Wildlife Service. The Nature Conservancy's management activities are designed to maintain and improve habitat of four species in particular: Washington ground squirrel, ferruginous hawk, loggerhead shrike, and sage sparrow. The facility proposed in RFA4 is not part of the easement. The construction and operation of the facility proposed in RFA4 will not interfere with the management of the conservation areas provided the potential adverse impacts from erosion, dust, weeds, weeds, and traffic are addressed. As such, the Department recommends Council impose conditions to minimize and mitigate these potential effects. These conditions are discussed in the Fish and Wildlife, Threatened and Endangered Species, and Soil Protection sections of this order.

The Naval Weapons Systems Training Facility (NWSTF) Boardman, commonly referred to as the Boardman Bombing Range, is located more than a mile east of the proposed facility. NWSTF Boardman comprises more than 47,000 acres of land owned by the U.S. Training activities conducted at NWSTF Boardman provide the U.S. Navy and Oregon National Guard personnel with a wide range of training opportunities, including conducting air combat maneuvers, conducting electronic combat training, and conducting bombing and missile exercises (nonexplosive), in addition to live-fire training activities against ground targets. The facility proposed in RFA4 will be physically separated from NWSTF Boardman by uncultivated land. It will not create any physical obstruction to the use of NWSTF Boardman. The Department consults with the U.S. Navy on a regular basis and discussed the potential for glare from the facility proposed in RFA4 to impact flight paths to the NWSTF Boardman. On February 28, 2024, the U.S. Navy concluded that no additional glare and glint analysis is required for the facility proposed in RFA4. As such, the facility proposed in RFA4 is compatible with the NWSTF Boardman facility.

Statewide Planning Goals

Under OAR 345-022-0030(2)(b), which implements ORS 469.504(1)(b), the Council must find either that:

(A) The proposed facility complies with applicable substantive criteria as described I section (3) and the facility complies with any Land Conservation and Development Commission administrative rules and goals and any land use statutes directly applicable to the facility under ORS 197.646(3);

(B) For a proposed facility that does not comply with one or more of the applicable substantive criteria as described in section (3), the facility otherwise complies with the statewide planning goals or an exception to any applicable statewide planning goal is justified under section (4); or

(C) For a proposed facility that the Council decides, under sections (3) or (6) to evaluate against the statewide planning goals, the proposed facility complies with the applicable statewide planning goals or that an exception to any applicable statewide planning goal is justified under section (4).

As presented in evaluation of MCZO 3.070 MG, the facility proposed in RFA4 is not an allowable use in MG-zoned land. Therefore, the Certificate Holder requests that the Council evaluate the portions of the facility as proposed in RFA4 within MG-zoned land against the statewide planning goals.

Based on the evaluation presented below, the Department recommends that the Council find that while a photovoltaic solar power generation facility is not an allowable use in the MCZO 3.070 MG zone, the facility is otherwise consistent with Statewide Planning Goals and therefore the Council may approve the use in the zone.

Goal 5: Natural Resources, Scenic and Historic Areas, and Open Space

> Statewide Planning Goal 5 is *"[t]o conserve open space and protect natural and scenic resources."*

Goal 5 requires Counties to inventory natural resources, based on DLCD Guidelines that identify the following as Goal 5 resources: riparian corridors, wetlands, wildlife habitat, federal wild and scenic rivers, state scenic waterways, groundwater resources, approved Oregon recreational trails, natural areas, wilderness areas, mineral and aggregate resources, energy sources, and cultural areas. In addition to the individual county inventories, most of the resources identified in the DLCD guidelines are also addressed in and protected through compliance with other EFSC Standards.

There are no Goal 5 resources within the proposed amended site boundary or Land Use analysis area. Therefore, the Department recommends that the Council find that the facility proposed in RFA4 would be consistent with Statewide Planning Goal 5.

Goal 6: Air, Water, and Land Resources Quality

> Statewide Planning Goal 6 is *"[t]o maintain and improve the quality of the air, water and land resources of the state."*

Goal 6 provides for the maintenance of the quality of air, water, and land resources, and is implemented through applicable local state and federal environmental quality statutes, rules and standards. The Department recommends that the Council find that the Certificate Holder has demonstrated compliance with those implementing measures by demonstrating that its waste and process discharges do not violate, or threaten to violate those applicable regulations. As discussed in Section III.O Waste Minimization, the facility proposed in RFA4 would have minimal waste discharges and would not degrade any air, water, or land resources. Therefore, the Department recommends that the Council find that the facility proposed in RFA4 would be consistent with Statewide Planning Goal 6.

Goal 7: Areas Subject to Natural Hazards

Statewide Planning Goal 7 is *"[t]o protect life and property from natural disasters and hazards."*

Goal 7 requires the protection of people and property from natural hazards, including floods, landslides, earthquakes, tsunamis, coastal erosion, and wildfires. As discussed in Exhibit H (Geological Hazards and Soil Stability) and in Section III.C Structural standard (OAR 345-022-0020) of this order, the site of the facility proposed in RFA4 is low risk for floods, landslides, and earthquakes and would be designed in a manner that would not pose a risk of injury to persons or property. Accordingly, the Department recommends that the Council find that the facility proposed in RFA4 would be consistent with Statewide Planning Goal 7.

Goal 8: Recreation Needs

Statewide Planning Goal 8 is *"[t]o satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts."*

The objective of Goal 8 is to ensure that the state's recreational needs are satisfied. While the facility proposed in RFA4 is not intended to satisfy recreational needs, as presented in Section III.L Recreation of this Order, the facility proposed in RFA4 would have no impacts to any important recreational opportunities within the area. Thus, to the extent it is considered applicable, the Department recommends that the Council find that the facility proposed in RFA4 furthers Goal 8 through ensuring important recreational opportunities are protected.

Goal 9: Economic Development

Statewide Planning Goal 9 is *"t]o provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare and prosperity of Oregon's citizens."*

Consistent with the evaluation provided in this section for the Goal 3 Exception, economic consequences analysis, social and economic consequences that could result from construction and operation of the facility proposed in RFA4 include impacts to public services. As described in Section III.M, the Department recommends the Council find that, subject to compliance with conditions, the facility proposed in RFA4 will not significantly impact sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care or schools.

Additionally, the facility proposed in RFA4 is expected to promote economic development by providing temporary employment opportunities during construction and providing permanent full-time employment during operation. Following construction, annual property tax payments to the county would provide economic benefits and provide the county an opportunity to provide road maintenance, police and fire protection, emergency response, and other public services.

Based on these recommended findings of fact, the Department recommends that the Council find that the facility proposed in RFA4 would be consistent with Statewide Planning Goal 9.

Goal 10: Housing

> Statewide Planning Goal 10 is *"[t]o provide for the housing needs of citizens of the state."*

The purpose of Goal 10 is to ensure that land use planning provides for the housing needs of Oregon's citizens. The facility proposed in RFA4 would not be located in any residential zones and would not otherwise have any adverse impact on local government's ability to meet projected housing needs. Therefore, the Department recommends that the Council find that the facility proposed in RFA4 would be consistent with Goal 10.

Goal 11: Public Facilities and Services

> Statewide Planning Goal 11 is "*[t]o plan and develop timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development*."

Goal 11 requires local governing bodies to plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban and rural development. The Certificate Holder's required compliance with the Public Services standard, including safeguards addressing fire, police, and medical service impacts, ensures that the facility proposed in RFA4 would not adversely impact public services. Accordingly, the Department recommends that the Council find that the facility proposed in RFA4 would be consistent with Goal 11.

Goal 12: Transportation

> Statewide Planning Goal 12 is *"[t]o provide and encourage a safe, convenient and economic transportation system."*

Goal 12 requires local governments to develop and implement transportation planning consistent with LCDC's rules in OAR Chapter 660, Division 12.

As discussed in Section III.M Public Services of this Order, construction and operation of the facility proposed in RFA4 would not result in any permanent impacts to local transportation systems. Construction activities could impact local roads, but will be mitigated via Transportation and Traffic Plan and Road Use Agreement, to be executed between Certificate Holder and the Morrow County Public Works Department, prior to construction. Under the RUA, the Certificate Holder will be required to coordinate with the affected local public works and road departments regarding any transportation-related improvements. Construction-related activities would have only temporary short-term impacts, which are not addressed by

Goal 12 or its implementing rules. Accordingly, the Department recommends that the Council find that the facility proposed in RFA4 would be consistent with Goal 12.

Goal 13: Energy Conservation

Statewide Planning Goal 13 is "*[t]o conserve energy.*"

Goal 13 provides for land, and uses authorized on the land, to be managed and controlled so as to maximize energy conservation.

The purpose of the facility proposed in RFA4 is to generate and increase renewable electricity capacity for industrial, municipal, commercial, and residential customers in the Northwest. Accordingly, the Department recommends that the Council find that the facility proposed in RFA4 would be consistent with Goal 13.

Goal 14: Urbanization

Statewide Planning Goal 14 is "*[t]o provide for an orderly and efficient transition from rural to urban land use*."

The purpose of Goal 14 is to provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities. The facility proposed in RFA4 is located in a rural area and does not represent a transition of those areas from rural to urban. The facility proposed in RFA4 is consistent with rural land uses and is not expected to result in any short-term or permanent urbanization in the vicinity. Accordingly, the Department recommends that the Council find that the facility proposed in RFA4 would be consistent with Goal 14, to the extent it is applicable.

III.E.2. <u>Conclusions of Law</u>

Based on the foregoing findings and the evidence in the record, and subject to compliance with site certificate conditions, the Department recommends the Council find that the construction and operation of the facility as proposed in RFA4 would comply with all applicable land use criteria with the exception of the maximum acreage standards for solar photovoltaic power generation facilities sited on agricultural (high value farmland and arable) lands under OAR 660-033-0130(38)(g) and -(i). Because these standards are directly tied to its implementation, the Department recommends Council find that the facility does not comply with the requirements of Statewide Planning Goal 3. However, after considering the rationale presented by the Certificate Holder as discussed above, the Department recommends Council find that an exception to Statewide Planning Goal 3 is justified under OAR 345-022-0030(4)(c) and ORS 469.504(2)(c); and as such that Council find the facility proposed in RFA4 would comply with the Council's Land Use standard.

III.F. PROTECTED AREAS: OAR 345-022-0040

(1) To issue a site certificate, the Council must find:

(a) The proposed facility will not be located within the boundaries of a protected area designated on or before the date the application for site certificate or request for amendment was determined to be complete under OAR 345-015-0190 or 345-027-0363;

(b) The design, construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to a protected area designated on or before the date the application for site certificate or request for amendment was determined to be complete under OAR 345-015-0190 or 345-027-0363.

(2) Notwithstanding section (1)(a), the Council may issue a site certificate for: (a) A facility that includes a transmission line, natural gas pipeline, or water pipeline located in a protected area, if the Council determines that other reasonable alternative routes or sites have been studied and that the proposed route or site is likely to result in fewer adverse impacts to resources or interests protected by Council standards; or

(b) Surface facilities related to an underground gas storage reservoir that have pipelines and injection, withdrawal or monitoring wells and individual wellhead equipment and pumps located in a protected area, if the Council determines that other alternative routes or sites have been studied and are unsuitable.

(3) The provisions of section (1) do not apply to:

(a) A transmission line routed within 500 feet of an existing utility right-of-way containing at least one transmission line with a voltage rating of 115 kilovolts or higher; or

(b) A natural gas pipeline routed within 500 feet of an existing utility right of way containing at least one natural gas pipeline of 8 inches or greater diameter that is operated at a pressure of 125 psig.

(4) The Council shall apply the version of this rule adopted under Administrative Order EFSC 1-2007, filed and effective May 15, 2007, to the review of any Application for Site Certificate or Request for Amendment that was determined to be complete under OAR 345-015-0190 or 345-027-0363 before the effective date of this rule. Nothing in this section waives the obligations of the Certificate Holder and Council to abide by local ordinances,

state law, and other rules of the Council for the construction and operation of energy facilities in effect on the date the site certificate or amended site certificate is executed.[34]

III.F.1. Findings of Fact

The analysis for Protected Areas is the area within and extending 20 miles from the proposed amended site boundary.

Protected Areas in the Analysis Area

There are eight designated protected areas in the analysis area, as presented in Figure 7 below. Potential impacts including noise, traffic, water use, wastewater disposal, visual to protected areas during construction and operation of the facility proposed in RFA4 are summarized in Table 7 below.

[34] OAR 345-022-0040, effective December 19, 2022.

Table 7: Protected Areas in RFA4 Analysis Area

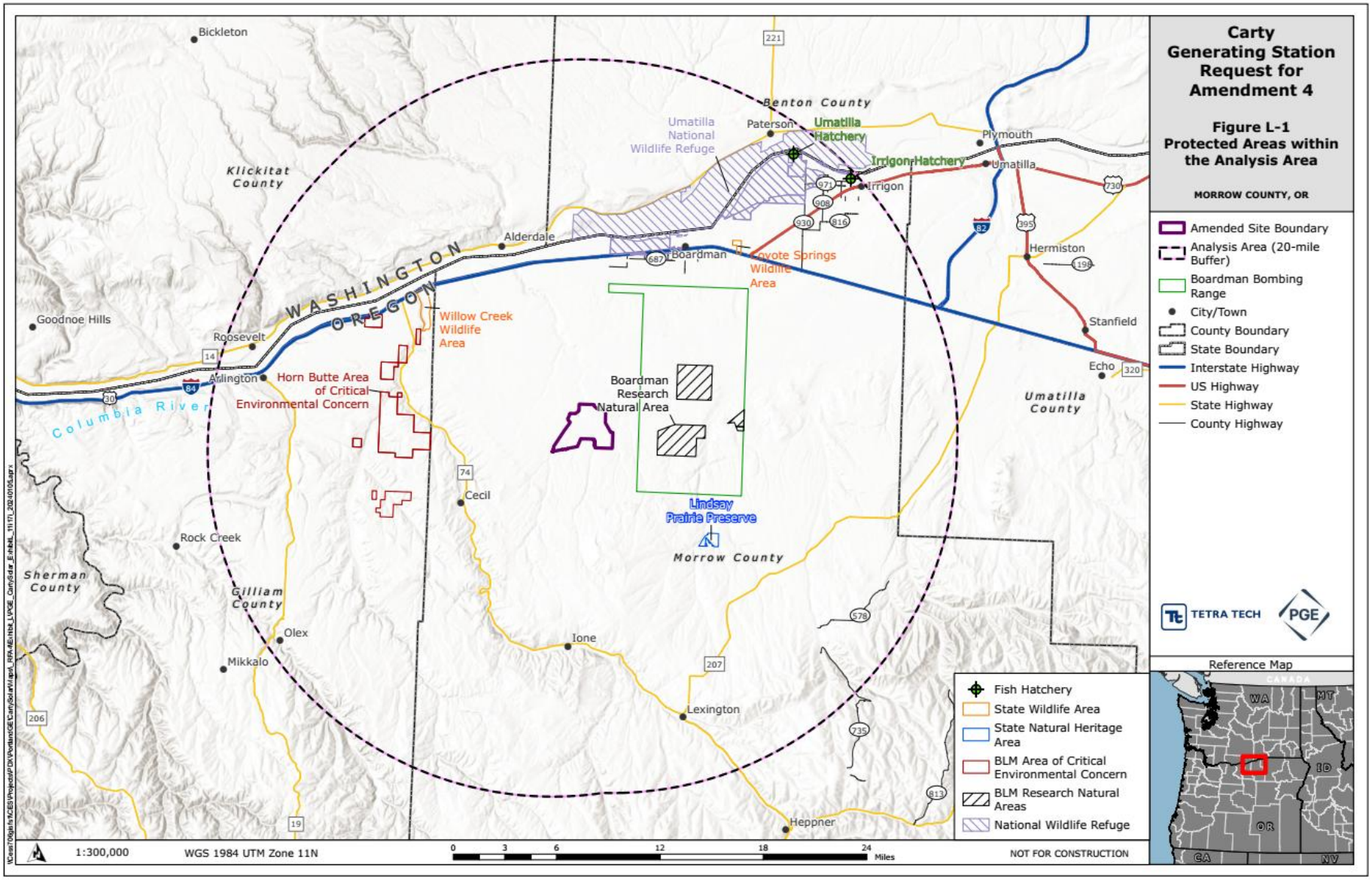
Protected Areas Name and Basis for Protection (OAR)	Distance/ Direction from RFA4 Site Boundary	RFA4 Impact Assessment			
		Noise[1]	**Traffic**	**Water and Wastewater**	**Visual**
Oregon National Historic Trail (Boardman Segment) *OAR 345-001-0010(26)(a)*	2.1 miles/ South	Estimated and modeled noise impacts are 36 A-weighted decibels (dBA) during construction and 23 dBA during operations, respectively. A noise level of 36 dBA is comparable to a quite library. A noise level of 23 dBA is below rural nighttime ambient background levels. These Noise levels, combined with the distance and intermittent nature of construction activities would not be expected to result in a significant adverse impact to the Boardman Segment.	Construction-related traffic will be temporary and will utilize Interstate 84 (I-84) and Tower Road to access the facility. The Boardman Segment is located south of I-84, but are not accessed by Tower Road or roads anticipated to carry facility-related truck traffic. Based on the assessment of traffic patterns to be used during construction, and the location and access to the Boardman Segment, construction and operation of the facility proposed in RFA4 is not expected to result in significant adverse impacts on roads used to access the Boardman Segment.	No water will be withdrawn from or discharged to any protected area. Wastewater will be managed within the site. There are no water or wastewater related impacts during construction or operation of the changes proposed in RFA4	Based on the results of the ZVI analysis, potential visibility of the facility proposed in RFA4 would be intermittent from the ONHT Boardman Segment. Where visible, the nearest solar area will introduce dark gray color, geometric shapes, and horizontal lines into the landscape setting; however, at this viewing distance, the shapes and lines and any contrast to the existing landscape would be difficult to distinguish.
Boardman Research Natural Area (RNA) OAR 345-001-0010(26)(i)	2.6 miles/ East	Estimated and modeled noise impacts are 38 dBA and 23 dBA during construction and operations, respectively. A noise level of 38 dBA is comparable to a quite library. A noise level of 23 dBA is below rural nighttime ambient background levels. These Noise levels, combined with the distance and intermittent nature of construction activities would not be expected to result in a significant adverse impact to the Boardman Research Natural Area.	No impacts are expected.		The Boardman RNA will have middleground views of the facility proposed in RFA4. Views of the solar modules will not appear as a prominent feature to viewers at this distance, and would appear as a dark line on the horizon and will create minimal visual contrast. The Boardman RNA is located within the Boardman Bombing Range, which is inaccessible to the public, with occasional visits by TNC staff for monitoring and maintenance. Thus, views of the Facility will not compromise the purpose of the RNA and will essentially affect no users.

Table 7: Protected Areas in RFA4 Analysis Area

Protected Areas Name and Basis for Protection (OAR)	Distance/ Direction from RFA4 Site Boundary	RFA4 Impact Assessment			
		Noise[1]	Traffic	Water and Wastewater	Visual
					Additionally, the site is not managed for its scenic qualities. Therefore, the Facility will not have a significant adverse visual impact on this protected area.
Wells Springs Interpretive Site *OAR 345-001-0010(26)(a)*	4.3 miles/ Southwest	No impacts are expected.	No impacts are expected.		No impacts are expected.
Horn Butte Area of Critical Environmental Concern (ACEC) OAR 345-001-0010(26)(i)	7.1 miles/ West	No impacts are expected.	No impacts are expected.		The results of the ZVI analysis, potential visibility of the facility proposed in RFA4 would be intermittent from the Horn Butte Area of Critical Concern, Lindsay Prairie Preserve, and Umatilla National Wildlife Refuge. Based on distance, views of the solar areas and aboveground collector line would be difficult to distinguish from the existing landscape, and would occupy a limited portion of the total viewshed.
Lindsay Prairie Preserve OAR 345-001-0010(26)(L)	7.4 miles/ Southeast	No impacts are expected.	No impacts are expected.		
Umatilla National Wildlife Refuge OAR 345-001-0010(26)(e)	8.8 miles/ North	No impacts are expected.	No impacts are expected.		
Columbia Basin - Willow Creek Wildlife Area OAR 345-001-0010(26)(o)	9.5 miles/ Northeast	No impacts are expected.	No impacts are expected.		No impacts are expected.
Fourmile Canyon Interpretive Site *OAR 345-001-0010(26)(a)*	9.75 miles/ Southeast	No impacts are expected.	No impacts are expected.		No impacts are expected.
Columbia Basin - Coyote Springs Wildlife Area OAR 345-001-0010(26)(o)	11.9 miles/ Northeast	No impacts are expected.	No impacts are expected.		No impacts are expected.
Umatilla Fish Hatchery OAR 345-001-0010(26)(p)	18.5 miles/ Northeast	No impacts are expected.	No impacts are expected.		No impacts are expected.
Irrigon Hatchery OAR 345-001-0010(26)(p)	19.6 miles/ Northeast	No impacts are expected.	No impacts are expected.		No impacts are expected.

Note:
1. The 26 dBA value was selected as representative because OAR 340-035-0035(1)(b)(B)(iii)(I) allows for an assumed ambient sound level of 26 dBA for wind energy facilities. Site-specific ambient sound data was not collected for the facility, but 26 dBA is assumed to be a conservative estimate. Noise levels estimated to be less than 26 dBA are for this reason, determined to have no significant noise impacts.

Figure 7: Protected Areas Within the Analysis Area



III.F.2. Conclusions of Law

Based on the foregoing analysis, the Department recommends the Council find that construction and operation of the facility proposed in RFA4 are not likely to result in significant adverse impact to any protected areas.

III.G. RETIREMENT AND FINANCIAL ASSURANCE: OAR 345-022-0050

To issue a site certificate, the Council must find that:

(1) The site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility.

(2) The applicant has a reasonable likelihood of obtaining 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.[35]

III.G.1. Findings of Fact

The useful life of the solar facility components proposed in RFA4 would be least 25 years.[36] The useful life of the solar facility could be extended by repowering the solar facility based on newer technologies available at a later date.[37]

Restoration of the Site Following Cessation of Construction or Operation

The facility must be retired upon permanent cessation of construction or operation (or upon retirement). Below is a summary of the decommissioning actions that the Certificate Holder anticipates would be included in the retirement plan, to restore the site to a useful, non-hazardous condition.

- **Removal of all Solar facility Components.** Facility components removed include aboveground solar and battery components, inverter and transformer pads, O&M building, overhead collector line segment, the 300-foot-long transmission line connecting the collector substation to the existing dead-end structure, collector substation, and perimeter fencing. This includes:

[35] OAR 345-022-0050, effective April 3, 2002.

[36] CGSAMD4 Exhibit X Retirement, Section 2.0.

[37] The Exhibit and this Section does not address retirement and restoration of the natural gas-fueled combined-cycle unit (Unit 1) and CGS infrastructure and such as the transmission line, which are already operating at the facility and has site certificate conditions that address retirement and are not impacted by RFA4.

    - Underground electrical cable will be removed to its lateral depth; buried lateral runs are assumed to be a minimum of 3 feet deep and will be abandoned in place.
    - Solar modules will be separated from the poles and loaded into a truck or roll-off container for off-site disposal or recycling.
    - Poles will be removed from the ground and recycled as scrap metal.
    - Transformers will be decommissioned and disposed of off-site.
    - Self-contained battery components will be removed, transported, and disposed of or recycled.
    - Battery containers and associated components will be disassembled and transported off-site via truck for disposal or recycling.
    - Concrete foundations for transformers, inverters, and battery storage system are assumed to be slab on grade; thus, they will be removed in their entirety.
- **Removal of access roads.** Decommissioned roads within the solar perimeter fencing will be regraded to restore the surface soil to a useful condition consistent with site zoning.
- **Site Restoration.** Restoration of the solar facility location includes restoring the site to a condition suitable for agricultural uses in the Exclusive Farm Use zoning district, and uses comparable with the surrounding land uses, intended land use, and then-current technologies.
- **Revegetation**. Vegetation will be restored to the maximum extent practicable, and all areas disturbed by (decommissioning) construction would be landscaped in a manner compatible with the surroundings and proposed use. Disturbed areas may be regraded and reseeded with seed mixes.

Existing site certificate conditions 15.3 through 15.6 impose mandatory conditions related to retiring the facility and the final retirement plan, summarized below. These conditions continue to apply to Unit 1 and CGS as well as the facility proposed in RFA4.

- 15.3 Prevent conditions that prevent restoration to a useful, non-hazardous condition.
- 15.4 - Development of a retirement plan approved by Council.
- 15.5 – Direction to develop a retirement plan by Certificate Holder or Department.
- 15.6 - Drawing upon the bond if Council must retire the site absent Certificate Holder retirement plan.

Because Condition 15.6 allows Council to draw upon the bond for the facility in circumstances where the Certificate Holder does not retire the facility and cites to Condition 15.1 (for Unit 1), the Department recommends this condition be amended to also cite to OPR-RF-01, recommended below as the condition that is updated annually during operation of the facility so that Council may also draw upon the bond for the solar facility components – if need be. This change is reflected in Attachment A, the Fourth Amended Site Certificate.

Estimated Cost of Site Restoration

The decommissioning cost of the facility proposed in RFA4 is approximately $16.52 million (Q1 2024 dollars)[38]. As provided Table 8, below, individual tasks needed for retirement is based on professional experience of the Certificate Holders' engineering staff and contractors.

The Certificate Holder relied on the following assumptions to produce its cost estimate:[39]

- Facility components were assumed to have no scrap value for the purpose of estimation.
- Labor costs were developed by reviewing the U.S. Department of Labor wage determinations and rates published by RS Means. The final rate used in the estimate is an average of 40 hours of standard time and 10 hours of overtime per week, assuming a 50-hour work week during decommissioning activities.
- Equipment rates used in the estimate are developed by reviewing rates published by RS Means and historical vendor quotes. Rates include fuel, maintenance, and wear and tear of ground-engaging components.
- Mobilization and demobilization costs reflect the actual costs to mobilize equipment, facilities, and crew to solar facility.
- Restoration is estimated on a unit cost basis, priced by task that follows the progression of work from start to finish.
- Several other miscellaneous costs have been approximated, including permits, engineering, signage, fencing, traffic control, utility disconnects, etc. In the context of the overall estimate, these are incidental costs that are covered in the estimate's contingency.
- Field management during construction activities has been included in the estimate, including one Superintendent and two Field Engineers.

The Department recommends Council find that the Certificate Holder used reasonable methods and assumptions to develop the cost estimate, with the adjustments described below. The Department's reviewed and adjusted estimate is provided as Table 8, below.

The Certificate Holder applied a 5 percent contractor markup for home office and project management to the total retirement and restoration cost estimate and a 15 percent markup for Overhead and Fees. The Certificate Holder also applied contingencies for costs that would be incurred by the state if the Certificate Holder defaults on its obligation to retire the facility and restore the site were applied to the total cost with contractor markups, this included a 1 percent contingency for the costs of performance bonding, a 10 percent contingency for administrative and project management costs, and a 10 percent contingency for adverse future development at the site.

[38] Based on the date of the original pRFA4 submission. The Department did not require the Certificate Holder to update its unit prices because the retirement bond cost will be adjusted from the 2024 dollars prior to construction and operation of the facility.

[39] See RFA4, Retirement, Section 4.2 for details about the methods and assumptions for the estimating.

The Certificate Holder's 1 percent performance bond contingency was applied to the total decommissioning cost before Contractor markup; however, Council typically imposes that cost on the total cost with markup, this is reflected in Table 8 below. The 10 percent contingency for administrative and management expenses would cover the anticipated direct costs borne by the State in the course of managing site restoration and would include the preparation and approval of a final retirement plan, obtaining legal permission to proceed with demolition of the facility, legal expenses for protecting the State's interest, preparing specification bid documents and contracts for demolition work, managing the bidding process, negotiations of contracts, and other tasks. The Council has previously imposed a 20 percent future development contingency on costs associated with battery energy storage system components given the additional uncertainty and potential environmental hazards associated with battery technologies. The Department recommends Council find the same contingency is justified for the BESS proposed to be included with this facility.

Based on the adjusted contingencies above and on the Department's review of the Certificate Holder's cost estimate, the Department recommends that approximately $16.52 million in Q1 2024 dollars.

Table 8: Facility Proposed in RFA4 Decommissioning Tasks and Cost Estimate

Task or Component	Quantity	Unit	Unit Cost ($)[1]	Estimate ($)
1.1 Mobilization / Demobilization				
1.1.1 Equipment Mob	1	Lump Sum	81,200.00	81,200.00
1.1.2 Site Facilities	1	Lump Sum	5,600.00	5,600.00
1.1.3 Crew - Mob & Site Setup	3	Day	18,173.56	54,520.68
1.1.4 Crew - Demob & Site Cleanup	3	Day	18,173.56	54,520.68
			Subtotal	***195,841.36***
1.2 Project Site Support				
1.2.1 Site Facilities	10	Month	8,220.00	82,200.00
1.2.2 Field Management	10	Month	53,947.28	539,472.80
			Subtotal	***621,672.80***
1.3. Substation Retirement				
1.3.1 Fence Removal	1	Day	1,354.33	1,354.33
1.3.2 Transformer Removal	1	Each	102,049.58	102,049.58
1.3.3 Control Building Removal	1	Each	2,508.66	2,508.66
1.3.4 UG Utility & Ground Removal	1	Day	1,354.33	1,354.33
1.3.5 Remove Foundations	502	Cubic Yard	27.85	13,980.70
1.3.6 Misc. Material Disposal	1	Each	2,575.00	2,575.00
1.3.7 Restore Yard	1	Each	44,156.22	44,156.22
			Subtotal	***167,978.82***
1.4 500 kV Substation Transmission Line Retirement				
1.4.1 Conductor Removal	300	Linear Feet	2.09	627.00
1.4.2 Remove Structures	1	Each	5,391.45	5,391.45

Table 8: Facility Proposed in RFA4 Decommissioning Tasks and Cost Estimate

Task or Component	Quantity	Unit	Unit Cost ($)[1]	Estimate ($)
1.4.3 Remove Foundations to Subgrade	1	Each	4,925.29	4,925.29
			Subtotal	***10,943.74***
1.5 34.5 kV Overhead Collector Line Removal				
1.5.1 Conductor Removal	5,280	Feet	6.72	35,481.60
1.5.2 Utility Pole Removal	30	Each	1,124.95	33,748.50
			Subtotal	***69,230.10***
1.6 O&M Building Removal				
1.6.1 Excavate, Cut & Cap Utilities	1	Day	1,354.33	1,354.33
1.6.2 Interior Demo & Removal	1	Lump Sum	15,820.37	15,820.37
1.6.3 Structure Demo	2	Day	10,178.14	20,356.28
1.6.4 Remove Foundations To Subgrade	242	Cubic Yard	35.74	8,649.08
			Subtotal	***46,180.06***
1.7 BESS Removal				
1.7.1 Fence Removal	4,514	Linear Feet	1.36	6,139.04
1.7.2 Battery Removal & Disposal	200	MW	2,880.31	449,328.36
1.7.3 Structure & Components Removal	200	MW	9,384.47	1,463,977.32
1.7.4 Transformer Removal	30	Each	2,650.08	79,502.40
1.7.5 Inverter Removal	58	Each	2,318.19	134,455.02
			Subtotal	***2,133,402.14***
1.8 Solar Array Retirement				
1.8.1 Fence Removal	77,794	Linear Feet	1.31	101,910.14
1.8.2 Solar Panel Removal & Disposal	390,879	Panels	7.41	2,896,413.39
1.8.3.1 Solar Rack (Trackers) & Post Removal	14,477	Each	257.21	3,723,629.17
1.8.3.2 Solar Rack & Post Trans. & Disposal	326	Truck Loads	1,375.00	448,250.00
			Subtotal	***7,170,202.70***
1.9 Solar Inverter/Transformer Removal				
1.9.1 Disconnect Electrical	44	Each	1,203.06	52,934.64
1.9.2 Loadout Inverter & Transformer	44	Each	3,038.11	133,676.84
1.9.3 Trucking - Per Load	44	Each	1,375.00	60,500.00
			Subtotal	***247,111.48***
1.10 Remove Inverter / Transformer Foundations				

Table 8: Facility Proposed in RFA4 Decommissioning Tasks and Cost Estimate

Task or Component	Quantity	Unit	Unit Cost ($)[1]	Estimate ($)
1.10.1 Excavate/Remove Foundations	2,360	Cubic Yard	15.87	37,453.20
1.10.2 Concrete Transport and Disposal	2,360	Each	11.97	28,249.20
			Subtotal	***65,702.40***
1.11 Remove BESS Foundations				
1.11.1 Excavate/Remove Foundations	1,148	Cubic Yard	15.87	18,218.76
1.11.2 Concrete Transport and Disposal	1,148	Each	11.97	13,741.56
			Subtotal	***31,960.32***
1.12 Site Restoration - Partial Site Seeding				
1.12.1 Site Roads - Removal and Restoration	64,944	Linear Feet	1.74	113,002.56
1.12.2 Spot Grade Disturbed Areas	302	Acre	287.72	86,891.44
1.12.3 Re-Seed With Native Veg - Roads & Areas Disturbed By Construction	302	Acre	500.00	151,000.00
			Subtotal	***350,894.00***
Total Decommissioning Cost				***11,111,119.92***
Contractor Markups				
Home Office, Project Management			0.05	555,556.00
Contractor OH & Fee			0.15	1,750,001.39
			Subtotal	***2,305,557.38***
Total Decommissioning Cost				***13,416,677.30***
Performance Bond			0.01	134,166.77
			Base Cost	***13,550,844.08***
	Basis (% of Cost)	**Basis ($)**	**Contingency**	**Estimate ($)**
Admin and Project Management	100%	13,550,844.08	0.10	1,355,084.41
Future Development (Exclude Battery)	81%	10,949,000.16	0.10	1,094,900.02
Future Development (Battery Only)	19%	2,601,843.91	0.20	520,368.78
			Subtotal	***2,970,353.21***
TOTAL ESTIMATED COST ($Q12024)				**16,521,197.28**
ROUNDED				**16,521,000.00**

Table 8: Facility Proposed in RFA4 Decommissioning Tasks and Cost Estimate

Task or Component	Quantity	Unit	Unit Cost ($)[1]	Estimate ($)
Notes: 1. See Attachment F to this Order, for detailed breakdown of tasks, actions and unit costs for the total costs presented in this Table. 2. Tasks associated with a Lump Sum unit cost may be calculated using a fraction (in decimal form) of the actual quantities constructed or by using the more detailed breakdown of unit costs associated with the Lump Sum task identified in the cost estimating worksheet Attachment F to this Order.				

Under OAR 345-025-0006(8), the Council must impose a condition in each site certificate requiring a Certificate Holder to submit and maintain 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. As described above, based on maximum buildout of the proposed facility, facility retirement and site restoration are estimated to cost approximately $16.52 million in Q1 2024 dollars, recommended under Retirement and Financial Assurance Condition 1, below. Recommended Retirement and Financial Assurance Condition 2 and 3, below, apply during construction and operation of the facility and outline the process to annually update the bond or letter of credit for the facility.

The Council has approved recent site certificates that include subsection (c) in Retirement and Financial Assurance Condition 2 and 3, which designates that the Department and Council have "the right to adjust the contingencies, as appropriate and necessary to ensure that costs to restore the site are adequate to maintain health and safety of the public and environment." The intent of this clause is to provide the Council the ability to adjust contingencies in the event the established decommissioning estimate may no longer be sufficient for site restoration (e.g., because the facility is not operated in compliance with the terms and conditions of the site certificate).

To ensure that the Certificate Holder has the ability to restore the site to a useful, nonhazardous condition, the Department recommends Council authorize review and adjustment of contingencies applied to the decommissioning estimate, based on the Department's ongoing review of site certificate compliance and the decommissioning estimate. The circumstances that would merit the Department or Council adjusting the contingencies would be if the Department learns of circumstances that demonstrate the existing contingency estimates may not be enough to restore the site to a useful, non-hazardous condition, such as recurring, ongoing, and/or compliance issues related to facility operation that may impact the underlying and/or surrounding land, or issues with health and safety of the public or the environment.

Recommended Retirement and Financial Assurance Condition 1 (PRE): Prior to construction of the solar facility or phase, as applicable, the Certificate Holder shall:

a. Submit to the Department Table 8 (Retirement Table with tasks/unit/unit costs) of the Final Order on AMD4, updated based on final design and phased construction, if

applicable. Certificate Holder may not make changes to the unit cost without review and approval by the Department. Certificate Holder must also request that the Department confirm the present-day inflation adjusted decommissioning estimate, rounded to the nearest $1,000, to be reflected in the bond or letter of credit in sub c of this condition.

b. Incorporate any additional decommissioning costs for facility changes which have been determined by the Department not to require a site certificate amendment.
c. Submit to the Department a bond or letter of credit, in the amount affirmed by the Department under (a), based on the Council's current pre-approved financial institution list and form.

[PRE-RF-01; Final Order on AMD4]

Recommended Retirement and Financial Assurance Condition 2 (CON): If construction extends more than 12 months, the Certificate Holder shall:

a. Annually adjust the amount of the bond or letter of credit to present dollar value, as determined by the Department.
b. Incorporate any additional decommissioning costs for proposed facility changes which have been determined by the Department not to require a site certificate amendment.
c. The Department and Council reserve the right to adjust the contingencies, as appropriate and necessary to ensure that costs to restore the site are adequate to maintain health and safety of the public and environment.

[CON-RF-01; Final Order on AMD4]

Recommended Retirement and Financial Assurance Condition 3 (OPR): During operation, the Certificate Holder shall:

a. Annually adjust the amount of the bond or letter of credit to present dollar value, as determined by the Department.
b. Incorporate any additional decommissioning costs for proposed facility changes which have been determined by the Department not to require a site certificate amendment.
c. The Department and Council reserve the right to adjust the contingencies, as appropriate and necessary to protect public health and safety or the environment and ensure the Certificate Holder's bond or letter of credit is sufficient to restore the site to a useful, non-hazardous condition.

[OPR-RF-01; Final Order on ASC]

Ability of the Certificate Holder to Obtain a Bond or Letter of Credit

The Certificate Holder, PGE, is also the Certificate Holder for four other operational facilities under EFSC jurisdiction, including the operational CGS.[40] Most recently, in April 2026, Council approved RFA4 for the Biglow Canyon Wind Farm, approving a 125 MW solar photovoltaic power generation facility, with BESS, within a 1,924-acre Solar Micrositing Area where PGE is

[40] Biglow Canyon Wind Farm (solar facility in is pre construction), Wheatridge Renewable Energy Facility I, and Port Westward Generating Project are operational. The Certificate Holder has decommissioned the Trojan Nuclear Plant and Boardman Coal Plant.

also the Certificate Holder.[41] In May, 2026, the Department issued a letter indicating that the bond amount for the preconstruction requirement under PRE-RF-01 for the solar facility and other components should be $33,968,000; the Certificate Holder submitted a Letter of Credit (LOC) issued by Mizuho Bank, Ltd., with an effective date of June 12, 2026 in the amount indicated by the Department.[42] The Certificate Holder has also maintained and annually adjusted the bond for the operational CGS facility since 2014. For the 2025 operational year, the Department issued its annual inflation update letter for the CGS facility under Condition 15.1 on October 10, 2025 indicating that the bond or LOC for the facility would be 28,145,000 and on December 11, 2025, the Certificate Holder provided a LOC in that amount and in the form approved by Council issued by Mizuho Bank, Ltd., thus satisfying the bond and condition requirements.[43] The Certificate Holder relies upon compliance with the bonding requirements for its other facilities to demonstrate that it has the ability to obtain and maintain a bond of LOC in the amount of $16.52 million, to be adjusted at the time of pre-construction and operation of the facility. The Department recommends Council accept the Certificate Holders ongoing compliance with the bonding requirements for its other facilities to demonstrate that it has the ability to obtain a bond or LOC in the amount estimated to retire the solar facility proposed in RFA4.

An October 22, 2026 letter from Angelica Espinosa, PGE's Senior Vice President and Chief Legal and Compliance Officer, explains that the Certificate Holder has the legal authority to construct and operate the facility components proposed in RFA4 without violating its bond indenture provisions, Articles of Incorporation, common stock covenants or similar agreements.[44]

Based on the forgoing reasoning and evidence on the record with the Department, the Department recommends that Council find that the Certificate Holder has a reasonable likelihood of obtaining 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.

III.G.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the recommended amended and new site certificate conditions described above, the Department recommends the Council find that the site can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility, and that the Certificate Holder has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to restore the site to a useful, non-hazardous condition.

[41] BCWAMD4Doc33-00 Final Order Signed 2026-04-01.

[42] BCWOPS PRE-RF-01 Confirmation Letter 2026-05-26.

[43] CGS Condition 15.1(b-f) 2025-26 ODOE LOC adjustment letter 2025-10-10 and CGSOPS Condition 15.1(b) 2025 LOC MIZUHO 2025-12-11.

[44] CSGAMD4 RFA4 Exhibit X: Retirement, Attachment M-1.

III.H. FISH AND WILDLIFE HABITAT: OAR 345-022-0060

To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are consistent with:

(1) The general fish and wildlife habitat mitigation goals and standards of OAR 635-415-0025(1) through (6) in effect as of February 24, 2017, and

(2) For energy facilities that impact sage-grouse habitat, the sage-grouse specific habitat mitigation requirements of the Greater Sage-Grouse Conservation Strategy for Oregon at OAR 635-415-0025(7) and OAR 635-140-0000 through -0025 in effect as of February 24, 2017.[45]

III.H.1. Findings of Fact

The analysis area for potential impacts to fish and wildlife habitat is the area within and extending 0.5 mile from the proposed amended site boundary. The analysis area is not located within sage-grouse habitat.

Habitat Categorization

This standard creates requirements for mitigating impacts to fish and wildlife habitat, based on the functional quantity and quality of the habitat impacted as well as the nature, extent, and duration of the impact. Functional quality is presented using a habitat classification system based on the function and value of the habitat it would provide to a species or group of species likely to use it. ODFW policy identifies six habitat categories, with Category 1 being the most valuable, and Category 6 the least valuable. See Table 9 below for category definitions.

Habitat Categories within the Analysis Area

As described above, the analysis area includes the area within and extending ½-mile from the proposed amended site boundary. When an analysis area extends beyond the area that could be directly impacted, as is the case under the Fish and Wildlife Habitat standard, the purpose is to identify whether there are adjacent sensitive habitat areas that would inform habitat categorization within the area of potential impact.

Habitat categorization surveys included a preliminary desktop review followed by field surveys. Qualified AECOM biologists conducted vegetation and habitat mapping within the micrositing area in April, May, and June of 2023, prepared a summary report of methods and findings, and coordinated with ODFW on review of those findings. For terrestrial areas outside the micrositing area, including those up to 0.5-miles from the perimeter of the RFA4 proposed site boundary, AECOM biologists delineated habitat types based on aerial photography interpretation and experience acquired at the site during field investigations.

[45] OAR 345-022-0060, effective Mar. 8, 2017.

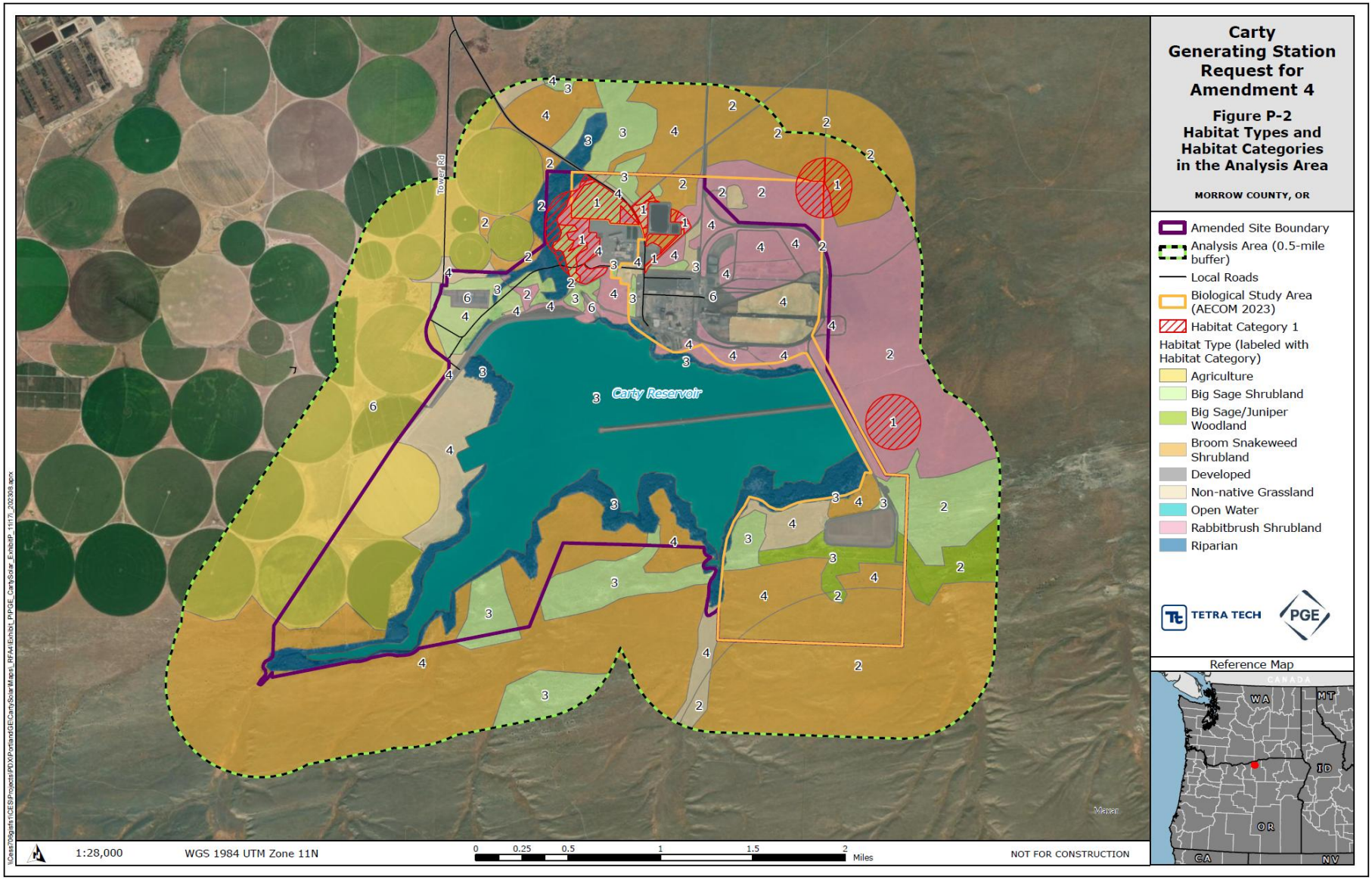
Surveys for Washington Ground Squirrels (WGS) were conducted April 19-25 and May 22-26, 2023 and followed the ODFW approved survey protocol. All suitable WGS habitat within 1,000 feet of the study area was surveyed. Three WGS colonies were detected, with their locations – including WGS burrow complexes and adjacent habitat necessary for WGS survival – categorized as Category 1 habitat regardless of the categorization that would otherwise be suggested by the location's vegetation composition. Unoccupied but potential WGS habitat adjacent to an existing colony was classified as Category 2.

Based on the studies and information reviewed for RFA4, the Certificate Holder has identified and categorized habitat within the analysis area as summarized in Table 9 (see habitat impacts and mitigation section) and Figure 8 below.

The Department consulted with ODFW on the adequacy of the desktop and field surveys conducted to inform the habitat categorization for the analysis area.[46] Based on this consultation, the Department recommends Council find that the habitat categorization may be relied upon to establish the applicable mitigation goals under the standard. The results of the habitat categorization surveys are presented in Figure 8 below.

[46] CGSAMD4Doc9 pRFA Reviewing Agency Comment ODFW Somers 2024-03-29; CGSAMD4 pRFA Reviewing Agency Comment ODFW Somers 2025-11-19; CGSAMD4 pRFA Reviewing Agency Comment ODFW Somers 2026-10-24.

Figure 8: Habitat Types and Categories within the Analysis Area



Habitat Impacts and Mitigation

OAR 345.001.0010(22) defines mitigation as follows:

"Mitigation" means taking one or more of the following actions listed in order of priority:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action;

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;

(c) Partially or completely rectifying the impact by repairing, rehabilitating or restoring the affected environment;

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action by monitoring and taking appropriate corrective measures;

(e) Partially or completely compensating for the impact by replacing or providing comparable substitute resources or environments; or

(f) Implementing other measures approved by the Council.

This definition generally creates a mitigation hierarchy where impacts should foremost be avoided, then minimized, then rectified, then compensatorily mitigated. While this hierarchy applies to all forms of impacts, the appropriate mitigation approach for a given impact varies depending on the nature, duration, severity, and degree to which the impact can be avoided, minimized, rectified, or offset, as well as the nature and value of the impacted habitat.

OAR 635-415-0025(1) through (6)[47] categorizes habitats by value and sets mitigation goals based on that categorization. These goals are requirements under the Council's Fish and Wildlife Habitat standard.

Table 9: Habitat Categorization and Corresponding Mitigation Requirements

ODFW Habitat Category	Definition	Mitigation Requirements
1	Irreplaceable, essential habitat for a fish or wildlife species, population, or a unique assemblage of species and is limited on either a physiographic province or site-specific basis, depending on the individual species, population or unique assemblage.	No loss of either habitat quantity or quality. The Council interprets this to mean that both habitat quantity and quality must not be lost, which functionally requires avoidance of impacts.
2	Essential habitat for a fish or wildlife species, population, or unique	No net loss and a net benefit in habitat quantity or quality. The Council interprets

[47]635-415-0025(1) through (6), as it was written as of February 24, 2017, is incorporated into OAR 345-022-0060 by reference. No changes to 635-415-0025(1) through (6) have occurred since February 24, 2017.

Table 9: Habitat Categorization and Corresponding Mitigation Requirements

ODFW Habitat Category	Definition	Mitigation Requirements
	assemblage of species and is limited either on a physiographic province or site-specific basis depending on the individual species, population or unique assemblage.	this to mean both net habitat quantity and quality must be preserved and enhanced. Compensatory mitigation must be through reliable "in-kind, in-proximity" habitat mitigation that achieves no net loss and a net benefit in both pre-development habitat quantity and quality.
3	Essential habitat for fish and wildlife, or important habitat for fish and wildlife that is limited either on a physiographic province or site-specific basis, depending on the individual species or population.	No net loss of habitat quantity or quality. The Council interprets this to mean that both existing net habitat quantity and quality must be preserved. Compensatory mitigation must be reliable "in-kind, in-proximity" habitat mitigation to achieve no net loss in both pre-development habitat quantity and quality.
4	Important habitat for fish and wildlife species.	No net loss of habitat quantity or quality. The Council interprets this to mean that both existing net habitat quantity and quality must be preserved. In contrast to Category 3, compensatory mitigation options are less constrained and may involve reliable "in-kind or out-of-kind, in-proximity or off-proximity" habitat mitigation to achieve no net loss in both pre-development habitat quantity and quality.
5	Habitat for fish and wildlife having high potential to become either essential or important habitat.	Net benefit to habitat quantity or quality.
6	Habitat that has low potential to become essential or important habitat for fish and wildlife.	Impacts to Category 6 habitat do not require mitigation

RFA4 Habitat Impacts

Habitat impacts can be temporary, temporal or permanent depending on whether the impact can be restored within 3-5 years, 5-10 years or is not recoverable and therefore considered permanent. For the changes proposed in RFA4, approximately 43.5 acres of Category 2, 3, 4, and 6 habitats would be temporarily impacted during construction. Approximately 860 acres of

Category 2, 3, 4, and 6 habitats would be within the perimeter fenceline of the facility proposed in RFA4 and therefore considered a permanent habitat impact.

Based on surveys and facility proposed in RFA4, the habitat impacts by ODFW habitat category are summarized below. The Certificate Holder identified only WGS category 1 habitat in the analysis area, which must be avoided. The Certificate Holder has identified potential impacts from RFA4 to Categories 2, 3 and 4 habitats. Estimated impact acres to habitat by category are presented in Table 10 below.

Mitigation for Temporary Impacts

As shown in Table 10 below, the facility proposed in RFA4 is expected to have 43.5 acres of temporary impacts. However, the proposed siting means category 2-4 habitat is mostly avoided, with only 14.2 acres of temporary impacts, most of which are to category 4 habitat. Temporary impacts to category 6 habitat do not necessitate mitigation. Because the 14.2 acres of temporary impacts are expected to be fragmented across the site and generally located immediately adjacent to permanent structures, the likelihood that these areas could be successfully restored to pre-construction habitat conditions are low, and the effort the Certificate Holder would need to expend to attempt to do so is disproportionately high for such a small area. As such, while these areas will be revegetated pursuant to the VSMP required by Soil Protection Conditions 1, 2 and 3, the Certificate Holder considers these approximately 14.2 acres of temporary impacts to be temporal and has offered compensatory mitigation accordingly, albeit at a lesser ratio than permanent impacts (1:1 compared to 2:1 for category 2, and 0.5:1 compared to 1:1 for categories 3 and 4). Such mitigation is discussed in the Mitigation for Permanent Impacts section and shown in Table 10 below.

Soil Protection Condition 1 (see section III.D Soil Protection above) requires the finalization of a VSMP, which includes a variety of measures to control noxious weeds at the site. The VSMP is discussed in greater detail in the Soil Protection section. Together, these conditions appropriately minimize and reduce wildlife use impacts over time.

Mitigation for Permanent Impacts

As discussed above, the Council's mitigation policy creates a hierarchy of mitigation priority, where impacts should first be avoided, then minimized, then rectified, then reduced over time, then compensitorily mitigated. The Council's analysis of "avoidability" focuses on environmentally sensitive areas within a site and whether impacts to these areas or resources can be avoided. Permanent impacts leave little room for mitigation actions other than avoidance of habitat or compensatory mitigation; either the permanent footprint of a facility replaces habitat or it does not. While permanent footprint can be 'minimized' in certain areas,

such ‘minimization’ is achieved through partial avoidance and is therefore considered avoidance.[48]

RFA4, as proposed, makes substantial efforts to avoid impacts to habitat. First, it wholly avoids impacts to category 1 habitat and even removes an 88-acre portion of the site boundary that contains category 1 habitat. Additionally, siting the facility proposed in RFA4 within the footprint of the former BCP and its ash disposal site means that up to 169 acres will be located within category 6 habitat. Even areas outside the direct BCP footprint make use of large areas of category 4 habitat (443.5 acres) that were previously disturbed by BCP operations and remain fragmented by BCP railroad access and road infrastructure. As such, overall, the facility proposed in RFA4 is sited to avoid impacts to habitat, particularly sensitive category 1 and 2 habitats. As such, the remaining impacts may be mitigated using compensatory mitigation.

RFA4 construction would result in an estimated 860 acres of permanent impacts, 691 acres of which would be to category 2-4 habitat and therefore necessitate compensatory mitigation (see Table 10 below).[49] This compensatory mitigation will be achieved through implementation of a Department-approved Habitat Mitigation Plan (HMP) within a Habitat Mitigation Area (HMA), discussed further below. The size of the HMA is based on a mitigation ratio – for every acre of habitat impacted, an acre or more would be protected within a mitigation area. To meet the mitigation goals for each habitat category, the Certificate Holder proposed a ratio approach, ranging from 0.5 acres to up to 2 acres to be included in an HMA for every acre impacted. The ratio depends on whether the impact is temporary or permanent, and the category of the impacted habitat. The Certificate Holder’s proposed compensatory mitigation, calculated using those ratios, is presented in Table 10 below. The Department consulted with ODFW, who concurred with the Certificate Holder’s habitat categorization and proposed mitigation ratios.[50]

Table 10: RFA4 Estimated Habitat Impacts and Mitigation Needs

Habitat Category	Habitat Type	Temporary Impacts		Permanent Impacts		Compensatory Mitigation (Acres)
		Disturbance (Acres)	Mitigation Ratio	Disturbance (Acres)	Mitigation Ratio	
2	Big Sage Shrubland	0.3	1:1	15.3	2:1	313.6
	Big Sage/Juniper Woodland	0.1		7.8		

[48] For instance, in a hypothetical project where a road is proposed through sensitive habitat, permanent impacts to that habitat could be ‘minimized’ by reducing road widths or routing the road around the sensitive habitat; however, these approaches would be considered partial or full avoidance of impacts because habitat that would otherwise be replaced with roadway is avoided.

[49] This includes 14.2 acres of temporal impacts.

[50] CGSAMD4Doc9 pRFA Reviewing Agency Comment ODFW Somers 2024-03-29

Table 10: RFA4 Estimated Habitat Impacts and Mitigation Needs

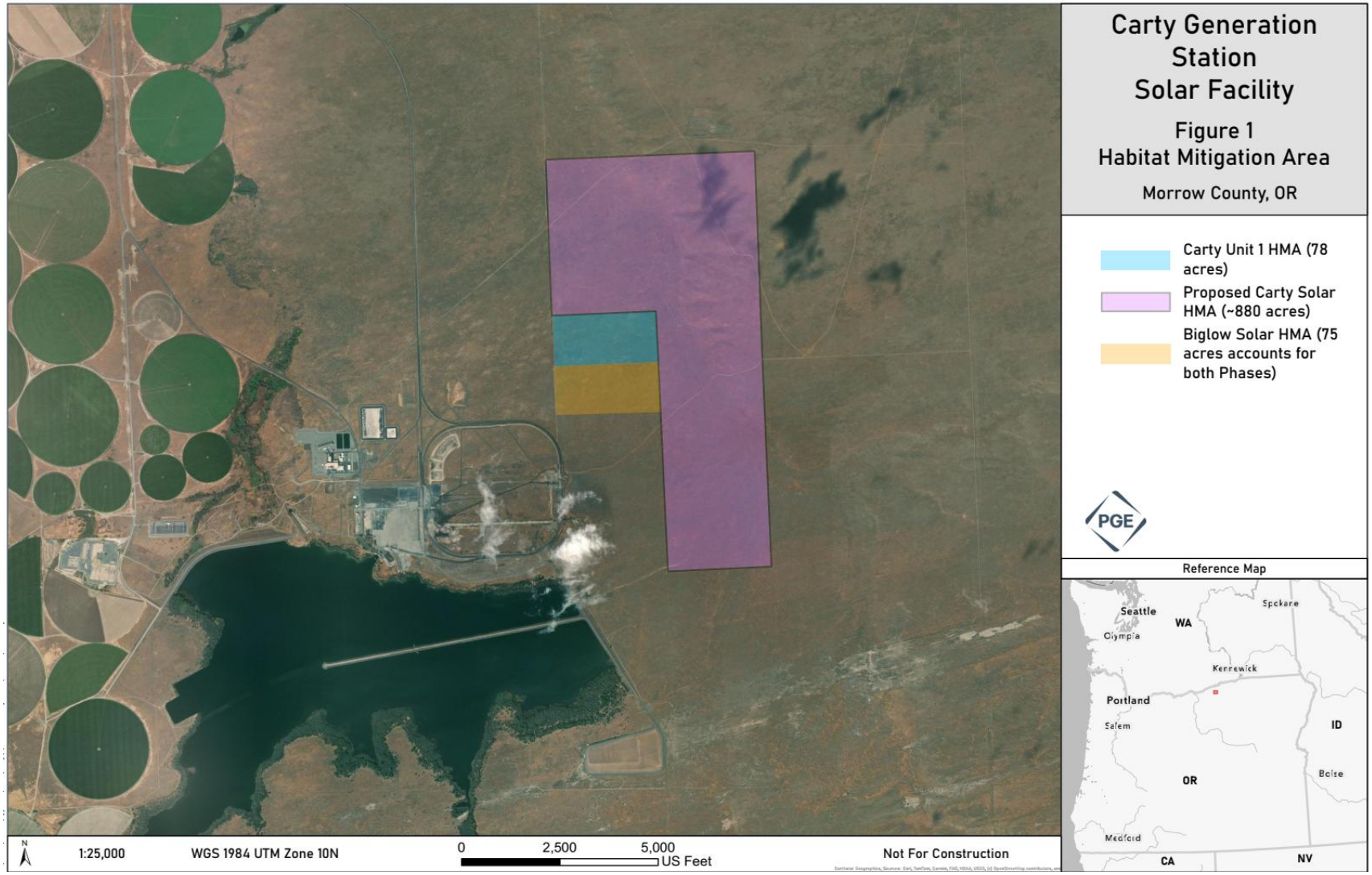
Habitat Category	Habitat Type	Temporary Impacts		Permanent Impacts		Compensatory Mitigation (Acres)
		Disturbance (Acres)	Mitigation Ratio	Disturbance (Acres)	Mitigation Ratio	
	Broom Snakeweed Shrubland	0.9		126.6		
	Rabbitbrush Shrubland	2.5		5.2		
3	Big Sage Shrubland	0	0.5:1	40.3	1:1	103
	Big Sage/Juniper Woodland	0		57.3		
	Open Water	0.3[51]		0		
	Riparian	0.8		4.9		
4	Broom Snakeweed Shrubland	0.4		149.2		438.2
	Non-native Grassland	0.5		132.4		
	Rabbitbrush Shrubland	8.4		151.9		
6	Developed	29.3	0:1	169	0:1	0
Total		43.5		859.9		854.8

RFA4 proposes compensatory mitigation through a draft HMP that would be finalized and approved by the Department prior to the start of construction. The draft HMP proposes a Habitat Mitigation Area (HMA) on an 880-acre property adjacent to the Carty Generating Facility. As shown in Figure 9 below, the HMA is adjacent to an existing conservation area operated by the Certificate Holder and a conservation area maintained by The Nature Conservancy (South Farm Conservation Area). The habitat mapped within the HMA includes rabbitbrush shrubland and broom snakeweed shrubland. The HMA is within a PWCA connector and contains Category 1 and Category 2 habitat associated with WGS colonies that are immediately adjacent to the HMA. Access to the site is currently limited to the Nature Conservancy and Three Mile Canyon Farms occasional use of the two-track access crossing the property to access the other conservation areas and for the Certificate Holders' general operational needs. No livestock grazing is currently occurring on the site, and grazing would not

[51] The extent of this impact is to a small section of rip rap on the bank of the reservoir that was inaccurately mapped as open water.

be allowed in the future. The Department recommends that the Council find that the proposed HMA is adequate to meet the Category 2, 3 and 4 mitigation goals applicable to the impacts.

Figure 9: Proposed Habitat Mitigation Area



As described in the draft HMP, a final HMA will be sized proportionately to the final design facility footprint as approved under Fish and Wildlife Condition 1 using the mitigation ratios in Table 10 above. The HMA is owned by the Certificate Holder and will be protected by a conservation easement or comparable legal instrument for the life of the facility proposed in RFA4, and various habitat uplift measures will be implemented to achieve habitat mitigation goals. Preliminary enhancement actions identified for the HMA include noxious weed control, shrub planting, treatment of annual grasses, pollinator habitat enhancement, and the provision of raptor nesting opportunities. To clarify the expected scope of shrub planting in the HMA to include mitigation for category 2 and 4 habitat, the Department recommends redline changes to this draft HMP (see Attachment D-1). Overall, the preliminary enhancement actions in the draft HMP will be further evaluated based on a preconstruction habitat assessment of the HMA to determine the scope/scale of the action along with the appropriate success criteria and monitoring approach.

The Department recommends Council impose a condition requiring that, prior to construction, the Certificate Holder provide a draft finalized HMP to the Department for review and approval. Finalization of the draft HMP includes determining final estimated permanent habitat disturbance based on final facility design or phase and by habitat type and category; finalization of the enhancement actions to be implemented at the HMA and the success criteria and monitoring approach by which to evaluate the success of the enhancement actions; and execution of the legal instrument following review and approval by the Department of the form to be used.

> **Recommended Fish and Wildlife Habitat Condition 1 (PRE)**: Prior to construction to the solar facility or phase, as applicable, the Certificate Holder shall finalize and submit for the Department's review and approval the Habitat Mitigation Plan, as provided in Final Order on AMD4 Attachment D-1, based on the draft HMP Section 2.0 finalization requirements.
> [PRE-FW-01, Final Order on AMD4]
>
> **Recommended Fish and Wildlife Habitat Condition 2 (OPR)**: During operation of the solar facility, the Certificate Holder shall implement and adhere to the final, Department-approved Habitat Mitigation Plan.
> [OPR-FW-01, Final Order on AMD4]

Wildlife Use Impacts and Mitigation

In addition to habitat loss, the construction and operation of the facility components proposed in RFA4 may impact habitat function and the species that depend on it, including sensitive species, by disturbing potential nesting and breeding activities, increasing mortality from collision with fencing, overhead collector lines, vehicles and heavy equipment, and creating disturbances related to artificial lighting. Wildlife use of habitat is intrinsically linked to the value of that habitat for wildlife. Where temporary, temporal, and permanent impacts are

solely related to impacts within the area a project directly disturbs, wildlife use impacts are solely related to construction and operational impacts to habitat outside of the project footprint. These impacts include edge effects created by anthropogenic disturbance adjacent to habitats, barriers to wildlife use of habitat, and wildlife mortality caused by construction and operation of a facility.

Any facility located adjacent to wildlife habitat will have unavoidable wildlife use impacts. As such, wildlife use impacts are mitigated through minimization consistent with 345.001.0010(22)(b), and reduction/elimination over time consistent with 345.001.0010(22)(d). Potential RFA4 wildlife use impacts include construction-related injury to or loss (fatality) due to collision with or crushing from construction equipment vehicles and general disturbance (noise and visual), which can interrupt wildlife behavior. In addition, there are risks to wildlife species during proposed facility operations from structure collision (for avian species), vehicle collisions, disturbance related to artificial lighting and introduction or spread of noxious weeds. All these impacts have the potential to diminish adjacent habitat quality. For instance, lighting can disrupt normal patterns of feeding and movement, noxious weeds can displace native species on which wildlife depend, and mortality can reduce reproductive success and therefore habitat utility. These effects can be particularly impactful to sensitive species, where low population numbers mean that mortality and behavioral changes of individual animals are more likely to result in reduced reproductive success and therefore reduced habitat quality for the species in the area.

Wildlife and raptor nest surveys were conducted in April, May, and June of 2023. The raptor nest survey area included a 1-mile buffer of the Biological Study Area. Surveys were performed by AECOM and PGE biologists. PGE regularly monitors raptor and common raven (*Corvus corax*) nests within 1 mile of their existing CGS facilities. To avoid duplicative efforts, AECOM only surveyed areas not covered by PGE in the raptor nest survey area. Raptor nests were documented by AECOM while conducting biological surveys in April and May 2023 and during targeted raptor nest surveys in June 2023. There were no additional nests documented identified during pedestrian and windshield surveys.

Based on the desktop analysis and field surveys for fish and wildlife, 17 state sensitive species and 2 eagle species have potential to occur in the analysis area. Bald eagles (*Haliaeetus leucocephalus)* and golden eagles (*Aquila chrysaetos*) are protected under the Bald and Golden Eagle Protection Act. Of the 17 state sensitive species that have potential to occur in the analysis area, 7 are sensitive-critical and 10 are sensitive in the Columbia Plateau Ecoregion (ODFW 2021). This includes 2 reptile, 10 bird, and 5 mammal species.[52] No state sensitive fish species are known or expected to occur in Carty Reservoir.

[52] See CGSAMD4 Exhibit P Fish and Wildlife Table P-5 for a summary of species and the likelihood of their occurrence at the site.

Minimization of habitat use impacts can generally be achieved through a combination of facility siting, facility design, and construction and operational best management practices. Reduction over time can be achieved through operational best management practices.

The facility proposed in RFA4 would be sited adjacent to Unit 1, an operational natural gas fueled energy generation facility. This siting reduces potential wildlife use impacts because a portion of the facility abuts an area that does not serve a functional wildlife habitat. The facility proposed in RFA4 is also partially within the footprint of the recently decommissioned former Boardman Coal Plant and ash disposal area. As such, RFA4 is not introducing an entirely new source of disturbance to these areas. In other words, some of the wildlife use impacts of RFA4 will not be new impacts, rather, they will represent the continuation of an existing disturbed state. As such, the proposed facility siting minimizes wildlife use impacts.

In terms of facility design, construction BMPs, and operational practices, the Certificate Holder proposes to follow various measures described in the existing WHMMP. These measures include:

Facility Design

- Facility proposed in RFA4 will be sited to avoid Category 1 WGS habitat.
- Overhead collector line and 300-foot high voltage transmission line will be designed and constructed in accordance with PGE's company-wide Avian Protection Plan (APP) to reduce impacts to avian species from electrocutions and collisions with electric utility power lines and equipment.

Pre-construction BMPs

- If pre-construction surveys determine that WGS burrows have been established in previously inactive areas, the Certificate Holder will report to and work with ODOE and ODFW to establish any additional necessary mitigation measures.
- Conduct Environmental Awareness Training for all facility personnel and construction contractors.

Construction BMPs

- Restrict speeds to 20 miles-per-hour throughout the facility site and, during the active squirrel season (February 1 through June 30) a speed limit of 10 miles-per-hour on private roads near known WGS colonies.
- Disc or till an 800-foot buffer within the perimeter of the planned ground disturbance areas in closest proximity to squirrel activity areas to discourage WGS from moving into planned construction areas.

- The Certificate Holder will consult with ODOE and ODFW to discuss the situation and potential additional avoidance measures should WGS establish burrows within 785 feet of existing facilities, construction activity, or planned construction disturbance areas.
- Conduct preconstruction raptor nest surveys and adhere to disturbance buffers during critical nesting periods, if nests are observed as active.

Facility Operations

- Maintain a company-wide APP to reduce impacts to avian species from electrocutions and collisions with electric utility power lines and equipment.
- Restrict speeds to 20 miles-per-hour throughout the facility site and, during the active squirrel season (February 1 through June 30) a speed limit of 10 miles-per-hour on private roads near known WGS colonies.

The WHMMP is a legacy plan tied to the construction of Unit 1 and RFA1-RFA3. As presented in Attachment A of this Order, the Department recommends the Council restructure the site certificate to improve clarity of requirements applicable to Unit 1 versus the facility proposed in RFA4. As such, the Department recommends Council impose Fish and Wildlife Habitat conditions 3 through 6 to separate the construction and operational measures needed to minimize and reduce wildlife use impacts over time:

> **Recommended Fish and Wildlife Habitat Condition 3 (PRE)**: Prior to construction of the solar facility or phase, as applicable, the Certificate Holder shall submit a draft final Construction Wildlife Monitoring Plan based on WHMMP Section III, for Department review and approval.
> [PRE-FW-02, Final Order on AMD4]
>
> **Recommended Fish and Wildlife Habitat Condition 4 (CON)**: During construction of the solar facility or phase, as applicable, the Certificate Holder shall adhere to the requirements of the Construction Wildlife Monitoring Plan. Monitoring records shall be maintained throughout construction and included in the semi-annual report submitted to the Department pursuant to OAR 345-026-0080.
> [CON-FW-01, Final Order on AMD4]
>
> **Recommended Fish and Wildlife Habitat Condition 5 (OPR)**: Prior to operations of the solar facility, the Certificate Holder shall submit a draft final Operational Wildlife Monitoring Plan based on WHMMP Section III, for Department review and approval.
> [PRO-FW-01, Final Order on AMD4]
>
> **Recommended Fish and Wildlife Habitat Condition 6 (OPR)**: During operation, the Certificate Holder shall adhere to the requirements of the Operational Wildlife Monitoring Plan. Monitoring records shall be maintained throughout operation and included in the annual report submitted to the Department pursuant to OAR 345-026-0080.

[OPR-FW-02, Final Order on AMD4]

In addition, recommended Threatened and Endangered Species Conditions 1, 2 and 3 include specific requirements for preconstruction WGS surveys, strict avoidance of WGS and flagging to ensure construction personal are aware of sensitive areas that must be avoided.

III.H.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the recommended site certificate conditions described above, the Department recommends the Council find that the design, construction and operation of the facility, with the proposed changes, are consistent with the mitigation goals and requirements of the Oregon Department of Fish and Wildlife's Fish and Wildlife Habitat Mitigation Policy under OAR 635-415-0025.

III.I. THREATENED AND ENDANGERED SPECIES: OAR 345-022-0070

> *To issue a site certificate, the Council, after consultation with appropriate state agencies, must find that:*
>
> *(1) For plant species that the Oregon Department of Agriculture has listed as threatened or endangered under ORS 564.105(2), the design, construction and operation of the proposed facility, taking into account mitigation:*
>
> *(a) Are consistent with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3); or*
>
> *(b) If the Oregon Department of Agriculture has not adopted a protection and conservation program, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and*
>
> *(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as threatened or endangered under ORS 496.172(2), the design, construction and operation of the proposed facility, taking into account mitigation, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species.*[53]

III.I.1. Findings of Fact

The analysis area for T&E species is the area within and extending 5 miles from the proposed amended site boundary.

[53] OAR 345-022-0070, effective May 15, 2007.

Threatened and Endangered Species within the Analysis Area

There are two threatened or endangered (T&E) species (Washington ground squirrel and Lawrence's milkvetch) known to occur in the vicinity and only one T&E species (Washington ground squirrel or WGS) has been identified within the proposed amended site boundary.

Field surveys

WGS surveys were conducted in 2023. The surveys covered the full field survey area during periods in WGS life history when they are most active and identifiable. Each survey consisted of a series of walked parallel transects, with the second survey performed at 90 degrees from the first to maximize the possibility of spotting WGS. Surveys identified three colonies of WGS.

Botanical surveys covering the majority of the micrositing area were conducted in 2026. Surveys were timed to coincide with the fruiting period for Lawrence's milkvetch, as mature fruits are necessary for identification.[54] No Lawrence's milkvetch plants were found.[55] 6.1 acres of the micrositing area were not covered by the survey; however, that acreage is highly disturbed and mostly located within the footprint of the former BCP. As such, it is not suitable habitat for Lawrence's Milkvetch. The Department consulted with the Oregon Department of Agriculture (ODAg) on survey methodology, and ODAg concurred with the survey methodology and findings.[56]

Potential Impacts to Identified Threatened and Endangered Species

Potential impacts to WGS as a result of construction and operations of the facility proposed in RFA4 could be from vehicles and equipment causing injury or mortality to the species from collisions (particularly during WGS active aboveground season), noise, direct impacts from excavation work, grading and vegetation removal, disturbance of soils resulting in loss of habitat or exclusion of species. RFA4 is not expected to impact Lawrence's Milkvetch; as discussed above, field surveys did not identify it within the proposed micrositing area.

Protection Measures and Mitigation of RFA4 Potential Impacts

To avoid impacts to WGS, the Certificate Holder proposes to avoid impacts to category 1 WGS habitat and implement a suite of avoidance measures required by existing site certificate conditions. As presented in Attachment A of this Order, the Department recommends the Council impose new conditions applicable exclusively to RFA4. While RFA4 already proposes WGS avoidance, WGS colonies can move over time so new surveys will be needed prior to construction to ensure avoidance. Overall, the conditions are intended to ensure important

[54] CGSAMD4 Fish and Wildlife Habitat Attachment P-2, Section 2.4
[55] ibid, Section 3.1
[56] CGSAMD4 pRFA4 Reviewing Agency Comment ODAg Marchall 2025-10-19.

WGS habitat is protected and to minimize any potential WGS mortality if individuals stray from their colonies.

Recommended Threatened and Endangered Species Condition 1 (PRE): Prior to construction of the solar facility or phase, as applicable, the Certificate Holder shall conduct surveys for Washington ground squirrel:

1. Surveys shall be conducted during the active squirrel season (February 1-June 30)
2. Surveys shall be conducted by a qualified professional biologist who has experience in detection of WGS and shall use appropriate protocols.
3. Surveys must be conducted within three years of the start of construction of the facility or phase, as applicable.
4. The survey area shall be areas of habitat suitable for WGS within the final temporary and permanent disturbance areas identified in the final plans, and within 1,000 feet of the outer edge of such disturbance areas.
5. Surveys shall identify the boundary of category 1 WGS habitat.
    a. Category 1 WGS habitat includes the area within the perimeter of multiple active WGS burrows plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or burrow establishment. If the multiple-burrow area was active in a prior survey year, and active burrows are still present, then Category 1 habitat includes the largest extent of the active burrow area ever recorded (in the current or any prior-year survey), plus a 785-foot buffer. If no active burrows are still present, then it is no longer Category 1 habitat for WGS.
    b. Category 1 WGS habitat includes the area containing single active burrow detections plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or burrow establishment. Category 1 habitat does not include single-burrow areas that were found active in a prior survey year but that are not active in the current survey year.
6. The Certificate Holder shall provide written reports of the surveys to the Department and to the Oregon Department of Fish and Wildlife.

[PRE-TE-01, Final Order on AMD4]

Recommended Threatened and Endangered Species Condition 2 (PRE): Prior to construction of the solar facility or phase, as applicable, a qualified biologist shall install flagging around category 1 WGS habitat. Flagging must be easily visible for operators of construction equipment.
[PRE-TE-02, Final Order on AMD4]

Recommended Threatened and Endangered Species Condition 3 (CON): During construction, the Certificate Holder shall implement the following measures to protect WGS:

1. All temporary and permanent impacts to category 1 WGS habitat shall be avoided, including any vehicular use within category 1 WGS.

2. Flagging around category 1 WGS shall be maintained in a state easily visible for operators of construction equipment.

[CON-TE-01, Final Order on AMD4]

Overall, these conditions in combination with recommended Fish and Wildlife Habitat Conditions 3 through 6, which require additional avoidance measures for WGS, including construction and operational speed limits, represent a robust set of avoidance and minimization measures and are adequate to protect WGS from adverse project impacts.

III.I.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the recommended site certificate conditions described above, the Department recommends the Council find that the design, construction and operation of the facility, with proposed RFA4 changes, are not likely to cause a significant reduction in the likelihood of survival or recovery of species listed as threatened or endangered by the Oregon Department of Agriculture or Oregon Fish and Wildlife Commission.

III.J. SCENIC RESOURCES: OAR 345-022-0080

(1) To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse visual impacts to significant or important scenic resources.

(2) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). In issuing such a site certificate, the Council may impose conditions of approval to minimize the potential significant adverse visual impacts from the design, construction, and operation of the facility on significant or important scenic resources.

(3) A scenic resource is considered to be significant or important if it is identified as significant or important in a current land use management plan adopted by one or more local, tribal, state, regional, or federal government or agency.

(4) The Council shall apply the version of this rule adopted under Administrative Order EFSC 1-2007, filed and effective May 15, 2007, to the review of any Application for Site Certificate or Request for Amendment that was determined to be complete under OAR 345-015-0190 or 345-027-0363 before the effective date of this rule. Nothing in this section waives the obligations of the Certificate Holder and Council to abide by local ordinances,

state law, and other rules of the Council for the construction and operation of energy facilities in effect on the date the site certificate or amended site certificate is executed.[57]

III.J.1. Findings of Fact

The analysis area for Scenic Resources is the area within and extending 10-miles from the facility proposed in RFA4, as presented in Figure 10 below. The analysis area includes land governed or managed by two Oregon counties and one two Washington counties (Gilliam, Morrow, Benton, and Klickitat); the Boardman municipality; state land administered by the Oregon Department of Fish and Wildlife (ODFW); highway right-of-way administered by the Oregon Department of Transportation (ODOT); the Oregon National Historic Trail (ONHT) managed by the National Park Service (NPS), and federal land administered by the Bureau of Land Management (BLM) and U.S. Fish and Wildlife Service (USFWS).

Land management plans published by the aforementioned referenced cities, counties[58], state, and federal agencies were evaluated to identify potential scenic resources considered significant or important under this standard. Summarized in Table 11 below, there are four significant or important scenic resources within the analysis area. The closest scenic resource to the facility proposed in RFA4 is the Oregon National Historic Trail Boardman segment, located 2.1 miles south at its nearest point.

[57] OAR 345-022-0080, effective December 19, 2022.

[58] Land management plans and associated resources in Washington are omitted from the analysis because protection of Washington resources is not within Council's jurisdiction.

Table 11: Scenic Resources in Analysis Area

Jurisdiction	Applicable Management Plan/ management criteria	Scenic Resource identified in Analysis Area/ Distance from Site Boundary	Impact Assessment	
			Visual[1, 2]	Vegetation
State				
ODOT	Oregon Highway Plan (ODOT 2023) No management criteria in Plan	Blue Mountain Scenic Byway Approximately 5 miles	The ZVI analysis demonstrates that the facility proposed in RFA4 would not be visible from the Blue Mountain Scenic Byway.	Based on distance, visibility of temporary and permanent vegetation loss is not expected.
Federal				
NPS	Oregon Trail Comprehensive Management and Use Plan (NPS 1999) No management criteria in Plan	Oregon National Historic Trail (ONHT) Boardman Segment Approximately 2.1 miles (at the nearest point)	Based on the results of the ZVI analysis, potential visibility of the facility proposed in RFA4 would be intermittent from the ONHT Boardman Segment. Where visible, the nearest solar area will introduce dark gray color, geometric shapes, and horizontal lines into the landscape setting; however, at this viewing distance, the shapes and lines and any contrast to the existing landscape would be difficult to distinguish.	At a distance of 2.1 miles, visibility of temporary and permanent vegetation loss is not expected.
		Wells Springs Interpretive Site	Based on the results of the ZVI analysis, the facility proposed in	

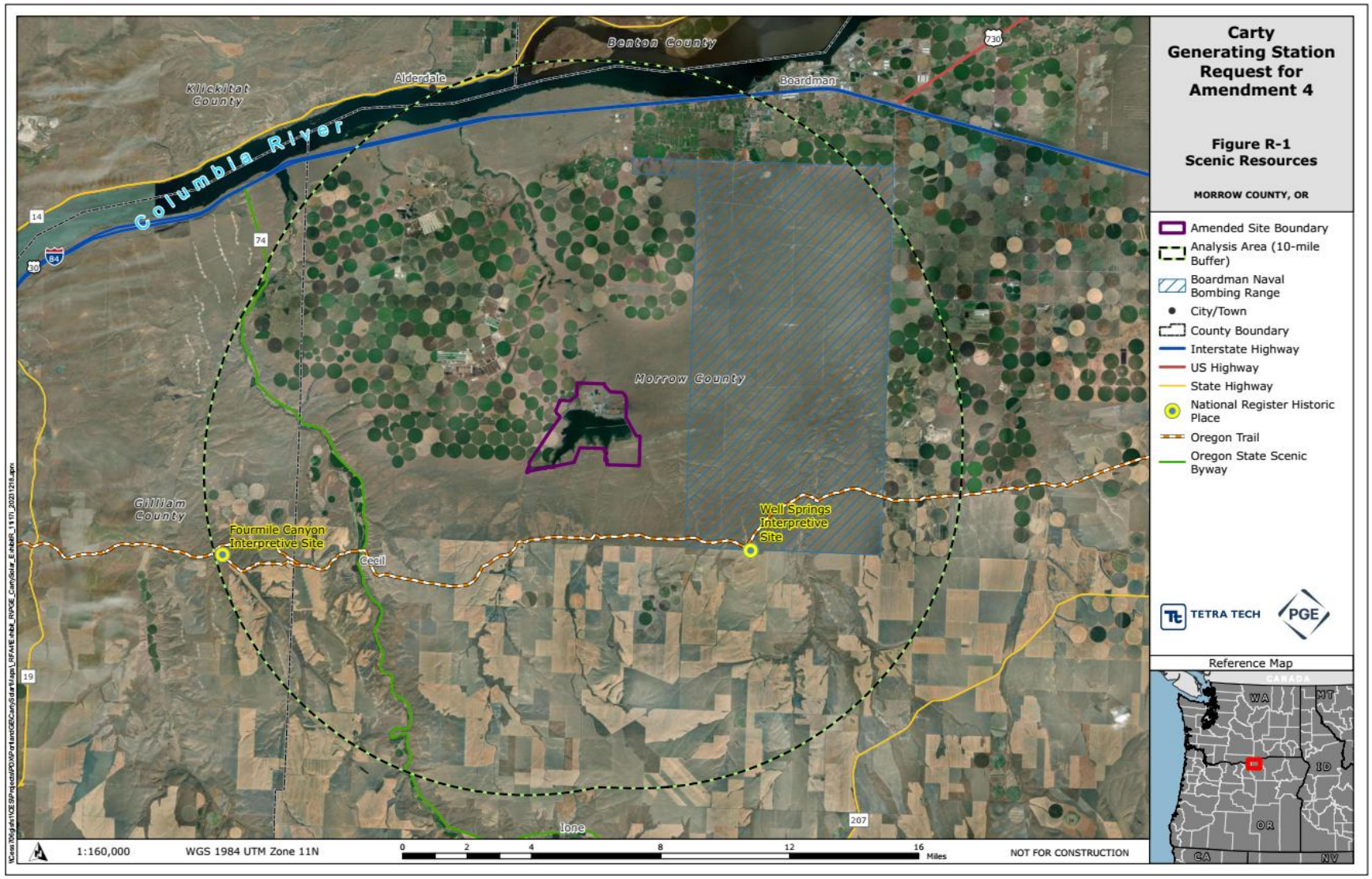
Table 11: Scenic Resources in Analysis Area

Jurisdiction	Applicable Management Plan/ management criteria	Scenic Resource identified in Analysis Area/ Distance from Site Boundary	Impact Assessment	
			Visual[1, 2]	Vegetation
		Approximately 4.3 miles	RFA4 will not be visible from the Well Springs Interpretive Site or Fourmile Canyon Interpretive Site.	Based on distance, visibility of temporary and permanent vegetation loss is not expected.
		Fourmile Canyon Interpretive Site Approximately 9.75 miles		

Notes:

1. No combustion or thermal heat sources are proposed facility proposed in RFA4. While there's potential construction related visual impacts due to dust, potential visual impacts from plumes or visible air emissions will be minimized and mitigated by following best management practices (BMPs) for erosion and sediment control as evaluated in *Section III.D. Soil Protection* of this order.
2. Antireflective coating will be used to reduce glare, and the surface of the modules will have high transmittance to increase the amount of light reaching the photovoltaic cells. With these methods, the modules will be less reflective than a natural water body.

Figure 10: Scenic Resources within RFA4 Analysis Area



Based on the intermittent visibility of the facility proposed in RFA4 to the Boardman Segment, and distance from the Wells Springs Interpretive Site, Fourmile Canyon Interpretive Site, and Blue Mountain Scenic Byway, the Department recommends Council find that visual impacts from the facility proposed in RFA4 are not likely to result in a potentially significant visual impact to any Scenic Resources in the RFA4 analysis area.

III.J.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with existing site certificate conditions described above, the Department recommends the Council find that the that the design, construction and operation of the facility proposed in RFA4, are not likely to result in significant adverse visual impacts to significant or important scenic resources.

III.K. HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES: OAR 345-022-0090

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impacts to:

(a) Historic, cultural or archaeological resources that have been listed on, or would likely be listed on the National Register of Historic Places;

(b) For a facility on private land, archaeological objects, as defined in ORS 358.905(1)(a), or archaeological sites, as defined in 358.905(1)(c); and

(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).

(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.[59]

III.K.1. Findings of Fact

[59] OAR 345-022-0090, effective May 15, 2007, amended by minor correction filed on July 31, 2019.

The direct analysis area includes the area within the proposed amended site boundary. The indirect analysis area, which evaluates potential impacts to above-ground historic properties, includes the area within a one-mile of the proposed amended site boundary.

Survey Methods and Results

Two separate cultural resource surveys were conducted in the direct analysis area. The 2016 Willamette Cultural Resources Associates survey, which was conducted in preparation of RFA1, covered much of the proposed area of the southern solar array, and the 2023 Tetra tech survey covered areas within the RFA4 direct analysis area that were not surveyed in 2016. Together, these surveys covered the entirety of the micrositing area for the facility proposed in RFA4, including some survey areas that overlapped.

A records review (i.e., literature and SHPO database reviews) was conducted prior to both the 2016 (WillametteCRA 2016) and 2023 cultural resources surveys. In 2023, Tetra Tech reviewed the Oregon SHPO's Online Archaeological Records Remote Access and Historic Sites databases to identify previously conducted surveys and recorded cultural resources within the analysis area. Additionally, historic aerial photographs and maps of the analysis area were reviewed to inform the surveys. Background research identified no previously recorded archaeological sites within the direct analysis area.

The above-described surveys and records searches identified no archaeological sites within the direct analysis area. No historic aboveground or cultural resources were identified within the direct analysis area. Thus, no historic or cultural resources within the direct analysis area have been listed, or would likely be eligible for listing, on the National Register of Historic Places (NRHP). Oregon SHPO concurred that, based on the 2023 Tech Report (Case No 24-0382), there were no historic properties that would be affected by the facility proposed in RFA4.[60]

One Historic Property of Religious and Cultural Significance to Indian Tribes (HPRCSIT) (Šišúpa), was identified within 0.25-mile southeast of the site boundary of the facility proposed in RFA4 and is a listed on the NRHP. Šišúpa is a network of important cultural sites centered on Wells Spring, and was used as a "stop over" between the Columbia River and Ione. It is a significant resource to the Confederated Tribes of the Umatilla Indian Reservation (CTUIR).

Potential Impacts to Resources Protected under OAR 345-022-0090

As discussed above, the desktop analysis and field surveys of the direct analysis area found no archaeological resources or sites. The likelihood of inadvertent discovery is also reduced by the fact that a significant portion of the site is located at the former BCP site and is resultingly heavily disturbed. Accordingly, the facility proposed in RFA4 is unlikely to result in inadvertent discoveries of archeological resources within the solar fenceline. Nevertheless, the possibility remains for inadvertent discovery of historic, cultural, and archaeological resources.

[60] CGSAMD4 pRFA4 Reviewing Agency Comment 2024-03-29.

RFA4 includes the Certificate Holders' generic inadvertent discovery procedure (IDP) (RFA4 Exhibit S Appendix D Attachment 1), which is also attached to this order as Attachment E. The procedure outlines the process for handling inadvertent discoveries during construction or operation. The Department recommends that the Council impose Historic, Cultural, and Archaeological Resource Condition 1 requiring that, prior to construction, the Certificate Holder submit to the Department a final IDP with the most current agency and tribal government contacts at the time. Further, to ensure that the IDP is implemented during construction and during any ground disturbing operational activities, the Department recommends the Council also impose Historic, Cultural, and Archaeological Resources Conditions 2 and 3.

> **Recommended Historic, Cultural and Archeological Condition 1 (PRE)**: Prior to construction, the Certificate Holder shall update the contact information in the Inadvertent Discovery Plan, as provided in the Final Order on Request for Amendment 4 Attachment E.
> [PRE-HC-01; Final Order on AMD4]
>
> **Recommended Historic, Cultural and Archeological Condition 2 (CON)**: During construction of the solar facility or phase, the Certificate Holder shall require all onsite employees and contractors to implement and adhere to the requirements of the Inadvertent Discovery Plan, as finalized under PRE-HC-01.
> [CON-HC-01; Final Order on AMD4]
>
> **Recommended Historic, Cultural and Archeological Condition 3 (OPR)**: During operations of the solar facility, the Certificate Holder shall require all onsite employees and contractors to implement and adhere to the requirements of the Inadvertent Discovery Plan, as provided in Condition PRE-HC-01. The IDP shall be reviewed and updated annually for current contact information.
> [OPR-HC-01; Final Order on AMD4]

While no resources were identified in the micrositing area, a historic resources identified as NRHP-listed was identified in the above-ground/indirect analysis area for the facility proposed in RFA4. The HPRCSIT, Šišúpa is an NHRP listed resource under Criteria A (association with history), B (association with significant individuals) and D (potential to yield historic information). Visual and audial impacts of the facility proposed in RFA4 could affect cultural setting of the HPRCSIT, however these impacts to the HPRSCIT were not evaluated as part of RFA4 and have not been confirmed by CTUIR.[61] When a resource is listed as eligible on the NRHP, impacts to these resources must be avoided or mitigated. For archaeological resources, avoidance of direct impacts to the resources is sufficient to demonstrate less than significant impacts. However, for above-ground historic properties such as a listed HPRCSIT, without an impact assessment, it is assumed that there would be impacts to the setting of this resource

[61] The Department sent emails and made phone calls requesting review and comment of impacts presented in RFA4 to CTUIR on February 28, 2024, October 15, 2026 and October 20, 2026.

and the impacts would need to be mitigated. Therefore, the Department recommends that the Council impose the following condition to ensure that potential impacts and mitigation, if appropriate, are evaluated in coordination with the Department and CTUIR.

> **Recommended Historic, Cultural, and Archeological Resources Condition 4 (PRE)**: Prior to construction of the solar facility, the Certificate Holder must provide to the Department written concurrence from CTUIR that impacts to Šišúpa have been properly evaluated and mitigated, if applicable.
> [PRE-HC-02; Final Order on AMD4]

III.K.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the recommended site certificate conditions described above, the Department recommends the Council find that the construction and operation of the facility, with the proposed changes, are not likely to result in significant adverse impacts to historic, cultural or archaeological resources that have been listed on, or would likely be listed on the National Register of Historic Places or other archaeological objects or sites identified under OAR 345-022-0090.

III.L. RECREATION: OAR 345-022-0100

> *(1) To issue a site certificate, the Council must find that the design, construction and operation of a facility, taking into account mitigation, are not likely to result in a significant adverse impact to important recreational opportunities.*
>
> *(2) The Council must consider the following factors in judging the importance of a recreational opportunity:*
>
> *(a) Any special designation or management of the location;*
>
> *(b) The degree of demand;*
>
> *(c) Outstanding or unusual qualities;*
>
> *(d) Availability or rareness;*
>
> *(e) Irreplaceability or irretrievability of the opportunity.*
>
> *(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). In issuing such a site certificate, the Council may impose conditions of approval to minimize the potential significant adverse impacts from the design,*

construction, and operation of the facility on important recreational opportunities.

(4) The Council must apply the version of this rule adopted under Administrative Order EFSC 1-2002, filed and effective April 3, 2002, to the review of any Application for Site Certificate or Request for Amendment that was determined to be complete under OAR 345-015-0190 or 345-027-0363 before the effective date of this rule. Nothing in this section waives the obligations of the Certificate Holder and Council to abide by local ordinances, state law, and other rules of the Council for the construction and operation of energy facilities in effect on the date the site certificate or amended site certificate is executed.[62]

III.L.1. Findings of Fact

The analysis area for the Recreation Standard is the area within and extending 5 miles from the facility proposed in RFA4, as shown in Figure 11 below.

Recreational Opportunities within the RFA4 Analysis Area

Recreational opportunities within the analysis area were identified through a review of existing published and unpublished information available from desktop research sources commonly used for recreation inventory efforts.[63] Based on this review, one recreational opportunity was identified within the analysis area, segments and sites at the Oregon National Historic Trail (ONHT), as presented in Figure 11 below. Summarized in Table 12 below, the Boardman Segment, and the Wells Springs interpretive site of the ONHT were identified as important recreational opportunities within the RFA4 analysis area and under Council standard.

[62] OAR 345-022-0100, effective December 19, 2022.

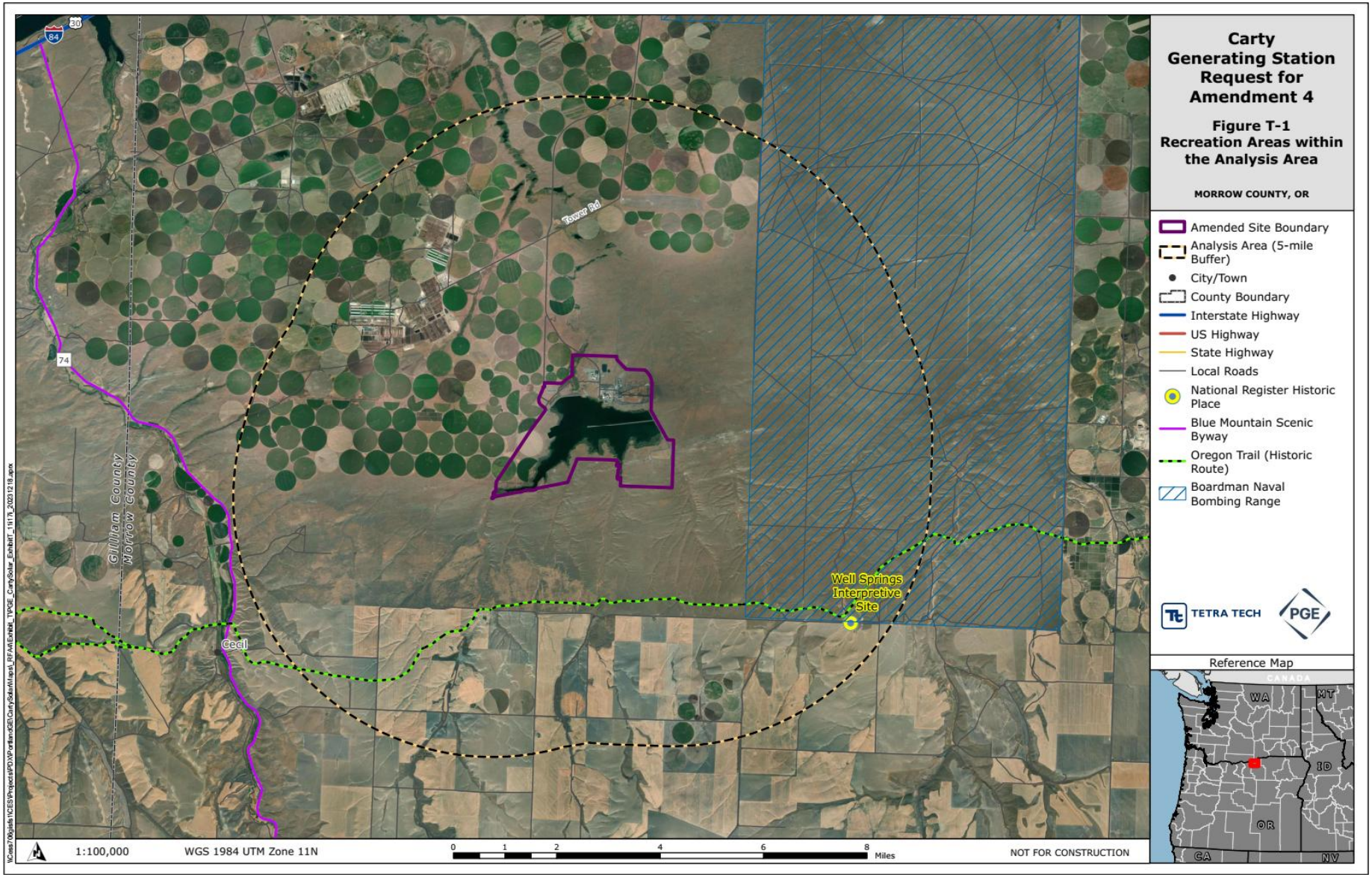
[63] Online sources accessed and reviewed by the Department April 19, 2024.

Table 12: Recreational Opportunities in the Analysis Area

Recreational Opportunity		Distance/ Direction from Site Boundary	Considered Important (per OAR 345-022-0100)	Impact Assessment			
				Direct Loss	Indirect Loss		
					Noise	Traffic	Visual
Oregon National Historic Trail (ONHT)	Boardman Segment: The Boardman Segment of the ONHT is a high-potential[1] trail segment extending from the eastern boundary of the Boardman Bombing Range westward to Immigrant Road. The ONHT is specially designated as a National Historic Trail by the National Park Service, and has outstanding historical significance.	2.1 miles at nearest point / SE	Yes.	None.	Estimated and modeled noise impacts are 36 A-weighted decibels (dBA) during construction and 23 dBA during operations, respectively. A noise level of 36 dBA is comparable to a quite library. A noise level of 23 dBA is below rural nighttime ambient background levels. These Noise levels, combined with the distance and intermittent nature of construction activities would not be expected to result in a significant adverse impact to the Boardman Segment.	Construction-related traffic will be temporary and will utilize Interstate 84 (I-84) and Tower Road to access the facility. The Boardman Segment and Wells Springs Interpretive Site are located south of I-84, but are not accessed by Tower Road or roads anticipated to carry facility-related truck traffic. Based on the assessment of traffic patterns to be used during construction, and the location and access to the ONHT and Wells Springs Interpretive Site, construction and operation of the facility proposed in RFA4 is not expected to result in significant adverse impacts on roads used to access the Boardman Segment or the Wells Springs Interpretive Site.	Visual modeling and viewshed analysis demonstrate only intermittent visibility along the Boardman Segment and from the Well Springs Interpretive Site. The ZVI analysis assumed a maximum height of 12 feet for the solar modules and a maximum height of 70 feet for the aboveground collector line. Given distance, it is questionable whether any of the solar modules or the aboveground collector line will be noticeable to a viewer at the nearest recreational opportunity, the Boardman Segment, at a distance of 2.1 miles from the facility proposed in RFA4. Therefore, potential visual impacts from the facility proposed in RFA4 are not likely to have a significant adverse impact to the Boardman Segment or the Wells Springs Interpretive Site.
	Wells Springs Interpretive Site: The Oregon Trail Wells Spring Interpretive Site offers views of intact wagon ruts, a graveyard, and remains of a stage station along with informational signage. The Wells Springs Interpretive Site is specially designated as a National Historic Trail interpretive site.	4.3 miles / SE	Yes.	None.	The Wells Springs Interpretive Site is located further from the facility proposed in RFA 4 than the nearest point of the Boardman Segment, at approximately 4.3 miles. Based on distance, the estimated and modeled noise impacts are expected to be lower than those at the Boardman Segment, due to attenuation, and are not expected to result in a significant adverse impact to the Wells Springs Interpretive Site.		

Notes:
1. High-potential segments are portions of a trail route that afford high-quality recreational experiences in areas that have greater than average scenic values or afford the opportunity to vicariously share the experience of the original trail users, while high-potential sites are specific locations with similar attributes.

Figure 11: Recreational Resources within RFA4 Analysis Area



III.L.2. Conclusions of Law

Based on the foregoing analysis, the Department recommends Council find that the design, construction and operation of the facility proposed in RFA4 are not likely to result in a significant adverse impact to important recreational opportunities.

III.M. PUBLIC SERVICES: OAR 345-022-0110

> *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to the ability of public and private providers within the analysis area described in the project order to provide: sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools.*
>
> *(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.*
>
> *(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.*[64]

III.M.1. Findings of Fact

The analysis area for Public Services is 10 miles from the proposed amended site boundary. The analysis area includes Morrow County and a very small portion of Gilliam County in Oregon, and Klickitat and Benton counties in Washington.

The Department's evaluation includes a review of the following assumptions used to estimate potential impacts to public services from RFA4 activities:

- Boardman is the only Census Designated Place found within the analysis area. RFA4 relies on 2022 Census Data when Boardman had a population of approximately 3,830 people, representing 32 percent of Morrow County's total population.
- Construction is anticipated to last approximately 24 months.
- an average of 31 workers on-site during the 24-month construction period with a peak number of 188 workers

[64] OAR 345-022-0110, effective April 3, 2002.

- most construction workers will be in the area for approximately 6 to 12 months, and that the housing for those workers will primarily be provided by hotels and RV parks.
- approximately 30 percent of the construction workforce will be local residents within 70 miles
- operation of the facility will require up to 12 personnel for daily maintenance activities
- assuming a household size of 3.0, a total of 36 new permanent residents could be added to the local population.
- operations and maintenance (O&M) staff will be hired locally, where possible and it is expected existing O&M staff at the facility will take on some of the operational duties following RFA4 changes.

Sewer and Sewage Treatment

The facility proposed in RFA4 would generate sewage during construction and operation, but would not rely on public or private providers of sewer and sewage treatment. During construction, portable toilets managed by a licensed third-party contractor would be utilized for onsite workers and sewage disposal. The licensed third-party contractor would maintain and dispose of sewage generated at a licensed treatment facility. During operations, sewage from the proposed O&M building would be managed via an existing onsite septic system. If the existing septic system is not sufficient, a septic system alteration permit would be obtained from the Umatilla County Public Health Department.

Based on the above recommended findings of fact, the Department recommends that the Council find that the construction and operation of the facility proposed in RFA4 would not be likely to result in significant adverse impacts to public or private sewage treatment providers because neither construction nor operational waste would not be connected to public or private sewage treatment facilities.

Stormwater Drainage

The facility proposed in RFA4 would generate stormwater during rain events during construction and operations, but would not rely on public or private providers for drainage infrastructure. Temporary and permanent stormwater drainage features will be installed as needed including features such as roadside ditches, infiltration swales or retention basins.

Based on the above recommended findings of fact, the Department recommends Council find that the construction and operation of the facility proposed in RFA4 would not result in significant adverse impacts to public or private stormwater drainage facilities.

Water Use

The facility proposed in RFA4 would use water during construction and operations, but would not rely on public or private providers. Approximately 81-84 million gallons of water (Mgal) will

be needed for construction for dust abatement (approximately 80,000,000 gallons), mixing of concrete (approximately 40,000 gallons), washing concrete trucks after delivery of concrete loads (approximately 1,000,000 gallons), and a nominal amount for fire prevention and on-site worker drinking and sanitation. All non-potable water used during construction activities would be sourced from the onsite Carty Reservoir through a limited water use license obtained by a third-party under the Certificate Holder's existing water right (see recommended Organizational Expertise Condition 5).

During operations, the primary use of water will be for panel washing during regular facility maintenance. It is assumed that panels will be washed twice a year, which would require approximately 500,000 gallons per year. Operational water would also be obtained from the Carty Reservoir under the Certificate Holder's existing water right and would undergo treatment at the existing facility treatment building to produce water suitable for panel washing (e.g. demineralized water).

Potable water for use during construction and operations will be required for sanitation and drinking water. During construction, potable water would be provided by a contractor. During operations, approximately 250 gallons per day of potable water would be used at the O&M building and would be supplied via a tie in with the existing Carty Generating Station facility's potable water system

Based on the above recommended findings of fact, the Department recommends Council find that the construction and operation of the facility proposed in RFA4 would not result in significant adverse impacts to public or private stormwater water service providers.

Solid Waste Management

The Certificate Holder estimates that construction of the facility proposed in RFA4 will produce approximately 95,000 cubic yards of waste during active construction, estimated to span approximately 24 months.[65]

It is estimated that no more than 8 cubic yards of waste will be produced monthly during operations. Solid waste generated by RFA4 activities would be reduced and recycled as discussed in Section III.O., Waste Minimization, and to the extent it cannot be recycled, will be disposed of at the Finley Butte Landfill in Boardman, or Columbia Ridge Landfill, in Arlington. The Certificate Holder has provided documentation in RFA4 from the solid waste facilities, confirming capacity to take solid waste and recycling during construction, operations and retirement. The solid waste generated during construction and operations will be handled consistent with the Morrow County Solid Waste Management Ordinance (and a final Construction Waste Management Plan and an Operations Waste Management Plan for the RFA4 facility, as approved by the Department.

[65] RFA4, Exhibit W: Generation of Solid Waste and Wastewater, p. 3.

During operation, the BESS may generate minor incidental waste from routine electrical equipment repairs and replacements. To counter natural capacity decline, the system will undergo augmentation—meaning the Certificate Holder will add new batteries to maintain required output while the older, degraded batteries remain in service. Consequently, the Certificate Holder assumes that batteries will only be removed during operations if they require repair or replacement due to failure; large-scale battery removal will not occur until final project decommissioning.

To replace lithium-ion (Li-ion) batteries during operation, the Certificate Holder will follow ODOT shipping regulations under 49 CFR 173.185. Licensed third-party suppliers will handle all battery transportation to and from the Amended Carty Solar Farm in compliance with legal requirements. Spent batteries will be disposed of at permitted facilities following Resource Conservation and Recovery Act and Toxic Substances Control Act regulations managed by the U.S. Environmental Protection Agency or ODEQ.

BESS decommissioning will involve disposing of or recycling battery components at an approved, off-site facility. Licensed third-party suppliers will handle all transportation to and from the Amended Carty Solar Farm in compliance with applicable regulations. Final disposal of these batteries will follow the same procedures used for operational replacements.

Recommended Waste Minimization Site Certificate Condition 5 and 6 requires the Certificate Holder to comply with all applicable laws and regulations governing the handling, transportation and disposal of the BESS batteries, including the use of qualified servicers for installation, maintenance, repairs, transport and disposal

For the foregoing reasons and subject to the aforementioned conditions, the Department recommends Council find that waste generated during construction and operation of facility proposed in RFA4 are not likely to result in significant adverse impacts on the ability of public or private providers to provide solid waste management services.

Traffic Safety

During peak construction activities, up to 150 construction vehicles (or 300 round trips) per day would be added to the background traffic patterns along the primary transportation route, I-84, which would not be expected to significantly impact traffic safety service providers. Potential traffic-related impacts from dust, delays, congestion, and interruption to agricultural activities would be experienced on the nearby Tower Road. Heavy load vehicles transporting heavy equipment and substation transformers may require trucks that exceed legal weight limits to use state highways.

Morrow County Planning Department identified that a Road Use Agreement should be required during construction between Certificate Holder and Morrow County Public Works

Department.[66] To ensure that the County Road Use Agreements are executed and implemented, the Department recommends that the Council impose Public Services Condition 1 and 2, as shown below. Additionally, Public Services Condition 1 requires that a Construction Traffic Management Plan be attached and included with executed Road Use Agreements.

> **Recommended Public Services Condition 1 (PRE):** Prior to construction of the solar facility or phase, as applicable, the Certificate Holder shall execute local a Road Use Agreement with Morrow County Public Works which will include a Construction Traffic Management Plan. Copies of an executed Road Use Agreement and Construction Traffic Management Plan, and any modifications thereto, shall be provided to the Department. [PRE-PS-01; Final Order on AMD4]
>
> **Recommended Public Services Condition 2 (CON):** During construction, the Certificate Holder and its contractors shall adhere to the terms and conditions of Road Use Agreement(s) executed under Condition PRE-PS-01, and all requirements of the Construction Traffic Management Plan.
> [CON-PS-01; Final Order on AMD4]

Subject to the recommended conditions, the Department recommends Council find that construction and operation of the facility proposed in RFA4 would not be likely to result in a significant adverse impact to the ability of public or private providers of traffic safety to provide traffic safety services.

Air Traffic Safety

The facility proposed in RFA4 would result in visible facility structures including solar modules with a maximum height of 10 feet; inverters with a maximum height of 11 feet; and, a 34.5 kV transmission line with 70-foot-tall wooden poles. Facility construction and operation could result in impacts to navigable airspace from potential solar panel glare, outdoor light illumination, and tall structures located in proximity to public and private airports. Airports within proximity to the site include the Boardman Airport, a public airport located over 7 miles north of the proposed amended site boundary. Based on distance and structure height, the Department recommends that the Council find that the facility proposed in RFA4 would not be likely to impact public or private providers of air traffic safety services to provide those services.

Additionally, the one military facility within the analysis area, the NWSTF Boardman, is a U.S. Navy aviation training and testing site located more than one mile east of the facility proposed in RFA. The Department consults with the U.S. Navy on a regular basis and discussed the potential for glare from the facility proposed in RFA4 to impact flight paths to the NWSTF Boardman. On February 28, 2024, the U.S. Navy concluded that no additional glare and glint analysis is required for the facility proposed in RFA4. As such, the facility proposed in RFA4 is compatible with the NWSTF Boardman facility.

[66] CGSAMD4 pRFA4 SAG Comment 2024-04-03.

For the foregoing reasons, the Department recommends Council find that construction and operation of the facility proposed in RFA4 would not be likely to result in a significant adverse impact to the ability of public or private providers of air traffic safety services to provide those services.

Fire Protection

The facility is in an area that is subject to high probability of large and rapidly spreading wildfires. The Boardman Fire Rescue District (previously known as the Boardman Rural Fire Protection District) is responsible for fire, rescue, and emergency medical services at the location of the facility.

As noted above and discussed in Section III.N, *Wildfire Prevention and Risk Mitigation*, the facility would have multiple design measures that would reduce potential impacts to fire service providers from fires at the site. These include perimeter and service roads within the solar array which would be up to 20-feet wide with up to a 48-foot turning radius to be consistent with Oregon Fire Code requirements or other applicable county standards (i.e., access for first-responder apparatus). Fire protection best management practices BMPs designated in the construction and operational WMPs include having fire protection equipment on-site, and water truck(s) with a hose, nozzle, and pump on site at all times during construction and in fire season during operation. The WMPs also include emergency protocols to follow during Red Flag Warnings and in the event of an emergency. Wildfire Prevention and Risk Mitigation Conditions 1, 2, 3, and 4 would require the Certificate Holder to finalize the Wildfire Mitigation Plans for construction and operation, as presented in Attachments G-1 and G-2 of this order.

Because the WMPs required under the standard address fire hazards associated with the facility and outside the facility, the Department recommends that the Council find that, subject to compliance with conditions, the construction and operation of the facility proposed in RFA4 are not likely to result in significant adverse impact to the ability of any public or private fire providers within the analysis area to provide fire or emergency services.

Police Protection and Emergency Response

Law enforcement services in the analysis area are provided by Morrow County Sheriff's Office. Morrow County Sheriff John Bowles confirmed that the Sheriff's Department believes it has the capability and capacity to respond to calls for service and provide public safety during both construction and operation of the facility proposed in RFA4.[67]

Based on the Sheriff's October 2026 letter, the Department recommends Council find that construction and operation of the facility proposed in RFA4 would not be likely to result in a

[67] CGSAMD4 Exhibit U Public Services 2026-10-29. Attachment U-1, letter from Morrow County Sheriff's Department dated October 26, 2026.

significant adverse impact to the ability of public or private providers of police services to provide those services.

Housing

Construction of the facility proposed in RFA4 may require temporary housing for an average of 22 households during the 24-month construction timeline, peaking at up to 132 households. RV usage is not permitted at the facility site itself. Hotels, motels, and RV or trailer parks represent the most practical housing options for these temporary workers. Approximately 75 hotels, motels, and RV parks operate within commuting distance of the facility to accommodate workers. Unlisted local establishments may provide additional room options, and further temporary lodging can be secured through private RV campgrounds or short-term rental platforms like Airbnb.

While individual facility vacancies cannot be guaranteed at all times, the regional housing supply should be adequate for the projected temporary workforce.

The facility operations are expected to bring up to 36 new permanent residents (approximately 12 households, averaging 3 people each) to the area starting at launch. The regional market or neighboring commutable areas are anticipated to have sufficient housing available for purchase or new construction to accommodate them.

Based on the foregoing reasons, the Department recommends Council find that construction and operation of the facility proposed in RFA4 would not be likely to have a significant impact on the ability for public and private providers of housing to provide their services.

Health Care

Because the facility proposed in RFA4 requires a relatively small workforce, existing regional healthcare providers have sufficient capacity to handle any potential patients. In the event of an emergency, workers would receive healthcare for Level III Traumas at Good Shepherd Community Hospital in Hermiston which is approximately 40 miles from the facility site. Mid-Columbia Medical Center in the Dalles also has a Level III Trauma Center and is 20 miles from the facility. Oregon Health and Sciences University in Portland has a Level I Trauma Center and is approximately 165 miles from the facility site. Emergency medical transport would be provided by the Morrow County Health District Emergency Medical Services, which maintains ambulances in Boardman and Irrigon. The Boardman Rural Fire Protection District is also responsible for fire, rescue, and emergency medical services at the location of the facility. Based on the relatively low number of workers, and existing availability of housing, health care facilities and schools, the Department recommends that the Council find that construction and operation of the facility proposed in RFA4 would not be likely to have a significant impact on the ability of public and private providers of health care to provide their services.

Schools

Temporary workers who relocate to the area are not expected to bring families. During operations, approximately 12 new permanent households (utilizing a baseline household size of 3.0) may require enrollment in local educational institutions. Although the precise geographic distribution of families with school-aged children cannot be predetermined, the regional capacity and distribution of existing schools indicate that student influx should not adversely impact any single facility. Therefore, the Department recommends that the Council find that construction and operation of the facility proposed in RFA4 would not be likely to impact school capacity.

III.M.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the recommended site certificate conditions described above, the Department recommends the Council find that construction and operation of the facility as proposed in RFA4 are not likely to result in significant adverse impacts to the ability of public and private providers to provide the services listed in OAR 345-022-0110.

III.N. WILDFIRE PREVENTION AND RISK MITIGATION: OAR 345-022-0115

(1) To issue a site certificate, the Council must find that:

(a) The applicant has adequately characterized wildfire risk within the analysis area using current data from reputable sources, by identifying:

(A) Baseline wildfire risk, based on factors that are expected to remain fixed for multiple years, including but not limited to topography, vegetation, existing infrastructure, and climate;

(B) Seasonal wildfire risk, based on factors that are expected to remain fixed for multiple months but may be dynamic throughout the year, including but not limited to, cumulative precipitation and fuel moisture content;

(C) Areas subject to a heightened risk of wildfire, based on the information provided under paragraphs (A) and (B) of this subsection;

(D) High-fire consequence areas, including but not limited to areas containing residences, critical infrastructure, recreation opportunities, timber and agricultural resources, and fire-sensitive wildlife habitat; and

(E) All data sources and methods used to model and identify risks and areas under paragraphs (A) through (D) of this subsection.

(b) That the proposed facility will be designed, constructed, and operated in compliance with a Wildfire Mitigation Plan approved by the Council. The Wildfire Mitigation Plan must, at a minimum:

(A) Identify areas within the site boundary that are subject to a heightened risk of wildfire, using current data from reputable sources, and discuss data and methods used in the analysis;

(B) Describe the procedures, standards, and time frames that the applicant will use to inspect facility components and manage vegetation in the areas identified under subsection (a) of this section;

(C) Identify preventative actions and programs that the applicant will carry out to minimize the risk of facility components causing wildfire, including procedures that will be used to adjust operations during periods of heightened wildfire risk;

(D) Identify procedures to minimize risks to public health and safety, the health and safety of responders, and damages to resources protected by Council standards in the event that a wildfire occurs at the facility site, regardless of ignition source; and

(E) Describe methods the applicant will use to ensure that updates of the plan incorporate best practices and emerging technologies to minimize and mitigate wildfire risk.

(2) The Council may issue a site certificate without making the findings under section (1) if it finds that the facility is subject to a Wildfire Protection Plan that has been approved in compliance with OAR chapter 860, division 300.

(3) This Standard does not apply to the review of any Application for Site Certificate or Request for Amendment that was determined to be complete under OAR 345-015-0190 or 345-027-0363 on or before the effective date of this rule.[68]

III.N.1. <u>Findings of Fact</u>

The Wildfire Prevention and Risk Mitigation standard requires the Council to find the Certificate Holder has adequately characterized wildfire risk associated with a facility using reputable data sources; and under OAR 345-022-0115(1)(b), that the facility, with changes proposed in RFA4, would be operated in compliance with a Council-approved wildfire mitigation plan. As discussed

[68] OAR 345-022-0115, effective July 29, 2022.

in Section II.A., *Scope of Review*, under OAR 345-027-0375(2)(b), to issue an amended site certificate for a request proposing to add new area to the site boundary, the portion of the facility within the area added to the site by the amendment complies with all laws and Council standards applicable to an original site certificate application and that the facility, with the proposed change, complies with the applicable laws or Council standards that protect a resource or interest that could be affected by the proposed change.

The analysis area to evaluate potential wildfire risks is the site boundary and one-half mile from the proposed RFA4 site boundary which includes the proposed solar facility and operational natural gas-fueled electric generating power plant.

Based on the Certificate Holder and Department's assessment of wildfire risk at the site and within the analysis area, as described in the RFA4 and this order, the Department recommends that the Council find that wildfire fire is low during winter (seasonally wetter) months and moderate during the summer months, during fire season.

Wildfire Risk Analysis

Under OAR 345-022-0115(1)(a), a Certificate Holder must adequately characterize the wildfire risk within the analysis area using reputable sources to describe Baseline Wildfire Risk, Seasonal Wildfire Risk, Areas Subject to Heightened Risk of Wildfire, and High-fire Consequence Areas. Each of these are summarized in this section with a description of the data source, as necessary to support the findings and conclusions. The data sources used to evaluate wildfire risk are listed in RFA4 Section 6.0 and include but are not limited to:

- Community Wildfire Protection Plan Planning (CWPP), 2025 Tool Oregon Explorer;
- National Oceanic and Atmospheric Administration (NOAA) 2026. U.S. Climate Normals Quick Access. Boardman Station USC00350858;
- Botanical Survey Report, Carty Generating Station. September 2026.
- 2019 Morrow County CWPP[69]

<u>Baseline and Seasonal Wildfire Risk</u>

The majority the analysis area is situated within a mix of shrub steppe, annual grasslands, agricultural, and developed habitat types. The analysis area is generally flat; one drainage is present within Sixmile Canyon, and Carty Reservoir is in the central portion of the analysis area.[70] The entire wildfire analysis area has slopes ranging from 0 to 25 degrees. The Oregon CWPP Planning Tool data identifies broad Fuel Model groups (FM), which reflect the type of vegetation and fuel moisture content, an indicator for the burnability of vegetation on the landscape. The Certificate Holder explains that the FMs for the amended site boundary are FM

[69] https://www.morrowcountyor.gov/sites/default/files/fileattachments/planning/page/15251/2019_cwpp_final.pdf accessed 10-22-2026.
[70] CGSAMD4 Fish and Wildlife Habitat Exhibit, Section 5.2. 2026-10-29.

102 - low Load, dry climate grass at 15 percent, and FM 122 – moderate load, dry climate grass-shrub also at 15 percent.

The majority of the analysis area does not have CWPP modeled data but could be considered to have moderate to high hazard to structures due to the density of existing infrastructure and agricultural operations. Approximately 163 acres in the analysis area has low or very low risk to people and property and almost 60 acres identified to have high to very high risk to people and property.

Data from the NRCS National Weather and Climate Center indicates that during the summer months of July, August, and September (typical months when construction happens), the area received less than one inch of precipitation per month (0.55, 0.14, 0.18 inches, respectively). During these drier months fire risk increases, and Red Flag Warnings may become more likely.

Existing Infrastructure: Areas Subject to Heightened Risk of Wildfire and High-Fire Consequence Areas

High-fire consequence areas include areas containing residences, critical infrastructure, recreation opportunities, timber and agricultural resources, and fire-sensitive wildlife habitat.

The facility is located southwest of Boardman, Interstate 84, and west from Bombing Range Road and the Naval Weapons Systems Training Facility Boardman, and area known for energy and military developments. Just outside the analysis area to the northwest is a large cattle feed and dairy operation. Tower Road is a paved road that travels north to south and connects to the site. There is a 230-kV Pacific Corps transmission line that runs north to south within the vicinity of Tower Road and the facility has a 500 kV transmission line that runs west from the site.

The site itself contains energy infrastructure including the operating 450-MW natural gas-fueled combined-cycle unit (Unit 1) and its associated components; the 500-kV Grassland to Slatt transmission line (approximately 17 miles long – outside the RFA4 site boundary); the 230-kV BCP to Dalreed transmission line (approximately 16 miles long – outside the site boundary); the 34.5-kV BCP to the railroad crossing at Tower Road transmission line; Carty Reservoir; and Grassland Switchyard. These developments on the landscape raise the wildfire risk because wildfire risk focuses on residences, critical sand agricultural infrastructure. There are no residences within the analysis area; the closest residence is 2.5 miles to the south from the site boundary.[71]

Overall Wildfire Risk at the Site

The Certificate Holder provides the Integrated Expected Wildfire Risk to demonstrate Overall Wildfire Risk at the site and in the analysis area because the underlying data inputs include the metrics discussed in this section (potential damage to people and property, existing

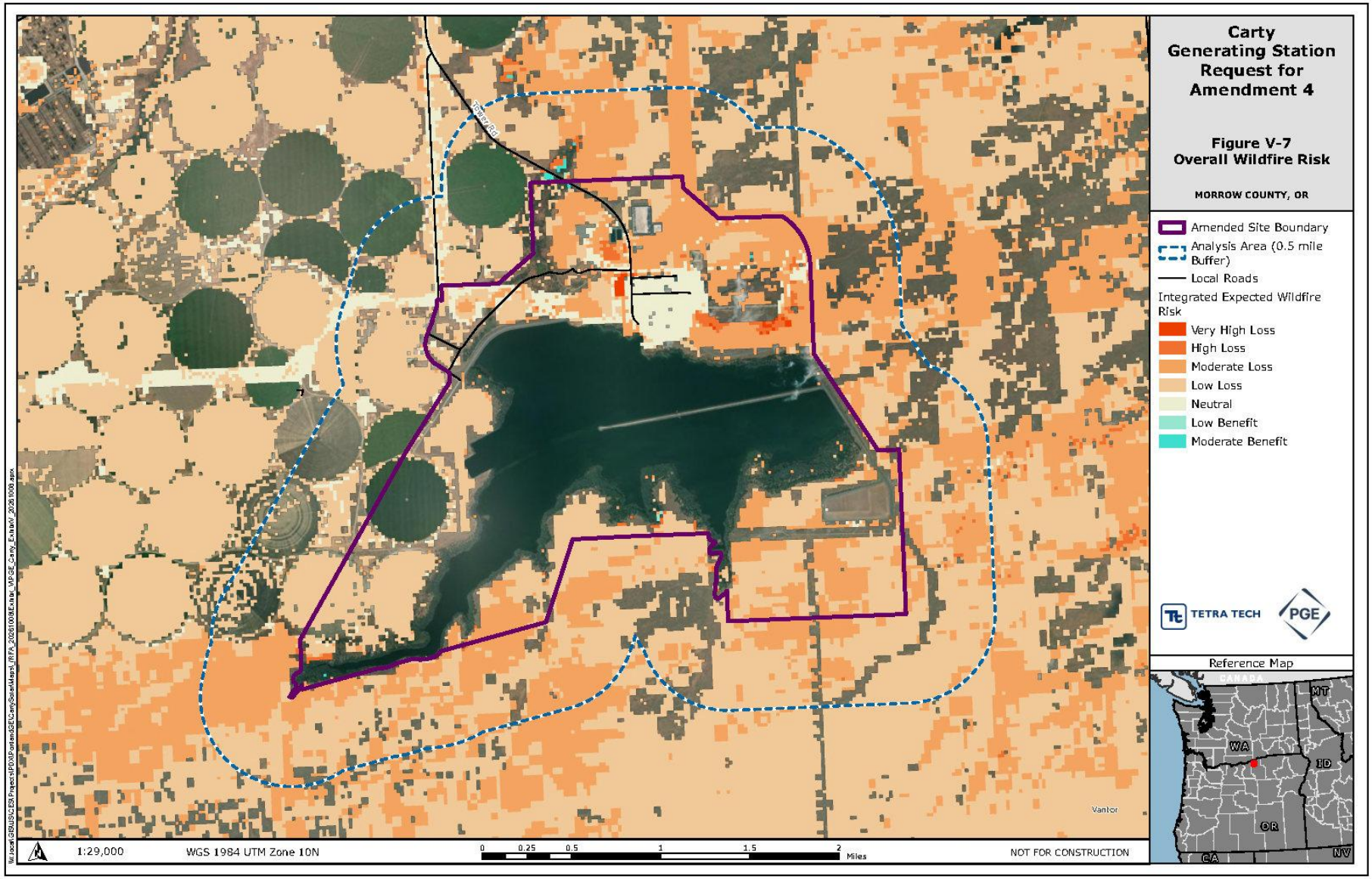
[71] CGSAMD4 Noise Exhibit, Figure Y-1. 2026-10-29.

infrastructure, topography, vegetation, etc.), where one percent of the area within the amended site boundary has a high chance of wildfire and 36 percent of the area within the amended site boundary has a low to moderate risk of wildfire.[72] Figure 12, below, illustrates that overall wildfire risk at the site and in the analysis area.

In general, the data from the Oregon CWPP Planning Tool indicate that the likelihood of a wildfire event occurring at the site is low to moderate. Because of the concentration of important infrastructure (including that from the facility, and due to the increase of wildfire risk at the site during the summer, the Department recommends that the overall level of wildfire hazard at the site is moderate.

[72] The Wildfire Exhibit explains that large portions of the wildfire analysis area (40 percent) are represented under the "no data" risk rating. Within the wildfire analysis area, these are areas where there are existing roads and irrigated crops. The CWPP Planning Tool categorizes some irrigated crops as having a low loss rating instead of a "no data" risk rating. The Certificate Holder considers irrigated crops to be treated as non-burnable and therefore should fall under the "no data" risk rating. The Department disagrees and considers crops generally as potentially burnable due to seasonal variations and harvest periods.

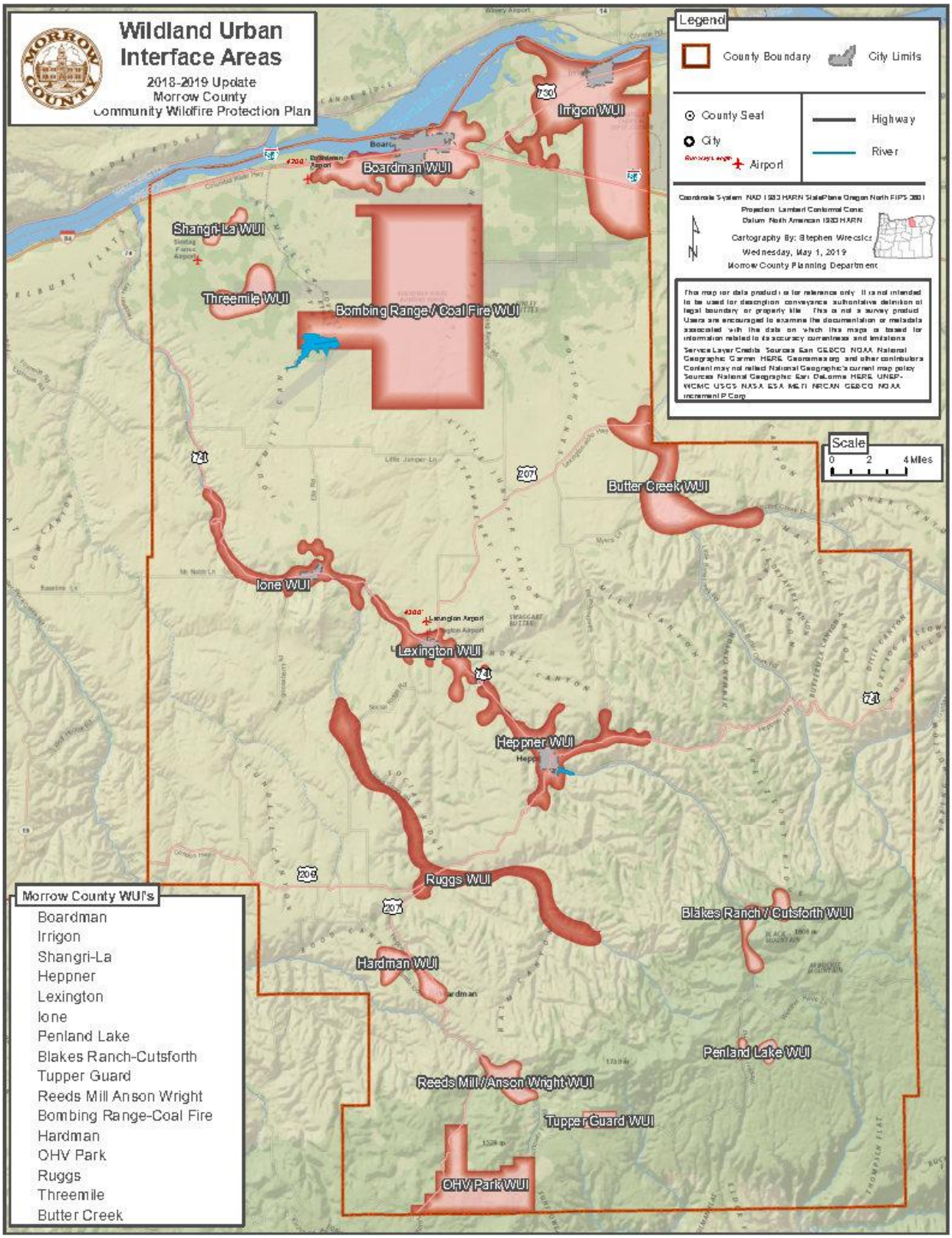
Figure 12: Overall Wildfire Risk



The 2019 County CWPP is the most up to date CWPP the County Board has reviewed and approved. It describes the agencies and local jurisdictions responsible for wildfire protection in Morrow County and explains the pertinent programs and laws associated with wildfire issues and offers action Items designed to reduce the wildfire risk for Morrow County as a whole, as well as specific zones and communities. The Morrow County CWPP identifies wildland urban interface areas (WUIs) which are based on the actual distribution of structures and communities adjacent to or intermixed with wildland fuels. The management objective in the wildland-urban interface zone is to enhance fire suppression capabilities by modifying fire behavior inside the zone and providing a safe and effective area for fire suppression activities.[73] Figure 13 below shows WUIs in Morrow County; the facility site boundary is within the Bombing Range / Coal Fire WUI. This WUI is south of the Threemile WUI which is the feedlot discussed earlier in this section. The CWPP does not have a discussion of wildfire risk or measures specific to the Bombing Range / Coal Fire WUI. The CWPP describes that fire fuel reduction treatments are designed to protect human communities from wildland fires as well as minimize the spread of fires that might originate in urban areas. The management objective in the wildland-urban interface zone is to enhance fire suppression capabilities by modifying fire behavior inside the zone and providing a safe and effective area for fire suppression activities

[73] https://www.morrowcountyor.gov/sites/default/files/fileattachments/planning/page/15251/2019_cwpp_final.pdf P. 16.

Figure 13: Morrow County WUIs with Coal Fire WUI



Based on the Certificate Holder's and Department's assessment of wildfire risk at the site and within the analysis area, as described in RFA4 and this order, the Department recommends that the Council find that wildfire fire is low during winter (seasonally wetter) months and moderate during the summer months, during fire season.

Wildfire Mitigation Plan

Under OAR 345-022-0115(1)(b), Council must find that the facility will be designed, constructed, and operated in compliance with a Wildfire Mitigation Plan (WMP) approved by Council. The Certificate Holder provides a Construction WMP in RFA4 as Attachment V that is based off the WMP templates provided and maintained by the Department. This is attached to this order as Attachment G-1. As discussed below, the Operational WMP also uses the Department template and is attached to this order as Attachment G-2.

Facility Design

Facility design standards and measures that would minimize wildfire risk include:

- Approximately 14-foot-wide service and access roads:
    - The Northern Solar Area has an existing perimeter road which will be within the fenceline – other service roads for both the Northern and Southern Solar Areas will be dispersed between the solar.
- During construction clearing, grubbing, and grading, the contractor will establish a clear, brush-free area extending a minimum of 10 feet inside the fence line and another minimum 10-foot limit of disturbance buffer outside the fence line, totaling a minimum 20 feet of clear, brush-free area around the perimeter of the site.[74]
- The substrate on the ground inside the solar array fence line will be a mix of gravel where needed for maintenance and access roads or where gravel already exists, and vegetation.[75]
- Fenced areas around the O&M building, collector substation, and BESS will be graveled, with no vegetation present. [76]
- Smoke/fire detectors will be placed around the site that will be tied to the supervisory control and data acquisition (SCADA) system and will contact local firefighting services.
- O&M building will have basic firefighting equipment for use on site during maintenance activities, such as shovels, beaters, portable water for hand sprayers, fire extinguishers, and other equipment.
- Fire sensors, alarms, and aerosol fire extinguishing systems in every battery container.

[74] CGSAMD4, Wildfire Prevention and Risk Mitigation Exhibit, Attachment V – Construction Wildfire Mitigation Plan, Section 4.1.3.
[75] CGSAMD4, Wildfire Prevention and Risk Mitigation Section 4.1.4.2. 2026-10-29
[76] CGSAMD4, Public Services Exhibit, Section 4.4.7. 2026-10-29

New and existing roads providing access to and throughout the facility are sized for emergency vehicle access in accordance with 2019 Oregon Fire Code requirements, including Section 503 and Appendix D - Fire Apparatus Access Roads.

Construction and Operational WMP Finalization, Wildfire Risk Minimization Preventative Actions, Programs, and Procedures

OAR 345-022-0115 applies to construction and operation of the facility and for implementation, the Department and Council separate out WMP's applicable to the construction and operational phases of the facility.

The following measures are the same for both the Construction and Operational WMPs and therefore are discussed together in this subsection. Construction and operational-specific measures are provided below this section, in advance of their respective conditions. The Construction and Operational WMP are attached to this order as Attachment G-1 and Attachment G-2, respectively. The areas that are highlighted in yellow in the WMPs are the areas that would be updated prior to construction and operation (during finalization).

The draft Construction and Operational WMPs would be finalized prior to construction and operation.[77] Finalization of the WMPs includes updating wildfire risk at the site and submitting site maps that identify access details and the location of fire protection equipment, and updated emergency contact information to emergency agencies. Both the Construction and Operational WMPs include pre-construction/pre-operational onsite trainings with contractors, local fire departments, the Department, emergency service professionals, and the Certificate Holder. Also designated in the WMPs, annual training would be held during construction and operation that will provide emergency response and fire training to local first responders.

Section 4.5 of the Construction WMP and Section 3.5 of the Operational WMP include definitions for fire precaution levels and associated restrictions during fire season. The fire precaution levels include non-fire season, fire season, fire weather watch, and red flag weather warning, where the red flag weather warning would be the most restrictive for activities that may increase the risk of wildfire. Examples of fire season restrictions include maintaining a fire watch, driving and parking only on gravel surfaces, and limitations on hot work. The Certificate Holder will maintain a log of when construction and operational activities are impacted by the fire season restrictions.

Section 4.2 and 3.3 of the Construction and Operational WMP outlines the specifications for fire protection equipment that is maintained on site, which include fire extinguishers, hand tools,

[77] Although both the construction and operational WMPs must be finalized prior to construction and operation, the Recommended Wildfire Prevention and Risk Mitigation Conditions do not label the WMPs as "Final". This is because, as designated in the WMP's, the WMP's may be updated and amended to address changes in wildfire risk at the site over time, therefore, there may be several iterations of the WMPs during construction and the life of the facility.

pails and drip cans. During fire season, on site water source(s), such as water trucks mist be on site and equipment with a pump, hose and nozzle. All internal combustion engines must be equipped with exhaust systems, mufflers and screens, or include an appropriate spark arrestor.

Construction

The preventative actions, programs and procedures that manage vegetation and minimize wildfire risk during construction activities in the draft WMP include:

- Fire season, Red Flag Warnings and weather conditions that produce an increased risk of fire danger will be monitored and communicated to staff.
- BMPs that minimize fire risk from vehicle travel, equipment use, and fueling activities will be implemented such as vegetation wetting, no idling vehicles and limited off-road travel.
- Vegetation will be limited to a height of 10-12 inches and will be mowed in advance of fire season or according to any fire restrictions.
- Vegetation buildup in the fence line(s), shall be removed.

During facility construction, in the semi-annual construction progress report, the Certificate Holder will provide updates of the performance of the WMP including any changes of wildfire risk at the site, facility contact information, and training logs. The log of any changes in construction activities due to Fire Season Restrictions, as designated in Section 4.5, will be provided to the Department during onsite or remote inspections, or upon request.

The Department recommends Council impose the two conditions below to require the draft WMP be finalized prior to facility construction and be implemented during construction activities. WMP finalization is necessary to reflect final facility design, completion of coordination with local fire departments and updating of the wildfire risk assessment based on available data at that time.

> **Recommended Wildfire Prevention and Risk Mitigation Condition 1 (PRE):** Prior to construction of the solar facility, the Certificate Holder shall finalize and submit a Construction Wildfire Mitigation Plan (WMP) to the Department for review and approval, consistent with Final Order on Request for Amendment 4 Attachment G-1. [PRE-WF-01, Final Order on AMD4]
>
> **Recommended Wildfire Prevention and Risk Mitigation Condition 2 (CON):** During construction of the solar facility, the Certificate Holder shall require onsite contractors and employees to adhere to the Construction Wildfire Mitigation Plan (WMP) approved under PRE-WF-01.
> [CON-WF-01, Final Order on AMD4]

Operation

The Certificate Holder explains that it is a utility that is also regulated by the Oregon Public Utility Commission (OPUC) and that PGE's 2026-2028 WMP has been approved by the Oregon PUC on June 25, 2026 in compliance with OAR 860, Division 300 is PGE's 2026-2028 WMP, so, it could qualify for approval under OAR 345-022-0115(2).[78] However, this WMP was not provided in RFA4 so the Department was not able to determine if the OPUC WMP contained all the measures necessary for compliance with OAR 345-022-0115(1)(b). Specifically, the information that the Department emphasizes in Operational WMPs are site-specific measures for vegetation surveys, reporting and management, facility component inspections and reporting, and fire season restrictions for O&M activities. Therefore, the Department attaches its Operational WMP template to this order with minor edits from the Certificate Holder's WMP.

The procedures, standards, and timeframes for facility component inspections and vegetation management in the operational WMP will be finalized based on the final facility design. Table 2 of the operational WMP is a template that will be filled out including details about the facility components, inspection procedures, inspection frequency, the standard of inspection/maintenance, and the maintenance schedule.

During operations, the Certificate Holder or its contractor will conduct vegetation management inspections twice a year; once prior to the summer months when fire risk is heightened. During these inspections, the technician will ensure vegetation setbacks from installed equipment are adequate and will enact vegetation control measures if needed. Vegetation control includes:

- Vegetation will be limited to a height of 10-12 inches;
- At no point shall vegetation come in contact with electrical equipment;
- Vegetation buildup in the fence line(s), shall be removed;
- Any vegetation removed from the site will be disposed of and not stored onsite. The Certificate Holder and contractors will prevent the accumulation of combustible "burn piles" on site.

Annual reporting requirements and amendments to the WMP are addressed in Section 4.0 of the WMP. Reporting requirements listed above will be provided in the annual report submitted to the Department. This information may be used by the Department and Certificate Holder to establish the performance of the WMP. To require that the Operational WMP is finalized prior to operation and implemented during operation, the Department recommends Council impose the conditions below.

> **Recommended Wildfire Prevention and Risk Mitigation Condition 3 (PRO)**: Prior to operation of the solar facility, the Certificate Holder shall finalize and submit to the Department for review and approval, an Operational Wildfire Mitigation Plan (WMP) consistent with Attachment G-2 to the Final Order on Request for Amendment 4 to the Department for review and approval.

[78] "(2) The Council may issue a site certificate without making the findings under section (1) if it finds that the facility is subject to a Wildfire Protection Plan that has been approved in compliance with OAR chapter 860, division 300."

[PRO-WF-01; Final Order on AMD4]

Recommended Wildfire Prevention and Risk Mitigation Condition 4 (OPR): During operation of the solar facility, the Certificate Holder shall require any onsite contractors and employees to adhere to the Operational Wildfire Mitigation Plan (WMP) approved under PRO-WF-01.
[OPR-WF-01; Final Order on AMD4]

Because the operational Unit 1 is within the approved and amended site boundary proposed in RFA2, the Draft Amended Site Certificate reorganizes the site certificate conditions to administratively clarify which conditions apply to what part of the facility. The Department also recommends minor reviews to site certificate conditions applicable to Unit 1. Because the WMP applies to Unit 1 and the Carty Solar Farm, the Department recommends the following language be added to Unit 1 conditions 8.5, 8.6, and 8.7 because there are duplicative actions and reporting requirements within the conditions and WMP:

> "Compliance with this condition may be combined or met with the demonstration of compliance with the requirements of the Operational Wildfire Mitigation Plan under OPR-WF-01."

The Department recommends Council find that the Construction and Operational WMPs for the facility identifies areas subject to heighted wildfire risk, contain sufficient procedures to minimize wildfire risk, identify procedures to minimize risks to public health and safety as well as first responders, contain procedures for inspections, maintenance and vegetation management, and contain measures to ensure the plan is updated.

III.N.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the proposed and amended site certificate conditions described above, the Department recommends the Council find that the Certificate Holder has adequately characterized wildfire risk within the analysis area using current data from reputable sources, and that, subject to Council approval, the facility will be designed, constructed, and operated in compliance with a Wildfire Mitigation Plan.

III.O. WASTE MINIMIZATION: OAR 345-022-0120

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that, to the extent reasonably practicable:

(a) The applicant's solid waste and wastewater plans are likely to minimize generation of solid waste and wastewater in the construction and operation of the facility, and when solid waste or wastewater is generated, to result in recycling and reuse of such wastes;

(b) The applicant's plans to manage the accumulation, storage, disposal and transportation of waste generated by the construction and operation of the facility are likely to result in minimal adverse impact on surrounding and adjacent areas.

(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.
(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.[79]

III.O.1. <u>Findings of Fact</u>

The Certificate Holder proposes to manage solid waste and wastewater generated during the construction and operation of the facility proposed in RFA4 by implementing the facility's existing solid waste and wastewater controls, including a Construction Waste Management Plan, Operations Waste Management Plan, and applicable permit programs and county ordinances.

Construction

<u>Solid Waste</u>

Construction of the facility proposed in RFA4 would generate up to 95,000 cubic yards of nonhazardous solid waste in total. Nonhazardous solid waste includes wood forms from cast-in place concrete foundations; waste concrete; erosion control materials including spent straw wattles, and silt fencing; scrap steel from damaged pilings or racking equipment; unused wiring; and packaging materials including cardboard and plastic electronics packaging and wood pallets.[80] Nonhazardous solid waste will be recycled, when feasible; or will be disposed of at the Finley Butte Landfill in Morrow County, hauled by licensed commercial waste haulers consistent with county requirements.

As presented below, the Department recommends that the Council impose Waste Minimization Conditions 1, 2 and 3 to ensure that construction-related waste is properly managed and minimized to the extent practicable.

<u>Wastewater</u>

[79] OAR 345-022-0120, effective May 15, 2007.
[80] *Id*.

Construction wastewater will consist of water used for dust control, concrete mixing, vehicle and equipment washing, and concrete chute washout. Total construction wastewater is estimated at approximately 81,040,000 gallons, of which approximately 80,000,000 gallons will result from dust abatement. Wastewater will evaporate or infiltrate at or near the point of use in accordance with an approved WPCF Permit from Oregon DEQ. Stormwater is not considered to be wastewater. Stormwater will be managed in accordance with the terms of the NPDES 1200-C stormwater permit under recommended Soil Protection Condition 1 and 2.

Sanitary wastewater during construction will be managed with portable toilets located throughout the construction area, serviced by licensed subcontractors.

The Department recommends Council impose the following conditions for wastewater during construction:

Recommended Waste Minimization Condition 1 (PRE): Prior to construction of the solar facility or phase, as applicable, the Certificate Holder shall require contractors to develop and submit to the Department for review and approval, Construction Waste Management Plan(s) that, at a minimum, include the following:

a. All sources and quantities of construction waste and wastewater, including damaged or dysfunctional energy facility components, and where feasible, estimated quantities that can be recycled.
b. Identification of disposal and recycling haulers and disposal/recycling facilities.
c. Process for requesting a permit exemption from DEQ pursuant to OAR 340-093-0080 to ensure that concrete washout materials reused in foundation backfill are substantially the same as clean fill.
d. Document training workers with the requirements of the plan.

[PRE-WM-01; Final Order on AMD4]

Recommended Waste Minimization Condition 2 (CON): During construction of the solar facility, the Certificate Holder shall require that contractors adhere to the requirements of the Construction Waste Management Plan(s) and maintain records of employee training and tracking compliance onsite and available upon Department request.
[CON-WM-01; Final Order on AMD4]

Recommended Waste Minimization Condition 3 (CON): During construction, on-site concrete washwater disposal is prohibited unless DEQ approval of a permit exemption for materials substantially similar to clean fill is obtained. If DEQ approval of a permit exemption is obtained, concrete washwater must be disposed of onsite via infiltration and evaporation in accordance with the DEQ-issued NPDES 1200-C permit required under Condition CON-SP-02.
[CON-WM-02; Final Order on AMD4]

Operations

Solid Waste

Operation of the RFA4 facility is anticipated to generate minor amounts of solid waste, including replacement equipment, packing materials, and typical office waste. Total operational solid waste is estimated at no more than approximately 8 cubic yards per month and will be recycled as feasible and disposed at the Finley Butte Landfill or Columbia Ridge Landfill in accordance with the Morrow County Solid Waste Management Ordinance and the Operations Waste Management Plan.

During operations, the BESS may generate minor incidental waste from routine electrical equipment repairs and replacements. To counter natural capacity decline, the system will undergo augmentation—meaning the Certificate Holder will add new batteries to maintain required output while the older, degraded batteries remain in service. Consequently, the Certificate Holder assumes that batteries will only be removed during operations if they require repair or replacement due to failure; large-scale battery removal will not occur until final project decommissioning. Batteries included in the BESS would also need to be replaced. Each battery included in the facility would need to be replaced twice during the 40-year expected operational lifetime.

To replace lithium-ion (Li-ion) batteries during operation, the Certificate Holder will follow DOT shipping regulations under 49 CFR 173.185. Licensed third-party suppliers will handle all battery transportation to and from the BESS in compliance with legal requirements. Spent batteries will be disposed of at permitted facilities following Resource Conservation and Recovery Act and Toxic Substances Control Act regulations managed by the U.S. Environmental Protection Agency (EPA) or the ODEQ.

BESS decommissioning will involve disposing of or recycling battery components at an approved, off-site facility. Licensed third-party suppliers will handle all transportation to and from the BESS in compliance with applicable regulations. Final disposal of these batteries will follow the same procedures used for operational replacements.

Because the facility operations will include the repair, replacement and maintenance of the BESS batteries, and because these items are required to be transported, handled and disposed of in compliance with applicable laws, the Department recommends Council impose a condition specific to the BESS lithium-ion batteries and waste management:

> **Recommended Waste Minimization Condition 4 (PRO):** Prior to operation of the solar facility, the Certificate Holder shall develop an Operational Recycling Plan or protocol requiring that damaged or nonfunctional panels and lithium-ion batteries be recycled to the extent practicable. The Certificate Holder shall report in its annual report to the Department the quantities of panels and lithium-ion batteries recycled, reused or

disposed of in a landfill. Requirements for lithium-ion battery recycling do not apply if the BESS is not constructed.
[PRO-WM-01; Final Order on AMD4]

Recommended Waste Minimization Condition 5 (OPR): During operations, the Certificate Holder shall adhere to the requirements of the Operational Recycling Plan or protocol developed under Condition PRO-WM-01.
[OPR-WM-02; Final Order on AMD4]

Wastewater

Sanitary wastewater will be generated from the proposed O&M building at an estimated 250 gallons per day and will be discharged via interconnection with the existing wasterwater and septic system. If capacity upgrades are needed, a septic system alteration permit will be obtained from the Umatilla County Public Health Department.

Operational wastewater from periodic solar panel washing will be managed under WPCF Permit. The Certificate Holder will ensure there is no runoff or discharge to surface waters, storm sewers, or dry wells. To ensure that solar panel washwater does not result in soil contamination, the Department recommends Council impose the following condition:

Recommended Waste Minimization Condition 6 (OPR): During operations, the Certificate Holder shall comply with the requirements of the WPCF permit for panel washing that includes the following provisions:

a. Prohibit use of chemicals, soaps, detergents and heated water unless Chemical Safety Data Sheets for low volatile organic compound/biodegradable cleaning chemicals and solvents are submitted to the Department for review and approval prior to use.
b. Ensure that washing is conducted in a manner that does not remove paint or other finishes.
c. Discharge wash water through evaporation and infiltration only.

[OPR-WM-02; Final Order on AMD4]

III.O.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the recommended site certificate conditions described above, the Department recommends the Council find that the Certificate Holder's solid waste and wastewater plans are likely to minimize generation of solid waste and wastewater in the construction and operation of the facility, promote recycling and reuse where feasible, and ensure proper accumulation, storage, disposal, and transportation of waste so as to result in minimal adverse impact on surrounding and adjacent areas.

III.P. SITING STANDARDS FOR TRANSMISSION LINES – OAR 345-024-0090

To issue a site certificate for a facility that includes any transmission line under Council jurisdiction, the Council must find that the applicant:

(1) Can design, construct and operate the proposed transmission line 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;

(2) Can design, construct and operate the proposed transmission line so that induced currents resulting from the transmission line and related or supporting facilities will be as low as reasonably achievable.[81]

III.P.1. Findings of Fact

Transmission lines must comply with the electric field standard found in OAR 345-024-0090, which requires proposed transmission lines be designed, constructed, and operated so that AC electric fields do not exceed 9 kV per meter at 1 meter or kV/m above the ground surface in areas accessible to the public.

RFA4 proposes one 300-foot long segment of 500-kV generation-tie transmission line and one segment of 34.5-kV overhead collector line. The 500 kV transmission line would connect the proposed collector substation to the existing electrical transmission dead-end structure for a 500-kV transmission line, which used to serve the BCP. The Certificate Holder proposes to site the 300-foot-long transmission line where it would be inaccessible to the public. The segment would be located behind multiple security fences and within the chain-link perimeter fencing for the collector substation, which will be up to 11 feet in height and include an additional 1 foot of razor or barb wire. Because the 9-kV per meter standard and modeling requirements of OAR 345-024-0090(1) are required for areas accessible to the public, and because the 300-foot long segment of 500 kV Transmission Line would be in an area that is not accessible to the public, the Department recommends Council find that Certificate Holder can design, construct and operate the proposed 500kV transmission in accordance with OAR 345-024-0090(1).

The 34.5-kV collector line will be installed aboveground, and within an approximate 3-mile long, 80-foot wide right-of-way extending from the proposed southern solar area, along the eastern shore of the Carty Reservoir, before entering the proposed collector substation. There are no occupied buildings, residences, or other sensitive receptors within 200 feet of the center line of the proposed 34.5-kV overhead collector line route.

Electric and magnetic fields

[81] OAR 345-024-0090, effective May 15, 2007.

Electric and magnetic fields that could be generated by the proposed transmission line were modeled using Bonneville Power Administration's Corona and Fields Effect Program, Version 3 (CAFE). The electrical fields modeling results are summarized in the Table 13 below and represent that the 34.5-kV overhead collector line can be operated such that the AC electric field will not exceed 9 kV/m at 1 meter above the ground surface.

Table 13: Electric and Magnetic Field Modeling Results for the proposed 34.5 kV Collector Line

Item	Description			
		200 feet Left	Peak Value	200 feet Right
34.5-kV Collector Line	Electric Field (kV/m)	0.004	0.378, 8 feet right of centerline	0.005
	Magnetic Field (mG)	3.13	193.2, 4 feet right of centerline	3.59
Source: CGSAMD4 Exhibit AA. EMF 2024-10-27				

Induced-Currents and Grounding

The Siting Standards for Transmission Lines requires the Council to find that the Certificate Holder "can design, construct and operate the proposed transmission line so that induced currents resulting from the transmission line and related or supporting facilities will be as low as reasonably achievable." Council previously imposed Siting Standards for Transmission Lines Condition 7.9, which require, in part, the Certificate Holder to 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. This includes both existing infrastructure as well as other facility components such as perimeter fencing. The Department recommends Council maintain this Condition as applicable for the facility proposed in RFA4.

Previously imposed Condition 6.5 requires the Certificate Holder to construct and operate the transmission lines in accordance with the requirements of the National Electrical Safety Code (1997 Edition, or its successor document). Because Conditions 6.5 and 7.9 would continue to apply to the facility proposed in RFA4, the Department recommends Council continue to find that the Certificate Holder can design, construct and operate the proposed transmission in accordance with OAR 345-024-0090(1).

III.P.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the existing site certificate conditions described above, the Department recommends the Council find that the Certificate Holder can design, construct, and operate the facility components proposed in RFA4, 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 and that induced currents resulting from the transmission line and related or supporting facilities will be as low as reasonably achievable.

IV. EVALUATION OF OTHER APPLICABLE REGULATORY REQUIREMENTS

IV.A. Noise Control Regulations: OAR 340-035-0035

(B) New Sources Located on Previously Unused Site:

i. No person owning or controlling a new industrial or commercial noise source located on a previously unused industrial or commercial site shall cause or permit the operation of that noise source if the noise levels generated or indirectly caused by that noise source increase the ambient statistical noise levels, L10 or L50, by more than 10 dBA in any one hour, or exceed the levels specified in Table 8, as measured at an appropriate measurement point, as specified in subsection (3)(b) of this rule, except as specified in subparagraph (1)(b)(B)(iii).

ii. The ambient statistical noise level of a new industrial or commercial noise source on a previously unused industrial or commercial site shall include all noises generated or indirectly caused by or attributable to that source including all of its related activities. Sources exempted from the requirements of section (1) of this rule, which are identified in subsections (5)(b)–(f), (j), and (k) of this rule, shall not be excluded from this ambient measurement.

iii. For noise levels generated or caused by a wind or solar energy facility:

(I) The increase in ambient statistical noise levels is based on an assumed background L50 ambient noise level of 26 dBA or the actual ambient background level. The person owning the wind or solar energy facility may conduct measurements to determine the actual ambient L10 and L50 background level.

(II) The "actual ambient background level" is the measured noise level at the appropriate measurement point as specified in subsection (3)(b) of this rule using generally accepted noise engineering measurement practices. Background noise measurements shall be obtained at the appropriate measurement point, and for wind energy facilities synchronized with wind speed measurements of hub height conditions at the nearest wind turbine location. "Actual ambient background level" does not include noise generated or caused by the proposed wind or solar energy facility.

(III) The noise levels from a wind or solar energy facility may increase the ambient statistical noise levels L10 and L50 by more than 10 dBA (but not above the limits specified in Table 8), if the person who owns the noise sensitive property executes a legally effective easement or real covenant that benefits the property on which the wind or solar energy facility is located. The easement or covenant must authorize the wind or solar energy facility to increase the ambient statistical noise levels, L10 or L50 on the sensitive property by more than 10 dBA at the appropriate measurement point.

***

IV.A.1. Findings of Fact

OAR 340-035-0035 provides the DEQ noise rules for industry and commerce and establishes noise limits for new industrial or commercial noise sources based upon whether those sources would be developed on a previously used or previously unused site.[82] The site of the facility proposed in RFA4 has not been previously used for industrial use. Therefore, the requirements applicable to a previously unused site have been conservatively applied and evaluated per the requirements of OAR 340-035-0035(1)(b)(B).

Noise generated by a new industrial or commercial source located on a previously unused site must comply with two standards: the "ambient noise degradation standard" and the "maximum allowable noise standard." Both standards represent allowable noise levels at "real properties normally used for sleeping," otherwise referred to as a "noise sensitive property."[83]

Under the ambient noise degradation standard, facility-generated noise must not increase the ambient hourly L10 or L50 noise levels at any noise sensitive property by more than 10 dBA. Under the maximum allowable noise standard at OAR 340-035-0035(1)(b)(B)(i), new industrial or commercial noise sources may not exceed the noise levels specified in the noise rules, as represented in Table 14: *Statistical Noise Limits for Industrial and Commercial Noise Sources* below.

Table 14: Statistical Noise Limits for Industrial and Commercial Noise Sources

Statistical Descriptor	Maximum Permissible Hourly Statistical Noise Levels (dBA)	
	Daytime (7:00 AM – 10:00 PM)	Nighttime (10:00 PM to 7:00 AM)
L50	55	50
L10	60	55
L1	75	60

Note: The hourly L50, L10, and L1 noise levels are defined as the noise levels equaled or exceeded 50 percent, 10 percent, and 1 percent of the hour, respectively.
"Shaded" cell represents the most restrictive level and therefore relied upon for the evaluation of compliance with the maximum allowable noise standard.
Source: OAR 345-035-0035, Table 8.

The analysis area for evaluating compliance with the DEQ noise rules includes the area within and extending 1-mile from the proposed amended site boundary. Within the analysis area, there are no noise sensitive properties. The nearest noise sensitive receptor (NSR) is located

[82] A "previously unused industrial or commercial site" is defined in OAR 340-035-0015(47) as property which has not been used by any industrial or commercial noise source during the 20 years immediately preceding commencement of construction of a new industrial or commercial source on that property.
[83] OAR 340-035-0015(38) defines noise sensitive property as, "real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meet the above criteria in more than an incidental manner."

approximately 2.3 miles south of the site. Given that there are no NSRs within the analysis area, the facility proposed in RFA4 is not expected to generate operational noise impacts and would comply with the Noise Control Regulation.

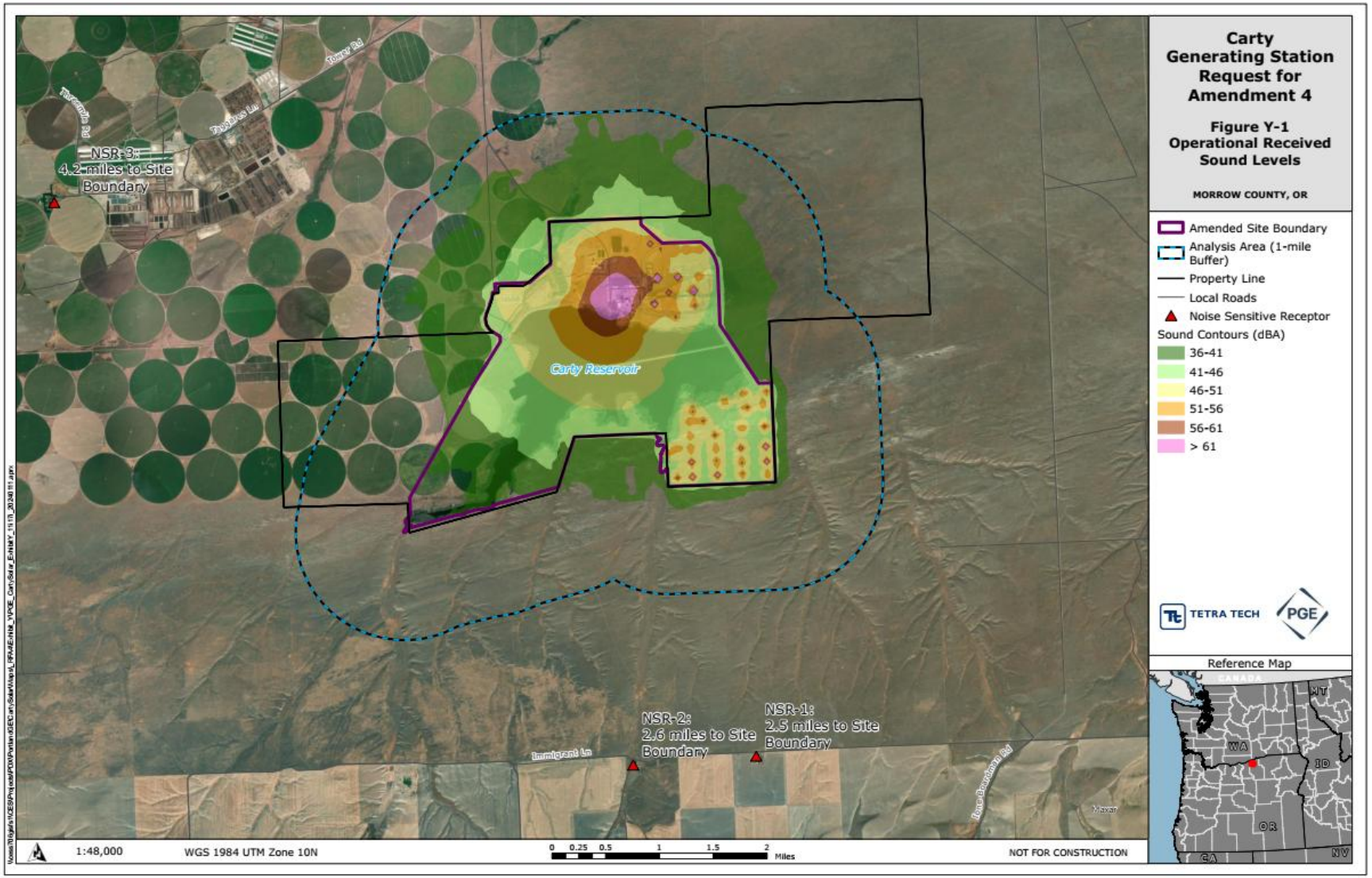
Operational noise from the facility proposed in RFA4 was modeled using DataKustik GmbH's computer-aided noise abatement program[84] based on the following noise sources and noise levels:

- 44 solar inverters at 94 dBA
- 30 BESS HVAC Unit at 96 dBA
- 30 BESS inverters at 94 dBA
- 58 BESS transformer at 97 dBA
- 1 - 230 Megavolt Ampere Transformer at 108 dBA

As presented in Figure 14 below, operational noise would not be audible at the outer bounds of the analysis area. At the nearest NSR, the maximum modeled noise level is 22-23 dBA, below the 50 dBA maximum allowable noise threshold.

[84] DataKustik (DataKustik GmbH). 2023. Computer-Aided Noise Abatement Model CadnaA, Munich, Germany.

Figure 14: Noise Sensitive Receptors and Modeled Operational Noise



IV.A.2. Conclusions of Law

Based on the foregoing analysis, the Department recommends the Council find that the facility, with proposed RFA4 changes, will comply with the applicable Noise Control Regulations in OAR 340-035-0035.

IV.B. Removal-Fill

The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and Department of State Lands (DSL) regulations (OAR 141-085-0500 through 141-085-0785) require a removal-fill permit if 50 cubic yards or more of material is removed, filled, or altered within any "waters of the state."[85] If a removal fill permit is required and the Certificate Holder requests that it be governed by the site certificate process, the Council, in consultation with DSL, must determine whether a removal-fill permit should be issued.

IV.B.1. Findings of Fact

The analysis area for wetlands and other waters of the state is the area within the proposed amended site boundary.

Within the analysis area, there are two wetlands, a portion of Carty Reservoir, several artificially created settling ponds, an artificially constructed channel, and two dry ditches. Construction and operation of the facility proposed in RFA4 will not require removal of materials from or placement of materials in any wetland or waterbody features. Therefore, a removal fill permit is not required for this project.

The boundaries of the above referenced wetlands and waters were delineated in an October 2023 Wetland and Waters Delineation Report, submitted to DSL for review and concurrence. DSL has not yet completed its review, but the outcome will be relied upon to accurately map and flag wetlands and waters of the state for avoidance during construction. The Department recommends that the Council impose the following condition to ensure that the Certificate Holder establishes the boundaries of wetlands and waters of the state for impact avoidance based on DSL's concurrence:

> **Recommended Removal-Fill Condition 1 (PRE):** Prior to construction of the solar facility or phase, as applicable, the Certificate Holder shall obtain DSL concurrence on a wetland delineation report applicable to the solar facility site.
> [PRE-RF-01, Final Order on AMD4]

[85] ORS 196.800(15) defines "Waters of this state." The term includes wetlands and certain other waterbodies.

IV.B.2. Conclusions of Law

Based on the foregoing analysis, and subject to compliance with the proposed site certificate condition described above, the Department recommends the Council find that the facility, with proposed changes, will comply with the Council's Soil Protection standard.

IV.C. Water Rights

Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources Department (OWRD) administers water rights for appropriation and use of the water resources of the state. Under OAR 345-022-0000(1)(b), the Council must determine whether the facility, with proposed changes, would comply with the statutes and administrative rules identified in the project order.

IV.C.1. Findings of Fact

The Certificate Holder has not requested a groundwater permit, surface water permit, or water right transfer.

All non-potable water used for construction activities (dust abatement, concrete, washing concrete trucks, fire prevention) will be obtained from the Carty Reservoir, which is located within the facility site boundary. Water used for construction will be sourced from the Carty Reservoir under the Certificate Holder's existing water right and obtained by a third-party contractor through a limited water use license. The Oregon Water Resources Department issued PGE Permit S-54925 for the use of up to 3,736 acre-feet per year from the Carty Reservoir for industrial/manufacturing uses[86]; this category allows use of water for construction purposes and the existing permit is adequate to meet the water requirements for non-potable water during construction.

In Section III.B. *Organizational Expertise* of this order, the Department recommends Council impose conditions (Organizational Expertise Conditions 5 and 6) requiring that, prior to and during the facility construction, the Certificate Holder ensure that its' contractor has obtained a limited use license from ODWR and that its' contractor demonstrate compliance with the use and quantity limitations established by the limited use license. quantify the water needs of the construction, identify the sources to be used and provide evidence that the identified sources have the legal ability to provide the amount of water for the intended use.

[86] The Carty Reservoir has a maximum surface area of approximately 1,450 acres and contains approximately 38,000 acre-feet (12 billion gallons) of water at a maximum pool elevation of 677 feet above mean sea level. The average pool elevation for the reservoir since 1990 has been approximately 667 to 668 feet above mean sea level. At this elevation, the reservoir surface area is approximately 1,100 acres and contains approximately 26,000 acre-feet of water (8.5 billion gallons).

IV.C.2. Conclusions of Law

The Certificate Holder has not requested a groundwater permit, surface water permit, or water right transfer, nor requested that if such permit is needed, that it be governed by the site certificate process. Therefore, Council does not need to make findings of compliance.

V. PROPOSED CONCLUSIONS AND ORDER

Based on the recommended findings of fact and conclusions included in this Order, the Department recommends Council make the following findings:

1. The facility, with the proposed changes, complies with the requirements of the Energy Facility Siting Statutes ORS 469.300 to 469.520.

2. The facility, with proposed changes, complies with the all applicable standards adopted by Council pursuant to ORS 469.501, in effect on the date Council issues its Final Order.

3. The facility, with proposed changes, complies with all other Oregon statutes and administrative rules identified in effect on the date Council issues its Final Order.

Accordingly, the Department recommends Council find that the facility, with the proposed changes, complies with the General Standard of Review OAR 345-022-0000 and OAR 345-027-0375. The Department recommends that the Council find, based on a preponderance of the evidence on the record, that the site certificate may be amended as requested.

The Department therefore recommends that the Council approve Request for Amendment 4 of the Site Certificate for the Carty Generating Station, and issue the Fourth Amended Site Certificate included as Attachment A to this Order.

Issued October 30, 2026

OREGON DEPARTMENT OF ENERGY

Todd Cornett

Todd Cornett (Oct 30, 2026 14:41:05 PDT)

Todd Cornett, Assistant Director For Siting

ATTACHMENTS

Attachment A: Draft Fourth Amended Site Certificate
Attachment B: Reviewing Agency Comments on pRFA4
Attachment C-1: Draft Construction Vegetation and Soil Management Plan
Attachment C-2: Draft Operational Vegetation and Soil Management Plan
Attachment D-1: Draft Habitat Mitigation Plan
Attachment D-2: Draft Amended Wildlife Habitat Monitoring and Mitigation Plan
Attachment E: Draft Inadvertent Discovery Plan
Attachment F: Retirement Cost Estimate
Attachment G-1: Draft Construction Wildfire Mitigation Plan
Attachment G-2: Draft Operational Wildfire Mitigation Plan

Attachment A: Draft Fourth Amended Site Certificate

ENERGY FACILITY SITING COUNCIL

OF THE

STATE OF OREGON

~~Third~~ Fourth Amended Site Certificate for the Carty Generating Station

ISSUE DATES

Site Certificate	July 2, 2012
First Amended Site Certificate	December 14, 2018
Second Amended Site Certificate	November 19, 2020
Third Amended Site Certificate	July 22, 2022
Fourth Amended Site Certificate	DATE

THIS PAGE INTENTIONALLY LEFT BLANK

CARTY GENERATING STATION SITE CERTIFICATE

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SITE CERTIFICATION 2
3.0 DESCRIPTION OF FACILITY 4
3.1 Location and Site Boundary 4
3.2 The Energy Facility 5
4.0 Site Certificate Conditions 15
4.1 General Facility (GEN) Conditions: Design, Construction and Operations 16
4.1.1 General (GEN) Facility Conditions 16
4.2 Unit 1 Conditions 21
4.2.1 General (GEN) Conditions 21
4.2.2 Operational (OPR) Conditions 21
4.3 Carty Solar Farm Conditions 39
4.3.1 General (GEN) Conditions 39
4.3.2 Pre-Construction (PRE) Conditions 41
4.3.3 Construction (CON) Conditions 45
4.3.3 Construction (CON) Conditions 46
4.3.4 Pre-Operational (PRO) Conditions 49
4.3.5 Operational (OPR) Conditions 50
5.0 SUCCESSORS AND ASSIGNS 52
6.0 SEVERABILITY AND CONSTRUCTION 52
7.0 GOVERNING LAW AND FORUM 52
8.0 EXECUTION 52

Attachments

Attachment 1 – Facility Figures

Figure 1: Facility Site Boundary 54
Figure 2: Solar Micrositing Corridors 55

Attachment 2 – Recommended Conditions to be Deleted from Site Certificate due to Inapplicability/Termination (i.e., expired preconstruction or construction conditions)

Acronyms and Abbreviations

AC – alternating current

ACEC – Area of Critical Environmental Concern

ADA – Americans with Disabilities Act

AMD1 – Final Order on Amendment No. 1

AMD2 – Final Order on Amendment No. 2

AMD3 – Final Order on Amendment No. 3

AMD4 – Final Order on Amendment No. 4

Btu – British Thermal Unit

BCP – Boardman Coal Plant

Carty – Carty Generating Station

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

CFR – Code of Federal Regulations

Council – Oregon Energy Facility Siting Council

CTG – combustion turbine generator

CTUIR – Confederated Tribes of the Umatilla Indian Reservation

DC – direct current

Department – Oregon Department of Energy

DEQ – Oregon Department of Environmental Quality

DOGAMI – Oregon Department of Geology and Mineral Industries

DPO – Draft Proposed Order

EPCRA – Emergency Planning and Community Right-to-Know Act

ESCP – Erosion and Sediment Control Plan

FAA – Federal Aviation Administration

FERC – Federal Energy Regulatory Commission

GTN – Gas Transmission Northwest LLC

~~HMA – Habitat Mitigation Area~~

~~HRSG – Heat Recovery Steam Generator~~

~~kV – kilovolt~~

~~MCZO Morrow County Zoning Ordinance~~

~~MOU – Memorandum of Understanding~~

~~MSL – mean sea level~~

~~MW – megawatt~~

~~NPDES National Pollutant Discharge Elimination System~~

~~O&M – Operations and Maintenance~~

~~OAR – Oregon Administrative Rule~~

~~ODFW Oregon Department of Fish and Wildlife~~

~~ORS – Oregon Revised Statutes~~

~~OSSC – Oregon Structural Specialty Code~~

~~PGE – Portland General Electric Company~~

~~PV – photovoltaic~~

~~SHPO – Oregon State Historic Preservation Office~~

~~SPCC – Spill Prevention, Control, and Countermeasure~~

~~STG – Steam Turbine Generator~~

~~USFWS United Stated Fish and Wildlife Service~~

~~Unit 1 450 megawatt natural gas fueled, combined cycle, combustion turbine generator~~

~~WGS – Washington Ground Squirrel~~

~~WPCF Water Pollution Control Facilities~~

1.0 INTRODUCTION

The Oregon Energy Facility Siting Council (Council) issues this site certificate for the Carty Generating Station in the manner authorized under the Oregon Revised Statutes (ORS) Chapter 469. This site certificate is a binding agreement between the State of Oregon (State), acting through the Council, and Portland General Electric Company (certificate holder) authorizing the certificate holder to construct and operate the facility in Morrow and Gilliam counties, Oregon.

The findings of fact, reasoning, and conclusions of law underlying the terms and conditions of this site certificate are set forth in the following documents, which by this reference are incorporated herein: (a) the Council's *Final Order in the Matter of the Application for a Site Certificate for the Carty Generating Station* (Final Order on the Application) issued on June 29, 2012, (b) the Council's *Final Order in the Matter of the Site Certificate for the Carty Generating Station Request for Amendment No.1* (Final Order on Amendment No. 1 [AMD1]), (c) the Council's *Final Order in the Matter of the Site Certificate for the Carty Generating Station Request for Amendment No.2* (Final Order on Amendment No. 2 [AMD2]), ~~and~~ (d) the Council's *Final Order in the Matter of the Site Certificate for the Carty Generating Station Request for Amendment No. 3* (Final Order on Amendment No. 3 [AMD3]), and (e) the Council's Final Order on Request for Amendment No. 4 (Final Order on Amendment No. 4 [AMD4]) issued on DATE. In interpreting this site certificate, any ambiguity will be clarified by reference to the following, in order of priority: (1) this Site Certificate (issued ~~July 22, 2022~~DATE, effective ~~July 22, 2022~~DATE), (2) the Final Order on Amendment No. 4, (3) the record of the proceedings that led to the Final Order on Amendment No. 4, (4~~2~~) the Final Order on Amendment No. 3, (~~3~~5) the record of the proceedings that led to the Final Order on Amendment No. 3, (6~~4~~) the Final Order on Amendment No. 2, (7~~5~~) the record of the proceedings that led to the Final Order on Amendment No. 2, (8~~6~~) the Final Order on Amendment No. 1, (9~~7~~) the record of the proceedings that led to the Final Order on Amendment No. 1, (10~~8~~) the Final Order on the Application, and (11~~9~~) the record of the proceedings that led to the Final Order on the Application.

This Site Certificate does not address, and is not binding with respect to, matters that were not addressed in the Council's Final Order on the Application, Final Order on Amendment No. 1, Final Order on Amendment No. 2, ~~or~~ Final Order on Amendment No. 3, or Final Order on Amendment No. 4. Such matters include, but are not limited to: building code compliance; wage; hour; and 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).

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

2.0 SITE CERTIFICATION

2.1 To the extent authorized by state law and subject to the conditions set forth herein, the State authorizes the certificate holder to construct, operate, and retire a facility that includes a natural gas-fueled electrical generating unit and a photovoltaic (PV) solar electrical generating unit, together with certain related or supporting facilities, at the site in Morrow County and Gilliam County, Oregon, as described in Section 3.0 of this site certificate.
[ORS 469.401(1)][AMD1; AMD2]

2.2 This site certificate is effective until 1) it is terminated under OAR 345-027-0110 or the rules in effect on the date that termination is sought; or 2) until the site certificate is revoked under ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date that revocation is ordered.
[ORS 469.401(1)]

2.3 Both the State and the certificate holder shall abide by local ordinances, state law, and the rules of the Council in effect on the date this site certificate is executed. ORS 469.401(2). In addition, 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)]

2.4 For a permit, license, or other approval 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)]

2.5 Subject to the conditions herein, 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)]

2.6 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.
[ORS 469.401(3)]

2.7 After issuance of this site certificate, each state agency or local government agency that issues a permit, license, or other approval for the facility shall continue to exercise enforcement authority over such permit, license, or other approval.
[ORS 469.401(3)]

2.8 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]

2.9 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 III.D.2] [Mandatory Condition OAR 345-025-0006(3)]

2.10 Before any transfer of ownership ~~of any unit~~ 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 345-027-0400 apply to any transfer of ownership that requires a transfer of the site certificate.
[Final Order IV.B.2.8] [Mandatory Condition OAR 345-025-0006(15)] [AMD1; AMD2]

2.11 Any matter of non-compliance 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 IV.B.2.5]

2.12 Within 72 hours after discovery of conditions or circumstances that may violate the terms or conditions of the site certificate, the certificate holder shall report the conditions or circumstances to the Department.
[Final Order IV.B.2.7]

2.13 The Council shall not change the conditions of this site certificate except as provided for in OAR Chapter 345, Division 27.
[Final Order VI.1] [Mandatory Condition OAR 345-025-0006(1)] [AMD2]

~~2.14 The certificate holder must:~~
~~Prior to construction of the Carty Solar Farm, provide evidence to the Department that a limited water use license from Oregon Department of Water Quality has been obtained by its third-party contractor.~~

~~2.15 During construction of the Carty Solar Farm, provide to the Department in semi-annual reports, pursuant to OAR 345-026-0080, documentation of the record of all water use, as required by the third-party's limited water use license, demonstrating that the allowable total and per minute water use (total gallons and gallons per minute) have not been exceeded.~~
~~[AMD1]~~

3.0 DESCRIPTION OF FACILITY

3.1 Location and Site Boundary

The Carty Generating Station is located in Morrow and Gilliam Counties, Oregon, southwest of the City of Boardman and adjacent to the Carty Reservoir.

As defined by OAR 345-001-0010, the "site boundary" is the perimeter of the site of the energy facility, its related or supporting facilities, all temporary staging areas, and all corridors. The site boundary for the Carty Generating Station encompasses approximately 5,2494~~,997~~ acres.

3.2 THE ENERGY FACILITY

The Carty Generating Station includes a natural gas-fueled combined-cycle unit and a solar photovoltaic (PV) electric power generating unit. The Carty Generating Station is capable of generating up to 650~~500~~ megawatts (MW) of electrical power (up to 450 MW from the natural gas-fueled combined-cycle unit [Unit 1], and up to 200~~50~~ MW from the solar PV generating unit).

Unit 1 of the Carty Generating Station includes one natural-gas-fueled generating unit consisting of one high efficiency combustion turbine generator (CTG), heat recovery steam generator (HRSG), and a steam turbine generator (STG). Within this unit, the natural gas CTG produces electricity, with the exhaust gases from the CTG supplying heat to the HRSG. Steam produced in the HRSG is used to power the STG to produce additional electricity. Duct burners fueled by natural gas in the HRSG allow for production of additional steam and additional electricity from the STG. Steam exhausted from the STG is condensed in a water-cooled condenser, with the resultant condensate returned to the HRSG to produce additional steam. Water used for cooling in the water-cooled condenser is routed to a cooling tower, where the water is cooled and then pumped back through the condenser. If required for starting the CTG or to maintain the plant in a ready-to-start condition, a natural gas-fueled auxiliary boiler will be used to supply steam when none is available from the HRSG. The CTG and STG are located within a generating building to control noise during operation and to allow a controlled atmosphere for maintenance activities. A separate water treatment building houses the equipment necessary to purify raw water, producing de-mineralized water for use in the steam cycle of the unit.

Generator transformers step up the voltage produced by the gas-fueled unit to 500 kilovolts (kV). A 500-kV transmission line connects the generator transformers to a 500-kV switchyard, the Grassland Switchyard. From the switchyard, Portland General Electric Company (PGE) utilizes the existing 500-kV Boardman to Slatt transmission line to connect to the Slatt Substation.

The Carty Generating Station consumes about 75 million cubic feet of natural gas per day during operation of the gas-fired generating unit. Natural gas is supplied to the facility through a lateral pipeline operated by Gas Transmission Northwest LLC (GTN). This lateral pipeline is

owned and operated by GTN and is outside the jurisdiction of the Council. This natural gas pipeline was permitted by the Federal Energy Regulatory Commission (FERC).

In addition to Unit 1, the Carty Generating Station also includes a 200~~50~~ MW solar PV power generating unit, the Carty Solar Farm, occupying 859.9 ~~a 315~~ acres, ~~site~~ and located in two separate solar generation areas to the north and south of the Carty Reservoir. The two solar areas are fenced separately and referred to as the Northern Solar Area and Southern Solar Area. The Carty Solar Farm was permitted through the ~~First, and Third, and~~ Fourth Amended Site Certificates, and consists of multiple solar modules mounted on racking systems, connected in series strings, to produce direct current (DC) electricity from sunlight. The DC electricity is then routed to inverters and step-up transformers to be converted to alternating current (AC) electricity and voltage increased to the appropriate collector circuit potential. The inverters and step-up transformers are located amongst the solar modules within the same perimeter fence for each solar area. Electrical power produced by the Carty Solar Farm would be collected and routed via a new 34.5 kV ~~transmission line to one of three interconnection options located north of the Carty Reservoir. Five potential transmission line routes from the Carty Solar Farm to the three interconnection options are currently permitted under the First and Third Amended Site Certificate for Carty Generating Station. Each route would be of the same approximate design and would be approximately 2 to 3 miles long, depending on the route selected. If an interconnection to the Grassland Switchyard is selected, the switchyard would be enlarged to 15 acres, as approved in the original Site Certificate and the First Amended Site Certificate for Carty Generating Station.~~ collection system to an interconnection with a collector substation located to the north of the Carty Reservoir. The 34.5-kV collector lines between the two solar areas and the collector substation are entirely underground, except for a single 2-mile-long segment. This aboveground segment of collector line extends from the perimeter fence on the north side of the Southern Solar Area, along the eastern shore of the Carty Reservoir, to where the line enters the collector substation. The collector substation is located near an existing electrical transmission dead-end structure, which formerly served the decommissioned and demolished Boardman Coal Plant (BCP). The collector substation connects to the existing dead-end structure and then to the Grassland Switchyard via the existing 500-kilovolt (kV) transmission line that formerly served the BCP.

The Carty Generating Station includes the following related or supporting facilities:

- Carty Reservoir and portions of the raw water intake system (includes 400-gallon sodium hypochlorite tank, 1,100-gallon anti-scalant; and 400-gallon sodium hypochlorite tote) and associated electrical connection
- Grassland Switchyard
- 500-kV transmission line from Unit 1 to the Grassland Switchyard

- 500-kV transmission line from Grassland Switchyard to the Slatt Substation
- 230-kV transmission line from the Carty Substation to the Dalreed substation
- 34.5-kV Grassland Switchyard backup station transmission line
- 34.5-kV construction substation to railroad crossing transmission line
- ~~34.5-kV Carty Solar Farm transmission line~~
- 7.2-kV Carty Generating Station backup transmission line
- 4.2-kV Grassland ~~substation~~ switchyard service line
- Interconnecting water pipelines
- Well (Boeing Well) / pump house and associated 12.5-kV power line
- Cooling tower
- Liquid storage facilities
- Sanitary sewer (~~sewer lagoons and~~ septic system)
- Accessory buildings
- Utility and communication lines
- Access Roads
- Additional temporary construction areas
- Water Discharge Channel and piping[1]
- Construction Substation
- ~~300,000-gallon water storage tank, adjacent pumphouse, and associated water pipeline~~
- ~~Evaporation Ponds~~
- Irrigation Pump Station and 34.5 kV transmission line
- ~~Septic system~~
- ~~Water pipeline connecting BCP's 300,000-gallon water tank~~
- ~~Security guard station~~

[1] Facility modification reported by certificate holder in 2022 Annual Report.

- Office and warehouse buildings; and 35x40 work station[2]
- Carty Substation and associated distribution lines
- ~~34.5-kV underground collector lines for the Carty Solar Farm~~
- 34.5-kV aboveground collector line (2-mile-long segment) for the Carty Solar Farm
- Collector substation for Carty Solar Farm
- 500-kV transmission line from collector substation for Carty Solar Farm to the Grassland Switchyard
- Battery Energy Storage System
- Operations and Maintenance building for Carty Solar Farm

Up to three~~Two~~ control and administrative buildings will provide space for plant controls and offices for plant personnel for Unit 1 and the Carty Solar Farm. A description of major components, structures, and systems of each related or supporting facility that is part of Carty Generating Station per the Site Certificate for Carty Generating Station is provided in the following subsections.

Carty Reservoir

Carty Reservoir is a wastewater and cooling pond that provides service water to the Carty Generating Station and receives cooling tower blow down and wastewater from the wastewater collection sump. The reservoir also stores water used to irrigate nearby agricultural fields. Because the area is arid, all the water for filling and maintaining the reservoir is pumped through pipes from the Columbia River, approximately 10 miles to the north. When full, at a surface elevation of 677 feet above mean sea level (MSL), the reservoir has a capacity of 38,000-acre feet, a surface area of approximately 1,450 acres (2.3 square miles), and a maximum depth of 77 feet. The average pool elevation for the reservoir since 1990 has been approximately 667 to 668 feet above MSL. At this elevation, the reservoir surface area is approximately 1,100 acres and contains approximately 26,000-acre feet of water. The reservoir is not used for recreation, and there is no public access to it.

Water leaves Carty Reservoir through withdrawals for use at the Carty Generating Station, through evaporation from the surface of the reservoir, withdrawals for irrigation, and through

[2] Facility modification reported by certificate holder in 2021 Annual Report.

underground seepage from the reservoir. A buried toe drain at the West Dam captures seepage to pump back into the reservoir, and there is a concrete emergency spillway adjacent to the West Dam. There is an irrigation pump station located on the southwest arm shore of Carty Reservoir within an approximately 0.2 acre fenced area; the irrigation pump station is used to pump water out of Carty Reservoir for irrigation of nearby agricultural fields. There is a 2,600 foot-long underground 34.5 kV transmission line that powers the pump station from a PacifiCorp transmission line.

On-Site Transmission Lines

500 kV Unit 1 to Grassland Switchyard Transmission Line An approximate 1-mile long 500-kV transmission line, mounted on four steel lattice towers, connects the step-up transformers located at the gas-fueled generating unit to the Grassland Switchyard. These towers are between 100 and 150 feet tall and are spaced approximately between 800 feet and 1,700 feet apart.

500-kV Collector Substation for Carty Solar to Grassland Switchyard Transmission Line An approximate 1-mile long 500-kV transmission line, mounted on five steel lattice towers, connects the step-up transformers located at the collector substation for the Carty Solar Farm to the Grassland Switchyard. These towers are between 100 and 150 feet tall and are spaced approximately between 800 feet and 1,300 feet apart. They were originally constructed for the Boardman Coal Plant and incorporated into the Carty Generating Station Site Certificate with AMD4.

4.2 kV Grassland Station Service Line
A 4.2 kV station service line extends approximately 1 mile from Carty Generating Station to the Grassland Switchyard. For most of its length, this line is mounted on wood poles. However, the line runs underground for approximately 750 feet prior to entering the Grassland Switchyard to avoid clearance conflicts with the 230 kV BCP to Dalreed transmission line. This line provides power to the Grassland Switchyard from Carty Generating Station.

7.2 kV Carty Generating Station Backup Power Line
A 7.2 kV above ground backup power line extends approximately 0.5 mile from BCP or the Carty substation once constructed to Carty Generating Station. This line runs underground approximately 0.10 mile north of BCP; the remainder of the line is mounted on wood poles. Once the Carty substation is constructed the line will be entirely above ground.

34.5 kV Grassland Backup Station Service Line
A 34.5 kV line (referred to as the Grassland backup station service line) provides backup power to Grassland Switchyard via an approximately 800-foot underground line extending west and

then north from the transformer within Grassland Switchyard, connecting to the existing 34.5 kV BCP to Railroad Crossing at Tower Road Transmission Line described above.

~~***34.5 Carty Solar Farm Transmission Line***~~

~~A 34.5-kV transmission line from the Carty Solar Farm will route around the eastern end of Carty Reservoir and then follow one of five potential routes to the point of interconnection at the Grassland Switchyard, Unit 1, or the Boardman Plant.~~

On-Site Collector Lines

The energy generated by the Carty Solar Farm is conveyed to the collector substation via 34.5-kV collector lines, the majority of which are within the solar perimeter fencing. The collector lines are buried to a minimum of 3 feet, with junction splice boxes positioned intermittently along the lines for maintenance access. Approximately 25 miles of 34.5-kV collector line are installed underground between the transformers and collector substation. One segment of collector line is installed aboveground. This segment extends from the perimeter fence on the north side of the Southern Solar Area, along the eastern shore of the Carty Reservoir, to where the line enters the proposed collector substation. The aboveground segment is approximately 2-mile-long, and routed along support poles that are approximately 70 feet in height.

Off-Site Transmission Lines

500 kV BCP to Slatt Transmission Line

To access the grid, certificate holder utilizes the 500-kV Boardman to Slatt transmission line, a 500-kV single circuit transmission line, to connect the Grassland Switchyard to the Slatt Substation. The transmission line is approximately 17 miles long from Grassland Switchyard to Slatt Substation.

230 kV BCP to Dalreed Transmission Line

The 230kV BCP to Dalreed transmission line connects the Dalreed substation to ~~the power block at BCP~~ or the Carty substation ~~once built~~. It is used to provide power to Carty Generating Station via the 7.2 kV Carty Generating Station back up transmission line and provide power to the construction substation.

34.5 kV BCP to Railroad Crossing at Tower Road Transmission Line

The 34.5 kV BCP to Railroad Crossing at Tower Road Transmission Line provides power to the railroad crossing signal at Tower Road and power to the seepage pumps for Carty Reservoir. The power for this line is provided via the construction substation.

Grassland Switchyard

A 500-kV, alternating current, open-air switchyard is located west of the Carty Generating Station. The switchyard consists of an 8.5-acre leveled and graveled area surrounded by a

security fence. The switchyard was approved up to approximately 15 acres in size in the original Site Certificate~~, and may be expanded to that size depending on the interconnection needs of the Carty Solar Farm~~. The switchyard includes 500-kV circuit breakers and disconnect switches to allow for clearing faults on the connected transmission lines and for maintenance of the circuit breakers and transmission lines. Steel take-off towers terminate 500-kV overhead transmission lines that connect the switchyard with the plant generator step-up transformers and outgoing transmission lines. An additional small building provides a controlled environment for the protective relaying and communication equipment.

Carty Substation

Carty Substation is a 7.2 kV open box structure substation, with control house for relay, SCADA, communications, and DC system, dead-end structure for the existing 230 kV Boardman to Dalreed transmission line, and surrounding fence that is~~would be~~ located southeast of the construction substation. It ~~will~~ provide~~s~~ backup power to Carty Generating Station via an above ground distribution line that connects to the 7.2 kV Carty Generating Station backup transmission line, and power to the construction substation via an underground distribution line.

Construction Substation

The Construction Substation is located within a 40-foot by 80-foot fenced area that contains three wooden H-frame structures, transformers and associated electrical equipment, including a 6-foot by 8-foot control house. It was built originally to provide construction power during construction of BCP and continues to be used as part of the onsite electrical distribution system. This facility is located approximately 0.3 miles south of CGS. The construction substation is powered by an underground distribution line from Carty substation.

Collector Substation

The collector substation collects energy generated by the Carty Solar Farm and steps it up from 34.5-kV to 500-kV, and then interconnects with the existing transmission system remaining from the BCP. The collector substation is located in an area formerly used for the BCP on the west side of the Northern Solar Area and next to the BESS. The substation is approximately 3.2 acres of graveled and fenced area. The collector substation has one GSU to step up the electrical output. Additional substation equipment may include a 34.5-kV switch, 34.5-kV feeder breakers, 500/34.5-kV transformer, 500-kV breaker, 500-kV switch, surge arrestors, control enclosure, metering equipment, grounding, and associated control wiring.

Battery Energy Storage System

The battery energy storage system (BESS) associated with the Carty Solar Farm is designed with the capability of storing up to 200 MW over a duration to be determined based on final design and technology, using Li-ion technology. The system is a concentrated AC-coupled BESS

park in a single location to the north of the Carty Reservoir. The BESS and associated equipment will be periodically augmented as needed to maintain the MW energy storage capability over the life of the BESS (20 years), taking into account natural degradation of the batteries over time. At full augmentation, the components associated with the BESS ~~will~~may include approximately 330 modular containers, 58 inverters, and 30 ISU transformers. Each container is placed on a concrete slab-on-grade foundation and the BESS park area is expected to be surfaced with stone aggregate. The BESS components include the following:

- Series of modular containers (each container approximately 33 feet long, 6 feet wide and 10 feet tall). Approximately 330 containers at full augmentation.
- Each system would contain lithium-ion batteries within battery modules placed in anchored racks within modular containers.
- Up to 58 inverters and 30 step-up transformers at full augmentation.
- Fire sensors, smoke and hydrogen and/or carbon monoxide detectors, alarms, emergency ventilation systems, and employment of fire control panels with 24-hour battery backup.
- Each system would include a cooling system placed either on top of the containers or along the side.

Battery and inverter/transformer equipment is electrically connected via a combination of underground conduit, covered cable trenches, and aboveground cable trays. The battery storage systems interconnects with the collector substation via underground feeder lines.

Water Sources and Discharges

There are four categories of water sources and discharges that serve Carty Generating Station: raw water/fire water, wastewater, potable water, and sanitary sewer.

Raw Water/Fire Water

Raw water from the Carty Reservoir is used for service water and fire water. It is withdrawn via a single intake structure located inside the Raw Water Intake Building, from which it is taken in through a channel outfitted with a traveling screen and enters a wet well. Power is provided to the intake building via an underground distribution line from Carty Generating Station to the intake building.

Wastewater

Carty Generating Station Unit 1 process waste and plant drainage waste flows are discharged into holding ponds, which can provide 7 days of holding capacity (if needed for discharge line maintenance or some other event preventing direct discharge). From the holding ponds, wastewater is discharged via an 8-inch-diameter pipeline into Water Discharge Channel and piping prior to entering Carty Reservoir ~~or to evaporation ponds located northeast of Carty~~

~~Generating Station (formerly BCP evaporation ponds)~~. Wastewater from panel washing evaporates or infiltrates into the ground.

Potable Water

Potable water for drinking fountains, showers (emergency and lavatory), sinks, and flushing of lavatory fixtures comes from the Boeing Well. The Boeing Well is a groundwater extraction well located just south of Carty Generating Station. The well is 600 feet deep with a 30 horsepower pump hung at around 440 feet below ground surface. The well fills a holding tank within Carty Generating Station prior to direct distribution to the plant services building. The Boeing Well pump drive motor is powered from a 150-kilovolt-ampere 12470-480/277 V distribution transformer. This transformer is connected via a 12.5 kV ~~overhead~~ underground distribution line to the construction substation. The construction substation, in turn, derives power from a 12.5kV originating at the 1X33 transformer at BCP.

~~Carty Generating Station also includes backup potable/firewater storage in a 300,000 gallon, welded steel water storage tank with adjacent pump house. This facility is connected to Boeing well via a 4 inch diameter intake pipeline and to Carty Generating Station via a water pipeline.~~

Sanitary Sewer

Sanitary sewer flows at Carty Generating Station are solely from plant lavatories, sinks, and bathroom showers used by plant personnel. These flows are directly discharged ~~to the sewage lagoons via a sewer lift station, or~~ an onsite septic system. ~~There are three existing sewage lagoons: the South Lagoon and Middle Lagoon (both lined), and the North Lagoon (unlined).~~

~~The South and Middle Lagoons can also be made common by a gated pipe through the separating dike. The only connection between the lined lagoons and the unlined lagoon is overflow through a chlorinating weir at the northeast corner of the Middle Lagoon. The clay liners in the South and Middle Lagoons were replaced with new synthetic liners in the fall of 2014. The sewage lagoons are permitted under Water Pollution Control Facilities (WPCF) permit number 100189.~~

The septic system is sized per state and county standards and the Umatilla County Public Health Department requirements and is in an area deemed acceptable for a standard, non-residential septic system. Because the design flow of the system is less than 2,501 gallons per day, the facility is not governed by a permit from Oregon Department of Environmental Quality (DEQ).

Cooling Tower

The cooling tower at the Carty Generating Station exhausts excess heat from the power generation process. The cooling tower consists of a structure to contain a water-cooling medium, with exhaust fans located within an open-top, bell-shaped housing which pulls air under and through the water-cooling medium. The cooling tower is approximately 50 feet in height. The mechanical-draft wet cooling tower serves the combined cycle unit of the Carty facility.

Liquid Storage Facilities

Liquid fuel is not stored on the Carty facility site. Anhydrous ammonia, a chemical used for emissions control, is stored in steel horizontal sealed storage tanks with secondary containment. Other liquid chemicals such as sulfuric acid (used for pH control) and sodium hypochlorite and sodium bromide (used as biocides in cooling tower water) are stored in tanks or totes with secondary containment. Small-quantity chemicals such as cleaners and lubricants are stored within on-site accessory buildings.

Accessory Buildings

Accessory buildings at the Carty Generating Station site house boiler feed pumps, chemical feed equipment, water treatment equipment, and other equipment requiring protection from weather or noise containment. Accessory buildings common to the gas-fired generating unit and solar unit include warehouse and office space, and administration areas~~, and security guard station~~.

Communication Lines

Communication lines supporting the Carty Generating Station originate from a Century Link vault near the northwest corner of the BCP lined evaporation ponds, run down the dirt access road, along Tower Road, and then into the Carty facility.

Access Roads

A paved loop road, approximately 24 feet wide and 2,100 feet long, connects with Tower Road at both ends of the loop to serve normal truck and operator vehicle traffic for Unit 1. This loop road has spur roads leading to individual buildings and areas that require access. An existing paved and graveled road provides access to the Northern and Southern solar areas~~permitted location of the Carty Solar Farm~~. The Northern and Southern solar areas include approximately 9.9 miles of gravel access roads within the solar perimeter fencing to access solar infrastructure.~~The Carty Solar Farm would contain unpaved on-site access roads.~~

Additional Temporary Construction Areas

Additional areas in the vicinity of the Carty Generating Station are provided for construction offices, construction parking, construction staging, and temporary storage of soil displaced during the construction process. Similar temporary construction areas are provided in the

vicinity of the Grassland Switchyard. Approximately 21 acres of temporary construction area are provided for the Carty Solar Farm.

4.0 Site Certificate Conditions

The conditions 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.).[3] 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

[3] 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.

4.1 General Facility (GEN) Conditions: Design, Construction and Operations

4.1.1 General (GEN) Facility Conditions

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD (GS) [OAR 345-022-0010]	
4.4	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 III.D.1] [Mandatory Condition OAR 345-025-0006(2)] [AMD1]
4.5	The certificate holder shall obtain all necessary federal, state, and local permits or approvals required for construction, operation, and retirement of the facility or ensure that its contractors obtain the necessary federal, state, and local permits or approvals. [Final Order IV.B.2.4]
6.5	The certificate holder must design, construct and operate the transmission lines in accordance with the requirements of the National Electrical Safety Code (American National Standards Institute, Section C2, 1997 Edition, or its successor document). [Final Order IV.O.2.1] [Mandatory Condition OAR 345-027-0023(4)]] [AMD2]
7.8	The certificate holder shall notify the Department of Energy and Morrow County 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 V.D.2.10] [Mandatory Condition OAR 345-026-0170] [AMD1]
7.9	The certificate holder must 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. A current copy of the electrical protection plan must be available at the O&M building and provided upon request by ODOE staff. [Final Order IV.O.2.2] [Mandatory Condition OAR 345-027-0023(4)]
STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	

6.6	The certificate holder must design and construct the facility in accordance with requirements of the current Oregon Structural Specialty Code and the International Building Code in effect at the time of the start of construction for each unit. [Final Order IV.C.2.4] [AMD1]
6.7	The certificate holder must 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. For coastal sites, this also includes tsunami hazards and seismically-induced coastal subsidence. [Final Order IV.C.2.5] [Mandatory Condition OAR 345-025-0006(12)][AMD2]
6.8	The certificate holder must 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 IV.C.2.6]
6.10	The certificate holder must 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 or requests for amendment. After the Department receives the notice, the Council may require the certificate holder to consult with the DOGAMI and the Building Codes Division to propose and implement corrective or mitigation actions. [Final Order IV.C.2.2] [Mandatory Condition OAR 345-025-0006(13)] [AMD1] [AMD2]
6.11	The certificate holder must 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. After the Department receives notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions. [Final Order IV.C.2.3] [Mandatory Condition OAR 345-025-0006(14)][AMD2]
STANDARD: SCENIC RESOURCES (SR) [OAR 345-022-0080]	
6.14	The certificate holder shall not use exterior nighttime lighting except: a. The minimum exhaust stack lighting required or recommended by the Federal Aviation Administration. b. Safety and security lighting at the Carty Generating Station, provided that such lighting is shielded or downward-directed to reduce offsite glare.

	c. Minimum lighting necessary for repairs or emergencies. d. As required during construction. [Final Order IV.J.2.3] [AMD1]
STANDARD: SITING STANDARDS FOR TRANSMISSION LINES [OAR 345-024-0090]	
7.1	The certificate holder shall take the following steps to reduce or manage human exposure to electromagnetic fields: a. Constructing all aboveground transmission lines at least 200 feet from any residence or other occupied structure, measured from the centerline of the transmission line. b. For any transmission lines constructed after June 29, 2012; providing to landowners a map of underground and overhead transmission lines on their property and advising landowners of possible health risks from electric and magnetic fields. c. 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. d. Designing and maintaining all transmission lines so that induced voltages during operation are as low as reasonably achievable [Final Order V.D.2.1] [AMD2]
7.2	To protect the public from electrical hazards, the certificate holder must enclose the facility switchyard ~~or~~ and substations with appropriate fencing and locked gates. [Final Order V.D.2.2] [AMD2]
COMPLIANCE RULES – OAR 345-028	
14.1	The following general monitoring conditions apply: a. The certificate holder shall consult with affected state agencies, local governments and tribes and shall develop specific monitoring programs for impacts to resources protected by the standards of divisions 22 and 24 of OAR Chapter 345 and resources addressed by applicable statutes, administrative rules and local ordinances. The certificate holder must submit the monitoring programs to the Department of Energy and receive Department approval before beginning construction or, as appropriate, operation of the facility. b. The certificate holder shall implement the approved monitoring programs described in OAR 345-027-0028(1) and monitoring programs required by permitting agencies and local governments. c. For each monitoring program described in OAR 345-027-0028(1) and (2), the certificate holder shall have quality assurance measures approved by the Department before beginning construction or, as appropriate, before beginning commercial operation. d. 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 VI.2] [Mandatory Condition OAR 345-027-0028]
14.2	The certificate holder shall report according to the following requirements: a. General reporting obligation for ~~energy facilities under construction or~~ operating facilities: ~~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 as described in OAR 345-026-0080(1)(a).~~ ~~[AMD1]~~ ~~ii.~~i. By April 30 of each year after beginning operation, the certificate holder shall submit an annual report to the Department addressing the subjects listed in OAR 345-026-0080 (1)(b). The Council Secretary and the certificate holder may, by mutual agreement, change the reporting date. [AMD1] ~~iii.~~ii. 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. [Final Order VI.4] [Mandatory Condition OAR 345-026-0080] [AMD1]
14.3	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 VI.5] [Mandatory Condition OAR 345-026-0105]
15.7	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 VI.3] [Mandatory Condition OAR 345-026-0048]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
15.3	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 IV.G.2.5] [Mandatory Condition OAR 345-025-0006(7)]
15.4	The certificate holder must retire the facility in accordance with a retirement plan approved by the Council if the certificate holder permanently ceases construction or operation of the facility. The retirement plan must describe the activities necessary to restore the site to a useful, non-hazardous condition, as described in OAR 345-027-0110(5). After Council approval of the plan, the certificate holder must obtain the necessary authorization from the appropriate regulatory agencies to proceed with restoration of the site. [Final Order IV.G.2.6] [Mandatory Condition OAR 345-025-0006(9)]
15.5	The certificate holder is obligated to retire the facility upon permanent cessation of construction or operation. 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 Department 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 final retirement plan for the Council's approval. [Final Order IV.G.2.7] [Mandatory Condition OAR 345-025-0006(16)]
15.6	Upon the Council's approval of a final retirement plan prepared per Condition 15.5, the Council may draw on the bond or letter of credit submitted per the requirements of Condition 15.1 and OPR-RF-01 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 IV.G.2.8] [Mandatory Condition OAR 345-027-0020(16)]

4.2 UNIT 1 CONDITIONS

4.2.1 General (GEN) Conditions

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD (GS) [OAR 345-022-0010]	
4.1	The certificate holder shall Begin construction of Unit 1 within three years after the effective date of the site certificate. Under OAR 345-015-0085(9), a site certificate is effective upon execution by the Council Chair and the applicant. 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. [Final Order III.D.3; Mandatory Condition OAR 345-027-0020(4)]
4.2	The certificate holder must complete construction of Unit 1 of the facility within three years of beginning construction of Unit 1.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 of Unit 1. 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 III.D.4] [Mandatory Condition OAR 345-027-0020(4)] [AMD1]

4.2.2 Operational (OPR) Conditions

Condition Number	Operational (OPR) Conditions
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
5.5	During ~~construction and~~ operation of the facility, the certificate holder must implement a revegetation and weed control plan. The certificate holder must comply with the applicable provisions of the Morrow County Weed Control Ordinances, as determined by the Morrow County Weed Control Supervisor and the Gilliam County Weed Control Officer. [Final Order IV.D.2.6] [AMD1] [AMD2]

9.5	During operation, the certificate holder shall routinely inspect and maintain all transmission line corridors, roads, pads and trenched areas and, as necessary, maintain or repair erosion and sediment control measures and control the introduction and spread of noxious weeds. [Final Order IV.D.2.5]
9.7	During operation, the certificate holder shall restore areas that are temporarily disturbed during facility maintenance or repair activities using the same methods and monitoring procedures described in the Revegetation and Noxious Weed Control Plan. [Final Order IV.D.2.8]
9.8	The certificate holder must dispose of all accumulated evaporation pond solids, when removed, in a landfill approved for such waste material. All residual solids deposited in evaporation ponds must be removed to an appropriate disposal facility upon closure of the facility. The certificate holder shall include protocols for solids removal and soil restoration at the location of the evaporation ponds in the retirement plan. [Final Order IV.D.2.9] [AMD1] [AMD2]
9.9	During operation, the certificate holder must minimize drift from the cooling towers through the use of high efficiency drift eliminators that allow no more than a 0.001% drift rate. [Final Order IV.D.2.10]
9.10	The certificate holder must handle hazardous materials used on the site in a manner that protects public health, safety and the environment and shall comply with all applicable local, state and federal environmental laws and regulations. During operation, the certificate holder may not store gasoline that is intended for fueling vehicles on the facility site. [Final Order IV.D.2.11]
9.11	If a reportable release of hazardous substance occurs during construction or operation of the facility, the certificate holder must notify the Department within 72 hours and must clean up the spill or release and dispose of any contaminated soil or other materials according to applicable regulations. The certificate holder must make sure that spill kits containing items such as absorbent pads are located on equipment, near storage areas, and in the administrative or maintenance areas of the facility. The certificate holder must instruct employees about proper handling, storage and cleanup of hazardous materials. [Final Order IV.D.2.12]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
10.1	~~Prior to construction, the certificate holder shall:~~

	~~Consult with the Oregon Department of Fish and Wildlife and prepare a final Wildlife and Habitat Monitoring Mitigation Plan and submit the plan to the Department for review and approval. The certificate holder must conduct all wildlife and habitat monitoring as described in the approved Wildlife and Habitat Monitoring and Mitigation Plan, as amended from time to time.~~ ~~[Final Order IV.H.2.1] [Mandatory Condition OAR 345-027-0020(6)]~~ ~~Submit for review and approval by the Department, in consultation with the Oregon Department of Fish and Wildlife, a final Wildlife and Habitat Monitoring Mitigation Plan based upon the mitigation methodology and enhancement actions in the draft amended plan provided in the Final Order on Amendment 2. The certificate holder must conduct all wildlife and habitat monitoring as described in the approved Wildlife and Habitat Monitoring and Mitigation Plan, as amended from time to time.~~ [AMD1] [OAR 345-025-0016] [AMD1] [AMD2]
10.2	~~The certificate holder shall:~~ ~~Prior to construction, acquire the legal right to create, enhance, maintain and protect a habitat mitigation area as long as the facility is in operation and the site certificate is in effect by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the Department.~~ ~~Prior to construction of the Carty Solar Farm and its supporting facilities, and facility components approved in the Final Order on RFA2, the certificate holder shall provide a habitat assessment of the habitat mitigation area, based on a protocol approved by the Department in consultation with ODFW, which includes methodology, habitat map, and available acres by habitat category and subtype in tabular format.~~ During operations, the certificate holder shall improve and monitor the habitat quality within the habitat mitigation area, in accordance with the Wildlife and Habitat Monitoring and Mitigation Plan approved by the Department ~~per Condition 10.1~~. [Final Order IV.H.2.2] [AMD1] [AMD2]
10.4	The certificate holder shall conduct noxious weed inventories within the Habitat Mitigation Area (HMA) to identify patches of weed infestation during year one, year three and year five after construction of Unit 1, and then continue once every 5 years for the life of the project, in years divisible by five. Weeds shall be controlled as needed to maintain and enhance habitat quality within the mitigation area, with the goal of working toward eradication of targeted noxious weeds or, if eradication is not practical, decreasing their abundance to minimize impacts to native plant communities. Weed management practices shall be consistent with the Revegetation and Noxious Weed Control Plan and shall include an integrated weed management approach, using an appropriate combination of prevention and control methods. The certificate holder shall obtain ODFW approval prior to the use of pesticides. If a substantial area of soil is left bare from weed control activities, the area shall be

	seeded using the appropriate methods as described in the Revegetation and Noxious Weed Control Plan. [Final Order IV.H.2.5] [AMD1] [AMD2]
10.5	If vegetation in the HMA is damaged from fire or from fire suppression efforts (e.g., vehicular disturbance), the area shall be seeded as necessary with the appropriate seed mix using the appropriate methods for the site, as described in the Revegetation and Noxious Weed Control Plan. [Final Order IV.H.2.6] [AMD2]
10.6	The certificate holder shall monitor and control access to the HMA and shall post signs for the life of the facility designating the area as "protected" and including natural resources information. Access to the proposed area shall be limited to operational needs, conservation area monitoring, and noxious weed control efforts. Any fences within or bordering the HMA shall be modified to wildlife-friendly specifications. Livestock grazing shall not be permitted within the HMA. Periodic monitoring (at least annually) shall be conducted to evaluate effectiveness of access control measures and signage maintenance needs. [Final Order IV.H.2.7] [AMD2]
10.10	The certificate holder shall reduce the risk of injuries to avian species by designing and installing all aboveground transmission line support structures following the most current suggested practices for avian protection on power lines published by the Avian Power Line Interaction Committee. [Final Order IV.H.2.12]
10.11	Sensitive raptor nest monitoring shall be conducted by qualified biologists in year one, year three, and year five after operations of Unit 1 have begun and then at least every five years after that for the life of the project in years divisible by five. Results of the monitoring shall be included in an annual sensitive raptor nest monitoring report provided to the Oregon Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, and the Department. This report shall document the nest productivity of sensitive raptor species, including golden eagle (Aquila chrysaetos), occurring within one mile of the Carty Generating Station facility, the Ferruginous Hawk occurring within 0.6 miles, and other sensitive raptor species nests occurring within 1,300 feet of the facility site. [Final Order IV.H.2.13] [AMD1] [AMD2]
10.12	The certificate holder shall use a qualified environmental professional to provide environmental training during ~~construction and~~ operation. Environmental training includes information on the sensitive species present onsite, precautions to avoid injuring or destroying wildlife or sensitive wildlife habitat, exclusion areas, permit requirements, and other environmental issues. The certificate holder shall instruct

	~~construction and~~ operations personnel to report any injured or dead wildlife detected while on the site to the appropriate onsite environmental manager. [Final Order IV.H.2.14]
10.40	The certificate holder shall maintain the reservoir at an elevation no lower than an annual average of 665 feet mean sea level (MSL). The certificate holder may operate the reservoir at a lower elevation without a site certificate amendment if the certificate holder consults with the Department and ODFW to determine that the lower elevation would not result in a net loss of habitat and, therefore, does not warrant further analysis and potential mitigation through a site certificate amendment process. The certificate holder shall submit an Amendment Determination Request supporting a conclusion that a site certificate amendment is not required and receive concurrence with the conclusions of the ADR prior to operating the reservoir at a lower elevation. [AMD2]
STANDARD: THREATENED AND ENDANGERED SPECIES (TE) [OAR 345-022-0070]	
10.15	The certificate holder shall impose and enforce a ~~construction and~~ operation speed limit of 20 miles per hour throughout the facility site and, during the active squirrel season (February 1 to June 30), a speed limit of 10 miles per hour from one hour before sunset to one hour after sunrise on private roads near known Washington ground squirrel (WGS) colonies. The certificate holder shall ensure that all construction and operations personnel are instructed to watch out for and avoid WGS and other wildlife while driving through the facility site. [Final Order IV.I.2.2]
10.16	The certificate holder shall use perch-preventing structures on Carty Generating Station components in areas identified as Category 1 habitat for Washington ground squirrels. [Final Order IV.I.2.3]
10.19	If the certificate holder discs or tills areas, the certificate holder shall plant dryland wheat or another cover crop in tilled areas within the site boundary. Crops to be planted shall be selected by the certificate holder in coordination with ODFW. [Final Order IV.I.2.6] [AMD1]
10.20	Should new Washington ground squirrel burrows become established within 785 feet of the site boundary, the certificate holder shall immediately report to ODFW. The certificate holder shall coordinate with ODFW to establish additional mitigation measures or to obtain an Incidental Take Permit, as appropriate. [Final Order IV.I.2.8] [AMD1]
10.21	The certificate holder shall conduct post-construction surveys on known Washington ground squirrel colonies in the Carty Generating Station facility area, on land owned by the certificate holder, both within the HMA and in areas where known active

	burrows were recorded during preconstruction field surveys. The Washington ground squirrel surveys shall be conducted by qualified biologists in year one, year three, and year five after operations of Unit 1 have begun, and then at least every five years after that for the life of the project in years divisible by five. Surveyors shall record evidence of Washington ground squirrel activity, current land use, and evidence of conditions caused by the project that might increase erosion or result in a decline in vegetation quality and adversely affect a Washington ground squirrel colony. [Final Order IV.I.2.9] [AMD1] [AMD2]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-002-0100]	
8.1	During ~~construction and~~ operation of the facility, the certificate holder shall provide for on-site security and shall establish good communications between on-site security personnel and the Morrow County Sheriff's Office. During operation, the certificate holder shall ensure that appropriate law enforcement agency 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 IV.M.2.1]
8.3	During operation, the certificate holder shall develop and implement a site health and safety plan that informs employees and others on-site about first aid techniques and what to do in case of an emergency. The plan shall also include important telephone numbers and the locations of on-site fire extinguishers and nearby hospitals. [Final Order IV.M.2.3]
8.5	During operation, the certificate holder shall ensure that all on-site employees receive annual fire prevention and response training by qualified instructors or members of the local fire districts. The certificate holder 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. Compliance with this condition may be combined or met with the demonstration of compliance with the requirements of the Operational Wildfire Mitigation Plan under OPR-WF-01. [Final Order IV.M.2.5]
8.6	During ~~construction and~~ operation, the certificate holder shall ensure that all service vehicles are equipped with shovels and portable fire extinguishers of a 4500BC or equivalent rating. Compliance with this condition may be combined or met with the demonstration of compliance with the requirements of the Operational Wildfire Mitigation Plan under OPR-WF-01. [Final Order IV.M.2.6]
8.7	During ~~construction and~~ operation, the certificate holder shall ~~develop and~~ implement fire safety plans in consultation with the Boardman ~~Rural~~ Fire ~~Protection~~ Rescue District to minimize the risk of fire and to respond appropriately to any fires

	that occur on the facility site. In developing the fire safety plans, the certificate holder shall take into account the dry nature of the region and shall address risks on a seasonal basis. The certificate holder shall meet annually with local fire protection agency personnel to discuss emergency planning and shall invite local fire protection agency personnel to observe any emergency drill conducted at the facility. Compliance with this condition may be combined or met with the demonstration of compliance with the requirements of the Operational Wildfire Mitigation Plan under OPR-WF-01. [Final Order IV.M.2.7]
8.8	Upon the beginning of operation of Unit 1, facility components approved in Final Order on RFA1 or facility components approved in Final Order on RFA2 , the certificate holder shall provide a site plan to the Boardman ~~Rural~~ Fire ~~Protection~~Rescue District. The certificate holder shall indicate the actual location of all facility structures on the site plan. The certificate holder shall provide an updated site plan if additional structures are later added to the facility. During operation, the certificate holder shall ensure that appropriate fire protection agency 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 IV.M.2.8]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
6.24	The certificate holder shall comply with Section 5, Public Responsibilities, of the Morrow County Solid Waste Management Ordinance. Any hauling of solid waste from the Carty Generating Station facility during ~~construction,~~ operation~~, or retirement~~ shall be performed by a franchised solid waste hauler or otherwise comply with the Morrow County Solid Waste Management Ordinance. [Final Order IV.E.4.7, Morrow County Waste Management Ordinance Section 5.000, AMD2]
10.22	The certificate holder shall implement a waste management plan during operation 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 local landfill by a licensed waste hauler. e. Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent materials, 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. [Final Order IV.N.2.2]

10.23	During ~~construction and~~ operation of the Carty Generating Station, the certificate holder shall obtain potable water from the existing Boeing well or from a bottled water vendor. Water for construction and process water shall be obtained from Carty Reservoir. The certificate holder may use other sources of water for on-site uses subject to prior approval by the Department. [Final Order V.C.2.1] [AMD1] [AMD2]
10.24	During operation, the certificate holder shall discharge sanitary wastewater generated at the facility to ~~the Boardman Coal Plant and Carty Generating Station sanitary waste facility (sewage lagoons) or the~~ Carty septic system in compliance with ~~DEQ or~~ county permit requirements. [Final Order IV.N.2.4] [AMD2] [AMD4]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
10.28	Prior to operation of Unit 1, the certificate holder shall demonstrate that the Oregon Department of Environmental Quality has issued to the certificate holder a Water Pollution Control Facilities Permit substantially in the form of Exhibit 4 of the Final Order on the Application, allowing for wastewater discharge from the Carty Generating Station. [Final Order V.E.2.1]
10.29	a. The certificate holder shall comply with state laws and rules applicable to Water Pollution Control Facilities Permits that are adopted in the future to the extent that such compliance is required under the respective statutes and rules. b. The certificate holder shall obtain and comply with a Umatilla County Public Health construction permit for the ~~(unlined)~~ septic system. [Final Order V.E.2.2] [AMD2]
10.31	The site certificate holder must meet the compliance dates set out in the WPCF unless alternative compliance dates have been approved in advance in writing by DEQ. Either prior to or not later than 14 calendar days following any lapsed compliance date, the site certificate holder must submit a notice of noncompliance with the established schedule to the Department of Energy and DEQ. Any report of noncompliance must include the cause of noncompliance. [Final Order V.E.2.4]
10.32	Prior to ~~constructing or~~ modifying wastewater management treatment and disposal facilities, detailed plans must be submitted to and approved by the Department of Environmental Quality. [Final Order V.E.2.5]
10.36	Prior to discharge of Carty Generating Station sewage to the lagoons, the certificate holder must: a. Submit a work plan to remove vegetation from the Clay-lined cells and either leak test the cells or recondition them; and

	b. Submit a long-term plan to ensure the integrity of the clay lined cells. The plan may include evaluating system capacity requirements and modifying system capacity accordingly prior to discharge of Carty Generating Station sewage to lagoons. [Final Order V.E.2.8]
STATUTE: ORS 469.401 PUBLIC HEALTH AND SAFETY	
7.3	If the Council finds, at any time during facility operation, that cooling tower emissions are likely to contribute significantly to ground-level fogging or icing along public roads and to cause a significant threat to public safety, the certificate holder shall cooperate with appropriate local public safety authorities regarding implementation of reasonable safety measures, such as posting warning signs on affected roads. Cooperation may include, but is not necessarily limited to, the reimbursement of expenses for posting warning signs and implementing other safety measures. [Final Order V.D.2.4]
7.4	The certificate holder must comply with all emergency planning and notification requirements of Emergency Planning and Community Right-to-Know Act (EPCRA) Section 302. [Final Order V.D.2.6]
7.5	The certificate holder must comply with all reporting requirements of the Emergency Planning and Community Right-to-Know Act (EPCRA) Section 304, including reporting of any chemical release in an amount equal to or greater than the EPCRA reportable quantity for that chemical. [Final Order V.D.2.7]
7.7	The certificate holder must comply with all reporting requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), including reporting of any chemical release in an amount equal to or greater than the CERCLA reportable quantity for that chemical. [Final Order V.D.2.9]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
10.37	The certificate holder must prepare and implement a Hazardous Materials Management and Monitoring plan approved by the Department. The plan(s) must address the handling of potentially hazardous substances (as defined by ORS 465.200) during construction and operation of the facility, measures to prevent on- and off-site contamination and documentation of plan implementation. Separate plans for the construction and operation phases are acceptable. The certificate holder must use hazardous materials in a manner that protects public health, safety and the environment and must comply with all applicable local, state and federal environmental laws and regulations.

	The Hazardous Materials Management and Monitoring Plan shall contain the same information required for a Spill Prevention, Control and Countermeasure Plan (40 CFR 112). Whereas the SPCC Plan addresses spill prevention for oil products, the materials management and monitoring plan shall address hazardous substances. The Plan shall include operating procedures to prevent hazardous substances releases, control measures to contain hazardous substance releases, countermeasures to contain, cleanup, and mitigate hazardous substance releases, and procedures for required inspections and testing. This Plan must be submitted to the Department for review and approval prior to respective construction or operation phase of the Carty Generating Station Facility. [Final Order IV.G.2.2] [AMD1] [AMD2]
10.38	If any inspection performed in accordance with the Hazardous Materials Management and Monitoring Plan identifies improper handling or storage of hazardous substances (as defined by ORS 465.200) or improper record keeping procedures, the certificate holder must correct such deficiencies promptly and must report the corrective actions to the Department. If the certificate holder has not corrected such deficiencies within six months after the date of the inspection report, the certificate holder shall submit to the Council an independently prepared estimate of cost of correction. Upon approval of the estimate by the Council, the certificate holder shall increase the amount of the bond or letter of credit required under Condition IV.G.2.9 by the approved amount of the estimate. In no event, however, shall the certificate holder be relieved of its obligation to exercise all due diligence in correcting deficiencies identified in the course of a site inspection. [Final Order IV.G.2.3]
10.39	The certificate holder shall report any release (as defined by ORS 465.200) of hazardous substances to the Department within 72 hours after the discovery of such release, in addition to any other reporting requirements under applicable law. If the certificate holder has not remedied a release consistent with applicable Oregon Department of Environmental Quality standards within six months after the date of the release, the certificate holder shall submit to the Council an independently prepared estimate of the cost to complete necessary remediation. Upon approval of the estimate by the Council, the certificate holder shall increase the amount of its bond or letter of credit by the approved amount of the estimate. In no event, however, shall the certificate holder be relieved of its obligation to exercise all due diligence in remedying a release of hazardous substances. [Final Order IV.G.2.4] [AMD1]
15.1	Before beginning construction, the certificate holder shall submit to the State of Oregon through the Council a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The initial bond or letter of credit amount for ~~Block~~ Unit 1 is $7.884 million (in 3rd Quarter 2011 dollars), to be

adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (b) of this condition. ~~The initial bond or letter of credit amount for the Carty Solar Farm and its supporting facilities is $2.713 million (in 3rd Quarter 2016 dollars) to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (b) of this condition. The initial bond or letter of credit amount for the related or supporting facilities approved in Final Order on RFA2 is $13.779 million (in 4th Quarter 2020 dollars) to be adjusted to the date of issuance and submitted within 60 days of execution of the Second Amended Site Certificate, and adjusted on an annual basis thereafter, as described in sub-paragraph (b) of this condition.~~

The certificate holder may adjust the amount of the bond or letter of credit based on the final design configuration of the facility and turbine types selected by applying the unit costs and general costs presented in Site Restoration Cost Estimate of the Final Order on ASC for Unit 1; ~~Table 4 of the Final Order on RFA1 for Carty Solar Farm;~~ and Table 2 of the Final Order on RFA2 for the approved related or supporting facilities. Any revision to the restoration costs should be adjusted to the date of issuance as described in (b), and is subject to review and approval by the Department.

a. The certificate holder shall adjust the amount of the bond or letter of credit, using the following calculation and subject to approval by the Department.
    i. Adjust the amount of the bond or letter of credit amount for Unit 1 (expressed in 3rd Quarter 2011 dollars)~~, Carty Solar Farm (expressed in 3rd Quarter 2016 dollars)~~ and related or supporting facilities approved in Final Order on RFA2 (expressed in 4th Quarter 2020 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 index value and the quarterly index value applicable for Unit 1~~, Carty Solar Farm,~~ and RFA2 facility components 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 the bond or letter of credit to present value.
    ii. Round the resulting total to the nearest $1,000 to determine the financial assurance amount.
b. The certificate holder shall use a form of bond or letter of credit approved by the Council.
c. The certificate holder shall use an issuer of the bond or letter of credit approved by the Council.
d. The certificate holder shall describe the status of the bond or letter of credit in the annual report submitted to the Council under Condition VI.4.

	e. The bond or letter of credit shall not be subject to revocation or reduction before retirement of the facility site. [Final Order IV.G.2.9] [Mandatory Condition OAR 345-025-0006(8)] [AMD1] [AMD2]
15.2	If the certificate holder elects to use a bond to meet the requirements of Condition 15.1, 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 IV.G.2.10]
STANDARD: CARBON DIOXIDE STANDARD (RT) [OAR 345-024-0050 - 0600]	
12.1	The net carbon dioxide emissions rate for the base load gas plant must not exceed 0.675 pounds of carbon dioxide per kilowatt-hour of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis, as defined in OAR 345-001-0010. [Final Order IV.P.2.1]
12.2	The net carbon dioxide emissions rate for incremental emissions for the facility operating with power augmentation must not exceed 0.675 pounds of carbon dioxide per kilowatt-hour of net electric power output, with carbon dioxide emissions and net electric power output measured on a new and clean basis at the site during the times of year when the facility is intended to operate with power augmentation, subject to modification under Condition 12.12. [Final Order IV.P.2.2]
12.3	For the purposes of the site certificate, "monetary path payment requirement" means the amount of offset funds determined pursuant to OAR 345-024-0550, -0560, -0590 and -0600 and the amount of the selection and contracting funds that the certificate holder must disperse to The Climate Trust, as the qualified organization, pursuant to OAR 345-024-0710 and the site certificate. The certificate holder shall calculate the monetary path payment requirement using an offset fund rate of $1.27 per ton of carbon dioxide in 2011 dollars. a. The certificate holder shall calculate 2011 dollars using the Index described in Condition 15.1.b. b. The certificate holder shall increase the amount of the letter of credit described in Condition 12.9 by the percentage increase in the Index. The certificate holder shall index the funds from the date of the Council's approval of the site certificate to the date of disbursement of funds to The Climate Trust. [Final Order IV.P.2.3]

12.4	Before beginning construction of the facility, the certificate holder shall submit to the Department information identifying its final selection of a gas turbine vendor, heat recovery steam generator vendor along with the following information, as appropriate: a. For the base load gas plant, the certificate holder shall submit written design information, based on its contracts with vendors, sufficient to verify the plant's designed new and clean heat rate (higher heating value) and its net power output at the average annual site condition. The certificate holder shall submit an affidavit certifying the heat rate and capacity. b. For the base load gas plant designed with power augmentation, the certificate holder shall submit written design information, based on its contracts with vendors, sufficient to verify the facility's designed new and clean heat rate (higher heating value) and its net power output at the site during the times of year when is facility is intended to operate with power augmentation. The certificate holder shall submit an affidavit certifying the heat rate and capacity. [Final Order IV.P.2.4] [AMD1]
12.5	Before beginning construction of Unit 1, the certificate holder shall specify to the Department the annual average hours and the times that it expects to operate with power augmentation. [Final Order IV.P.2.5]
12.6	To calculate the initial monetary path payment requirement, the certificate holder shall use the contracted design parameters for capacities and heat rates submitted under Condition 12.4 and the annual average hours and times of operation with power augmentation specified under Condition 12.5. [Final Order IV.P.2.6]
12.7	Before beginning construction of Unit 1, the certificate holder shall enter into a Memorandum of Understanding (MOU) with The Climate Trust that establishes the disbursement mechanism to transfer selection and contracting funds and offset funds to The Climate Trust. a. The MOU must be substantially in the form of Exhibit 3 to the Final Order on the Application. At the request of the certificate holder, the Council may approve a different form of a letter of credit and concurrent MOU without an amendment of the site certificate. b. Either the certificate holder or The Climate Trust may submit to the Council for the Council's resolution any dispute between the certificate holder and The Climate Trust concerning the terms of the letter of credit, the MOU or any other issues related to the monetary path payment requirement. The Council's decision shall be binding on all parties. [Final Order IV.P.2.7] [AMD1]

12.8	The certificate holder shall submit all monetary path payment requirement calculations to the Department for verification in a timely manner before submitting a letter of credit for Council approval, before entering into an MOU with The Climate Trust as required by Condition 12.7, and before making disbursements to The Climate Trust. [Final Order IV.P.2.8] [AMD1]
12.9	Before beginning construction of Unit 1, the certificate holder shall submit to The Climate Trust a letter of credit in the amount of the offset funds of the monetary path payment requirement as determined under Condition 12.3. a. The certificate holder shall use a form of letter of credit that is substantially in the form of Appendix B to the MOU described in Condition 12.7. At the request of the certificate holder, the Council may approve a different form of a letter of credit without an amendment of the site certificate. b. The certificate holder shall use an issuer of the letter of credit approved by the Council. c. The certificate holder shall maintain the letter of credit in effect until the certificate holder has disbursed the full amount of the offset funds to The Climate Trust. The certificate holder may reduce the amount of the letter of credit commensurate with payments it makes to The Climate Trust. The letter of credit must not be subject to revocation before disbursement of the full amount of the offset funds. [Final Order IV.P.2.9] [AMD1]
12.10	For any transfer of the site certificate approved under OAR 345-027-0~~41~~00: a. If The Climate Trust has not yet fully withdrawn the amount of the letter of credit of the current certificate holder at the time of the transfer, the new certificate holder shall submit to The Climate Trust a pro-rated letter of credit, subject to the requirements of Condition 12.9. The new certificate holder shall submit to Council for the Council's approval the identity of the issuer of the letter of credit. The Council may approve a new letter of credit without a site certificate amendment. b. The new certificate holder shall enter into an MOU with The Climate Trust as described in Condition 12.7 unless the new certificate holder demonstrates to the satisfaction of the Department that there has been a valid assignment of the current certificate holder's MOU to the new certificate holder. The Council may approve a new MOU without a site certificate amendment. c. For resolution of any dispute between the new certificate holder and The Climate Trust concerning the disbursement mechanism for monetary path payments or any other issues related to the monetary path payment requirement, either party may submit the dispute to the Council as provided in Condition 12.7.b.

	[Final Order IV.P.2.10]
12.11	The certificate holder shall disburse to The Climate Trust offset funds and selection and contracting funds when requested by The Climate Trust in accordance with Conditions 12.13 and 12.14 and the following requirements: a. The certificate holder shall disburse selection and contracting funds to The Climate Trust before beginning construction and as appropriate when additional offset funds are required under Conditions 12.13 and 12.14. b. Upon notice pursuant to subsection (c), The Climate Trust may request from the issuer of the letter of credit the full amount of all offset funds available or it may request partial payment of offset funds at its sole discretion. Notwithstanding the specific amount of any contract to implement an offset project, The Climate Trust may request up to the full amount of offset funds the certificate holder is required to provide to meet the monetary path payment requirement. c. The Climate Trust may request disbursement of offset funds pursuant to paragraph (b) by providing notice to the issuer of the letter of credit that The Climate Trust has executed a letter of intent to acquire an offset project. The certificate holder shall require that the issuer of the letter of credit disburse offset funds to The Climate Trust within three business days of a request by The Climate Trust for the offset funds in accordance with the terms of the letter of credit. [Final Order IV.P.2.11]
12.12	Within the first 12 months of commercial operation of the facility, the certificate holder shall conduct a 100-hour test at full power without power augmentation (Year One Test-1) and a test at full power with power augmentation (Year One Test-2). Tests performed for purposes of the certificate holder's commercial acceptance of the facility may suffice to satisfy this condition in lieu of testing after beginning commercial operation. a. The certificate holder shall conduct the Year One Test-1 to determine the actual heat rate (Year One Heat Rate-1) and the net electric power output (Year One Capacity-1) on a new and clean basis, without degradation, with the results adjusted for the average annual site condition for temperature, barometric pressure and relative humidity. The certificate holder shall calculate carbon dioxide emissions using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel. b. The certificate holder shall conduct the Year One Test-2 to determine the actual heat rate (Year One Heat Rate-2) and net electric power output (Year One Capacity-2) for the facility operating with power augmentation, without degradation, with the results adjusted for the site condition for temperature, barometric pressure and relative humidity at the site during the times of year when the power augmentation is intended to operate. The certificate holder

	shall calculate carbon dioxide emissions using a rate of 117 pounds of carbon dioxide per million Btu of natural gas fuel. c. The certificate holder shall notify the Department at least 60 days before conducting the tests required in subsections (a) and (b) unless the certificate holder and the Department have mutually agreed that less notice will suffice. d. Before conducting the tests required in subsections (a) and (b), the certificate holder shall, in a timely manner, provide to the Department for its approval a copy of the protocol for conducting the tests. The Department may approve modified parameters for testing power augmentation on a new and clean basis and pursuant to OAR 345-024-0590(1) without a site certificate amendment. The certificate holder shall not conduct the tests until the Department has approved the testing protocols. e. Within two months after completing the Year One Tests, the certificate holder shall provide to the Council reports of the results of the Year One Tests. [Final Order IV.P.2.12]
12.13	Based on the data from the Year One Tests described in Condition 12.12, the certificate holder shall calculate an adjusted monetary path payment. The certificate holder shall submit its calculations to the Department for verification. If the adjusted amount exceeds the amount of the letter of credit provided according to Condition 12.9 before beginning construction, the certificate holder shall fully disburse the excess amount directly to The Climate Trust within 30 days of the Department's verification of the calculations. a. The certificate holder shall include the appropriate calculations of the adjusted monetary path payment with its reports of the results of the Year One Tests required under Condition 12.12. b. For calculating the adjusted monetary path payment, the certificate holder shall use an offset fund rate of $1.27 per ton of carbon dioxide (in 2011 dollars) and shall calculate contracting and selecting funds based on 10 percent of the first $500,000 in offset funds and 4.286 percent of any offset funds in excess of $500,000 (in 2011 dollars). c. In no case shall the certificate holder diminish the value of the letter of credit it provided before beginning construction or receive a refund from The Climate Trust based on the calculations made using the Year One Capacities and the Year One Heat Rates. [Final Order IV.P.2.13]
12.14	The certificate holder shall use the Year One Capacity-2 and Year One Heat Rate-2 that it reports for the facility, as described in Condition 12.12.b, to calculate whether it owes supplemental monetary path payments due to increased hours that it uses power augmentation.

	a. Each five years after beginning commercial operation of the facility (five-year reporting period), the certificate holder shall report to the Department the annual average hours the facility operated with power augmentation during that five-year reporting period, as required under OAR 345-024-0590(6). The certificate holder shall submit five-year reports to the Department within 30 days after the anniversary date of beginning commercial operation of the facility. b. If the Department determines that the facility exceeded the projected net total carbon dioxide emissions calculated under Conditions 12.4, 12.5 and 12.12, prorated for five years, during any five-year reporting period described in subsection (a), the certificate holder shall offset excess emissions for the specific reporting period according to paragraph (i) and shall offset the estimated future excess emissions according to paragraph (ii), as follows: i. In determining whether there have been excess carbon dioxide emissions that the certificate holder must offset for a five-year reporting period, the Department shall apply OAR 345-024-0600(4)(a). The certificate holder shall pay for the excess emissions at $1.27 per ton of carbon dioxide emissions (in 2011 dollars). The Department shall notify the certificate holder and The Climate Trust of the amount of supplemental payment required to offset excess emissions. ii. The Department shall calculate estimated future excess emissions for the remaining period of the deemed 30-year life of the facility using the parameters specified in OAR 345-024-0600(4)(b). The certificate holder shall pay for the estimated excess emissions at $1.27 per ton of carbon dioxide (in 2011 dollars). The Department shall notify the certificate holder of the amount of supplemental payment required to offset future excess emissions. iii. The certificate holder shall offset excess emissions identified in paragraphs (i) and (ii) using the monetary path as described in OAR 345-024-0710. The certificate holder shall pay selection and contracting funds of 10 percent of the first $500,000 in offset funds and 4.286 percent of any offset funds in excess of $500,000 (in 2010 dollars). c. The certificate holder shall disburse the supplemental selection and contracting funds and supplemental offset funds to The Climate Trust within 30 days after notification by the Department of the amount that the certificate holder owes. [Final Order IV.P.2.14]
12.15	The certificate holder shall use only pipeline quality natural gas or shall use synthetic gas with a carbon content per million Btu no greater than pipeline-quality natural gas to fuel the combustion turbines and the power augmentation. [Final Order IV.P.2.15] [AMD1]

12.16	After the certificate holder has complied with the conditions relating to the carbon dioxide standard before beginning construction, incremental increases in capacity and heat rate that otherwise fall within the limits specified in OAR 345-027-0050(2) do not require an amendment of the site certificate if the certificate holder complies substantially with Conditions 12.1 through 12.15, except as modified below, and if: a. The Department or the Council determines, as described in OAR 345-027-0050(5), that the proposed change in the facility does not otherwise require an amendment; and b. The certificate holder complies with the appropriate carbon dioxide emissions standard and monetary offset rate in effect at the time the Department or the Council makes its determination under this condition. [Final Order IV.P.2.16]
REGULATION: NOISE CONTROL REGULATION (NC) [OAR 345-345-0035]	
13.2	During operation, the certificate holder shall maintain a complaint response system to address noise complaints. The certificate holder shall notify the Department within 15 days of receiving a complaint about noise from the facility. The notification should include the date the complaint was received, the nature of the complaint, the complainant's contact information, the location of the affected property, and any actions taken, or planned to be taken, by the certificate holder to address the complaint. [Final Order V.A.2.2]
13.3	Upon written notification from the Department, the certificate holder will monitor and record the actual statistical noise levels during operations to verify that the certificate holder is operating the facility in compliance with the noise control regulations. The monitoring plan must be reviewed and approved by the Department prior to implementation. The cost of such monitoring, if required, will be borne by the certificate holder. [Final Order V.A.2.3]

4.3 CARTY SOLAR FARM CONDITIONS

4.3.1 General (GEN) Conditions

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD (GS) [OAR 345-022-0010]	
GEN-GS-01	The certificate holder must begin construction of the solar facility on or before XX date [6 years from approval date] Within 7 days of construction commencement, the certificate holder must provide the Department with written verification that it has met the deadline by satisfying applicable preconstruction conditions and completing at least $250,000 work at the site. [Mandatory Condition OAR 345-025-0006(4), GEN-GS-01; Final Order on AMD4]
GEN-GS-02	The certificate holder must complete construction of the solar facility or phase, as applicable, within 3 years of the actual construction commencement date, which must have commenced by XX date [6 years from approval date]. Within 7 days after completing construction, the certificate holder shall provide the Department written verification that it has met the deadline. [Mandatory Condition OAR 345-025-0006(4), GEN-GS-02; Final Order on AMD4]
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
GEN-OE-02	The certificate holder shall, as soon as reasonably possible: a. Report incidents or circumstances that may violate the terms or conditions of the site certificate, terms or conditions of any order of the Council, to the Department. In the report to the Department, the certificate holder shall provide all pertinent facts including an estimate of how long the conditions or circumstances existed, how long they are expected to continue before they can be corrected, and whether the conditions or circumstances were discovered as a result of a regularly scheduled compliance audit; b. Initiate and complete appropriate action to correct the conditions or circumstances and to minimize the possibility of recurrence; c. Submit a written report within 30 days of discovery to the Department. The report must refer to the language in (d) of the condition and contain: i. A discussion of the cause of the reported conditions or circumstances; ii. The date of discovery of the conditions or circumstances by the responsible party;

	iii. A description of immediate actions taken to correct the reported conditions or circumstances; iv. A description of actions taken or planned to minimize the possibility of recurrence; and v. For conditions or circumstances that may violate the terms or conditions of a site certificate, an assessment of the impact on the resources considered under the standards of OAR Chapter 345 Divisions 22 and 24 as a result of the reported conditions or circumstances. d. Upon receipt of the written report in sub(c) of this condition, the Department may review the facility record for incidents or circumstances reported or reportable under sub(a) related to public health and safety, the environment, or other resources protected under Council standards. If these incidents are determined by the Department to impact the adequacy of the facility decommissioning cost, the Department or Council may adjust the contingencies identified in Final Order on RFA4 Table 8 and Attachment F and shall request and receive an updated bond or letter of credit from certificate holder in the adjusted amount. [OAR 345-029-0010, Organizational Expertise Condition 4, Final Order on AMD4]
STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	
GEN-SS-01	The certificate holder shall design, engineer, and construct the facility in accordance with the versions of the International Building Code, Oregon Structural Specialty Code, and local building codes in effect at the time of construction. [Structural Standard Condition 2, Final Order on AMD4]

4.3.2 Pre-Construction (PRE) Conditions

Condition Number	Pre-Construction (PRE) Conditions
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
PRE-OE-01	Prior to construction of the solar facility or phase, the certificate holder must provide the name, telephone number, and e-mail address of the primary construction contractor(s); the certificate holder representative(s) responsible for site certificate compliance; and any other contractors responsible for site certificate condition compliance monitoring. The certificate holder must report any changes. [Organizational Expertise Condition 1, Final Order on AMD4]
PRE-OE-02	Prior to construction of the solar facility or phase, as applicable, the certificate holder must provide evidence to the Department that a limited water use license has been obtained by its third-party-contractor from Oregon Department of Water Quality. [Organizational Expertise Condition 5, Final Order on AMD4]
STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	
PRE-SS-01	Prior to construction of the solar facility or phase, as applicable, the certificate holder shall submit a site-specific geotechnical investigation report, consistent with the Oregon State Board of Geologist Examiners Guideline for Preparing Engineering Geologic Reports, or newer guidelines if available to the Department, for review in consultation with its third-party consultant. [Structural Standard Condition 1, Final Order on AMD4]
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
PRE-SP-01	Prior to construction of the solar facility or phase, as applicable, the certificate holder shall obtain a NPDES 1200-C Permit from DEQ. A copy of the approved permit and attached Erosion and Sediment Control Plan (ESCP) must be submitted to the Department. [Soil Protection Condition 1, Final Order on AMD4]
PRE-SP-02	Prior to construction of the solar facility or phase, as applicable, the certificate holder shall: a. Finalize the draft Comprehensive Solar Revegetation and Soil Management Plan included as Attachment C-1 to the Final Order on AMD4 based on final facility design. The final Comprehensive Solar Revegetation and Soil Management Plan shall be submitted to the Department for review and approval. b. Complete all items included in the Pre-construction Compliance Checklist in the final plan, as applicable to the facility components or phase. [Soil Protection Condition 2, Final Order on AMD4]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	

Condition Number	Pre-Construction (PRE) Conditions
PRE-LU-01	Prior to construction of the solar facility or phase, as applicable, the certificate holder must provide to the Department a copy of the approved amended Conditional Use Permit and applicable Zoning Permit(s). [Land Use Condition 1; Final order on AMD4]
PRE-LU-02	Prior to construction of the operations and maintenance building and substation, as applicable, the certificate holder shall demonstrate that the final design adheres to the following setbacks: a. Side yard setbacks from the building to the property line must be at least 20 feet except that on corner lots or parcels the side yard on the street side shall be a minimum of 30 feet. b. Rear yard setbacks from the building to the property line must be at least 25 feet. [Land Use Condition 2; Final order on AMD4]
PRE-LU-03	Prior to construction of the solar facility or phase, the certificate holder must sign and record in the deed records for the county a document binding the project owner and the project owner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4). [Land Use Condition 3; Final order on AMD4]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RF) [OAR 345-022-0050]	
PRE-RF-01	Prior to construction of the solar facility or phase, as applicable, the certificate holder shall: a. Submit to the Department Table 8 (Retirement Table with tasks/unit/unit costs) of the Final Order on AMD4, updated based on final design and phased construction, if applicable. Certificate holder may not make changes to the unit cost without review and approval by the Department. Certificate holder must also request that the Department confirm the present-day inflation adjusted decommissioning estimate, rounded to the nearest $1,000, to be reflected in the bond or letter of credit in sub c of this condition. b. Incorporate any additional decommissioning costs for facility changes which have been determined by the Department not to require a site certificate amendment. c. Submit to the Department a bond or letter of credit, in the amount affirmed by the Department under (a), based on the Council's current pre-approved financial institution list and form. [Retirement and Financial Assurance Condition 1; Final Order on AMD4]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	

Condition Number	Pre-Construction (PRE) Conditions
PRE-FW-01	Prior to construction to the solar facility or phase, as applicable, the certificate holder shall finalize and submit for the Department's review and approval the Habitat Mitigation Plan, as provided in Final Order on RFA4 Attachment D-1, based on the draft HMP Section 2.0 finalization requirements. [Fish and Wildlife Habitat Condition 1, Final Order on AMD4]
PRE-FW-02	Prior to construction of the solar facility, the certificate holder shall submit a draft final Construction Wildlife Monitoring Plan based WHMMP Section III, for Department review and approval. [Fish and Wildlife Habitat Condition 3, Final Order on RFA4]
STANDARD: THREATENED AND ENDANGERED SPECIES (TE) [OAR 345-022-0070]	
PRE-TE-01	Prior to construction of the solar facility or phase, as applicable, the certificate holder shall conduct surveys for Washington ground squirrel: 1. Surveys shall be conducted during the active squirrel season (February 1-June 30) 2. Surveys shall be conducted by a qualified professional biologist who has experience in detection of WGS and shall use appropriate protocols. 3. Surveys must be conducted within three years of the start of construction of the facility or phase, as applicable. 4. The survey area shall be areas of habitat suitable for WGS within the final temporary and permanent disturbance areas identified in the final plans, and within 1,000 feet of the outer edge of such disturbance areas. 5. Surveys shall identify the boundary of category 1 WGS habitat. a. Category 1 WGS habitat includes the area within the perimeter of multiple active WGS burrows plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or burrow establishment. If the multiple-burrow area was active in a prior survey year, and active burrows are still present, then Category 1 habitat includes the largest extent of the active burrow area ever recorded (in the current or any prior-year survey), plus a 785-foot buffer. If no active burrows are still present, then it is no longer Category 1 habitat for WGS. b. Category 1 WGS habitat includes the area containing single active burrow detections plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or burrow establishment. Category 1 habitat does not include single-burrow areas that were found active in a prior survey year but that are not active in the current survey year. 6. The certificate holder shall provide written reports of the surveys to the Department and to the Oregon Department of Fish and Wildlife. [Threatened and Endangered Species Condition 1, Final Order on AMD4]

Condition Number	Pre-Construction (PRE) Conditions
PRE-TE-02	Prior to construction of the solar facility or phase, as applicable, a qualified biologist shall install flagging around category 1 WGS habitat. Flagging must be easily visible for operators of construction equipment. [Threatened and Endangered Species Condition 3, Final Order on AMD4]
STANDARD: HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]	
PRE-HC-01	Prior to construction, the certificate holder shall update the contact information in the Inadvertent Discovery Plan, as provided in the Final Order on Request for Amendment 4 Attachment E. [Historic, Cultural and Archaeological Resources Condition 1, Final Order on AMD4]
PRE-HC-02	Prior to construction of the solar facility, the certificate holder must provide to the Department written concurrence from CTUIR that impacts to Šišúpa have been properly evaluated and mitigated, if applicable. [Historic, Cultural and Archeological Resources Condition 4, Final Order on AMD4]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
PRE-PS-01	Prior to construction of the solar facility or phase, as applicable, the certificate holder shall execute local a Road Use Agreement with Morrow County Public Works which will include a Construction Traffic Management Plan. Copies of an executed Road Use Agreement and Construction Traffic Management Plan, and any modifications thereto, shall be provided to the Department. [Public Services Condition 1, Final Order on AMD4}
STANDARD: WILDFIRE PREVENTION AND RISK MITIGATION (WF) [OAR 345-022-0115]	
PRE-WF-01	Prior to construction of the solar facility, the certificate holder shall finalize and submit a Construction Wildfire Mitigation Plan (WMP) to the Department for review and approval, consistent with Final Order on Request for Amendment 4 Attachment G-1. [Wildfire Prevention and Risk Mitigation Condition 1, Final Order on AMD4]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
PRE-WM-01	Prior to construction of the solar facility or phase, as applicable, the certificate holder shall require contractors to develop and submit to the Department for review and approval, Construction Waste Management Plan(s) that, at a minimum, include the following: a. All sources and quantities of construction waste and wastewater, including damaged or dysfunctional energy facility components, and where feasible, estimated quantities that can be recycled. b. Identification of disposal and recycling haulers and disposal/recycling facilities.

Condition Number	Pre-Construction (PRE) Conditions
	c. Process for requesting a permit exemption from DEQ pursuant to OAR 340-093-0080 to ensure that concrete washout materials reused in foundation backfill are substantially the same as clean fill. d. Document training workers with the requirements of the plan. [Waste Minimization Condition, Final Order on AMD4]
REMOVAL FILL LAW ORS 196.795 through 196.990	
PRE-RF-01	Prior to construction of the solar facility or phase, as applicable, the certificate holder shall obtain DSL concurrence on a wetland delineation report applicable to the solar facility site. [Removal Fill Law Condition 1, Final Order on AMD4]

4.3.3 Construction (CON) Conditions

4.3.3 Construction (CON) Conditions	
Condition Number	**Construction (CON) Conditions**
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
CON-OE-01	During construction, there must be at least one environmental inspector onsite while ground-disturbing activities and reclamation and revegetation activities are ongoing. The environmental inspector shall oversee site certificate compliance and shall prepare weekly reports documenting status of compliance requirements and corrective actions. Records shall be provided to the Department on a bi-weekly basis. [Organizational Expertise Condition 2, Final Order on AMD4]
CON-OE-02	a. Within three months after beginning construction of any phase or component of the solar facility, and every three months thereafter during construction, the certificate holder shall submit a construction progress report to the Department. b. Each construction progress report shall describe: i. Any significant changes to major milestones for construction; ii. 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. 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 reporting period 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. [Organizational Expertise Condition 3, Final Order on AMD4]

CON-OE-03	During construction of the solar facility or phase, provide to the Department in the three-month Construction Reports under Condition CON-OE-02, documentation of the record of all water use, as required by the third-party's limited water use license, demonstrating that the allowable total and per minute water use (total gallons and gallons per minute) have not been exceeded. [Organizational Expertise Condition 6, Final Order on AMD4]
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
CON-SP-01	During construction of the solar facility or phase, as applicable, the certificate holder shall: a. Conduct all work in compliance with the NPDES 1200-C Permit and Erosion and Sediment Control Plan (ESCP) or revised ESCP if applicable. The ESCP shall be revised if determined necessary by the certificate holder, certificate holder's contractor(s) or the Department. Any Department-required ESCP revisions shall be implemented within 14-days, unless otherwise agreed to by the Department based on a good faith effort to address erosion issues. b. Conduct all work in compliance with the Fugitive Dust Control Plan. The Fugitive Dust Control Plan may be amended, as needed, to ensure that control measures are effective at the site. [Soil Protection Condition 2, Final Order on AMD4]
CON-SP-02	During and following construction of the solar facility or phase, as applicable, the certificate holder shall conduct all work in compliance with the Comprehensive Solar Revegetation and Soil Management Plan required under Condition PRE-SP-01. [Soil Protection Condition 3, Final Order on AMD4]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
CON-FW-01	During construction of the solar facility or phase, as applicable, the certificate holder shall adhere to the requirements of the Construction Wildlife Monitoring Plan. Monitoring records shall be maintained throughout construction and included in the semi-annual report submitted to the Department pursuant to OAR 345-026-0080. [Fish and Wildlife Habitat Condition 4, Final Order on AMD4]
STANDARD: THREATENED AND ENDANGERED SPECIES (TE) [OAR 345-022-0070]	
CON-TE-01	During construction, the certificate holder shall implement the following measures to protect WGS: a. All temporary and permanent impacts to category 1 WGS habitat shall be avoided, including any vehicular use within category 1 WGS b. Flagging around category 1 WGS shall be maintained in a state easily visible for operators of construction equipment. [Threatened and Endangered Species Condition 3, Final Order on AMD4]
STANDARD: HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]	

CON-HC-01	During construction of the solar facility or phase, the certificate holder shall require all onsite employees and contractors to implement and adhere to the requirements of the Inadvertent Discovery Plan, as finalized under PRE-HC-01. [Historic, Cultural and Archaeological Resources Condition 2, Final Order on RFA4]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RF) [OAR 345-022-0050]	
CON-RF-01	Prior to construction, the certificate holder shall: If construction extends more than 12 months, the certificate holder shall: a. Annually adjust the amount of the bond or letter of credit to present dollar value, as determined by the Department. b. Incorporate any additional decommissioning costs for proposed facility changes which have been determined by the Department not to require a site certificate amendment. c. The Department and Council reserve the right to adjust the contingencies, as appropriate and necessary to ensure that costs to restore the site are adequate to maintain health and safety of the public and environment. [Retirement and Financial Assurance Condition 2; Final Order on AMD4]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
CON-PS-01	During construction, the certificate holder and its contractors shall adhere to the terms and conditions of Road Use Agreement(s) executed under Condition PRE-PS-01, and all requirements of the Construction Traffic Management Plan. [Public Services Condition 2, Final Order on AMD4]
STANDARD: WILDFIRE PREVENTION AND RISK MITIGATION (WF) [OAR 345-022-0115]	
CON-WF-01	During construction of the solar facility, the certificate holder shall require onsite contractors and employees to adhere to the Construction Wildfire Mitigation Plan (WMP) approved under PRE-WF-01. [Wildfire Prevention and Risk Mitigation Condition 2, Final Order on AMD4]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
CON-WM-01	During construction of the solar facility, the certificate holder shall require that contractors adhere to the requirements of the Construction Waste Management Plan(s) and maintain records of employee training and tracking compliance onsite and available upon Department request. [Waste Minimization Condition 2, Final Order on AMD4]
CON-WM-02	During construction, on-site concrete washwater disposal is prohibited unless DEQ approval of a permit exemption for materials substantially similar to clean fill is obtained. If DEQ approval of a permit exemption is obtained, concrete washwater must be disposed of onsite via infiltration and evaporation in accordance with the DEQ-issued NPDES 1200-C permit required under Condition CON-SP-02. [Waste Minimization Condition 3, Final Order on AMD4]

4.3.4 Pre-Operational (PRO) Conditions

Condition Number	Pre-Operational (PRO) Conditions
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
PRO-FW-01	Prior to operations of the solar facility, the certificate holder shall submit a draft final Operational Wildlife Monitoring Plan based on WHMMP Section III, for Department review and approval. [Fish and Wildlife Habitat Condition 5, Final Order on AMD4]
STANDARD: WILDFIRE PREVENTION AND RISK MITIGATION (WF) [OAR 345-022-0115]	
PRO-WF-01	Prior to operation of the solar facility, the certificate holder shall finalize and submit to the Department for review and approval, an Operational Wildfire Mitigation Plan (WMP) consistent with Attachment G-2 to the Final Order on Request for Amendment 4 to the Department for review and approval. [Wildfire Prevention and Risk Mitigation Condition 3; Final Order on AMD4]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
PRE-WM-01	Prior to operation of the solar facility, the certificate holder shall develop an Operational Recycling Plan or protocol requiring that damaged or nonfunctional panels and lithium-ion batteries be recycled to the extent practicable. The certificate holder shall report in its annual report to the Department the quantities of panels and lithium-ion batteries recycled, reused or disposed of in a landfill. Requirements for lithium-ion battery recycling do not apply if the BESS is not constructed. [Waste Minimization Condition 4, Final Order on AMD4]

4.3.5 Operational (OPR) Conditions

Condition Number	Operational (OPR) Conditions
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
OPR-SP-01	During operation of the solar facility, the certificate holder shall monitor and maintain vegetation and any necessary erosion controls in compliance with the Comprehensive Solar Revegetation and Soil Management Plan required under Condition PRE-SP-01, as amended. The certificate holder shall include any reports required by the plan in the annual facility operations reports required under Condition OPR-OE-01. [Soil Protection Condition 5, Final Order on RFA4]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RF) [OAR 345-022-0050]	
OPR-RF-01	During operation, the certificate holder shall: a. Annually adjust the amount of the bond or letter of credit to present dollar value, as determined by the Department. b. Incorporate any additional decommissioning costs for proposed facility changes which have been determined by the Department not to require a site certificate amendment. c. The Department and Council reserve the right to adjust the contingencies, as appropriate and necessary to protect public health and safety or the environment and ensure the certificate holder's bond or letter of credit is sufficient to restore the site to a useful, non-hazardous condition. [Retirement and Financial Assurance Condition 3; Final Order on AMD4]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
OPR-FW-01	During operation of the solar facility, the certificate holder shall implement and adhere to the final, Department-approved Habitat Mitigation Plan. [Fish and Wildlife Habitat Condition 2, Final Order on AMD4]
OPR-FW-02	During operation of the solar facility, the certificate holder shall adhere to the requirements of the Operational Wildlife Monitoring Plan. Monitoring records shall be maintained throughout operation and included in the annual report submitted to the Department pursuant to OAR 345-026-0080. [Fish and Wildlife Habitat Condition 6, Final Order on AMD4]
STANDARD: HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]	
OPR-HC-01	During operations of the solar facility, the certificate holder shall require all onsite employees and contractors to implement and adhere to the requirements of the Inadvertent Discovery Plan, as provided in Condition PRE-HC-01. The IDP shall be reviewed and updated annually for current contact information. [Historical, Cultural and Archaeological Resources Condition 3, Final Order on RFA4]
STANDARD: WILDFIRE PREVENTION AND RISK MITIGATION (WF) [OAR 345-022-0115]	

OPR-WF-01	During facility operation, the certificate holder shall require any onsite contractors and employees to adhere to the Operational Wildfire Mitigation Plan (WMP) approved under PRO-WF-01. [Wildfire Prevention and Risk Mitigation Condition 4; Final Order on AMD4]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
OPR-WM-01	During operations, the certificate holder shall adhere to the requirements of the Operational Recycling Plan or protocol developed under Condition PRO-WM-01. [Waste Minimization Condition 5, Final Order on AMD4]
OPR-WM-02	During operations, the certificate holder shall comply with the requirements of the WPCF permit for panel washing that includes the following provisions: a. Prohibit use of chemicals, soaps, detergents and heated water unless Chemical Safety Data Sheets for low volatile organic compound/biodegradable cleaning chemicals and solvents are submitted to the Department for review and approval prior to use. b. Ensure that washing is conducted in a manner that does not remove paint or other finishes. c. Discharge wash water through evaporation and infiltration only. [Waste Minimization Condition 6, 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~~0400.

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 GOVERNING LAW AND FORUM

This site certificate shall be governed by the laws of the State of Oregon. Any litigation or arbitration arising out of this agreement shall be conducted in an appropriate forum in Oregon.

8.0 EXECUTION

This 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 its Energy Facility Siting Council, and by Portland General Electric Company.

ENERGY FACILITY SITING COUNCIL	**PORTLAND GENERAL ELECTRIC COMPANY**
By: _____	By: _____
~~Marcy Grail~~Cynthia Condon, Chair Oregon Energy Facility Siting Council	Print: _____
Date: _____	Date: _____

ATTACHMENT 1: FIGURES

Figure 1: Facility Site Boundary

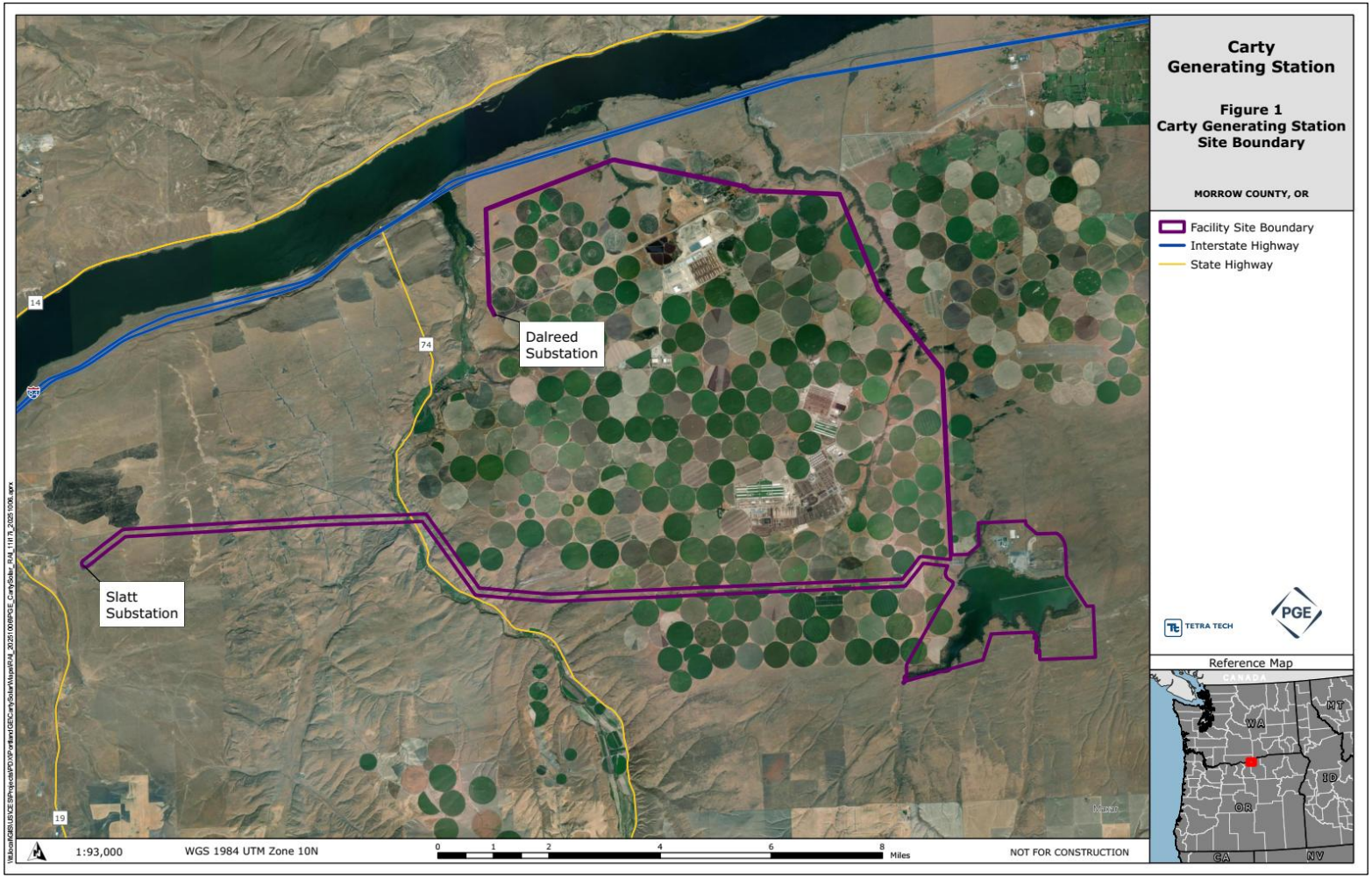
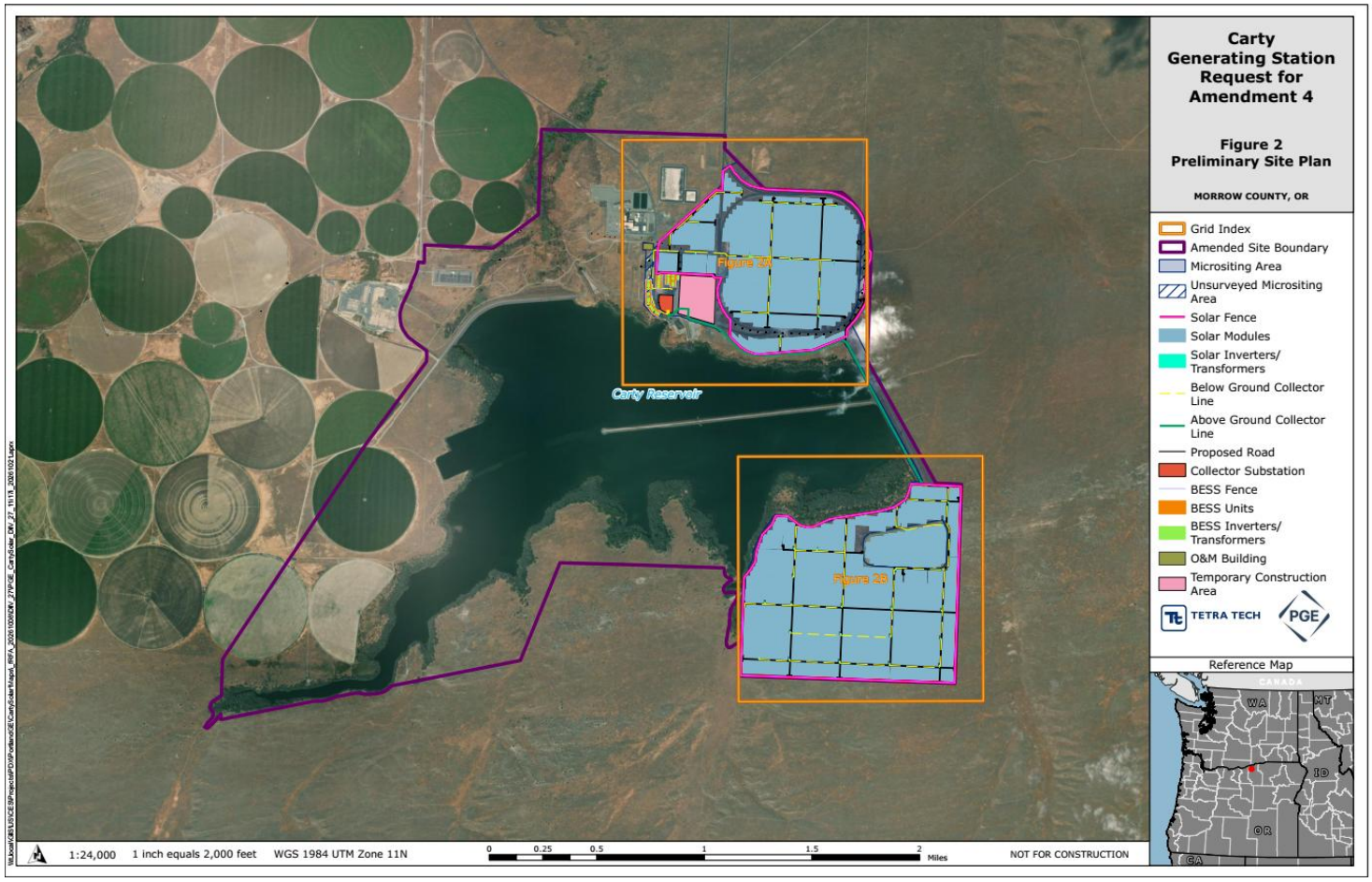


Figure 2: Solar Micrositing Corridors



ATTACHMENT 2: REMOVED / DELETED PREVIOUSLY IMPOSED CONDITIONS

Previously imposed Site Certificate Conditions Recommended to be removed from the Fourth Amended Site Certificate – The following conditions either applied during preconstruction/construction of Unit 1, or were imposed in Amendment 1 for the previously approved Carty Solar Farm.

4.6 The certificate holder must obtain, as required by ORS 469.401(3), all local permits, to include a Conditional Use Permit for the portion of the Carty Generating Station facility located on land zoned Exclusive Farm Use and a Zoning Permit for the entire facility located within Morrow County.
[Final Order IV.E.4.6] [AMD2]

5.1 Before beginning construction, the certificate holder must notify the Department of the identity and qualifications of the major design, engineering, and construction contractor(s) for the facility. The certificate holder must select contractors that have substantial experience in the design, engineering, and construction of similar facilities. The certificate holder must report to the Department any change of major contractors.
[Final Order IV.B.2.1] [AMD1]

5.2 The certificate holder must contractually require all construction contractors and subcontractors involved in the construction of the facility to comply with all applicable laws and regulations and with the terms and conditions of the site certificate. Such contractual provisions do not relieve the certificate holder of responsibility under the site certificate.
[Final Order IV.B.2.3] [AMD1]

5.3 Before beginning construction of Unit 1, the certificate holder shall submit a final parking lot plan to Morrow County for approval as part of the certificate holder's building permit application for the energy facility. This parking lot plan shall comply with Section 4.040 and 4.060 of the Morrow County Zoning Ordinance (MCZO) and with Americans with Disabilities Act (ADA) requirements. This plan shall provide a minimum of 22 parking spaces and one ADA-accessible space, or the minimum number of parking spaces required by MCZO Section 4.040 based on the number of employees on the largest shift, whichever is greater. The certificate holder shall construct on-site parking in conformance with the approved parking lot plan.
[Final Order IV.E.4.2] [MCZO Section 4.040-4.060] [AMD2]

5.4 Before beginning construction of Unit 1 and Carty Solar Farm, the certificate holder must:

i. Complete an investigation of subsurface soil and geologic conditions to identify geological or geotechnical hazards per Condition 5.4.a and obtain Department approval of the investigation report per Condition 5.4.b.

a. The investigation must include at least the following activities:

1. Drilling of six to eight exploratory borings up to a depth of 75 feet under proposed critical structure locations, including the gas turbine units, cooling tower, transmission structures, and switchyard. Standard penetration tests should be conducted at 2.5-foot and 5-foot intervals. Drilling of exploratory

borings along transmission line corridor is not necessary if such information is available from the construction of the existing transmission line.

2. Digging of test pits to assess the extent and thickness of any loose, surficial soil layers at the site. Key focus areas should include planned locations of critical structures, roadways, and landscaped areas where irrigation would occur.
3. Performing laboratory testing to evaluate the engineering properties of soils, including natural water contents on all samples collected, mechanical and hydrometer gradations, Atterberg limits, and collapsibility and consolidation tests on selected samples.

b. The certificate holder must prepare a geotechnical report with final facility design recommendations based on the investigation conducted per the requirements of Condition 5.4.a. The geotechnical report must be submitted to the Oregon Department of Geology & Mineral Industries (DOGAMI) and the Department. The certificate holder may not commence construction of the facility prior to Department approval of this report.
[Final Order IV.C.2.1]

ii. Complete an investigation of subsurface soil and geologic conditions, based upon a protocol reviewed and approved by the Department in consultation with DOGAMI, to identify geological or geotechnical hazards and obtain Department approval of the investigation report per Condition 5.4.i.b.

a. The investigation must include at least the following activities:

1. Drilling of additional borings at scattered locations across the Carty Solar Farm and associated transmission lines and access roads, up to a depth of 50 feet.

[AMD1] [AMD2]

5.6 Before beginning construction of Unit 1, the certificate holder must submit a Notice of Proposed Construction or Alteration to the Federal Aviation Administration (FAA) and the Oregon Department of Aviation identifying the final location of the facility exhaust stack. The certificate holder must promptly notify the Department of the responses from the FAA and the Oregon Department of Aviation.
[Final Order V.D.2.5]

5.7 Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under OAR 345-027-0020, 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.
[Final Order III.D.6] [Mandatory Condition OAR 345-027-0020(5)]

5.8 Before beginning construction, the certificate holder must notify the Department in advance of any work on the site that does not meet the definition of "construction" in ORS 469.300 (excluding surveying, exploration, or other activities to define or

characterize the site) and must provide to the Department a description of the work and evidence that its value is less than $250,000.
[Final Order IV.B.2.6]

5.9 The certificate holder shall develop and implement a Spill Prevention, Control and Countermeasure (SPCC) Plan in accordance with 40 Code of Federal Regulations (CFR) 112. A copy of this plan shall be provided to the Department prior to the commencement of operation of Carty Generating Station, and shall be updated according to the timelines provided in 40 CFR 112.
[Final Order IV.G.2.1] [AMD1] [AMD2]

5.10 Before beginning construction of the Carty Solar Farm, the certificate holder shall record in the deed records of Morrow County a document binding the certificate holder and its successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).

6.1 During construction, the certificate holder must have a full-time, on-site manager who is qualified in environmental compliance to ensure compliance with all site certificate conditions. The certificate holder must notify the Department of the name, telephone number, and e-mail address of this person prior to the start of construction and immediately upon any change in the contact information.
[Final Order IV.B.2.2]

6.2 The certificate holder shall provide portable toilets for on-site sewage handling during construction and shall ensure that they are pumped and cleaned regularly by a licensed contractor who is qualified to pump and clean portable toilet facilities.
[Final Order IV.N.2.3]

6.3 The certificate holder shall implement a waste management plan during construction 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 local landfill by a licensed waste hauler.
e. Segregating all hazardous wastes such as used oil, oily rags and oil-absorbent materials, 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.
f. Confining concrete delivery truck rinse-out to a designated wash-out area and burying other concrete waste as part of backfilling.
[Final Order IV.N.2.1]

6.4 In advance of, and during, preparation of detailed design drawings and specifications for the 500-kV transmission line, the certificate holder shall consult 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 V.D.2.3]

6.9. The certificate holder shall design and construct the facility using the minimum land area necessary for safe construction and operation. The certificate holder shall locate access roads and temporary construction laydown and staging areas to minimize disturbance of farming practices.
[Final Order IV.E.4.1] [MCZO Section 3.010.D]

6.12. During construction of the facility, the certificate holder shall ensure that contractors move equipment out of the construction area when it is no longer expected to be used. To the extent practical, contractors shall lower equipment with long arms, such as cranes, bucket trucks, and backhoes when not in use, in order to minimize visibility. [Final Order IV.J.2.1]

6.13. To reduce the visual impact of the facility, the certificate holder shall paint the buildings and structures in low-reflectivity neutral colors to blend with the surrounding landscape. [Final Order IV.J.2.2]

6.17 During construction:

i. The certificate holder shall implement measures to reduce traffic impacts, as follows:
   a. The certificate holder shall reduce peak hour volumes during construction by staggering shift start times or implementing other measures that would significantly reduce the total number of construction worker vehicle trips through the westbound I-84/Tower Road ramp terminal; or
   b. The certificate holder shall install temporary traffic controls during peak construction to prioritize westbound left-turning vehicles at the westbound Tower Road ramp terminal during the weekday a.m. peak hour.
   [Final Order IV.M.2.9]

ii. For construction of the Carty Solar Farm, the certificate holder shall:
   a. Implement a final Construction Traffic Management Plan, as approved by the Department per Condition 6.26.
   b. Include the requirements of the Construction Traffic Management Plan in contract specifications for construction contractors, as applicable.
   c. Maintain a monthly log, to be submitted monthly to the Department for review and confirmation of compliance with the components of the Construction Traffic Management Plan.
   d. The Department, in consultation with the Morrow County Public Works Department, may require implementation of additional traffic management measures including a Traffic Impact Assessment per MCZO Section 3.010(N)(1) if any requirement of the Construction Traffic Management Plan is determined not adequately implemented, or if additional measures are deemed necessary

based on actual passenger car equivalent trips per day during facility construction. Within 30-days of submittal of the monthly compliance report required under sub(c), the certificate holder shall obtain written confirmation from the Department on any additional construction traffic management measures required to be implemented.
[AMD1] [AMD2]

6.18 Unless legally permissible, the certificate holder shall ensure that no equipment or machinery associated with the construction is parked or stored on any public road within Morrow or Gilliam Counties. The certificate holder may temporarily park equipment off the road but within County rights-of-way with the approval of the County Roadmaster.
[Final Order IV.M.2.10] [AMD1] [AMD2]

6.19 The certificate holder shall cooperate with the Morrow County Public Works Department and the Gilliam County Road Department to ensure that any unusual damage or wear to county roads that is caused by construction of the facility is repaired by the certificate holder. Upon completion of construction, the certificate holder shall restore public roads to pre-construction condition or better to the satisfaction of applicable county departments.
[Final Order IV.M.2.11] [AMD1] [AMD2]

6.21 Oversize and overweight deliveries shall be made by rail and barge when feasible, to limit impacts to the I-84/Tower Road interchange.
[Final Order IV.M.2.13]

6.22 The certificate holder shall construct all facility components in compliance with the following setback requirements. The transmission lines connecting the Carty Generating Station and the Grassland Switchyard are exempt from this condition.

a. For portions of the facility located in the Morrow County General Industrial Zoning District:
   i. The minimum setback between a structure and the right-of-way of an arterial street shall be 50 feet. The minimum setback of a structure from the right-of-way of a collector shall be 30 feet, and from all lower class streets the minimum setback shall be 20 feet.
   ii. Any sewage disposal installations such as outhouses, septic tank and drainfield systems shall be set back from the high-water line or mark along all streams and lakes a minimum of 100 feet, measured at right angles to the high-water line or mark. All structures, buildings, or similar permanent fixtures shall be set back from the high-water line or mark along all streams or lakes a minimum of 100 feet measured at right angles to the high-water line or mark.
b. For portions of the facility located in the Morrow County Exclusive Farm Use Zoning District:
   a. The front yard setback from the property line shall be a minimum of 100 feet if the property line is adjacent to an intensive agricultural use; otherwise, front yards shall be 20 feet for property fronting on a local minor collector or marginal

access street right-of-way, 30 feet from a property line fronting on a major collector right-of-way, and 80 feet from an arterial right-of-way.

ii. Each side yard shall be a minimum of 20 feet except that for parcels or lots with side yards adjacent to an intensive agricultural use the adjacent side yard shall be a minimum of 100 feet.

iii. Rear yards shall be a minimum of 25 feet, except for parcels or lots with rear yards adjacent to an intensive agricultural use, where rear yards shall be a minimum of 100 feet.

iv. Any sewage disposal installations such as outhouses, septic tank and drainfield systems shall be set back from the high-water line or mark along all streams and lakes a minimum of 100 feet, measured at right angles to the high-water line or mark. All structures, buildings, or similar permanent fixtures shall be set back from the high-water line or mark along all streams or lakes a minimum of 100 feet measured at right angles to the high-water line or mark.
[Final Order IV.E.4.3] [MCZO Section 3.010(H)] [AMD1]

6.23 The certificate holder must limit signage to directional signs necessary for deliveries and general site circulation. No sign may be placed so as to interfere with visibility or effectiveness of any permanent traffic control device. No sign may be placed so as to impede the sight distance triangle at any access point or intersection as specified in Section 4.020 of the Morrow County Zoning Code. No sign shall cause glare, distraction or other driving hazards within a street or road right-of-way.
[Final Order IV.E.4.5] [MCZO Sections 4.020 and 4.070]

6.25 Recycling by the certificate holder and certificate holder's contractors during construction, operation, and retirement of the Carty Generating Station facility shall be done in accordance with Oregon Department of Environmental Quality regulations and shall be reported as part of the Morrow County wasteshed.
[Final Order IV.E.4.7] [AMD2]

6.26. The certificate holder is authorized to construct approximately 3 miles of 34.5 kV transmission line anywhere within the approved corridors, subject to the conditions of the site certificate. The approved corridors are approximately 160-feet in width and extend between 2.25 and 3 miles of three routes as described in RFA1 Exhibit B and as presented on Figure 1 to the site certificate of the Second Amended Site Certificate for Carty Generating Station.
[Site Specific Condition OAR 345-025-0010(5); AMD1] [AMD2]

6.27 Prior to beginning construction of the Carty Solar Farm, the certificate holder shall:

a. Confirm whether, based on anticipated construction activities, peak construction traffic is anticipated to exceed 400 passenger car equivalent trips per day. If more than 400 passenger car equivalent trips per day is anticipated, the certificate holder shall prepare and submit to the Department and Morrow County Planning Department a Traffic Impact Assessment per MCZO Section 3.010(N) Transportation Impacts for review and approval. If a TIA is required,

the certificate holder shall submit documentation to the Department in accordance with OAR 345-027-0057.

b. Prepare and submit to the Department a Construction Traffic Management Plan for review and approval. The certificate holder shall demonstrate that the Construction Traffic Management Plan, at a minimum, includes:
   1. Traffic management measures or other recommendations to minimize traffic impacts on Tower Road, as applicable, based upon consultation with Morrow County Public Works Department and Morrow County Sherriff's Office.
   2. Staggering shift start times or other measures that would significantly reduce the total number of construction worker vehicle trips through the westbound I-84/Tower Road ramp terminal; or
   3. Installation of temporary traffic controls during peak construction to prioritize westbound left-turning vehicles at the westbound Tower Road ramp terminal during the weekday a.m. peak hour.

   [AMD1]

6.28 Prior to construction of the Carty Solar Farm, the certificate holder shall record in the real property records of Morrow County a Covenant Not to Sue with regard to generally accepted farming practices on adjacent farmland consistent with MCZO 3.010.K.3(i). [AMD1] [AMD2]

8.2 During construction, the certificate holder shall require that all on-site construction contractors develop and implement a site health and safety plan that informs workers and others on-site about first aid techniques and what to do in case of an emergency. The plan shall also include important telephone numbers and the locations of on-site fire extinguishers and nearby hospitals. The certificate holder shall ensure that construction contractors have personnel on-site who are first aid and CPR certified. [Final Order IV.M.2.2]

8.4 During construction, 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 dry grass areas. [Final Order IV.M.2.4]

9.1 The certificate holder must conduct all construction work in compliance with an Erosion and Sediment Control Plan (ESCP) satisfactory to the Oregon Department of Environmental Quality and as required under the NPDES Storm Water Discharge General Permit #1200-C. The certificate holder must include in the ESCP any procedures necessary to meet local erosion and sediment control requirements or storm water management requirements. [Final Order IV.D.2.1] [AMD2]

9.2 During construction, the certificate holder, to the extent practicable, must limit truck traffic to improved road surfaces to avoid soil compaction. [Final Order IV.D.2.2]

9.3 During construction, the certificate holder must implement best management practices to control any dust generated by construction activities, such as applying water to roads and disturbed soil areas.
[Final Order IV.D.2.3]

9.4 During construction, the certificate holder must complete monitoring according to the NPDES Storm Water Discharge General Permit #1200-C issued to the certificate holder for construction of the unit to ensure that there are no significant potential adverse impacts to soils and: [AMD1] [AMD2]

a. [Deleted] [AMD1]
b. Deleted] [AMD1]
c. [Deleted] [AMD1]
d. [Deleted] [AMD1]
e. After completing construction in an area, the certificate holder must monitor the area until soils are stabilized and evaluate whether construction-related impacts to soils are being adequately addressed by the mitigation procedures described in the Erosion and Sediment Control Plan and the approved Revegetation and Noxious Weed Control Plan. As necessary, the certificate holder must implement follow-up restoration measures such as scarification and reseeding to address those remaining impacts.

[Final Order IV.D.2.4] [AMD1]

9.6 Upon completion of construction, the certificate holder must restore vegetation to the extent practicable and shall landscape all areas disturbed by construction in a manner compatible with the surroundings and proposed use and in compliance with the Revegetation and Noxious Weed Control Plan. Upon completion of construction, the certificate holder must 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 IV.D.2.7] [Mandatory Condition OAR 345-027-0020(11)]

10.3. The certificate holder shall consult with the Oregon Department of Fish and Wildlife prior to commencement of construction to determine the final acreage of habitat mitigation required. Mitigation shall be provided in accordance with this final acreage determination.
[Final Order IV.H.2.3] [AMD1]

10.7. The certificate holder must:

i. Implement measures to avoid or minimize temporary and permanent impacts to high quality native habitat and to retain habitat cover in the general landscape, where practicable.
   a. The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.
   b. Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the

facility and the areas that would be disturbed during construction and identifying the survey areas for all plant and wildlife surveys conducted in 2010 or earlier as described in the Final Order on the Application. The certificate holder shall use a qualified professional biologist to conduct a pre-construction plant and wildlife investigation of all areas that would be disturbed during construction that lie outside of the previously surveyed areas. The certificate holder shall provide a written report of the investigation to the Department and to the Oregon Department of Fish and Wildlife. Based on consultation with the Department and ODFW, the certificate holder shall implement appropriate measures to avoid impacts to any Category 1, 2, or 3 habitat, to any State-listed threatened or endangered plant or wildlife species, and to any State Candidate plant species. If any Category 2 or 3 habitat is identified and will be impacted, the certificate holder shall work with the Department and ODFW to identify appropriate mitigation measures for such impacts.

c. Before beginning construction, the certificate holder's qualified professional biologist shall survey the previously-identified Category 1 Washington ground squirrel habitat to ensure that the sensitive use area is correctly marked with exclusion flagging and avoided during construction. The certificate holder shall maintain the exclusion markings until construction has been completed.

d. Before beginning construction, certificate holder's qualified professional biologist shall complete aerial raptor nest surveys within the raptor nest survey area as described in the Final Order on the Application. The purposes of the survey are to identify any sensitive raptor nests near construction areas and to provide baseline information on raptor nest use for analysis as described in the Wildlife and Habitat Monitoring and Mitigation Plan referenced in Condition 10.1. The certificate holder shall provide a written report on the raptor nest surveys to the Department and to ODFW.
[Final Order IV.H.2.9]

ii. Implement measures to avoid or minimize temporary and permanent impacts to high quality native habitat and to retain habitat cover in the general landscape, where practicable.

a. The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.

b. Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility and the areas that would be disturbed during construction and identifying the survey areas for all plant and wildlife surveys conducted prior to construction. The certificate holder shall use a qualified professional biologist to conduct a pre-construction habitat assessment of all areas that would be disturbed during construction. The certificate holder shall provide a written report of the habitat assessment to the Department and to the Oregon Department of Fish and Wildlife. Based on consultation with the Department and ODFW, the certificate holder shall implement appropriate measures to avoid impacts to any Category 1 habitat, to any State-listed threatened or endangered plant or wildlife species, and to any State Candidate plant species.
[AMD1]

10.8. During construction, the certificate holder shall avoid all construction activities within one mile of golden eagle nests, and 0.6 miles of ferruginous hawk nests, and 1,300 feet of other potentially active sensitive raptor species nest sites for the following species during the sensitive period, as provided in this condition:

Species	Sensitive Period	Early Release Date
Swainson's hawk	April 1 to August 15	May 31
Ferruginous hawk	March 15 to August 15	May 31
Bald Eagle	January 1 to August 15	May 31
Golden eagle	January 1 to July 15	May 31
Burrowing owl	April 1 to August 15	July 15
Long-billed curlew	March 8 to June 15	May 31

During all years in which construction occurs, the certificate holder shall use a protocol approved by the Oregon Department of Fish and Wildlife (ODFW) to determine whether there are any active nests of these species within 1,300 feet of any areas that would be disturbed during construction. Surveys shall be extended to one mile for golden eagle nests and 0.6 miles for ferruginous hawk nests. This construction buffer distance may be decreased with approval by ODFW and USFWS depending on the intensity of construction activity and whether there is an adequate physical barrier (i.e., vegetation, topography, etc.) between the nest site and the construction impacts or if consultation determines a lesser distance is feasible and appropriate. The certificate holder shall begin monitoring potential nest sites by the beginning of the sensitive period, as listed above, and shall continue monitoring until at least May 31 (July 15 for golden eagle nests) to determine whether any potentially-active nest sites become active during the sensitive period.

If any nest site is determined to be unoccupied by the early release date, then unrestricted construction activities may occur within 0.6 miles (one mile for golden eagle nests) of the nest site after that date. If a nest is occupied by any of these species after the beginning of the sensitive period, the certificate holder will flag the boundaries of a 1,300 foot (or 0.6 miles for ferruginous hawk nests, or one mile for golden eagle nests) buffer area around the nest site and shall instruct construction personnel to avoid disturbance of the buffer area. During the sensitive period, the certificate holder shall not engage in high-impact construction activities (activities that involve blasting, grading or other major ground disturbance) within the buffer area. The certificate holder shall restrict construction traffic within the buffer, except on public roads, to vehicles essential to the limited construction activities allowed within the buffer. If a golden eagle nest is identified, construction and maintenance activities between February 1 and July 15 (courtship and nesting period) will be avoided within one mile of the active nest (or 0.5 miles if the active nest is not in line-of-sight of activities).

The certificate holder must use a qualified independent professional biologist to observe the active nest sites during the sensitive period for signs of disturbance and to notify the

Department of any non-compliance with this condition. If the biologist 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 construction activities within the buffer area before the ending day of the sensitive period with the approval of ODFW, after the young are fledged. The certificate holder shall use a protocol approved by ODFW to determine when the young are fledged (the young are independent of the core nest site).
[Final Order IV.H.2.10] [AMD1]

10.9 The certificate holder shall implement the following measures to avoid or mitigate impacts to sensitive wildlife habitat during construction:

a. Preparing maps to show exclusion areas that are off-limits to construction personnel, such as nesting or denning areas for sensitive wildlife species.
b. Avoiding unnecessary road construction, temporary disturbance, and vehicle use.
c. Limiting construction work to approved and surveyed areas shown on facility constraints maps.
d. Ensuring that all construction personnel are instructed to avoid driving cross-country or taking short-cuts within the site boundary or otherwise disturbing areas outside of the approved and surveyed construction areas.

[Final Order IV.H.2.11]

10.13. The certificate holder shall not place any structures in jurisdictional waters of Sixmile Canyon and shall avoid new impacts to Sixmile Canyon during construction by using the existing access road for vehicle crossing only during the dry season. Impacts to jurisdictional waters in Sixmile Canyon drainages shall be avoided.
[Final Order IV.H.2.15] [AMD1]

10.14. Prior to construction, the certificate holder shall conduct surveys for Washington ground squirrel (WGS) and Lawrence's milkvetch.

i. The certificate holder shall determine the boundaries of Category 1 Washington ground squirrel (WGS) habitat based on the locations where the squirrels were found to be active in the most recent WGS surveys prior to the beginning of construction in habitat suitable for WGS foraging or burrow establishment ("suitable habitat"). The certificate holder shall use a qualified professional biologist who has experience in detection of WGS to conduct surveys within the site boundary using appropriate search protocols. Except as provided in (a), the biologist shall conduct surveys in the active squirrel season (February 1 to June 30) at least once every three years until the beginning of construction in suitable habitat. The biologist shall survey all areas of suitable habitat where permanent facility components would be located or where construction disturbance could occur. The certificate holder shall provide written reports of the surveys to the Department and to the Oregon

Department of Fish and Wildlife (ODFW) and shall identify the boundaries of Category 1 WGS habitat. During each year in which construction will occur, the boundaries of Category 1 WGS habitat shall be marked by the biologist with high-visibility flagging or markers. The certificate holder shall not begin construction until the identified boundaries of Category 1 WGS habitat have been approved by the Department. Category 1 WGS habitat includes the areas described in (b) and (c) below.

a. The certificate holder may omit the WGS survey in any year if the certificate holder avoids all permanent and temporary disturbance within suitable habitat until a WGS survey has been completed in the following year and the boundaries of Category 1 habitat have been determined and approved based on that survey.
b. Category 1 WGS habitat includes the area within the perimeter of multiple active WGS burrows plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or burrow establishment. If the multiple-burrow area was active in a prior survey year, and active burrows are still present, then Category 1 habitat includes the largest extent of the active burrow area ever recorded (in the current or any prior-year survey), plus a 785-foot buffer. If no active burrows are still present, then it is no longer Category 1 habitat for WGS.
c. Category 1 WGS habitat includes the area containing single active burrow detections plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or burrow establishment. Category 1 habitat does not include single-burrow areas that were found active in a prior survey year but that are not active in the current survey year.

ii. The certificate holder shall use a qualified professional biologist who has experience in detection of Lawrence's milkvetch to conduct plant surveys within the site boundary, using appropriate survey protocols, during the blooming season (May through August).

a. If the species is found to occur, the certificate holder must install protection flagging around the plant population and avoid any ground disturbance within this zone; and its location shall be presented on construction constraint maps showing restricted work areas.

[Final Order IV.I.2.1] [AMD1]

10.17 The certificate holder shall provide environmental awareness training for all project personnel and construction contractors before such contractors or personnel enter the site to perform construction-related activities. The training program shall discuss Washington ground squirrel issues as well as other environmental issues related to the project, and include handouts with identification information and reporting procedures. Additional training sessions shall be conducted as needed for personnel that start after the beginning of construction.
[Final Order IV.I.2.4]

10.18 In order to discourage Washington ground squirrels from moving into planned construction areas the certificate holder may disc or till a minimum of an 800-ft. buffer within the perimeter of the site boundary, or implement other approved measures, in

closest proximity to squirrel activity areas. Proposed measures and areas where measures will be implemented shall be reviewed by ODFW and shall be informed by the most recent Washington ground squirrel survey data.
[Final Order IV.I.2.5] [AMD1]

10.25 Before beginning construction of Unit 1, the certificate holder shall receive approval of the wetlands delineation report by the Department of State Lands and provide an approval letter to the Department.
[Final Order V.B.2.1] [AMD2]

10.26 The certificate holder shall avoid impacts to waters of the state in the following manner:

a. The certificate holder shall avoid any disturbance to delineated wetlands.
b. The certificate holder shall construct stream crossings for transmission lines substantially as described in the Final Order on the Application. In particular, the certificate holder shall not remove material from waters of the State or add new fill material to waters of the State such that the total volume of removal and fill exceeds 50 cubic yards for the project as a whole.
c. The certificate holder shall construct support structures for aboveground lines outside of delineated stream channels and shall avoid in-channel impacts.

[Final Order V.B.2.2]

10.27 Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility and the areas that would be disturbed during construction and showing the wetlands and stream channels delineated through field surveys conducted prior to construction. For areas to be disturbed during construction that lie outside of the previously-surveyed areas, the certificate holder shall hire qualified personnel to conduct a pre-construction investigation to determine whether any jurisdictional waters of the State exist in those locations. The certificate holder shall provide a written report on the pre-construction investigation to the Department and the Department of State Lands for approval before beginning construction. The certificate holder shall ensure that construction and operation of the facility will not impact any jurisdictional water identified in the pre-construction investigation in a manner that would require a Removal-Fill Permit.
[Final Order V.B.2.3] [AMD1]

10.30 The certificate holder may not dispose of wastewater into the Boardman settling ponds, vehicle wash water pond or coal yard ponds unless the site certificate and the WPCF are amended to permit such use.
[Final Order V.E.2.3]

11.2 Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility, the areas that would be temporarily disturbed during construction, the areas that were surveyed in 2009 as described in the Final Order on the ASC or that have been subsequently surveyed.
[Final Order IV.K.2.2] [AMD1]

11.3 The certificate holder shall:

a. Use qualified personnel to conduct field investigation of all areas to be disturbed during construction that lie outside the previously-surveyed areas. The certificate holder shall provide a written report of the field investigation to the Department and to the Oregon State Historic Preservation Office (SHPO). If any potentially significant historic, cultural, or archaeological resource sites are found during the field investigation, the certificate holder shall instruct all construction personnel to avoid the identified sites and shall implement appropriate measures to protect the sites, including the measures described in Condition 11.5.

b. Prior to construction of facility components approved in the Final Order on RFA2, use qualified personnel to conduct field investigation of all areas to not previously disturbed or minimally disturbed. The certificate holder shall provide a written report of the field investigation to the Department and to the Oregon State Historic Preservation Office (SHPO), and shall consult with the CTUIR on whether any areas would require a cultural monitor during construction. If any potentially significant historic, cultural, or archaeological resource sites are found during the field investigation, the certificate holder shall instruct all construction personnel to avoid the identified sites and shall implement appropriate measures to protect the sites, including the measures described in Condition 11.5.

[Final Order IV.K.2.3; AMD2]

11.4. The certificate holder shall ensure that a qualified archaeologist, as defined in OAR 736-051-0070, develops a training program for cultural resources. The program will instruct construction personnel in the identification of cultural materials and avoidance of accidental damage to identified resource sites. Records of such training shall be maintained at the administration/control building and made available to authorized representatives of the Department upon request.
[Final Order IV.K.2.4] [AMD1]

11.5. 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 archeologist can evaluate the significance of the find. 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, field documentation and data recovery, in consultation with the Department, SHPO, interested 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 and the SHPO that it has complied with archaeological resource protection regulations.
[Final Order IV.K.2.5]

11.6. The certificate holder shall:

i. Prepare and implement an Archaeological Monitoring Plan for construction activities to address and mitigate impacts from exposure of unanticipated or previously unidentified cultural resources that may be exposed during construction of the facility. A current copy of the plan must be maintained at the administration/control building and made available to authorized representatives of the Department upon request. The Archaeological Monitoring Plan, as proposed by the certificate holder, shall include the following requirements:
   a. [Deleted]
   [AMD1].
   b. A qualified archaeological monitor is a person who meets the "qualified archaeologist" standards defined by ORS 390.235(6)(b) or who is supervised by a "qualified archaeologist." If the latter applies, the supervising qualified archaeologist must vouch for the work of the archaeological monitor and author or co-author the archaeological monitoring report provided at the end of construction monitoring.
   c. The archaeological monitor will keep a daily log of construction and monitoring activities. If intact archaeological materials are encountered during the monitoring, the archaeological monitor will initiate procedures for inadvertent discovery of archaeological resources, as specified in ORS 358.920.
   d. Artifacts will be examined and documented in the field and will not be collected unless authorized under the provisions of a SHPO permit, if one is obtained in the inadvertent discovery of archaeological resources process.
   e. If human remains are identified during the course of construction monitoring, the monitor will initiate the procedures for Inadvertent Discovery of Human Remains, as specified in ORS 97.740-97.760.
   f. The certificate holder is responsible for providing an archaeological monitoring report to the Department and SHPO after construction work is completed. The report must detail the activities of the archaeological monitor and any inadvertent discoveries encountered, along with actions taken to address them. [Final Order IV.K.2.6]

ii. At least 45-days prior to construction of the Carty Solar Farm, provide to the Department for review and approval, in consultation with SHPO and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), an amended Archaeological Monitoring Plan for construction activities to address and mitigate impacts from exposure of unanticipated or previously unidentified cultural resources that may be exposed during construction of the Carty Solar Farm. The amended Archaeological Monitoring Plan shall include the following requirements:
   a. The certificate holder shall coordinate with CTUIR prior to and during ground disturbing activities to determine if a tribal monitor should be onsite.
   b. A qualified archeologist, as defined in 11.6(i)(b) of this condition, shall be mobilized to the site if unanticipated resources are discovered; in this event, Condition 11.6.ii(c) through (f) would then be applicable.
   c. The archeological monitor will keep a daily log of construction and monitoring activities. If intact archaeological materials are encountered during the monitoring, the monitor will initiate procedures for inadvertent discovery of archaeological resources, as specified in ORS 358.920.

d. Artifacts will be examined and documented in the field and will not be collected unless authorized under the provisions of a SHPO permit, if one is obtained in the inadvertent discovery of archaeological resources process.
e. If human remains are identified during the course of construction monitoring, the monitor will initiate the procedures for Inadvertent Discovery of Human Remains, as specified in ORS 97.740-97.760.
f. The certificate holder is responsible for providing an archaeological monitoring report to the Department and SHPO after construction work is completed. The report must detail the activities of the monitor and any inadvertent discoveries encountered, along with actions taken to address them.
[AMD1]

13.1 To reduce construction noise impacts at nearby residences, 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. Records of noise complaints during construction must be made available to authorized representatives of the Department of Energy upon request.
[Final Order V.A.2.1]

Attachment B: Reviewing Agency Comments on pRFA4

RE: ODOE questions and conditions on CGS pRFA4

SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>

Fri 3/29/2024 10:21 AM

To:SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Cc:CHERRY Steve P * ODFW <Steve.P.CHERRY@odfw.oregon.gov>;THOMPSON Jeremy L * ODFW <Jeremy.L.THOMPSON@odfw.oregon.gov>

Hi Kate,

Thank you so much for putting that document together. I reviewed your questions and only had a few comments on the pRFA4 (included below).
I hope you have a great weekend,

Lindsay

ODOE Questions for ODFW –

- **Does ODFW agree that the desktop and literature sources used to identify and categorize habitat are adequate/sufficient?**
  - Yes the sources used to categorize habitat are sufficient. Areas within the biological study area were surveyed on the ground while areas outside the biological study area were identified using previous data and aerial photos (Attachment P-1, page 2).

- **Does ODFW concur with the field methods used to identify and categorize habitat within the RFA4 analysis area?**
  - Yes the methods are detailed and included 30-ft radius plots and absolute cover of each species to determine habitat type (Attachment P-1, page 4, Table 1). The described habitat types are consistent with previous habitat categorizations.

- **Does ODFW concur with the habitat categories identified within the RFA4 analysis area?**
  - Yes the categorizations are consistent with our mitigation policy.

- **Does ODFW have comments or recommendations for mitigation proposed in the draft amended Wildlife Habitat Mitigation and Monitoring Plan (WHMMP) for permanent impacts to Category 2, 3 and 4 habitats, proposed mitigation ratios & goals, and the enhancement measures proposed to be implemented within the HMA? Success criteria and monitoring?**
  - The proposed mitigation ratios & goals are consistent for permanent and temporary mitigation recommendations for the category of habitat impacted.
  - In section VI of the WHMMP, page 18, The density and success criteria for sagebrush planting are established, but the total acres of proposed plantings are stated as Category 3 and 4 sagebrush habitat (Table 4). It would be helpful for the applicant to include a total number of acres to be planted, as the table does not specify any sagebrush as category 4.

- **Does ODFW have any specific comments or recommendations on the RFA4 draft amended Revegetation and Noxious Weed Plan?**
  - Although the revegetation plan includes annual monitoring, quantitative and qualitative data collection, and remedial actions, ODFW suggests that monitoring for revegetation of temporary impacts to wildlife habitat occurs more than once annually, particularly directly after revegetation. More frequent checks for weedy non-native plants or early site

colonizers, such as Russian Thistle (*Salsola tragus),* will ensure the success of the revegetation plan and reduce the need for remedial actions.
    - Page 11, Paragraph 3, Revegetation and Noxious Weed Control Plan, The Certificate holder states that "If an area is not trending toward meeting the success criteria at Year 5". ODFW would recommend removing the phrase trending towards, to ensure that success criteria has or has not been met in the specified period of time.

- **Does ODFW have any comments or recommendations on the proposed methods for PCFM in the draft Amended WHMMP?**
    - Because we lack morality thresholds for Post Construction Fatality Monitoring at solar facilities, the results from PCFM at this facility will help to inform the design or layout of future solar projects to avoid impacts to wildlife. Determining a level of significance from the results would require a known background level of mortality for comparison, this could be accomplished by collecting data pre-construction at the same location, or at a paired location during the same time frame. That data could then be used to determine if mortality rates at the facility were statistically different from normal/background levels.

- **Does ODFW concur with the methods used and conclusions to identify and assess potential T&E fish and wildlife species within the RFA4 analysis area?**
    - Table 1 of WHMMP: Ferruginous hawk buffer should read 0.5 miles instead of 0.6.
    - In the section pertaining to WGS BMPs, ODFW would recommend removing language that includes Incidental Take Permits from the BMPs and if a situation arises where a permit could be necessary the certificate holder can coordinate with ODOE and ODFW. Suggested edits are below in redline.

7. If pre-construction surveys determine that WGS burrows have been established in previously inactive areas, the certificate holder shall immediately report to ODOE and ODFW. ~~The certificate holder shall coordinate with ODOE and ODFW to establish additional mitigation measures or to obtain an Incidental Take Permit, as appropriate.~~

8. The certificate holder will consult with ODOE and ODFW to discuss the situation and potential additional avoidance and minimization measures should WGS establish burrows within 785 feet of existing facilities, construction activity, or planned construction disturbance areas. ~~If there is concern that, despite reasonable avoidance measures, WGS may accidently be killed or injured by construction activities, then the certificate holder shall work with ODFW to obtain an Incidental Take permit, as appropriate.~~

- **Does ODFW have any specific recommendations on WGS colonies identified within the RFA4 analysis area?**
    - The applicant has stated they will avoid impacts to Category 1 habitat and the monitoring methods described in the WHMMP (page 4) should be sufficient to prevent direct and indirect impacts to WGS during maintenance activities for the life of the facility.

From: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Sent: Wednesday, March 13, 2024 11:04 AM
To: SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>
Subject: ODOE questions and conditions on CGS pRFA4

Hi Lindsay,

Thank you for taking the time today to discuss this project. The attached is just a summary or existing conditions and some questions for you to consider in your comment letter for the preliminary Request for Amendment 4 for Carty Generating Station. Please comment as you see appropriate.

If you can provide written comments by the end of this month, that would be awesome!

Thanks for your time and input!

OREGON DEPARTMENT OF ENERGY

Kathleen Sloan
Senior Siting Analyst
550 Capitol St. NE | Salem, OR 97301
P: 971-701-4913



Outlook

Re: ODFW comments on Carty RFA4 and request for updated ODFW review

From SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>
Date Wed 11/19/2025 3:37 PM
To SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>

2 attachments (458 KB)

ODFW Comments_CGSAMD4 pRFA4 Exhibit P Attachment P-3. Amended WHMMP redline from Cert Holder 2024-02-16.docx;
ODFW Comments_CGSAMD4 pRFA4 PGE Requested Revisions.docx;

Hi Kate,

Thanks for checking in with me last week. I added a few comments on the attachments above, regarding wildlife survey dates and the raptor buffers. The dates for the raptor buffers have been updated in our Solar Sighting Guidance (2024).

Otherwise, I think our original comments from early 2024 are still relevant, mitigation ratios are consistent with previous recommendations, etc. It would be helpful to have those HMA maps or property descriptions as well as a bit more detail on the proposed actions. How much fence will be removed? How many acres of sage planting? Etc.

If you get additional feedback from the applicant regarding the proposed post-construction fatality monitoring at this facility we can discuss.

Happy Holidays,

Lindsay

Lindsay Somers
Habitat Biologist-John Day Watershed
Oregon Department of Fish and Wildlife
73471 Mytinger Ln
Pendleton, OR 97801
Office: 541-388-6294
Cell: 541-314-1236

From: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Sent: Monday, November 10, 2025 12:41 PM
To: SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>
Subject: Re: ODFW comments on Carty RFA4 and request for updated ODFW review

Hi Lindsay - Weds is open for me 9-11 or 2-5 and Thurs after 1 pm this week.

Kate

From: SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>
Sent: Monday, November 10, 2025 9:44 AM
To: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Subject: Re: ODFW comments on Carty RFA4 and request for updated ODFW review

Do you have time for a call later this week (12th anytime, 13th after 12:30) or next week (18th after 11 or 19th anytime)?

From: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Sent: Friday, November 7, 2025 4:00 PM
To: SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>
Subject: Re: ODFW comments on Carty RFA4 and request for updated ODFW review

To mitigate 78 (not 8) acres - see below

From: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Sent: Friday, November 7, 2025 4:00 PM
To: SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>
Subject: Re: ODFW comments on Carty RFA4 and request for updated ODFW review

Thanks Lindsay,

I might want to have a call - I have questions about their mitigation ratios, suitability and adequacey of the existing 880 acre HMA area they previously identified to mitigate 8 acres. They are estimating 895 acres so I want to confirm its suitable for the categories needed and the ratios by category of impacts look good to ODFW.

I think we want some edits/adds to their draft amended HWMMP, to reflect all that, so it might be nice to schedule a call after you have time to review.

Happy Friday!

Kate

From: SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>
Sent: Friday, November 7, 2025 12:33 PM
To: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Subject: Re: ODFW comments on Carty RFA4 and request for updated ODFW review

Thanks Kate!

I will get a response back to you in the next 2 weeks, or sooner. Thank you for including all the Exhibits, that is so helpful.

Lindsay

From: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Sent: Friday, November 7, 2025 12:31 PM

To: SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>
Subject: Re: ODFW comments on Carty RFA4 and request for updated ODFW review

One last ask - the certificate holder is requesting changes to the relevant F&W condition in the site certificate.
The redline is their requested changes to the condition.

If you have comments on condition language or their proposed changes (in redline) to it, please feel free to provide. See attached word doc,

Thanks!

Kate

From: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Sent: Friday, November 7, 2025 9:38 AM
To: SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>
Subject: ODFW comments on Carty RFA4 and request for updated ODFW review

Hi Lindsay,

It has been a while since we coordinated with you on the request for amendment 4 for Carty Generating Station. They submitted a preliminary RFA4 over a year ago and we coordinated at that time. Your comments are attached FYI.

A couple reasons why I want to re-coordinate on this one:

1. It has been a while so want to check to make sure no changes in ODFW practice that would change your prior review.
2. The RFA4 is about using reclaimed portions of the facility lands to develop solar and battery storage. (This used to be Boardman Coal Plant and was decommissioned and rehabbed and now they want to build a solar facility there)
3. There are potential T&E - WAGS issues. See confidential attachments and please treat confidentially.

So, I wanted to just send you their exhibit P, the studies associated and ask you to review the proposed amended WHMP they submitted with their amendment request for ODFW recommendations or concurrence of sorts. That is the word version in redline in case you want to make edits/comments in it. The current WHMP is the pdf version dated 2021 (also attached)

We can set up a call to discuss if you want, just let me know. If you can get me comments within the month that would be great.

Because of the lag time we are looking for email or letter comments that support or change your prior eval comments.

Kathleen Sloan
Senior Siting Analyst
ODOE Siting Division
Ph: 971.701.4913

[State of Oregon: Facilities - Energy Facility Siting]



Carty Generating Station: Amended Wildlife and Habitat Monitoring and Mitigation Plan[1]

December 14, 2018[2], February 23, 2021[3], February XX, 2024[4]

I. INTRODUCTION

The Carty Generating Station includes existing generating components (Unit 1 and its associated components and existing components originally approved under the Boardman Coal Plant site certificate) and approved, but not yet constructed generating components (Carty Solar Farm and its associated components and new components proposed in the Second Amended site certificate). Portland General Electric (PGE or certificate holder) received a site certificate from the Energy Facility Siting Council (Council) in June 2012 authorizing the construction and operation of a 900 megawatt (MW) combined-cycle natural gas-fueled energy generating facility in Boardman, Oregon in Morrow County (Carty Generating Station). The Council's 2012 approval authorized construction and operation of two 450-MW combined-cycle natural gas-fueled turbine generators (Unit 1 and Unit 2). PGE commenced Unit 1 construction on January 9, 2014; PGE completed Unit 1 construction on December 26, 2016; Unit 1 began operation on July 29, 2016. The construction commencement deadline for Unit 2 expired in June 2017 and therefore the certificate holder no longer has the authority to construct or operate Unit 2.

The Council issued the First Amended site certificate on December 14, 2018, authorizing a site boundary change and the construction and operation of a 50 MW photovoltaic solar unit, five 34.5 kilovolt (kV) interconnecting transmission line routing options, and temporary construction and laydown areas (Carty Solar Farm). The construction commencement and completion deadlines for the components authorized in the First Amended site certificate are February 4, 2022, and February 4, 2025, respectively. The Council issued the Second Amended site certificate on November 19, 2020 authorizing a boundary change; construction and operation of a new substation and associated distribution lines, septic system, backup water pipeline, wastewater pipeline, office/warehouse building, and security guard station; and incorporation of existing facilities that had been permitted under the Boardman Coal Plant site certificate including Carty Reservoir, existing transmission infrastructure, and interconnecting water pipelines. The construction commencement and completion deadlines for the components authorized in the Second Amended site certificate are December 9, 2023 and December 9, 2026 respectively. The Council issued the Third Amended site certificate on July 22, 2022, authorizing the certificate holder to extend the construction commencement and completion deadlines for the components authorized with the first amendment. The construction commencement and completion deadlines authorized in the Third Amended site certificate are February 4, 2025 and February 4, 2028, respectively.

The certificate holder submitted a Request for Amendment 4 (RFA 4) to the Site Certificate. In RFA 4, the certificate holder proposed to increase the output of the Carty Solar Farm from 50 MW to approximately

[1] This Amended Plan is incorporated by reference in the site certificate for the Carty Generating Station and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.

[2] A draft version of this plan was included as Exhibit 1 to the Energy Facility Siting Council's *Final Order on the Carty Generating Station Application for Site Certificate* (June 29, 2012). In accordance with Site Certificate Condition 10.1, the certificate holder consulted with the Oregon Department of Fish and Wildlife (ODFW) and obtained Department approval of the Plan prior to the start of construction (December 2013). As allowed by Section IX of the Plan, ODOE reviewed and approved an amended Plan on July 7, 2014. ~~This~~ The February 2018 amended plan ~~is being~~was submitted as part of the Request for Amendment No. 1 of the Carty Generating Station Site Certificate.

[3] Minor Plan updates were made to reference additional facilities within Morrow and Gilliam Counties included in the Second Amended site certificate.

[4] Minor Plan updates were made to reference changes to the Carty Solar Farm proposed in RFA 4.

185 MW by expanding into areas formerly used for PGE's Boardman Coal Plant (BCP) and maximizing the buildable area southeast of Carty Reservoir. As part of RFA 4, the certificate holder proposed the addition of battery energy storage systems (BESS) to the Carty Generating Station.

This Amended Wildlife and Habitat Monitoring and Mitigation Plan (Amended Plan) describes wildlife monitoring that the certificate holder shall conduct during construction and operation of the Carty Generating Station (facility), including the already constructed Carty Unit 1; Grassland Switchyard; the transmission line segment connecting Unit 1 to the switchyard; ~~additional facilities as approved under Site Certificate Amendment 1, including the Carty Solar Farm site just southeast of Carty Reservoir and the associated interconnection transmission line; and~~additional facilities as approved under the Second Amended site certificate~~.~~; and the Carty Solar Farm with up to 185 MW and the BESS proposed in RFA 4. The monitoring objectives are to determine whether the facility causes significant fatalities of wildlife species or results in a loss of habitat quality.

This Amended Plan also describes methods and standards for preservation and enhancement of land near the Carty Generating Station to mitigate for impacts of the facility on wildlife habitat and addresses mitigation for both the permanent impacts of facility components and the temporal impacts of facility construction. The certificate holder shall protect and enhance the mitigation area(s) as described herein. This Amended Plan specifies habitat enhancement actions and monitoring procedures to evaluate the success of those actions. Remedial action may be necessary if the mitigation area(s) do not demonstrate progress toward habitat enhancement success.

II. DESCRIPTION OF THE FACILITY

The Carty Generating Station Site is located in Morrow and Gilliam Counties, Oregon, approximately 13 miles southwest of the town of Boardman, Oregon. The facility includes two transmission lines: one 500 kV line that extends west from the Grassland Switchyard 17 miles to the Slatt Substation and one 230 kV line that extends approximately 17 miles northwest to the Dalreed Substation. There is no proposed disturbance associated with the existing transmission lines. All proposed disturbance is within Morrow County. The facility would be located on an upland plateau at an elevation of approximately 650 feet above sea level. The facility components would be located entirely on private lands that are mostly characterized as shrub-steppe, grassland, developed or agricultural areas. There are some riparian and wetlands habitats present within the amended site boundary.~~, however, all~~ All new facility components will be sited to avoid impacts on ~~these habitats~~wetlands; there may be minor impacts to riparian habitats. Soil types in the area consist primarily of sandy loam, silt loam, and very stony loam.

Much of the native shrub-steppe vegetation within the site boundary has been modified by livestock grazing and past wildfires. Functional mature shrub-steppe habitat is patchy and is dominated by big sagebrush (*Artemisia tridentata*), broom snakeweed (*Gutierrezia sarothrae*), bluebunch wheatgrass (*Pseudoroegneria spicata*), cheatgrass (*Bromus tectorum*), gray rabbitbrush (*Ericameria nauseos*~~*aus*~~), needle-and-thread grass (*Hesperostipa comata),* and Sandberg's bluegrass *(Poa secunda)*. Grasslands consist of cheatgrass, crested wheatgrass (*Agropyron cristatum*), bulbous bluegrass (*Poa bulbosa*), bluebunch wheatgrass, needle-and-thread grass, Sandberg's bluegrass, redstem filaree (*Erodium cicutarium*), and mouse-ear chickweed (*Cerastium* sp.). Additional species found within the site boundary include yarrow (*Achillea millefolium*), yellow sweet clover (*Melilotus officinalis*), balsam root (*Balsamorhiza* sp.), tall tumble mustard (*Sisymbrium altissimum*), Western juniper (*Juniperus occidentalis*), and black cottonwood (*Populous trichocarpa*). Riparian forests are dominated by Russian olive (*Elaeagnus angustifolia*), Pacific willow (*Salix lucida ssp*.), Canada goldenrod (*Solidago canadensis*), amaranth (*Amaranthus* sp.), and broadleaf cattail (*typha latifolia*). Wetland areas associated with Sixmile Canyon not only contain similar riparian vegetation found around the reservoir; these areas also contain wetland plants such as common reed (*Phragmites australis*).

The Oregon Department of Fish and Wildlife (ODFW) describes habitat categories in its Wildlife Habitat Mitigation Policy (Oregon Administrative Rules [OAR] 635-415-0025). The facility will be constructed in two phases, with the generating components referred to as Unit 1 and the Carty Solar Farm. Unit 1 (generating unit and a portion of the switchyard), completed in 2016, occupies approximately 45 acres of Category 4 shrub-steppe habitat, and temporary construction-related impacts occurred on approximately 55.4 acres of Category 4 shrub-steppe habitat. Portland General Electric Company (PGE) established a Habitat Mitigation Area (HMA) of 78 acres (the HMA for Unit 1) to mitigate these permanent and temporal impacts.

PGE will establish the HMA for the Carty Solar Farm to mitigate permanent and temporal impacts that result from construction of the Carty Solar Farm. The overall HMA for the Carty Generating Station (the Carty Generating Station HMA, or just HMA in this document) will consist of the combined areas of the HMA for Unit 1 and the HMA for the Carty Solar Farm. Disturbance and mitigation acreage for the Carty Solar Farm ~~will be~~has been finalized (approximately 850 acres of mitigation) and updated in this Amended Plan in consultation with ODFW and the Oregon Department of Energy (ODOE) ~~prior to construction of each phase of the project~~ (see Section IV for HMA acreage calculation).

In addition to these two construction phases, minor construction activities will occur as a result of the Second Amended site certificate, which includes a new substation and associated distribution lines, septic system, new back up water pipeline, wastewater pipeline, new security guard station and associated plumbing and communication lines, and new office/warehouse building. Only the new septic system, new wastewater pipeline, and new security guard station and associated plumbing and communication lines would be constructed in vegetated areas with a total temporary disturbance of approximately 2.15 acres and permanent disturbance of 1.45 acre (estimated at the time of the Second Amendment). The ~~existing habitat management area (HMA)~~HMA for Unit 1 is large enough to accommodate this additional disturbance; therefore, no new HMA is proposed to account for the additional mitigation associated with the Second Amended site certificate.

III. WILDLIFE MITIGATION AND MONITORING MEASURES

The certificate holder shall use a qualified investigator (wildlife biologist) to conduct monitoring for Washington ground squirrel (WGS; *Spermophilus washingtoni*), post-construction avian and bat mortality study, raptor nest surveys, and avian use of the facility area. Specific monitoring and mitigation measures for these species are described below (also see Section VII for HMA monitoring requirements):

A. Washington Ground Squirrel

Best Management Practices

- The certificate holder shall impose and enforce a construction and operation speed limit of 20 miles-per-hour throughout the facility site and, during the active squirrel season (February 1 through June 30) a speed limit of 10 miles-per-hour on private roads near known WGS colonies.
- Conduct Environmental Awareness Training for all facility personnel and construction contractors prior to the beginning of construction or before entering the Project right-of-way (ROW). The training program shall discuss WGS and all other environmental issues related to the facility and include handouts with WGS identification information and reporting procedures. Smaller training sessions shall be conducted as needed for personnel that start after the beginning of construction.
- In order to discourage WGS from moving into planned construction areas that are currently not within 785 feet of a known WGS colony the certificate holder may disc or till a minimum of an 800-foot buffer within the perimeter of the planned ground disturbance areas in closest

proximity to squirrel activity areas. Proposed measures and areas where measures will be implemented shall be reviewed by ODOE, in consultation with ODFW, and shall be informed by the most recent WGS survey data. If the certificate holder discs or tills areas, the certificate holder shall plant dryland wheat or another cover crop approved by ODFW in tilled areas. Such areas shall be tilled annually until construction begins to maintain a soil disturbance regime that is unsuitable for use by WGS. Other potential measures for deterring WGS movement into planned construction areas, such as installation of perimeter silt fences, will be planned in coordination with and approved by ODFW. In addition to preventing WGS from moving into the planned construction areas, discing or tilling the planned construction area, and/or implementing other approved deterrence measures, means the area will no longer be considered WGS habitat and would not be included in the no-impact buffer area for any new WGS burrows that are established within 785 feet of the Facility Site Boundary. (Note, an approximately 45-acre portion of the Energy Facility Site was tilled and planted with winter wheat in December 2012 following coordination with ODFW and USFWS).

- If pre-construction surveys determine that WGS burrows have been established in previously inactive areas, the certificate holder shall immediately report to ODOE and ODFW. The certificate holder shall coordinate with ODOE and ODFW to establish additional mitigation measures or to obtain an Incidental Take Permit, as appropriate.
- The certificate holder will consult with ODOE and ODFW to discuss the situation and potential additional avoidance measures should WGS establish burrows within 785 feet of existing facilities, construction activity, or planned construction disturbance areas. If there is concern that, despite reasonable avoidance measures, WGS may accidently be killed or injured by construction activities, then the certificate holder shall work with ODFW to obtain an Incidental Take permit, as appropriate.

WGS Monitoring

The certificate holder shall conduct post-construction surveys on known colonies within the amended Site Boundary, on land owned by the certificate holder, and within the HMA where known active burrows were recorded during pre-construction field surveys. The surveys shall be led by a qualified wildlife biologist with WGS survey experience leading a survey crew experienced in biological surveys and confirmed ability to identify WGS burrows and hear WGS calls. Surveys will be conducted in year one, year three, and year five after operation of Unit 1 has begun (i.e., 2017, 2019, and 2021), and in year one, year three, and year five after Carty Solar Farm operation has begun (years tbd), and otherwise at least every five years (in years divisible by five) for the life of the facility. Known colonies, if identified, within the existing right-of-way for the 500 kV Grassland to Slatt and 230 kV Boardman to Dalreed transmission lines incorporated into the Second Amended site certificate will be included in the every-five-year WGS surveys. Planned work areas associated with transmission line maintenance will be spot checked for WGS activity as needed. Surveyors shall record evidence of WGS activity, current land use, and any conditions caused by the facility that might increase erosion or result in a decline in vegetation quality and adversely affect a WGS colony. Unit 1, portions of the potential Carty Solar Farm transmission line, and portions of new components proposed as part of the second amended site certificate are located on the southwest side of Tower Road. In consultation with ODFW, it was determined that Tower Road is a significant boundary to WGS habitat. Therefore, for active burrows located on the northeast side of Tower Road, the 785-foot buffer will not extend across Tower Road.

B. Raptor Nest Monitoring

During the year in which any phase of construction occurs, the certificate holder shall use a protocol approved by ODFW to conduct raptor nest surveys to determine whether there are any active nests that would potentially be disturbed during construction. Surveys will consist of ground-based and/or helicopter aerial searches, as appropriate to the construction activity locations planned for a given year. Surveys will be carried out to one mile from portions of the amended site boundary within which construction is planned.

If a nest is occupied by any of these sensitive raptor species, 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 designated buffer distances for each species (Table 1). Buffer distances may be decreased with approval by ODFW and USFWS depending on the intensity of construction activity and whether sufficient barriers (e.g., vegetation, topography) are present to shelter a particular nest site from construction disturbance or if consultation determines a lesser distance is feasible and appropriate. The certificate holder also will instruct construction personnel to avoid any unnecessary activity within the buffer area.

Table 1. Critical Nesting Periods for Sensitive Raptors

Species	Disturbance Buffer Distance (line of sight)	Critical Nesting Period	Early Release Date
Ferruginous Hawk	0.6 mile	March 15 to August 15	May 31
Bald Eagle	0.5 mile	January 1 to August 15	May 31
Swainson's Hawk	0.25 mile	April 1 to August 15	May 31
Golden Eagle	1 mile	January 1 to August 15	May 31
Burrowing Owl	0.25 mile	April 1 to August 15	July 15
Long-billed Curlew*	0.5 mile	March 8 to June 15	May 31

*Although not a raptor species, a critical nesting period and buffer of 0.5 mile for active long-billed curlew nests were included in the Site Certificate. While not actively surveyed for, any curlew nests that are incidentally found will be protected with the stipulated nest buffer.

Commented [LS1]: 0.6 mile is fine, our recommendation is currently 0.5

Commented [LS2]: February 1-August 15th is current recommendation.

Commented [LS3]: May 31 release date if burrow is unoccupied.

The certificate holder will direct a qualified biological monitor, as approved by ODOE, to observe the active nest sites during the sensitive period for signs of disturbance. The qualifications of the biological monitor shall be provided to ODOE in the annual report; the certificate holder shall provide notification to ODOE if changes in biological monitor occur. If an active State-sensitive raptor nest is found during construction that is for a species not currently identified in Table 1, the certificate holder will consult with ODFW and USFWS and institute buffer distances and monitoring as appropriate.

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 (Table 1). If a nest site is occupied, the certificate holder may begin or resume high-impact construction before the ending day of the sensitive period, with the approval of ODFW and USFWS, after the young are fledged. The certificate holder would use, and shall provide a copy to ODOE, of a protocol approved by ODFW and USFWS to determine when the young are fledged (that is, when the young are independent of the core nest site).

Annually during construction and in year one, year three, and year five after operations of Unit 1 have begun (i.e., 2017, 2019, and 2021) and year one, year three and year five after operations of Carty Solar Farm have begun (years tbd) and otherwise at least every five years (in years divisible by five) for the life of the facility, the certificate holder shall provide sensitive species raptor nest monitoring report to ODOE, ODFW and USFWS. The report will document the locations and nest productivity of sensitive raptor species nests within one mile of the amended site boundary. The existing 500 kV Grassland to Slatt and 230 kV Boardman Coal Plant to Dalreed transmission lines incorporated into the Second Amended site certificate will be included in the every-five-year raptor nest surveys with focus on any nests on transmission line structures or nearby that may be impacted by transmission line maintenance. Planned work areas associated with transmission line maintenance or construction will be spot checked for nearby raptor nesting activity prior to work. The certificate holder shall consult with USFWS and ODFW regarding any active protected bird nests found within the construction disturbance area or within the disturbance buffer distances (Table 1) of facility construction or operational activities.

If nest monitoring detects nest site abandonment or other adverse impact to nesting activity caused by facility activity, the certificate holder shall implement appropriate mitigation, in consultation with ODFW and subject to the approval of ODOE. The certificate holder shall propose and implement mitigation for the affected species in consultation with ODOE, ODFW, and USFWS. Mitigation shall be designed to benefit the affected species or contribute to overall scientific knowledge and understanding of what causes nest abandonment or nest failure. Mitigation may be designed to proceed in phases over several years. It may include, but will not be limited to, additional raptor nest monitoring, protection of natural nest sites from human disturbance or cattle activity (preferably within the general area of the facility), or participation in research projects designed to improve scientific understanding of the needs of the affected species.

All bird mortalities and active nests of all other protected bird species found in association with facility components shall be documented and reported consistent with PGE's adopted Avian Protection Plan. All eagle and other sensitive raptor species mortalities shall be reported immediately to USFWS and ODFW.

C. Avian Protection

The certificate holder maintains a company-wide Avian Protection Plan (APP) to reduce impacts to avian species from electrocutions and collisions with electric utility power lines and equipment. The APP is hereby adopted by reference. The APP includes the following three-phased approach to address avian risks that will be applied to the development of the Carty Generating Station:

- Preventive – Emphasize compliance with applicable laws, regulations, and permits. Use avian-safe standards company-wide for all designs ~~in areas identified as having high avian risk~~;
- Reactive – Implement the Avian Reporting System ~~(~~to ~~report~~document bird mortalities and conduct remedial measures as appropriate~~)~~; and
- Proactive – Conduct employee training and risk assessments of existing lines, modify lines when necessary, install nesting platforms, and contribute to research of avian/electrical equipment interactions.

Electrocution from high-voltage transmission lines is very rare because the distances between conductors, and between conductors and grounded hardware, are greater than the wingspan of

any raptor (APLIC 2006).[5] However, transmission lines ~~do~~ can present a collision risk for birds, particularly the static wire at the top of the structures. Consistent with the APP, the certificate holder shall employ ~~pre-construction~~ measures to protect raptors in the design and construction of transmission lines. Protection measures to reduce the potential risks to raptors and other birds will include the following:

- Design and construct all above-ground transmission line support structures following the practices suggested by the Avian Powerline Interaction Committee (APLIC)~~, including a minimum separation of 9 feet between all energized transmission conductors~~;
- If perching or nesting is determined to put birds at risk, measures to reduce risk will be evaluated and implemented if feasible;~~Install perch guards or other deterrents as needed and safe alternative perching or nesting locations, as appropriate;~~ and
- Install bird flight diverters ~~and~~ or other line marking devices ~~where necessary to minimize~~ in areas of bird collision risk if evaluation of the area, including ~~, such as~~ bird concentration areas (wetland/riparian areas) and known migratory flight routes, presents a probable risk.

A nest management procedure, which identifies steps facility employees must take when a nest is encountered on utility structures, is also included in the APP. As described in the APP, the certificate holder will track avian mortalities, nest management issues, and remedial actions taken using an internal reporting system and database~~, the Avian Reporting System~~. This reporting database allows: (1) tracking of incidents and remedial actions to ensure that all measures are completed and documented, (2) accumulation of a long-term data set, and (3) compliance with the reporting requirements of the USFWS Special Purpose Permit currently held by the certificate holder. The reporting system also provides data on the location and frequency of bird mortalities and problem nests.

Where feasible, the certificate holder shall conduct site preparation for construction of the Carty Generating Station and transmission line in a manner that minimizes potential for impacting nesting native birds protected by the Migratory Bird Treaty Act, such as conducting initial site clearing outside of the typical bird breeding season (generally March to July). Prior to commencement of construction activity during the breeding season, a qualified biologist shall survey the construction site to determine the presence of any active protected bird nests. Construction personnel shall be trained in avian awareness, reporting of protected bird nests, and the proper procedures if dead birds are found at the construction site.

D. Post-construction Avian and Bat Mortality Monitoring (Carty Solar Farm)

Monitoring Goals

The monitoring program will involve surveys designed to estimate bird and bat fatality rates at the Carty Solar Farm in the year following start of Carty Solar Farm operation. The certificate holder will analyze bird and bat carcass monitoring data to accomplish the following goals:

- Detect carcasses and estimate bird and bat fatality rates for the Carty Solar Farm;
- Estimate fatality rates for species of concern, if practicable; and
- Determine whether additional conservation measures are needed to reduce impacts to birds and bats at the Carty Solar Farm.

[5] APLIC (Avian Power Line Interaction Committee). 2006. Suggested Practices for Avian Protection On Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington D.C. and Sacramento, CA. http://www.aplic.org/uploads/files/2643/SuggestedPractices2006(LR-2).pdf. Accessed August 23, 2016.

Monitoring Methods

i) Study Design

The avian and bat mortality monitoring study is designed to maximize the accuracy of the fatality estimates and to correct for the following sources of field-sampling error: (1) carcasses that occur on a highly periodic basis, (2) carcass removal by scavengers, (3) searcher efficiency, and (4) carcasses or injured birds or bats that may land or move to areas not included in the search transects (Kunz et al. 2007). Post-construction monitoring at the Carty Solar Farm will involve standardized distance-sampling based carcass searches, searcher efficiency trials, and carcass persistence trials, consistent with recommendations from Huso et.al (2016b) and accepted monitoring designs at other utility-scale solar facilities (WEST 2016a-c). Surveys of the PV panel area will be conducted using a distance-sampling based methodology. The layout of PV facilities is often well-suited to a distance-sampling approach. Distance sampling involves searching a transect line and assumes that searcher efficiency decreases (possibly dramatically) as a function of distance from the observer and is ideally suited to situations in which animals (or carcasses) are sparsely distributed across a landscape (Buckland et al. 1993). As the landscape at the Carty Solar Farm would be flat and relatively clear of vegetation, a distance sampling design is well supported, as demonstrated at other PV solar facilities (WEST 2016a; Huso et. al 2016b).

Distance sampling adjusts carcass counts for variable searcher efficiency by calculating the *effective* searcher efficiency along a transect. Effective searcher efficiency is the average probability of detection in the searched area, derived from the detection function. As a highly simplified example, if a searcher walks a 10-m (33-ft) long transect line and detects 90% of all carcasses within 10-m of the line, and 60% of carcasses that are 10 to 30 m (33 to 99 ft) from the line, then the effective searcher efficiency between zero and 10 m would be 0.9 and the effective searcher efficiency between 10 and 30 m would be 0.6. For the total 10 by 30-m area, the effective searcher efficiency would be $\frac{0.9+0.6}{100m^2+200m^2} = 0.5$.

In practice, searcher efficiency is modeled as a continuous function of distance, and the detection function is estimated from bias trial data. An advantage to the use of data from bias trials is that the assumption that carcasses are randomly distributed within the search area (typical of most distance sampling designs) becomes unnecessary. Furthermore, having a sufficient sample size to fit the detection function is no longer dependent on what is observed, as in most distance sampling studies, and trials can be placed to measure potential covariates such as carcass size and ground cover. The fitted detection function is used to determine the overall probability of detection as well as to inform the approximate effective view shed of non-zero detection probability for observers.

Final study design will depend on actual as-built configuration of the Carty Solar Farm and post-construction site conditions, and current knowledge of avian mortality at PV solar farms and will be determined in coordination with ODFW. One potential design, if compatible with site design and conditions such as vegetation height, would be for surveyors to walk or drive an ATV along the facility's access roads, perpendicular to panel rows, and scan 90 meters (295 ft) along the PV array rows (Figure 1). Surveys will include a 50% sample of the blocks in the PV panel area. Study design may be refined, scaled down, or systematic study eliminated entirely if results from other PV solar farm systematic studies to date at the time of project construction indicate a low expected risk of bird mortality at Carty Solar Farm.

ii) **Search Interval and Search Period**

Surveys will be conducted once every three weeks November through February, and once every

two weeks from March through October in the year following start of Carty Solar Farm operation; this period includes spring and fall migration and summer nesting/maternity seasons for birds and bats, respectively. Carcass persistence trials will be conducted concurrently with carcasses searches, and if documented scavenger rates indicate that shorter or longer search intervals are needed, the search intervals may be modified to improve carcass detection rates. Guidance from Huso et. al (2016b) suggests determining search intervals such that the average probability a carcass is available to be found is at least 50%. Since carcass persistence may vary by carcass size, search intervals should be determined based on the size or sizes of principal species of interest; for example, if impacts to water-associated birds are a focus, then search intervals can be adjusted based on persistence times for large and medium-sized birds, such as grebes, ducks, and loons.

iii) **Searcher Qualifications**

Searchers will be trained to conduct carcass searches and will be familiar with and able to accurately identify bird and bat species likely to be found in the Carty Solar Farm area. Any unknown birds and bats or suspected state or ESA-listed species discovered during carcass searches will reported to a qualified biologist for positive identification.

iv) **Data Collection**

For each carcass or injured bird found, data recorded will include the following:

- Photos of the carcass from different angles and including a size-referencing object
- Date and time
- Initial species identification
- Sex, age, and reproductive condition (when possible)
- GPS location
- Nearest CARTY SOLAR FARM component (PV array, control house/storage facility, equipment, or other)
- Distance to the nearest PV panel
- Distance from observer when carcass first observed
- Substrate/ground cover conditions
- Condition of specimen
  -Dead and intact
  -Fresh or Dry
  -Dismembered
  -Feather spot (at least two or more primary feathers, five or more tail feathers, or ten or more feathers)
  -Other evidence of scavenging
  -Injured (note apparent injuries)

Bird and bat carcasses found in non-search areas (i.e., outside of the sampled areas described in Section i) will be coded as incidental finds and documented in a similar fashion to those found during standard searches. Incidental finds will be included in the raw survey summary totals but will not be included in the estimated fatality calculations. Carcasses be collected and disposed of consistent with PGE's Avian Protection Program and existing federal Migratory Bird Special Purpose Utility permit. Injured birds will be transferred to a licensed rehabilitator.

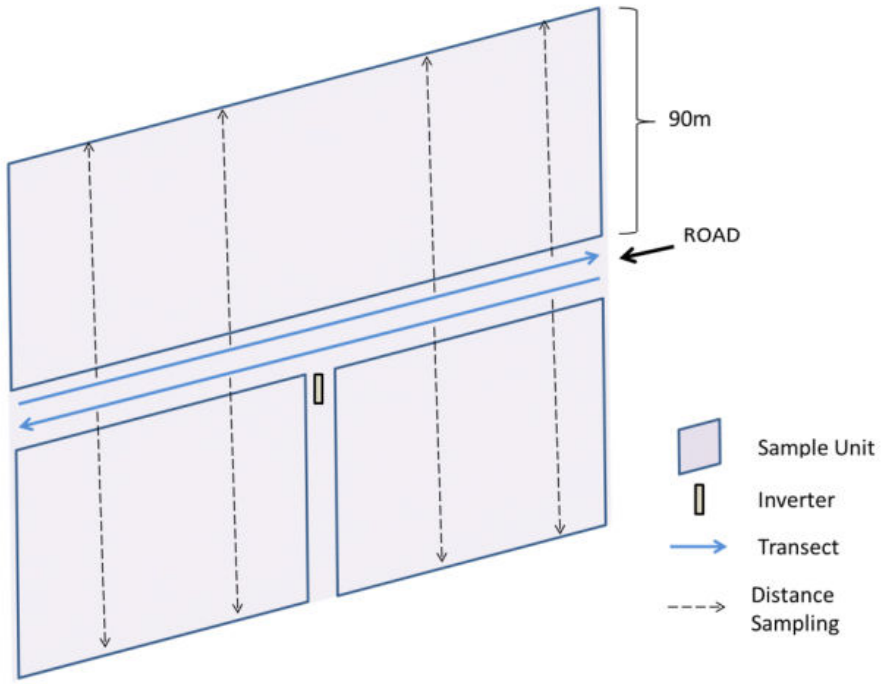


Figure 1. Example illustration of generic PV sampling unit with travel routes and searches using distance sampling ('observation perspectives').

(1) Searcher Efficiency and Carcass Persistence Trials

Searcher efficiency and carcass persistence trials will be conducted in conjunction with standard carcass surveys. Searcher efficiency trials will be placed throughout each season on scheduled search days to ensure trials are representative of search conditions throughout each season. Trials will be placed on at least five different days throughout each season. Searcher efficiency trials will be used to estimate the percentage of bird and bat carcasses that are detected during the carcass searches. Using the detection function fit from searcher efficiency trial data, the average probability of detecting a carcass along a specified length of panel rows can be calculated and used to adjust discovered carcasses for detection bias. Similarly, carcass persistence trials will be used to estimate the percentage of bird and bat carcasses that persist (i.e. are not removed by scavengers) long enough to be located by searchers. When considered together, the results of searcher efficiency and carcass persistence trials will inform the likelihood that a bird or bat carcass that falls within the searched area will be recorded. These correction factors will be incorporated into a fatality estimate model to estimate fatality rates.

The bias-trial sample sizes required to produce precise, adjusted fatality estimates are not well established, in part because needs may vary substantially depending on actual project-specific searcher efficiency, carcass persistence, and fatality rates. However, using searcher-efficiency trials to help evaluate the efficacy of the distance-sampling approach used in this investigation will require larger sample sizes to produce a sampling design that effectively accounts for distance as a key covariate of

interest. A minimum of 25 carcass samples per small size class, 15 for medium, and 10 for large is anticipated within the solar array per season (Table 2). Searcher efficiency will be summarized for each individual searcher, but to avoid needlessly inflating the variance of the estimate, individual searcher effects will not be included in the fatality estimation model.

Table 2. Approximate Searcher efficiency trial sample sizes per season.

Facility component	Size	Sample size
solar arrays	Small	25
	Medium	15
	Large	10
Totals		50

Carcasses of bird or bat species recovered during the study that are not listed under the Migratory Birds Species Act or state or federal endangered species regulations may be re-used in the searcher efficiency trials, as carcass condition allows. Species such as house sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*) may be used to represent small-sized birds; rock doves (*Columba livia*) and commercially raised hen mallards (*Anas platyrhynchos*) or hen pheasants (*Phasianus colchicus*) may be used to represent medium to large-sized birds. If visibility classes are established, to account for differences in vegetation, trial carcasses will be placed in a variety of vegetation types so that searcher efficiency rates can be determined for each visibility class. The number of carcasses used will be limited to ensure that a scavenger swamping does not occur. Searcher efficiency trials will be conducted blindly; the searchers will not know when trials are occurring, within which transects the trial carcasses are placed, or where trial carcasses are located within the project.

The number and location of trial carcasses found by searchers will be recorded and compared to the total number placed in the transects. Searchers will be instructed prior to the initial search effort to leave carcasses, once discovered to be trial carcasses (by inconspicuous ID tags), in place (these carcasses will also be used to calculate carcass persistence). The number of trial carcasses available for detection (non-scavenged) will be determined immediately after the conclusion of the trial. Searcher efficiency of the surveyors will generate the estimate of searcher bias for input into the fatality estimate models.

Carcass persistence trials will be conducted concurrently with searcher efficiency trials and, to the extent possible, using the same carcasses from the searcher efficiency trials. In total, 30 small, 20 medium, and 10 large carcasses will be randomly placed and monitored within the solar arrays, each season (Table 3). Carcass persistence trials in the solar arrays will be monitored, using motion-triggered, digital trail cameras (e.g., see Smallwood et al. 2010). The status of each trial carcass (e.g. gone/present, fresh/desiccated, whole/partial) will be recorded throughout the trial. The length of time carcasses persist on the ground will be used to generate the estimate of carcass persistence for input into the fatality estimate models.

It may not be necessary to use cameras to monitor every carcass, as carcass persistence can also be conservatively estimated by frequent field visits and using the last date a carcass was observed as its removal date. However, at least a subset of carcasses will be monitored with cameras to help determine fate of scavenged carcasses. Cameras may also be useful for other purposes. For example, if trained on solar arrays and facility fences, motion-activated cameras could help to document cause of avian and bat fatalities, which is often undetermined at solar farms. The number and purpose of cameras used will be determined along with final study protocol in consultation with ODFW and ODOE.

Table 3. Approximate Carcass Persistence Trail Sample Sizes Per Season.

Facility component	Size	Sample size
solar arrays	Small	30
	Medium	20
	Large	10
Totals		60

Fake cameras or cameras without bias trial carcasses may also be placed to avoid training ravens to recognize cameras as "feeding stations". Periodic ground-based checking of carcasses also will occur to guard against misleading indicators of carcass removal, such as wind blowing the carcass out of the camera's field of view. To minimize potential bias caused by scavenger swamping (Smallwood 2007, Smallwood et al. 2010), carcass-persistence specimens will be distributed across the entire Facility, not just in areas subject to standard surveys, and new specimens will be placed every two to three weeks in small numbers.

(2) *Data Analysis and Modeling*

Because the detectability of carcasses during field surveys can be imperfect, raw carcass counts generally underestimate actual mortality. Therefore, the Huso fatality estimator (Huso 2011; Huso et al. 2012, Huso et. al 2016a), modified to account for distance sampling (WEST 2016a, Huso et. al 2016b), will be applied to generate corrected fatality rate estimates for the Carty Solar Farm.
The Huso fatality estimator (Huso 2011; Huso et al. 2012) allows the user to model categorical covariates that may affect searcher efficiency and carcass persistence. AICc scores are used to evaluate the effectiveness of candidate models before generating final fatality estimates. Because the underlying assumption that searchers have a single opportunity to discover a carcass, only those carcasses determined to have occurred within the previous search interval will be used to generate adjusted fatality estimates. In addition, the model does not produce reliable estimates when there are few carcasses included in analysis.

When fewer than five carcasses belonging to a group of interest (e.g. small birds) are found and included in analysis, estimates will not be provided. Corrected fatality estimates will be reported for the solar Facility (PV panel area). Estimated mortalities will be expressed in terms of carcasses/MW/season and in other metrics appropriate for a solar facility to facilitate comparison with other studies. Analysis of data collected during the post-construction study will include seasonal fatality estimates for all birds and bats to the taxonomic level where fatality estimates can be calculated. Fatality estimates and confidence intervals will be compared to determine if differences in fatality estimates between taxa or group (e.g. birds compared to bats, large birds compared to small birds), or season. Because representative fatality estimates are more challenging to develop for small (i.e. <5) numbers of carcasses, appropriate taxonomic level fatality estimates will only be calculated if the number of carcasses is sufficient.

Reporting

The Certificate Holder will document the results of the monitoring in a summary report following the completion of the post-construction monitoring. The certificate holder may include this summary report of bird and bat fatality monitoring data and analysis in the annual report required under OAR 345-026-0080 or submit this information as a separate document at the same time the annual report is submitted.

The summary report will include fatality estimates and data summaries. The report will include all data analyses, including correlation analyses and overall fatality estimates, and a discussion of monitoring

results and their implications. The certificate holder shall notify the appropriate agency immediately upon the discovery of a carcass of any state-listed, ESA-listed species or eagle on the Facility site.

Adaptive Management

i. Adaptive Management Goals

Adaptive management will allow the Certificate Holder to meet the goals of avoiding and minimizing impacts to birds and bats. After the end of the first year of post-construction monitoring, if the fatality rates do not exceed any thresholds of concern identified in Section 3.2, no additional monitoring will be conducted. However, if the fatality rates do exceed any of the thresholds of concern in Section 3.2, ODOE, in consultation with ODFW and the Certificate Holder, will determine if additional monitoring is warranted based on the number of observed carcasses and estimated fatality rates and consideration of any other significant information available at the time.

ii. Adaptive Management Process

To enable new information, including the results of post-construction monitoring, to influence and improve avoidance and minimization measures, certain trigger events and the subsequent changes or actions have been established. The events that would trigger need to consider the additional avoidance and minimization measures presented herein would be:

- Discovery of an eagle carcass
- New ESA-listing of a bird or bat species
- Discovery of an ESA-listed species carcass
- New state-listing of a bird or bat species
- Discovery of a state-listed species carcass
- The total number of observed bird and bat mortalities is higher than expected and likely to be significant, as defined in Section 3.2.6.

1) Discovery of an Eagle or ESA-listed Species Carcass

   If an eagle or ESA-listed species carcass is discovered within the Carty Solar Farm, the following actions will be taken:
   - Certificate Holder will, working with a qualified wildlife biologist, promptly identify and secure the carcass at the place of its discovery in the field until USFWS personnel can be reached and provide the further instruction for the storage of the carcass.
   - Certificate Holder will notify USFWS, ODFW, and ODOE within one business day after discovery and positive identification of the carcass.
   - Certificate Holder will work with the USFWS to evaluate available data concerning the find and, as appropriate, identify and implement avoidance and minimization measures to reduce the risk of future carcasses. Potential adaptive management approaches are presented in Section 3.2.7 below.
   - Certificate Holder will assess the need to obtain additional authorizations in view of the new information.

2) New ESA-listing of a Bird or Bat Species

   If a bird or bat species, known to occur or that has a high likelihood to occur within the Carty Solar Farm area, becomes listed under the ESA during the life of the facility, Certificate Holder will coordinate with USFWS. If this trigger is met, Certificate Holder will work with USFWS to assess the potential for the facility to impact the species and subsequently to determine the appropriate action(s), if any.

3) New State-listing of a New Bird or Bat Species

If a bird or bat species, known to occur or that has a high likelihood to occur within the Carty Solar Farm area, becomes listed by ODFW during the life of the facility, Certificate Holder will coordinate with ODFW and ODOE. If this trigger is met, Certificate Holder will work with ODFW and ODOE to assess the potential for the facility to impact the species and subsequently to determine the appropriate action(s).

4) Discovery of a State-listed Species Carcass

- Certificate Holder will, working with a qualified wildlife biologist, promptly identify and secure the carcass at the place of its discovery in the field until ODFW personnel can be reached and provide the further instruction for the storage of the carcass.
- Certificate Holder will notify ODFW and ODOE within one business day after the discovery and positive identification of the carcass.
- Certificate Holder will work with the ODFW and ODOE to evaluate available data concerning the discovery and, as appropriate, identify and implement avoidance and minimization measures to reduce the risk of future mortalities.
- Certificate Holder will assess the need to obtain additional authorizations in view of the new information.

5) Total Number of Observed Bird and Bat Mortalities is Higher than Expected and Likely to be Significant

Mortalities to birds and bats during operations are expected to be low. Significance of the levels of mortality of any bird or bat species would be determined in coordination with USFWS, ODFW and ODOE based on the best available information, including the most recent data on species' population sizes and trends and fatality rates at technologically and geographically similar facilities if available. At this time, there is no publicly available avian fatality data at PV facilities in Oregon, but there may be in the future. This approach recognizes that higher levels of mortality of common species may not be significant. Conversely, lower levels of mortalities of less common species may be of more concern, particularly if these species appear to be at risk (e.g., Oregon sensitive-critical species). Given the assessment and prediction that impacts are likely to be low, the following actions are suggested in response to monitoring outcomes:

- If documented fatalities are low and not considered significant for the species involved, no mitigation will be conducted.
- If fatalities are high enough that they could be considered significant for the species involved, Certificate Holder will meet and confer with the ODFW and ODOE and the applicable actions presented below will be carried out. If a particular cause can be identified, Certificate Holder will develop specific mitigation measures in consultation with ODFW and ODOE to address the occurrence.

6) Potential Adaptive Management Approaches

Circumstances that trigger the need for adaptive management will be investigated such that the Certificate Holder can, in consultation with ODFW and ODOE, implement avoidance, minimization, and mitigation measures designed and implemented to reduce impacts to birds and/or bats while maintaining Facility viability. If ODOE determines that additional avoidance, minimization or mitigation measures are appropriate based on analysis of the data, consultation with ODFW, and consideration of other significant information available at the time, the Certificate Holder, in consultation with ODOE and ODFW, shall propose and implement measures to address the concern, subject to the approval of ODOE. Avoidance, minimization, and mitigation actions that may be taken

under adaptive management include, but are not limited to, the following:

- Remove or modify any identified sources of bird or bat attraction to the extent practicable.
- If more than one eagle carcass is discovered in a 5-year time period, Certificate Holder will develop and implement a roadkill removal program on roads within or near the Carty Solar Farm, as appropriate, to offset Carty Solar Farm impacts to eagles.
- Implement technological solutions. If bird and/or bat carcass discoveries exceed the above-defined adaptive management triggers and new techniques or technology become available, the Certificate Holder, ODOE, and/or ODFW shall propose new approaches, techniques or technology designed to avoid and/or minimize impacts to the affected species, taking into consideration factors including but not limited to cost effectiveness and feasibility to implement, subject to the approval of ODOE. At this time, there are no technological solutions available. If ODOE determines that additional monitoring is appropriate based on analysis of the data, consultation with ODFW and Certificate Holder, and consideration of any other significant information available at the time, the Certificate Holder shall conduct additional specific, targeted monitoring to determine if adaptive management measures are effective.

IV. CALCULATION OF THE SIZE OF THE MITIGATION AREA

The HMA must be large enough and have characteristics that meet the standards set by ODFW's Wildlife Habitat Mitigation Policy. These standards include: no net loss of habitat quantity or quality and to provide a net benefit of habitat quantity or quality for Category 2 habitat; no net loss of habitat quantity or quality for Category 3 habitat (in-kind, in-proximity mitigation); no net loss of habitat quantity or quality for Category 4 habitat; net benefit in habitat quantity or quality for Category 5 habitat (i.e., actions that improve habitat conditions); and minimize impacts for Category 6 habitat.

~~Unit 1 permanent impacts and estimated acreage permanent impacts for the Carty Solar Farm are shown in Table 4~~Table 4 shows the acres of temporary and permanent impacts for the Carty Generating Station and associated mitigation acreage. For permanent impacts, the mitigation area shall include 2 acres for every acre of impacts to Category 2 habitat (a 2:1 ratio to provide no net loss and a net benefit of habitat quantity) and 1 acre for every acre of permanent impacts to Category 3 and 4 habitats (a 1:1 ratio to provide no net loss). Mitigation for temporary impacts shall include 1 acre for every acre of impacts to Category 2 habitat (a 1:1 ratio) and 0.5 acre for every acre of temporary impacts to Category 3 and 4 habitat (a 0.5:1 ratio) that have not previously been mitigated for temporary impacts (e.g., areas of temporary impacts that are mitigated as part of construction for Unit 1 that are reused for subsequent units will not result in additional mitigation acreage). Temporary impacts on grasslands typically do not require mitigation in the form of land acquisition and/or conservation.

The acreages of impact in this Amended Plan for Unit 1 are based on the final design layout of the facility submitted to ODOE and ODFW prior to beginning of Unit 1 construction and the revised final design layout of the facility and the associated impact acreages provided to ODOE and ODFW during construction. The construction of Unit 1 resulted in 45 acres of permanent disturbance and 55.4 acres of temporary disturbance, resulting in a total required mitigation area of 72.7 acres.

The acreages of impact for the Carty Solar Farm are based on preliminary design and will be updated based on final design layout of the amended facility. The acreages of impact will be submitted for approval to ODOE and ODFW prior to beginning construction to demonstrate that the HMA is appropriately sized. The calculated maximum habitat impact estimates of the Carty Generating Station construction associated with each unit are shown in the table below (Table 4).

The acreages of impact for the septic system and security guard station including associated plumbing and communication lines are based on preliminary design and will be updated based on the final design layout of the amended facility. The acreages of impact will be submitted for approval to ODOE and ODFW prior to beginning

construction to demonstrate that no new HMA is needed. The calculated maximum habitat impact estimates associated with the Second Amended site certificate are shown in Table 4.

Table 4. Estimated Habitat Impacts of the Carty Generating Station by Habitat Category

Habitat Type by Project Area	Temporary Impacts (acres)[1]	Permanent Impacts (acres)[2]	Calculated Mitigation Area (acres)[1,2]
Unit 1 and Supporting Facilities[3]			
Category 4	55.4	45	72.75
Total Unit 1 Area RequiringMitigation[1,2]	27.75	45	72.75
Proposed new Facility components of Request for Amendment 2[4]			
Category 4	0.8	0	0.4
Category 6	0	1.07	0
Total Area RFA2 Area Requiring Mitigation[1,2]	0.4	0	0.4
Carty Solar Farm and Related or Supporting Facilities in RFA4[5]			
Category 2	~~6.39~~3.8	~~259.32~~154.9	~~525.03~~313.6
Category 3	~~7.66~~1.1	~~42.84~~102.5	~~46.67~~103.1
Category 4	~~90.57~~3.0	~~18.79~~433.5	~~64.08~~435.0
Category 6	~~2.81~~29.3	~~0.19~~169.1	0.00
Total Solar Farm Area Requiring Mitigation[1,2]	~~55.51~~5.8	~~580.27~~845.8	~~635.78~~851.6
Mitigation Summary			
Mitigation Required to date (Unit 1)			72.75
Additional Mitigation Required under RFA2			0.9
Additional Mitigation Required under RFA 4 (Carty Solar Farm)			851.6
Total Mitigation for Amended Project			~~709.43~~925.3

Notes:

In all cases, impacts in a given project area will only be mitigated once.

[1]Temporary impact mitigation is based on a 1:1 ratio for Category 2, a 0.5:1 acre ratio of Category 3 and 4, and zero for Category 6.

[2] Permanent impact mitigation is based on a 2:1 ratio for Category 2, a 1:1 acre ratio of Category 3 and 4 and zero for Category 6.

[3] Unit 1 includes Unit 1 and all related or supporting facilities constructed as part of Unit 1.

[4] New facility components as proposed in RFA2 include the new security guard station, wastewater pipeline, septic system, water pipeline, office/warehouse building, and the Carty substation and associated distribution lines. Note that the septic system, substation, and office/warehouse were constructed so the acreage in Table 6 is for only components that have been constructed and does not match the amount originally estimated in the Second Amendment.

~~[5] The Carty Solar Farm includes the Carty Solar Farm energy facility site, the potential route for the Carty Solar Farm interconnection transmission line that would require the most mitigation acres (Route 1), the Grassland Switchyard buildout area if interconnection Option 1 is selected (along with potential interconnection Route 1), and temporary construction laydown and parking areas.~~

V. DESCRIPTION OF THE MITIGATION AREA

To comply with the mitigation criteria outlined in OAR 635-415-0025, the certificate holder shall mitigate for impacts to Category 2, 3, 4, and 5 habitats in a manner consistent with the ODFW habitat mitigation policy and subject to the approval of ODFW. The certificate holder will establish a HMA (or areas) that will be maintained, enhanced, and monitored throughout the life of the facility[6] through implementation of the habitat enhancement actions described in this Amended Plan. The certificate holder shall provide appropriate legal documentation to ODOE showing the legal right to create, maintain, and protect the HMA for the life of the facility. The certificate holder shall not undertake any development activities within the HMA throughout the life of the facility.

The 78-acre HMA for Unit 1 is located immediately east of the Site Boundary and comprises all or portions of map T3N R24E, tax lots 101, 113, and 116. The parcel is owned and has been placed under conservation easement by the certificate holder. It is adjacent to the existing PGE-owned natural habitat areas on the north and east sides, and a conservation area maintained by The Nature Conservancy along part of the west boundary. The vegetation in the HMA is dominated by Sandberg's bluegrass, bluebunch wheatgrass, and intermittent areas of needle-and-thread grass, as well as cheatgrass. There are also occasional green rabbitbrush (*Chrysothamnus viscidiflorus*), gray rabbitbrush, big sagebrush, fiddleneck (*Amsinckia menziesii*), and yarrow (*Achillea millefolium*). WGS burrows were identified within the HMA for Unit 1 in 2006. As of 2010, approximately 80 percent of the HMA for Unit 1 area was located within 785 feet of identified WGS burrows and was therefore considered Category 1 habitat. The remainder of the HMA for Unit 1 was included in the buffer area for previously occupied WGS habitat and was therefore designated as Category 2 habitat. Based on 2016–2017 WGS surveys, the majority of the HMA for the Carty Solar Farm (see below) would be located on Category 2 or Category 3 habitat based on the current habitat categorization for Amendment 1. The 78-acre HMA is 5.25 acres larger than required for temporary and permanent impacts associated with Unit 1 and supporting facilities. Therefore; the additional 1.10 acres of mitigation required for the septic system and security guard station included in the Second Amended Site Certificate are covered by this HMA.

The proposed HMA for the Carty Solar Farm and supporting facilities (the HMA for the Carty Solar Farm), estimated at approximately ~~636~~ 850 acres per Table 4, would be located within a portion of the PGE-owned, 880-acre natural habitat area that contains remnant stands of sagebrush. The parcel adjoins the HMA for Unit 1 to the north and east and is located in Section 26, T3N R24E tax lot 101 and the eastern half of Section 35, T3N R24E, tax lot 113). The certificate holder plans to mitigate for the habitats impacted by placing a conservation easement on the appropriate acreage and by providing habitat uplift through the habitat enhancement and monitoring activities described below. Final location of the HMA for the Carty Solar Farm will be delineated in coordination with ODFW prior to construction once final design layout and mitigation acreage is determined.

VI. HABITAT ENHANCEMENT ACTIONS

The objectives of habitat enhancement and restoration are to protect habitat within the mitigation area from degradation and improve the habitat quality of the mitigation area. The certificate holder shall initiate the habitat enhancement actions for the facility before beginning operation. The certificate holder shall restrict uses of the mitigation area that are inconsistent with the goal of no net loss and net benefit of Category 2 habitat and no net loss of Category 3 and 4 habitats. The certificate holder shall implement habitat enhancement actions as described in this Amended Plan and as specified in the amended Site Certificate.

[5] As used in this plan, "life of the facility" means continuously until the facility site is restored and the site certificate is terminated in accordance with OAR 345-027-0110.

A. Noxious Weed Prevention, Inventory, and Control within the Habitat Management Area

The certificate holder shall conduct comprehensive noxious weed inventories to identify patches of weed infestation within the HMA during year one, year three, and year five after construction of Unit 1 (i.e., 2017, 2019, and 2021), and then continue once every five years (in years divisible by five) for the life of the facility. Weed control and monitoring activities will be conducted more frequently (at least every two years) in areas prioritized based on the results of the comprehensive surveys and reported to ODOE and ODFW. Weeds will be controlled as needed to maintain and enhance habitat quality within the mitigation area, with the goal of working toward eradication of targeted noxious weeds or, if eradication is not practical, decreasing their abundance to minimize impacts on native plant communities. Weed management practices will be consistent with an integrated weed management approach, using an appropriate combination of inventory; prevention (such as best management practices to prevent weed establishment); and control methods (such as hand pulling, mowing, biological control, and/or herbicides). The certificate holder shall obtain ODFW's approval prior to the use of pesticides. Controlling weeds in the HMA should promote growth of native vegetation. If a substantial area of soil is left bare from weed control activities, the area will be seeded using the appropriate methods (as described in the Revegetation and Noxious Weed Control Plan) during the appropriate time of year and using an appropriate mixture of native grass and/or shrub seeds.

B. Fire Damage Revegetation

If vegetation in the HMA is damaged from fire or from fire suppression efforts (e.g., vehicular disturbance), the area would be seeded as necessary with the appropriate seed mix using the appropriate methods, as described in the Revegetation and Noxious Weed Control Plan.

C. Access Control and Wildlife-Compatible Fencing

The certificate holder will monitor and control access to the HMA and will post informative signs depicting the area(s) as "protected" and including natural resources information as appropriate for the life of the facility. Primary access to the PGE property is controlled by a gate off Tower Road north of the Carty Generating Station (currently used by PGE and The Nature Conservancy [TNC]), the gated entrance to the Boardman Plant, and a gated road from Ione to the south. TNC and Three Mile Canyon Farms may occasionally use the two-track access crossing PGE's property to access the Farm's conservation area. Approved access to the site is currently limited to such occasional approved use of access roads and PGE's general operational needs. Any fences within or bordering the mitigation area(s) will be removed or modified to wildlife-friendly specifications as appropriate. No livestock grazing is currently occurring on the site, and grazing would not be allowed in the future. Periodic monitoring (at least annually but typically more frequently concurrent with other site activities) will be conducted to evaluate effectiveness of access control measures and signage maintenance needs.

D. Enhancement and Sagebrush Habitat

To mitigate for permanent impacts to Category 3, and 4 sagebrush habitat affected at the Carty Solar Farm (see acreage in Table 4), the certificate holder will plant sagebrush and/or bitterbrush seedlings in the HMA for the Carty Solar Farm, focusing on enhancing and expanding remnant stands of shrubs that were impacted by past wildfires. Sagebrush and/or bitterbrush seedlings will be planted at a density of 450 plants per acre (approximately 10 feet on center). Planted shrubs will be monitored annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period. Methods and performance criteria to be finalized through consultation with ODFW.

E. Provide Additional Raptor Nesting Opportunities

As recommended by ODFW, to mitigate for removal of juniper trees and potential raptor nesting sites in

the Carty Solar Farm permanent footprint, the certificate holder will plant up to one tree per 10 acres (roughly 660-foot spacing on center) based on the final size of the HMA for the Carty Solar Farm. Initial planting will be conducted in the October/November or February/March time period during the first year following start of construction. Planted juniper trees will be monitored annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period. Methods and performance criteria to be finalized through consultation with ODFW.

VII. MITIGATION AREA MONITORING

The certificate holder shall use a qualified investigator (botanist, wildlife biologist, or revegetation specialist) to conduct a comprehensive monitoring program for the HMA. The purpose of this monitoring is to evaluate on an ongoing basis the protection of habitat quality, the results of enhancement actions, and the use of the area by avian and mammal species, especially during the wildlife breeding season.

The investigator shall visit the HMA as necessary to complete the required monitoring during the first, third, and fifth year after Unit 1, and the Carty Solar Farm construction (i.e., 2017, 2019, 2021) and every fifth year thereafter (in years divisible by five, unless otherwise specified for specific measures) for the life of the Project. Monitoring activity shall include an assessment of the following:

General quality of vegetation cover (dominant species, structural age, etc.), as determined by ocular estimates and photo points (see below);

1) Success of weed control efforts;
2) Success of remedial actions to restore habitat quality in damaged areas (such as managed weed infestations and any necessary seeding/planting areas), as determined by vegetation cover (ocular estimate) and photo points (see below). Areas where remedial actions involve soil disturbance and reseeding would be monitored consistent with the revegetation monitoring methods and schedule as described in the Amended Carty Generating Station Revegetation and Noxious Weed Plan. See Section VI for schedule and performance criteria for habitat enhancements involving shrub and juniper plantings.
3) Photos taken from established photo points within the HMA, including 1) a minimum of five permanent photo points distributed to show general vegetation status throughout the HMA, and 2) additional photo points as needed to monitor success of significant enhancement activities, such as managed weed infestations and/or any necessary seeding/planting areas;
4) Incidental wildlife occurring within the HMA (counts concurrent with all other monitoring work);
5) Environmental factors found on site during monitoring activities and annual summary records (such as precipitation);
6) Surveys of resident special status wildlife species (WGS) that have been documented during previous monitoring or survey efforts within the HMA, using existing protocols approved by ODFW; and
7) Avian point counts during the breeding season at existing point count stations, formerly monitored under the Boardman Plant Ecological Monitoring Program, in the vicinity of the HMA(s). Four point-count stations are located in the immediate vicinity of the HMA for Unit 1, and an additional ~~four sites~~ six point-count stations are located in the immediate vicinity of the proposed HMA for the Carty Solar Farm.

VIII. DATA REPORTING

The certificate holder shall submit a report including wildlife and habitat monitoring data and analysis to ODOE and ODFW during each monitoring year according to the schedule in Table 5. The certificate

holder shall notify USFWS and ODFW within one business day if any federal or state endangered or threatened species are killed or injured on the facility site or within the HMA. The certificate holder may include the reporting of wildlife monitoring data and analysis in the report required under OAR 345-026-0080 or submit this information as a separate document concurrent with the submittal of the report. In addition, the certificate holder shall provide ODOE with any data or record generated by the investigators in carrying out this Amended Plan upon request by ODOE.

Table 5. Schedule of Wildlife Mitigation and Monitoring Programs

Task	Schedule
Post-construction Washington Ground Squirrel Survey Monitoring	Year one, three and five after operation of Unit 1 has begun and in year one, three and five after operation of Carty Solar Farm has begun, and otherwise at least every five years (in years divisible by five) for the life of the facility.
Raptor Nest Monitoring	
Post-construction Avian and Bat Mortality Monitoring	A full year of formal post construction avian and bat monitoring in the year following start of Carty Solar Farm operation. N/A for Unit 1.
General HMA Monitoring	During the first, third, and fifth year after Unit 1 HMA, (i.e., 2017, 2019, 2021) and during the first, third, and fifth years after Carty Solar Farm construction for Carty Solar Farm HMA, and otherwise every fifth year thereafter for the life of the facility for entire applicable HMA.
Noxious Weed Inventory for HMA	
General Weed Control and Monitoring Activity for HMA	At least every two years (in priority areas based every-five-year comprehensive inventory results) starting from the completion of construction.
HMA Sagebrush Habitat Monitoring	Annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period, for the Carty Solar Farm. N/A for Unit 1.
Additional Raptor Nest Opportunities (juniper plantings) Monitoring for HMA	Annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period for Carty Solar Farm. N/A for Unit 1.

IX. AMENDMENT OF THE PLAN

This Wildlife and Habitat Monitoring and Mitigation Plan may be periodically amended and updated to include current and best available practices by agreement of the certificate holder and ODOE. Such amendments may be made without amendment of the Site Certificate. The Energy Facility Siting Council (Council) authorizes ODOE to agree to amendments to this plan and to mitigation actions that may be required under this Plan. ODOE shall notify the Council of all amendments and mitigation actions, and the Council retains the authority to approve, reject, or modify any amendment of this plan or mitigation action agreed to by ODOE.

X. LITERATURE CITED

Buckland, S. T., D. R. Anderson, K. P. Burnham, and J. L. Laake. 1993. Distance Sampling: Estimating Abundance of Biological Populations. Chapman & Hall, London, United Kingdom.

Huso, M. 2011. An estimator of wildlife fatality from observed carcasses. *Environmetrics*, n/a. doi: 10.1002/env.1052.

Huso, M., N. Som, and L. Ladd. 2012. Fatality estimator user's guide. U.S. Geological Survey Data Series 729. Available at: http://pubs.usgs.gov/ds/729/pdf/ds729.pdf.

Huso, M., D. H. Dalthorp, T. Miller, and D. Bruns. 2016a. Wind Energy Development- Methods for Assessing Post-Construction Bird and Bat Mortality. Human-Wildlife Interactions 10(1): 62-70.

Huso, M., T. Dietsch, and C. Nicolai. 2016b. Mortality Monitoring Design for Utility-Scale Solar Power Facilities. US Geological Survey (USGS) Open-File Report 2016-1087. 44 pp.

Kagan, R.A., Viner T.C., Pepper W. T. and Espinoza E.O. 2014. Avian Mortality at Solar Energy Facilities in Southern California: A Preliminary Analysis. National Fish and Wildlife Forensics Laboratory

Western Ecosystems Technology, Inc. (WEST). 2016a. Avian and Bat Monitoring at the Desert Sunlight Solar Farm Project Riverside County, California, 2015 - 2016 Annual Report [Draft]. Prepared for Desert Sunlight 250, LLC and Desert Sunlight 300, LLC, Juno Beach, Florida. Prepared by WEST, Cheyenne Wyoming.

Western EcoSystems Technology, Inc. (WEST). 2016b. Bird and Bat Conservation Strategy, Blythe Solar Energy Project, Riverside County, California. 57 pp.

Western EcoSystems Technology, Inc. (WEST). 2016c. Bird and Bat Conservation Strategy, McCoy Solar Energy Project, Riverside County, California. 57 pp.

Attachment 1: Revised Redline Site Conditions (GC-4)

10.7. The certificate holder must:

i. For Unit 1, implement measures to avoid or minimize temporary and permanent impacts to high quality native habitat and to retain habitat cover in the general landscape, where practicable.

a. The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.

b. Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility and the areas that would be disturbed during construction and identifying the survey areas for all plant and wildlife surveys conducted in 2010 or earlier as described in the Final Order on the Application. The certificate holder shall use a qualified professional biologist to conduct a pre-construction plant and wildlife investigation of all areas that would be disturbed during construction that lie outside of the previously surveyed areas. The certificate holder shall provide a written report of the investigation to the Department and to the Oregon Department of Fish and Wildlife. Based on consultation with the Department and ODFW, the certificate holder shall implement appropriate measures to avoid impacts to any Category 1, 2, or 3 habitat, to any State-listed threatened or endangered plant or wildlife species, and to any State Candidate plant species. If any Category 2 or 3 habitat is identified and will be impacted, the certificate holder shall work with the Department and ODFW to identify appropriate mitigation measures for such impacts.

c. Before beginning construction, the certificate holder's qualified professional biologist shall survey the previously-identified Category 1 Washington ground squirrel habitat to ensure that the sensitive use area is correctly marked with exclusion flagging and avoided during construction. The certificate holder shall maintain the exclusion markings until construction has been completed.

d. Before beginning construction, certificate holder's qualified professional biologist shall complete aerial raptor nest surveys within the raptor nest survey area as described in the Final Order on the Application. The purposes of the survey are to identify any sensitive raptor nests near construction areas and to provide baseline information on raptor nest use for analysis as described in the Wildlife and Habitat Monitoring and Mitigation Plan referenced in Condition 10.1. The certificate holder shall provide a written report on the raptor nest surveys to the Department and to ODFW.

ii. For the Carty Solar Farm, implement measures to avoid or minimize temporary and permanent impacts to high quality native habitat and to retain habitat cover in the general landscape, where practicable.

a. The certificate holder shall not construct any facility components within areas of Category 1 habitat and shall avoid temporary disturbance of Category 1 habitat.

b. Before beginning construction, the certificate holder shall provide to the Department a map showing the final design locations of all components of the facility and the areas that would be disturbed during construction and identifying the survey areas for all plant and wildlife surveys conducted ~~prior to construction~~ as described in the Final Order on Amendment 4. The certificate holder shall use a qualified professional biologist to conduct a pre-construction habitat assessment of all areas that would be disturbed during construction. The certificate holder shall provide a written report of the habitat assessment to the Department and to the Oregon Department of Fish and Wildlife. Based on consultation with the Department and ODFW, the certificate holder shall implement appropriate measures to avoid impacts to any Category 1 habitat, to any State-listed threatened or endangered plant or wildlife species, and to any State Candidate plant species.

c. Before beginning construction, the certificate holder's qualified professional biologist shall survey the previously-identified Category 1 Washington ground squirrel habitat to ensure that the sensitive use area is correctly marked with exclusion flagging and avoided during construction. The certificate holder shall maintain the exclusion markings until construction has been completed.

d. Before beginning construction, certificate holder's qualified professional biologist shall complete ~~aerial~~ raptor nest surveys within the raptor nest survey area as described in

Commented [LS1]: I think this language works for WGS protections. My only concern and this is the same for section d below is that we get a winter construction start and surveys for WGS or active nest are not possible or they were not completed the prior spring. Not sure how to get around that issue, except ensuring that they plan ahead and have those surveys completed.

the Final Order ~~on the Application~~ on Amendment 4. The purposes of the survey are to identify any sensitive raptor nests near construction areas and to provide baseline information on raptor nest use for analysis as described in the Wildlife and Habitat Monitoring and Mitigation Plan referenced in Condition 10.1. The certificate holder shall provide a written report on the raptor nest surveys to the Department and to ODFW.

Attachment 2: Proposed Schedule for RFA4

Carty Generating Station AMD4 – Forecasted Schedule

Milestone	Responsibility	Date	Forecasted Budget
pRFA4 Submitted	Cert Holder	2/16/24	$50k
Public Notice of pRFA4 Issued/Reviewing Agency Coordination	ODOE	3/28/24	
Request for Information Issued	ODOE	4/16/24	
Submittal of Information Requested	Cert Holder	7/15/24	
Certificate holder Preview of Draft Proposed Order/Draft Amended Site Certificate	Cert Holder	8/23-30/24	
Complete RFA4 Filed – with updated/current landowner information	Cert Holder	9/15/24	
Draft Proposed Order/Public Notice Issued	ODOE	9/17/24	$160k
Draft Proposed Order Public Hearing (30 days after notice)	ODOE	10/17/24	
Certificate Holder Responses*	Cert Holder	10/17/24	
EFSC DPO Review**	EFSC	10/18/24	
Proposed Order/Notice of Opportunity to Request a Contested Case Issued	ODOE	10/30/24	$20k***
Deadline for Requesting a Contested Case	DPO Commenters	11/30/24	
Council Review of Contested Case Requests/ Final Decision***	EFSC	12/13/24	
	Approx Total =	10 months	$230k

- Morrow County coordination/SAG
- Tribes – Public Notice sent to tribes requesting comment; HRA will be used for CR Section in DPO; CTUIR coord.
- Delineation Report – PGE needs to submit to DSL. No current on file.
- Assumes 90 days for RAI responses
- Assumes 60 days for review or RAI responses and completion of DPO

*Assumes Cert Holder does not request to hold record open to respond

**Assumes Council will review DPO next day after hearing – i.e.: no substantive comments (otherwise rolls to next Council meeting)

***Assumes no contested case requested

Attachment 3: RAI Carty Generating Station Components Tables – from pRFA4 Information

Please confirm/verify/edit as needed (where filled in) and complete (where empty) the following tables.

Table 3-1. RFA4 Major Solar Farm Components Specifications & Details:

Facility Component	Proposed RFA4 Carty Solar Farm	Component Dimensions and Details
Site Boundary	5,249 acres	
Carty Solar Farm	849.7 acres	
Solar Photovoltaic Modules	390,879 modules	7.4 ft x 3.7 ft x 1.4 in/per module
Solar Module Strings	14,477 strings	27 modules per string
Racking Systems: • Single Axis Trackers		Max height 12 ft
• Fixed Tilt System		Max height 12 ft
Foundations: • Posts	72,000 posts if single axis trackers	Max height 7.5 ft
• Concrete Ballast (if fixed tilt)	9,750 posts if fixed tilt trackers	Max height 7.55 ft
Combiner Boxes	660	Typical 34 in x 27 in x 13 in
Cabling	Connects solar modules, power conversion stations, and the substation	Total length of cabling depends on selection of combiner box or harness technology and final design
Solar Array Inverters (quantity)	44	Max 9 ft H
Solar Array Inverter Step-up Transformers (quantity)	44	Max 10 ft H
Transformer oil	640 gallons	Per transformer

Table 3-2. RFA4 Proposed Carty Solar Farm Related or Supporting Facilities

Component	Units/QTY	Dimensions
Underground 34.5 kV Collector/Conductor line	Approx. 25 miles 132,000 feet[3]	3 feet deep x 25 ft wide min. trench
Aboveground 34.5-kV collector line	Up to 1 mile[5]; 30 poles	70 ft H and 140 ft spacing
500 kV Substation connector line – above ground	300 feet	100 ft H
~~Above ground collector line - wood poles~~	~~30 poles~~	~~70 ft H and 140 ft spacing~~
Collector Substation	Add one new collector substation	3.2 acres
Generator Step Up Transformer	1	TBD
500 kV Substation Collector Transmission Line (existing)	1 mile above ground	100-150 foot poles
Battery energy storage system (BESS)	156 MW	6.2 acres~~ area~~
BESS Containers	330	33 (L) x 6 (W) x 10 (H) feet/ per container
BESS Inverters	58	TBD
BESS ISU transformers	30	Max 10 ft. H
Operations and Maintenance (O&M) Building	One new O&M building	20,000 sq feet (0.5 acres), 20 ft H
SCADA	1	Not applicable
Access Roads	New Roads: 9.9 miles Existing Road Improvements: No changes proposed	14 ft W
Fencing	77,794 feet (14.7 miles)	8 - 11 ft H
Temporary Construction Areas (Staging, Laydown, Parking, etc.)	One area approximately 21.4 acres	N/A

Table 3-3.
Table of CGS Related and Supporting Facilities (Carty Solar Farm and Unit 1) – to be added to pRFA4 Redline Site Certificate

(Please indicate which component applies to the facility's Unit 1, Carty Solar Farm per RFA4, or both) – **check the appropriate box:**

Component per RFA4	Shared	Unit 1 only	Solar Farm only Per RFA4
Carty Reservoir and portions of the raw water intake system (includes 400-gallon sodium hypochlorite tank, 1,100-gallon anti-scalant; and 400-gallon sodium hypochlorite tote) and associated electrical connection		X	
Grassland Switchyard	X		
500-kV transmission line from Unit 1 to the Grassland Switchyard		X	
500-kV transmission line from Grassland Switchyard to the Slatt Substation	X		
230-kV transmission line from the Carty Substation to the Dalreed substation		X	
34.5-kV Grassland Switchyard backup station transmission line	X		
34.5-kV construction substation to railroad crossing transmission line		X	
7.2-kV Carty Generating Station backup transmission line	X		
4.2-kV Grassland switchyard service line	X		
Interconnecting water pipelines	X		
Well (Boeing Well) / pump house and associated 12.5-kV power line	X		
Cooling tower		X	
Liquid storage facilities		X	
Sanitary sewer (septic system)	X		
Accessory buildings	X		
Utility and communication lines	X		
Access Roads	X		
Additional temporary construction areas			X
Water Discharge Channel & Piping		X	
Construction Substation		X	
Irrigation Pump Station and 34.5 kV transmission line		X	
Office and warehouse building; and 35x40 work station	X		
Carty Substation and associated distribution lines	X		
34.5-kV underground collector lines for the Carty Solar Farm			X
34.5-kV aboveground collector line (1-mile-long segment) for the Carty Solar Farm			X
Collector substation for Carty Solar Farm			X
34.5-kV underground collector lines for the Carty Solar Farm	Duplicate		
34.5-kV aboveground collector line (1-mile-long segment) for the Carty Solar Farm	Duplicate		
Collector substation for Carty Solar Farm	Duplicate		

Component per RFA4	Shared	Unit 1 only	Solar Farm only Per RFA4
500-kV transmission line from collector substation for Carty Solar Farm to the Grassland Switchyard			X
Battery Energy Storage System			X
Operations and Maintenance building for Carty Solar Farm	X		

From:	SOMERS Lindsay N * ODFW
To:	AMMEN Breylen * ODOE
Cc:	SMITH Jorden D * ODFW; ESTERSON Sarah * ODOE; MCVEIGH-WALKER Chase * ODOE
Subject:	Re: ODFW Review of Carty RFA4
Date:	Monday, October 26, 2026 8:42:37 AM
Attachments:	image001.png image002.png

Breylen,

I do have one comment on the pRFA materials.

- Wildlife and Habitat Monitoring and Mitigation Plan, Page 6, Section C Avian Protection. Can the language be adjusted from "install nesting platforms" to "install nesting structures"?

This would allow for artificial burrowing owl burrows to be considered as mitigation options.

Thank you,

Lindsay

From: AMMEN Breylen * ODOE <Breylen.AMMEN@energy.oregon.gov>
Sent: Monday, October 26, 2026 8:18 AM
To: SOMERS Lindsay N * ODFW <Lindsay.N.Somers@odfw.oregon.gov>
Cc: SMITH Jorden D * ODFW <Jorden.D.SMITH@odfw.oregon.gov>; ESTERSON Sarah * ODOE <Sarah.ESTERSON@energy.oregon.gov>; MCVEIGH-WALKER Chase * ODOE <Chase.MCVEIGH-WALKER@energy.oregon.gov>
Subject: RE: ODFW Review of Carty RFA4

Hi Lindsay,

Sounds good, thank you for confirming.

Best,

Breylen Ammen
Senior Siting Analyst
He/Him
550 Capitol St. NE | Salem, OR 97301
P: 917-240-3577
P (In Oregon): 800-221-8035

OREGON DEPARTMENT OF ENERGY

Stay connected!

From: SOMERS Lindsay N * ODFW <Lindsay.N.SOMERS@odfw.oregon.gov>
Sent: Monday, October 26, 2026 8:15 AM
To: AMMEN Breylen * ODOE <Breylen.AMMEN@energy.oregon.gov>
Cc: SMITH Jorden D * ODFW <Jorden.D.SMITH@odfw.oregon.gov>; ESTERSON Sarah * ODOE <Sarah.ESTERSON@energy.oregon.gov>; MCVEIGH-WALKER Chase * ODOE <Chase.MCVEIGH-WALKER@energy.oregon.gov>
Subject: Re: ODFW Review of Carty RFA4

Hi Breylen,

The previous comments are still relevant, and ODFW has no further comments on the pRFA4 for the Carty Generating Station. Thank you for sending over the materials for review.

Lindsay

Lindsay Somers
Habitat Biologist-John Day Watershed
Oregon Department of Fish and Wildlife
73471 Mytinger Ln
Pendleton, OR 97801
Office: 541-388-6294
Cell: 541-314-1236

From: AMMEN Breylen * ODOE <Breylen.AMMEN@energy.oregon.gov>
Sent: Friday, October 16, 2026 8:40 AM
To: SOMERS Lindsay N * ODFW <Lindsay.N.Somers@odfw.oregon.gov>
Cc: SMITH Jorden D * ODFW <Jorden.D.SMITH@odfw.oregon.gov>; ESTERSON Sarah * ODOE <Sarah.ESTERSON@energy.oregon.gov>; MCVEIGH-WALKER Chase * ODOE <Chase.MCVEIGH-WALKER@energy.oregon.gov>

Subject: ODFW Review of Carty RFA4

Dear Lindsay,

In February 2024, the Department received the preliminary Request for Amendment 4 (pRFA4) to the Carty Generating Station Site Certificate. pRFA4 requests the Energy Facility Siting Council's approval to:

- increase and amend the approved site boundary from 4,997 acres (7.78 sq. miles) to approximately 5,249 acres (8.2 sq. miles)
- construct and operate a 185 MW solar photovoltaic power generation facility
- increase the micrositing area for the Carty Solar Farm from 315 acres (0.49 sq. miles) to approximately 849.7 acres (1.33 sq. miles)
- and, add new related or supporting facilities including a Battery Energy Storage System (BESS) with up to 156 MW storage capacity

The project has been on hold for some time but is now moving forward. ODFW has provided comments twice before (see attached), but given it has been almost a year since the last comment, we wanted to check in to see whether ODFW has any further comments before we move forward with a proposed order. One issue we have already flagged and will be addressing is that, due to prior mitigation commitments, the property where the HMA is proposed does not appear to have quite enough acreage to accommodate project mitigation needs.

Please reach out if you have any questions.

Thank you,

OREGON DEPARTMENT OF ENERGY

Breylen Ammen
Senior Siting Analyst
He/Him
550 Capitol St. NE | Salem, OR 97301
P: 917-240-3577
P (In Oregon): 800-221-8035
Stay connected!

Oregon Department of Energy's Review of Carty Generating Station,
Request for Amendment 4:
Consultation Summary with Oregon Department of Agriculture Native Plant Conservation Program (Jordan Brown)

March 2024

Regulatory Overview: The Oregon Department of Energy (Department) act as staff to the Energy Facility Siting Council (EFSC). EFSC issues and enforces site certificates for utility-scale energy facilities. EFSC has established rules and statutes which govern the permitting process for utility-scale energy facilities. EFSC has adopted OAR 345-022-0070, *Threatened and Endangered Species*, a standard that utility-scale energy facility developers must comply with, which is designed to preserve and protect listed threatened and endangered (T&E) plant species through evaluation of potential construction and operational impacts, and mitigation, if appropriate, of actual impacts. The standard states the following:

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

This summary is intended to document consultation between the Department and Oregon Department of Agriculture (ODAg) Native Plant Conservation Program staff on the evaluation of potential impacts associated with the changes proposed in Request for Amendment 4 of the Carty Generating Station Certificate (RFA4).

Approved Facility Overview:
The Carty Generating Station is an approved 500 MW energy generating facility: 450 MW combined-cycle natural gas-fueled electric generating power plant, and a not-yet-constructed 50 MW solar PV electric power generating unit (Carty Solar Farm) on 315 acres (0.49 sq. miles). The facility is located within an approved site boundary of approximately 4,997 acres.

Amendment Request (scope of review)
The pRFA4 seeks Council approval for the following changes to the site certificate:

1. Increase solar generating capacity from 50 MW on 315 acres (.49 sq. miles) to 185 MW on 849.7 acres (1.33 sq. miles).
2. Amend the approved site boundary from 4,997 acres (7.8 sq. miles) to approximately 5,249 acres (8.2 sq. miles) by adding three areas to, and removing one area from, within the approved site boundary. (See pRFA4 Figures 1-4)
3. Increase the micrositing area for the Carty Solar Farm from 315 acres (0.49 sq. miles) to approximately 849.7 acres (1.33 sq. miles), to be sited in two separate locations: (1) 491.8 acres to the south of the Carty Reservoir; and (2) 357.9 acres to the north of the Carty Reservoir.
4. Add new related and supporting facilities including: a Battery Energy Storage System (BESS) with up to 156 MW storage capacity, an above and below ground 34.5 kV collector line system, a new 34.5-kV to 500-kV step up collector substation, a new O&M building, approximately 9.9 miles of new access roads, and approximately 14.7 miles of perimeter fencing.
5. Requests to change construction start and completion dates for the facility and other changes to existing site certificate conditions (See Section 6.0 of pRFA4).

<u>Consultation Notes/Questions:</u>

- **RFA4 Literature Review Sources:** Does ODAg agree with the desktop methods used to identify and sources used to evaluate the presence of potential state-listed T&E species? Literature review/sources (ORBIC 2023 and ODAg 2023)?

  Lawrence's milkvetch previously identified as potentially occurring within the analysis area , are there any additional state listed T&E plants with potential to occur within the analysis area?

- **RFA4 Field Survey Methods:** Does ODAg agree with the survey methods and approach for rare plants? Rare plant surveys were included as observations during habitat and vegetation mapping. Field survey methods were focused field-truthing desktop data using 10-meter plots of distinct vegetation type throughout the site boundary – is this adequate for identifying presence/absence of Lawrence's Milkvetch?

- **Study Results:** Does ODAg agree with the pRFA4 Exhibit Q that there is not likely a significant impact to state-listed T&E plants (ie: Lawrences Milkvetch)?

Previous surveys and existing site certificate condition 10.14(ii) below identified Lawrence's Milkvetch potential. The approved EFSC site certificate includes a condition that applies to T&E plant species, and states the following:

Existing Site Certificate Condition 10.14 (w proposed RFA4 redline changes from cert holder)

Condition 10.14 Prior to construction, the certificate holder shall conduct surveys for Washington ground squirrel (WGS) and Lawrence's milkvetch.

i. For Unit 1 ~~T~~the certificate holder shall determine the boundaries of Category 1 Washington ground squirrel (WGS) habitat based on the locations where the squirrels were found to be active in the most recent WGS surveys prior to the beginning of construction in habitat suitable for WGS foraging or burrow establishment ("suitable habitat"). The certificate holder shall use a qualified professional biologist who has experience in detection of WGS to conduct surveys within the site boundary using appropriate search protocols. Except as provided in (a), the biologist shall conduct surveys in the active squirrel season (February 1 to June 30) at least once every three years until the beginning of construction in suitable habitat. The biologist shall survey all areas of suitable habitat where permanent facility components would be located or where construction disturbance could occur. The certificate holder shall provide written reports of the surveys to the Department and to the Oregon Department of Fish and Wildlife (ODFW) and shall identify the boundaries of Category 1 WGS habitat. During each year in which construction will occur, the boundaries of Category 1 WGS habitat shall be marked by the biologist with high-visibility flagging or markers. The certificate holder shall not begin construction until the identified boundaries of Category 1 WGS habitat have been approved by the Department. Category 1 WGS habitat includes the areas described in (b) and (c) below.

   a. The certificate holder may omit the WGS survey in any year if the certificate holder avoids all permanent and temporary disturbance within suitable habitat until a WGS survey has been completed in the following year and the boundaries of Category 1 habitat have been determined and approved based on that survey.

   b. Category 1 WGS habitat includes the area within the perimeter of multiple active WGS burrows plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or burrow establishment. If the multiple-burrow area was active in a prior survey year, and active burrows are still present, then Category 1 habitat includes the largest extent of the active burrow area ever recorded (in the current or any prior-year survey), plus a 785-foot buffer. If no active burrows are still present, then it is no longer Category 1 habitat for WGS.

   c. Category 1 WGS habitat includes the area containing single active burrow detections plus a 785-foot buffer, excluding areas of habitat types not suitable for WGS foraging or burrow establishment. Category 1 habitat does not include single-burrow areas that were found active in a prior survey year but that are not active in the current survey year.

ii. In addition to the requirements in (i), for the Carty Solar Farm ~~T~~the certificate holder shall use a qualified professional biologist who has experience in detection of Lawrence's milkvetch to conduct plant surveys within the site boundary, using appropriate survey protocols, during the blooming season (May through August).

   a. If the species is found to occur, the certificate holder must install protection flagging around the plant population and avoid any ground disturbance within

this zone; and its location shall be presented on construction constraint maps showing restricted work areas.

[Final Order IV.I.2.1] [AMD1] [AMD4]

ODOE Questions for ODAg – Please respond in cover letter, email or in this document

- Does ODAg consider the literature and field surveys conducted to evaluate potential T&E plant impacts adequate? Are there any issues/concerns with the methods used?

  ODAg Comment: The literature review and sources reviewed are adequate however the field methods used in the field surveys for habitat and vegetation (F&W surveys in Attachment P-1) would not be considered adequate for thorough detection of rare plants (ie: Lawrence's Milkvetch) unless they can demonstrate that these surveys show there is no suitable habitat is within the study area.

- Does ODAg consider the impact evaluation accurate/appropriate? Have the impacts been adequately addressed?

  ODAg Comment: Field surveys noted above would need to be completed in order to determine impacts.

- Does ODAg consider RFA4 to adequately demonstrate impacts have been avoided and/or minimized to the extent possible?

  ODAg Comment: Existing site certificate condition 10.14 preconstruction field surveys and avoidance as stated in the condition, would be adequate for the construction phase of the facility.

- Does ODAg have comments of the circumstances that would warrant mitigation [for Lawrences milkvetch), or comments on the details of what mitigation would require?

  ODAg Comment: Impacts to T&E plants would warrant mitigation that could include seed collection for long-term conservation storage, and recovery-based research and reintroductions, among other possibilities.

- Does ODAg have comments on the proposed amended condition language?

  ODAg Comment: Existing site condition language in 10.14 is adequate but is limited to preconstruction surveys and avoidance. If listed plants are identified

during the preconstruction surveys, they should be monitored and avoided for the life of the facility.

Re: Call notes and review request for Carty pRFA4

BROWN Jordan A * ODA <Jordan.A.BROWN@oda.oregon.gov>
Wed 3/6/2024 12:22 PM
To:SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>

1 attachments (38 KB)
CGSAMD4 pRFA4 Coordination Call Notes w ODAg JB 2024-03-06.docx;

Here it is with a few edits and additions. Let me know if this will work for you

Jordan Brown, Program Lead Conservation Biologist
Oregon Department of Agriculture – Native Plant Conservation
635 Capitol St NE, Salem, OR 97301-2532
PH: 541.737.2346 | CELL: 541.224.2245 | WEB: Oregon.gov/ODA
Pronouns: he, him, his

*Please note my email address has changed to jordan.a.brown@oda.oregon.gov

---

From: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Date: Wednesday, March 6, 2024 at 12:04 PM
To: BROWN Jordan A * ODA <Jordan.A.BROWN@oda.oregon.gov>
Cc: ESTERSON Sarah * ODOE <Sarah.ESTERSON@energy.oregon.gov>
Subject: Call notes and review request for Carty pRFA4

Hi Jordan,

Thank you for taking the time to review and discuss this preliminary Request for Amendment (pRFA4) for the Carty Generating Station.

I am sending the attached word doc that you can add to - my notes from our call are in the "call notes" of the questions on the last page.

If you can review, edit, add any comments and send back that would be great.

Thanks again and let me know if you have any additional questions,

Kate

OREGON DEPARTMENT OF ENERGY
Kathleen Sloan
Senior Siting Analyst
550 Capitol St. NE | Salem, OR 97301
P: 971-701-4913

Stay connected!

RE: Carty Generating Station preliminary Request for Amendment 4

RYAN Peter * DSL <Peter.RYAN@dsl.oregon.gov>
Thu 3/21/2024 11:04 AM
To:SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>

1 attachments (173 KB)
WetlandDelineation_ReportCover.pdf;

Hi Kathleen,
It appears that DOE and the applicant would like DSL to review the Carty Generating Station site delineation prepared by AECOM.

To initiate that review, DSL needs the applicant and wetland consultant to complete and sign the attached report cover form and then send it back in with the report to email address on the form. Once that's done, DSL can log in the report and get it to staff that will complete the review. Good news is because this project is EFSC, a report review fee is not required.

Let me know if there are any questions.
-Pete

Peter Ryan, SPWS
Aquatic Resource Specialist
Oregon Department of State Lands | 775 Summer Street, NE, Ste. 100, Salem, Oregon 97301-1279
503.779.4159 | **Workdays:** Monday-Thursday | **Out of Office: Fridays**

From: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Sent: Thursday, March 21, 2024 10:34 AM
To: RYAN Peter * DSL <Peter.RYAN@dsl.oregon.gov>
Subject: Carty Generating Station preliminary Request for Amendment 4

Hi Peter,

Thanks for the call on this preliminary amendment request.

I wanted to send you the wetland delineation report that we are asking for DSL review/comments on for the Request for Amendment 4 for the Carty Generating Station site certificate.

Please let me know if you need anything else from me to initiate/complete your review.

Thanks,

OREGON
DEPARTMENT OF
ENERGY

Kathleen Sloan
Senior Siting Analyst
550 Capitol St. NE | Salem, OR
97301
P: 971-701-4913

Stay connected!

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

A complete report and signed report cover form, along with applicable review fee, are required before a report review timeline can be initiated by the Department of State Lands. All applicants will receive an emailed confirmation that includes the report's unique file number and other information.

Ways to submit report:

- **Under 50MB** - A single unlocked PDF can be emailed to: wetland.delineation@dsl.oregon.gov.
- **50MB or larger** - A single unlocked PDF can be uploaded to the Jurisdiction Box.com folder. Email wetland.delineation@dsl.oregon.gov of the new upload.
- Unbound paper report and signed cover form can be mailed to: Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.

Ways to pay review fee:

- By credit card on DSL's epayment portal after receiving the unique file number from DSL's emailed confirmation.
- By check payable to the Oregon Department of State Lands attached to the unbound paper report OR attached to the complete signed cover form if report submitted electronically.

Contact and Authorization Information

☐ Applicant ☐ Owner Name, Firm and Address:

Business phone #
Mobile phone # (optional)
E-mail:

☐ Authorized Legal Agent, Name and Address (if different):

Business phone #
Mobile phone # (optional)
E-mail:

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: _____ **Signature:** _____

Date: _____ Special instructions regarding site access: _____

Project and Site Information

Project Name:

Latitude: Longitude:
decimal degree - centroid of site or start & end points of linear project

Proposed Use:

Tax Map #
Tax Lot(s)

Tax Map #
Tax Lot(s)

Project Street Address (or other descriptive location):

Township Range Section QQ
Use separate sheet for additional tax and location information

City: County:

Waterway: River Mile:

Wetland Delineation Information

Wetland Consultant Name, Firm and Address:

Phone #
Mobile phone # (if applicable)
E-mail:

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.

Consultant Signature: Date:

Primary Contact for report review and site access is ☐ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☐ Yes ☐ No | Study Area size: Total Wetland Acreage:

Check Applicable Boxes Below

☐ R-F permit application submitted
☐ Mitigation bank site
☐ EFSC/ODOE Proj. Mgr:
☐ Wetland restoration/enhancement project (not mitigation)
☐ Previous delineation/application on parcel
If known, previous DSL # _____

☐ Fee payment submitted **$** _____
☐ Resubmittal of rejected report ($100)
☐ Request for Reissuance. See eligibility criteria. (no fee)
DSL # _____ Expiration date _____
☐ LWI shows wetlands or waters on parcel
Wetland ID code _____

For Office Use Only

DSL Reviewer: _____ Fee Paid Date: _____ / _____ / _____ DSL WD # _____

Date Delineation Received: ___/___/___ DSL App.# _____

RE: ODAv coordination on Carty Generating Station pRFA4

PIKE Brandon <Brandon.PIKE@odav.oregon.gov>
Tue 3/26/2024 10:18 AM
To:SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>

Hi Kate,

Thanks for touching base about this. Sorry about the late response.

Based on a preliminary review, I think the only potential concerns we might have would be with any new transmission lines, which the notice says there will be some above-ground lines. Without seeing the full path of the lines or the height of the lines and poles, it's hard to say what kind of notice of construction will be required at this stage.

Our comments would be the following, then—intended to be a bit of a catch-all statement:

1. In accordance with FAR Part 77.9 and OAR 738-070-0060, proposed transmission lines may be required to undergo aeronautical evaluations by the FAA and ODAV. The aeronautical evaluations are initiated by the applicant providing separate notices to both the FAA and ODAV to determine if the proposal poses an obstruction to aviation safety. The applicant should receive the resulting aeronautical determination letters from the FAA and ODAV prior to approval of any building permits.

Let me know if you have any further input or need anything further from me.

Thanks again,

BRANDON PIKE
OREGON DEPARTMENT OF AVIATION
AVIATION PLANNER

PHONE 971-372-1339
EMAIL brandon.pike@odav.oregon.gov
3040 25TH STREET SE, SALEM, OR 97302
WWW.OREGON.GOV/AVIATION

*****CONFIDENTIALITY NOTICE*****

This e-mail may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. If you are not the addressee or it appears from the context or otherwise that you have received this e-mail in error, please advise me immediately by reply e-mail, keep the contents confidential, and immediately delete the message and any attachments from your system.

From: SLOAN Kathleen * ODOE <Kathleen.SLOAN@energy.oregon.gov>
Sent: Friday, March 1, 2024 12:38 PM
To: PIKE Brandon <Brandon.PIKE@odav.oregon.gov>
Subject: ODAv coordination on Carty Generating Station pRFA4

This message was sent from outside the organization. Treat attachments, links and requests with caution. Be conscious of the information you share if you respond.

Hi Brandon,

I sent out an email notice on Weds re: preliminary Request for Amendment 4 (pRFA4) for the Carty Generating Station site certificate, located in Morrow County. A copy of the notice is attached.

I would like to request ODAv review and comment on the proposed amendment at this time (would like to receive by end of March). All of the project details are on the project webpage - links are in the attached notice along with a map of the proposed changes.

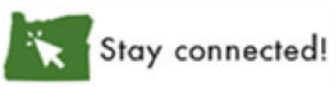
If you want to schedule a call, I am available over the next couple of weeks, but if you just want to review and email comments, that is also acceptable.

Let me know if you need any additional information to respond to this request.

Thanks!

OREGON
DEPARTMENT OF
ENERGY

Kathleen Sloan
Senior Siting Analyst
550 Capitol St. NE | Salem, OR
97301
P: 971-701-4913



Oregon
Tina Kotek, Governor

Parks and Recreation Department
Oregon Heritage/
State Historic Preservation Office
725 Summer St. NE, Suite C
Salem, OR 97301-1266
(503) 986-0690
Fax (503) 986-0793
oregonheritage.org

March 29, 2024

Lenna Cope
PGE
, OR

RE: SHPO Case No. 24-0382
ODE, 194-1121-0007, Solar, Cultural Resources Survey Report Carty Generating Station Morrow County, Oregon
Solar photovoltaic energy generation components associated with an energy facility
Multiple, Morrow County

Dear Lenna Cope:

Thank you for submitting information for the undertaking referenced above. We concur that there will be no historic properties affected for this undertaking.

This concludes consultation with our office under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800) and/or Oregon Revised State (ORS) 358.905-961, ORS 358.653, and ORS 97.740-760 for archaeological resources. If you have not already done so, be sure to consult with all appropriate Native American tribes and interested parties regarding the proposed undertaking.

If the undertaking design or effect changes or if additional historic properties are identified, further consultation with our office will be necessary before proceeding with the proposed undertaking. Additional consultation regarding this case must be sent through Go Digital. In order to help us track the undertaking accurately, reference the SHPO case number above in all correspondence.

Our office has assigned the report SHPO biblio number 34601. Details will be available in the bibliographic database.

Please contact our office if you have any questions, comments or need additional assistance.

Sincerely,

Stacy Scott
Special Projects Archaeologist

cc: Kathleen Sloan, Oregon Department of Energy

Oregon
Tina Kotek, Governor

Department of Geology and Mineral Industries
Administrative Offices
800 NE Oregon St., Suite 965
Portland, OR 97232-2162
(971) 673-1555
Fax: (971) 673-1562
www.oregon.gov/dogami

April 4, 2024

Kathleen Sloan
Senior Siting Analyst
550 Capitol St. NE.
Salem, Oregon 97301

RE: Carty Generating Station PRFA4

Review by the Oregon Department of Geology and Mineral Industries

Dear Kathleen:

This letter is responding to your request on March 7th, 2024 for additional information regarding the Carty Generating Station PRFA4.

ODOE Questions for DOGAMI –

- Does DOGAMI agree with the sources and methods used to identify seismic and non-seismic risks in the pRFA4 analysis area? Are they adequate? Are there any additional sources that DOGAMI recommends?
  DOGAMI concurs with the sources and methods used to identify seismic and non-seismic risks in the pRFA4 area. Exhibit H used the best available regional data from DOGAMI and USGS as recommended in consultation. They also use the best available publicly historic earthquake epicenters. In consultation it was recognized that DOGAMI HazVu contains more regional epicenters than those shown by exhibit H, but that data is not directly available or shareable as GIS files through HazVu. DOGAMI's data is composited from a number of available sources (both recording stations, published literature, and gray literature); it also may not be necessarily completely up to date as of 2023. Therefore we determined using the USGS referenced epicenters you is acceptable for this purpose. They generally characterize the hazard and are an accessible published resource. Ideally one might compile all available data from the regional recording stations but this could be a large task outside the scope of this project. DOGAMI recommended an additional resource (Wong, I.G., and Bott, J.D.J, 1995), and this was incorporated by the authors of exhibit H. One resource not directly cited, but of value to understanding the regional seismic hazard would be Madin and others (2021).

Oregon Seismic Hazard Database (OSHD), release 1.0 (OSHD-1), by Ian P. Madin, Jon J. Franczyk, John M. Bauer, and Carlie J.M. Azzopardi, 2021.

https://pubs.oregon.gov/dogami/dds/p-OSHD-1.htm

WHAT'S IN THIS PUBLICATION?

The Oregon Seismic Hazard Database, release 1 (OSHD-1.0), is the first comprehensive collection of seismic hazard data for Oregon. This publication consists of a geodatabase containing coseismic geohazard maps and quantitative ground shaking and ground deformation maps; a report describing the methods used to prepare the geodatabase, and map plates showing 1) the highest level of shaking (peak ground velocity) expected to occur with a 2% chance in the next 50 years, equivalent to the most severe shaking likely to occur once in 2,475 years; 2) median shaking levels expected from a suite of 30 magnitude 9 Cascadia subduction zone earthquake simulations; and 3) the probability of experiencing shaking of Modified Mercalli Intensity VII, which is the nominal threshold for structural damage to buildings. The perceived shaking and damage potential maps and the probability of damaging shaking maps are intended to provide non-specialists with a qualitative way to assess earthquake hazards, and to see the variation of hazard across the state.

- Does DOGAMI agree with conclusions in pRFA4 Exhibit H for characterizing potential seismic risks to the proposed facility or public safety?
  DOGAMI concurs.
- Does DOGAMI have any comments on the future geotechnical investigations to be conducted under existing site certificate condition 5.4 as described in Section 5.2 of Exhibit H?
  DOGAMI has one minor comment on section 5.2.
  1. Review publicly available existing soil and groundwater information in the immediate vicinity of the structures and facilities. *Immediate vicinity is vague/non specific. How wide a reach will this analysis cover? Will it be over an are sufficient to understand the local groundwater system?*
  We look forward to the opportunity to review draft and final reports.
- Does DOGAMI agree with conclusions in pRFA4 Exhibit H for characterizing potential non-seismic risks to the proposed facility or public safety?
  DOGAMI concurs.
- Does DOGAMI have any recommendations or comments on the existing site certificate conditions listed above for this amendment request? Specific to geotechnical investigations as proposed in Section 5.2 (see above)?
  DOGAMI has no additional comments.
- Does DOGAMI have any other comments on pRFA4 Exhibit H?
  DOGAMI has no additional comments. Very nice supporting maps.

DOGAMI appreciates the offer to review the Carty Generating Station exhibit H. Please don't hesitate to contact me if you have further questions or concerns.

Sincerely,



Jason McClaughry, Geological Survey & Services Program Manager

BOARD OF COMMISSIONERS

110 N Court St. • P.O. Box 788
Heppner, OR 97836
541-676-5613
www.co.morrow.or.us

David Sykes, Chair
Jeff Wenholz, Commissioner
Roy Drago Jr., Commissioner

April 3, 2024

Kathleen Sloan, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE, 1st Floor
Salem, OR 97301

RE: Carty Generating Station – Preliminary Request for Amendment 4

Dear Ms. Sloan:

Morrow County has reviewed the preliminary Request for Amendment (pRFA4) which is a request to increase the output of solar energy generation at the Carty Generating Station (CGS) from 50 megawatts (MW) on 315-acres to approximately 185 MW on approximately 850-acres. Additionally, CGS will expand into areas formerly used for the Boardman Coal Plant and add a Battery Energy Storage System (BESS).

In 2018, the Siting Council approved a 50-acre solar application, including a goal 3 exception. You recently clarified that the proposed reconfiguration of the Carty Solar Farm component is being treated as a whole new review and that the prior review for the 315-acre/50MW solar farm is not relevant to this RFA4. To that end, County requests a new Goal 3 exception for the proposed 849 acre solar component. A Goal exception is based on specific property attributes such as soil type, water, slope, alternatives analysis and therefore generalizing the exception analysis from the previous 50-acre solar footprint is not sufficient for the Exhibit K findings.

The maps provided with the RFA4 request are general and do not show the precise location of the solar component. County requests EFSC require a map and information on the exact location. The information should include a map and analysis of the project by acreage total by zone (EFU and MG).

Additionally, the Goal 3 exception should clearly describe how the loss of land zoned EFU will be mitigated.

Many of the previously approved conditions remain relevant and would not change based on the proposed additional system components or boundary expansion. However, the county requests Energy Facility Siting Council add three conditions, including a Road Use Agreement, a Weed Abatement Plan and, an Agriculture Mitigation Plan. Further, the county request that each of these conditions be signed and approved by Morrow County prior to construction.

Morrow County has an established Solid Waste Management Plan and Ordinance, which was not addressed in Exhibit V of pRAF4. Therefore, the county requests that the applicant acknowledges and incorporates this plan in Exhibit V under "Waste Minimization." Additionally, we request either a new or revised condition to address the disposal of photovoltaic components.

After the amendment is approved by EFSC, applicants will be required to apply to amend the Conditional Use Permit (CUP) specifically addressing these changes. Without an amendment to the local CUP there will be inconsistencies between the EFSC Site Certificate and the previous CUP. County also requires a Zoning Permit for each individual parcel.

If you have any comments or questions about this or the Ordinances, Plans and Policies referenced herein, please contact Tamra Mabbott, Morrow County Planning Director, at (541) 922-4624 X 5505, tmabbott@co.morrow.or.us Eric Imes, Morrow County Public Works Director, eimes@co.morrow.or.us, (541) 989-8584.

Thank you for your outreach consideration of applicable Morrow County policies, standards, plans, and regulations.

MORROW COUNTY BOARD OF COMMISSIONERS

David Sykes, Chair

Jeff Wenholz, Commissioner

Roy Drago Jr., Commissioner

cc: Eric Imes, Morrow County Public Works
Corey Sweeney, Morrow County Weed Department
Steve Freeland, Morrow County Emergency Manager

Attachment C-1: Draft Construction Vegetation and Soil Management Plan

[Facility Name]

Construction Vegetation and Soil Management Plan

Prepared for
[Applicant/Certificate Holder]

Prepared by
[VSMP Preparer]

DATE

Document History

Date	Description
XXXX	XXX

Table of Contents

1.0 Introduction and Plan Goals 1
1.1 Plan Finalization 1
2.0 Definitions 4
3.0 Pre-Construction Actions and Compliance Submittals 4
4.0 Site Preparation, Construction and Post-Construction Actions and Compliance Submittals ... 7
5.0 Plan Amendment and Updates 12
6.0 References 12

List of Tables

Table 1. Action Items for Plan Finalization 2
Table 2. Definitions 4
Table 3. Pre-construction Compliance Action Checklist and Compliance Verification 5
Table 4. Site Prep Checklist and Compliance Verification 8
Table 5. Construction, and Post-Construction Checklist and Compliance Verification 8

List of Appendices

Appendix A. Personnel Roles
Appendix B. Disturbance Levels
Appendix C. Fugitive Dust Control
Appendix D. Environmental Monitoring and Reporting Methods
Appendix E. Success Criteria, Methods for Revegetation and Soil Stabilization
Appendix F. Weed Control Methods

Acronyms and Abbreviations

Applicant	XX
BESS	battery energy storage system
BMP	best management practice
Certificate Holder	XX
County	XX County
EFSC	Oregon Energy Facility Siting Council
EMC	Environmental Monitoring Contractor
EPC	Engineering, Procurement, and Construction Contractor
ESCP	Erosion and Sediment Control Plan
Facility	XX
gen-tie	generation tie
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
OAR	Oregon Administrative Rule
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
OSWB	Oregon State Weed Board
RACM	Reasonable Available Control Measures
RC	Revegetation Contractor
VSMP	Vegetation and Soil Management Plan
WC	Weed Control Contractor

1.0 Introduction and Plan Goals

This Vegetation and Soil Management Plan (VSMP) was prepared by XX (certificate holder), a wholly owned, indirect subsidiary of XX (certificate holder owner) to serve as a primary source of commitments related to revegetation, soil management, dust control, stormwater management, and noxious weed control through the pre-construction, construction, and post-construction phases for the XX (facility), located in XX County, Oregon. The actions described in this VSMP are intended to reduce erosion and fugitive dust, protect topsoil, prevent the establishment and spread of noxious weeds and increase the probability of effective revegetation/site stabilization as required under the Soil Protection and Land Use standards.

For ease of implementation and compliance tracking, this document is structured to identify actionable items by phase and typical sequencing within each phase, with additional details provided as appendices and/or incorporated by reference. Depending on how the facility is constructed, overlapping measures may apply to the facility during site preparation, construction, post-construction and into operations.

1.1 Plan Finalization

This VSMP will be finalized, as necessary, in coordination with the Oregon Department of Energy (ODOE) and applicable agencies prior to construction of the facility to reflect the final layout of the facility and additional details available once an Engineering, Procurement, and Construction Contractor (EPC) has been identified.

Please note that finalization of this VSMP includes field work and surveys of the site, early timing should be considered.

identifies information that must be incorporated into the final VSMP before beginning any phase of construction.

Table 1. Action Items for Plan Finalization

Action	Timeframe	Implemented By	Compliance Verification
Update Appendix A, Table A-1 with the name and contact information of EMC, EPC, RC, WC, and the County Weed Manager contact	Plan Finalization	Certificate Holder	ODOE
Update Appendix B with a construction plan and maps/figures based on final design, expected disturbance levels, and sequencing of construction (phasing or component buildout), locations of wheel wash stations, and locations for stockpiled soils.	Plan Finalization	EMC	ODOE
Update Appendix C with construction dust control measures. Include contact information and procedures for Dust Control Hotline.	Plan Finalization	EPC	ODOE
Update Table C-1 in Appendix C with the type of palliatives/tackifiers used for construction dust suppression.	Plan Finalization	Certificate Holder	ODOE
Update Appendix E Methods with appropriate seed mixes, cover crops if used, and the optimal timing for seed application based on climatic conditions of the particular year when construction and revegetation efforts will be implemented.	Plan Finalization	Certificate Holder & EMC	ODOE in consultation with ODA and County, as necessary
Update Appendix D with baseline vegetation sample locations used to inform seed mixes and restoration actions.	Plan Finalization	Certificate Holder & EMC	ODOE
Update Appendix E with additional or site-specific BMPs for site preparation, construction, and post construction.	Plan Finalization	Certificate Holder & EMC	ODOE
Update Appendix E adding BMPs from the 1200-C for site preparation, construction, and post-construction.	Plan Finalization	Certificate Holder & EMC	ODOE
Update Appendix E with seed storage proposals.	Plan Finalization	Certificate Holder & EMC	ODOE
Conduct site-wide baseline weed surveys according to methods in Appendix D, or as approved by ODOE. Update Appendix F, Table F-2 with noxious weeds observed during baseline pre-construction surveys. Update Appendix D with information from baseline weed surveys used to inform weed treatment and prevention methods.	Plan Finalization	Certificate holder, EMC	ODOE in consultation with ODA and County, as necessary

Table 1. Action Items for Plan Finalization

Action	Timeframe	Implemented By	Compliance Verification
Update Table F-2: Treatment Plan and Tracking for Noxious and Invasive Weed Control with timing and treatment methods for each identified weed species of concern in Appendix F.	Plan Finalization	WC & EMC	ODOE in consultation with ODA and County, as necessary
Update Appendix E: Landowner Preferences to include any measures to minimize impacts to adjacent agricultural operations or landowners in the final VSMP. Provide evidence of landowner consultation as described in Appendix E.	Plan Finalization	Certificate Holder & EPC	ODOE
Acronyms = EMC = Environmental Monitoring Contractor; EPC = Engineering, Procurement, and Construction Contractor; ODA = Oregon Department of Agriculture; ODOE = Oregon Department of Energy; RC = Revegetation Contractor; WC = Weed Control Contractor			

2.0 Definitions

Definitions applicable to this VSMP are provided in Table 2, below.

Table 2. Definitions

Term	Definition
Facility	XXX
Solar Micrositing Area	Maximum area where Solar Components may be constructed and operational activities can occur.
Disturbance Area	Any area impacted by construction of the facility within and outside the fence of a solar array.
Sensitive Soils	Soils that are highly susceptible to erosion from water, fugitive dust propagation, compaction, or other impacts.
Solar Components	Components related to photovoltaic solar power generation and BESS.
Weed Management Area	Area within the fenceline and a 10-foot buffer outside the fence, if accessible, transmission line corridor, and any area outside the fenceline impacted by construction.

3.0 Pre-Construction Actions and Compliance Submittals

Table 3 outlines tasks, actions, and submittals that must be completed before beginning construction.

Table 3. Pre-construction Compliance Action Checklist and Compliance Verification

Action	Timeframe	Implemented By	Compliance Verification
Provide Final VSMP to ODOE	At least 30 days prior to construction	Certificate Holder	ODOE to review based on Table 1
Provide evidence that each contractor (of EMC, EPC, RC, WC) meets the minimum qualifications described in Appendix A.	Plan Finalization	Certificate Holder	Submit resume or summary of qualifications to ODOE to confirm.
Hold a kick-off meeting with the EMC, EPC, County, and ODOE. Meeting may be in-person or remote.	Prior to Environmental Training	Certificate Holder	ODOE or its consultant will attend.
Provide information about noxious weed species at work trailers.	Prior to construction	EPC	EMC & ODOE to confirm during training or site visit. Certificate holder may also submit photographs of information postings.
Flag noxious weed infestations to alert construction and EPC personnel of avoidance and treatment areas.	Prior to construction and during construction	EMC	Confirmed with figures identifying weed infestation locations in Final VSMP. EMC & ODOE to confirm on an ongoing basis.
Complete installation of stormwater, erosion, and sediment controls as required for soil protection and vegetation management (under the 1200-C permit).	Prior to construction	EPC	Confirmed with site specific drawings in 1200-C. EMC & ODOE to generally confirm at training and on an ongoing basis..
Coordinate the construction schedule and sequence with adjacent and impacted landowners to maintain land in current production and weed control until the end of the last growing season prior to construction.	Prior to construction	Certificate Holder	Provide records of landowner coordination to ODOE.

Table 3. Pre-construction Compliance Action Checklist and Compliance Verification

Action	Timeframe	Implemented By	Compliance Verification
Conduct Environmental Training at the facility with contractors, construction personnel, and environmental inspector(s), inviting specialty contractors, and ODOE. The training must cover BMPs and specific actions for construction personnel designated in this VSMP including but not limited to: • Roles and responsibilities of site personnel; • Location of flagged noxious weed infestations to alert construction personnel of avoidance areas or management requirements;. Methods for identifying and preventing the spread of noxious weeds; • BMPs for soil protection and erosion control under the 1200-C permit Training may be separate or overlap or occur with pre-construction training required in the Wildfire Mitigation Plan with emergency personnel.	Prior to construction	Certificate Holder & EMC	ODOE will attend. Provide records demonstrating that all contractor personnel have attended on-site Environmental Training. Copies of training materials (slide deck, minutes, and/or handouts and attendees list) submitted to ODOE

4.0 Site Preparation, Construction and Post-Construction Actions and Compliance Submittals

Table 4 outlines actions and submittals needed to demonstrate compliance during site preparation. Table 5 outlines actions and submittal for compliance during construction, and post-construction. This list includes actions applicable throughout construction as well as actions required as construction nears completion and revegetation commences in preparation for entering the operations phase.

Table 4. Site Prep Checklist and Compliance Verification

Action	Timeframe	Implemented By	Compliance Verification
Site Preparation/Pre-Construction			
Treat noxious weeds in the Weed Management Area using methods described in Appendix F.	Prior to construction	WC	Submit weed treatment records/summary to ODOE prior to construction.
In Disturbance Levels 3, 4, and 5 areas (described in Appendix B), stockpile excavated soils by soil horizon to replace in the same order and prevent mixing of topsoil and subsoils. Put conserved topsoil back in place prior to revegetation activities.	Site preparation	EPC	Certificate holder to confirm locations of stockpiles to ODOE. ODOE to confirm ongoing as needed.
Require construction vehicles to pass through a wheel wash station at vehicle ingress/egress points each time they enter or exit the facility.	During Site preparation	EPC	EMC & ODOE to confirm, ongoing as needed.
Clean vehicles and equipment associated with ground disturbance and movement of topsoil utilizing a mobile wash station after performing work in areas with noxious weeds and prior to performing work in areas without noxious weeds.	During site preparation	EPC	EMC & ODOE to confirm, ongoing as needed.
After grading is complete but prior to installation of facility Components, apply temporary or permanent soil stabilization, as described in Appendix E.	During site preparation	RC	EMC & ODOE to confirm, ongoing as needed.

Table 5. Construction, and Post-Construction Checklist and Compliance Verification

Action	Timeframe	Implemented By	Compliance Verification
During Construction			
Ensure a copy of this VSMP is available at the facility.	During construction	EPC	Certificate holder to confirm location in monthly construction report.
Prominently display Dust Control Hotline signs, providing direct access to the certificate holder Site Manager.	During construction	EPC	Certificate holder to confirm location in monthly construction report.

Table 5. Construction, and Post-Construction Checklist and Compliance Verification

Action	Timeframe	Implemented By	Compliance Verification
Do not move topsoil and other soil from areas with noxious weeds to areas without noxious weeds; instead, return these soils to their previous location during reclamation activities to reduce the transport of weed seeds, roots, or rhizomes.	During construction	EPC	EMC & ODOE to confirm, ongoing as needed.
Use appropriate erosion and sediment control practices, as required by the 1200-C permit.	During construction	EPC	Certificate holder/EPC to include BMPs in the dust control log provided in the monthly construction environmental monitoring report. ODOE to confirm.
Limit vehicle access to designated routes, whether existing roads or newly constructed roads, and the outer limits of construction disturbances per the final design for the facility Components; limit vehicle traffic in areas with noxious weeds.	During construction	EPC	EMC & ODOE to confirm, ongoing as needed.
Require construction vehicles to pass through a wheel wash station at vehicle ingress/egress points each time they enter or exit the facility.	During construction	EPC	EMC & ODOE to confirm, ongoing as needed.
Clean vehicles and equipment associated with ground disturbance and movement of topsoil utilizing a mobile wash station after performing work in areas with noxious weeds and prior to performing work in areas without noxious weeds.	During construction	EPC	EMC & ODOE to confirm, ongoing as needed.
Implement appropriate BMPs, as designated in this VSMP Dust Control Measures, to control any dust generated by construction activities, such as applying water or stabilizers to roads and disturbed soil areas.	During construction	EPC	Certificate holder/EPC to include in the dust control log provided in the monthly construction environmental monitoring report. ODOE to confirm..
Maintain dust control log which includes records of U.S. Environmental Protection Agency (EPA) Method 22 monitoring. See Appendix D.	During construction	EPC	Certificate holder/EPC to include in the dust control log provided in the monthly construction environmental monitoring report. ODOE to confirm.
After grading is complete but prior to installation of facility Components, apply temporary or permanent soil stabilization, as described in Appendix E.	During construction	RC	Certificate holder/EPC to include in the monthly construction environmental monitoring report. ODOE to confirm. .

Table 5. Construction, and Post-Construction Checklist and Compliance Verification

Action	Timeframe	Implemented By	Compliance Verification
Perform soil preparation prior to seeding using methods described in Appendix E.	Before revegetation	EPC	Submit to ODOE after testing or certificate holder/EPC to include in the monthly construction environmental monitoring report. ODOE to confirm.
Monitor the Weed Management Area for noxious weeds during and after construction according to Appendix D and implement control measures as described in Appendix F.	During and following construction	EMC & Certificate Holder	Certificate holder/EPC to include in the monthly construction environmental monitoring report. ODOE to confirm.
Post-Construction			
Coordinate with landowner or farm operator to identify the preferred approach for soil stabilization on agricultural land until routine seeding and tillage resumes. Soil stabilization may include applying unseeded hydromulch or crimping in weed-free straw until seeding can occur. Landowner may choose to assume responsibility for soil stabilization. Agricultural lands will be restored to landowner satisfaction.	During and following construction	Certificate Holder	Submit documentation of coordination to ODOE in monthly construction environmental monitoring report.
Restore Disturbance Areas by re-establishing slope, surface stability, and drainage features, as needed, followed by soil preparation and seeding.	Prior to reclamation	Certificate Holder	Certificate holder/EPC to include in the monthly construction environmental monitoring report. ODOE to confirm
In areas with noxious weeds where soil was removed, return soils to their previous location during reclamation activities to reduce transport of weed seeds, roots, or rhizomes.	During reclamation	EPC	EMC & ODOE to confirm, ongoing as needed.
Treat noxious weeds in the Weed Management Area using methods described in Appendix F. No weed treatment will occur in agricultural lands without landowner permission.	Before reclamation and revegetation	WC	Submit weed treatment records to ODOE in the monthly construction environmental monitoring report or as directed by ODOE.
De-compact soil by mechanical scarification (tilling or ripping the soil) to an appropriate depth as described in Appendix E. Soil amendment, such as addition of organic matter (compost), may also be necessary to alleviate compaction.	Prior to revegetation	EPC	Submit soil decompaction methods for disturbance areas to ODOE in the monthly construction environmental monitoring report or as directed by ODOE.EMC & ODOE to confirm, ongoing as needed.

Table 5. Construction, and Post-Construction Checklist and Compliance Verification

Action	Timeframe	Implemented By	Compliance Verification
Complete post-construction soil compaction testing in all Level 3 and 4 Disturbance Areas with comparable sample plots in spring or late fall in accordance with Appendix D.	After reclamation and before revegetation	EMC & Certificate Holder	Submit to ODOE after testing or certificate holder/EPC to include in the monthly construction environmental monitoring report. ODOE to confirm.
Perform soil preparation prior to seeding using methods described in Appendix E.	Before revegetation	EPC	EMC & ODOE to confirm, ongoing as needed.
Following completion of construction phases, seed Disturbance Areas in accordance with methods described in Appendix E.	During revegetation	RC	Certificate holder/EPC to include in the monthly construction environmental monitoring report. ODOE to confirm.
Stabilize seeded areas according to Appendix E; facilitate vegetation establishment by applying seedless, certified weed-free hydromulch containing a tackifier or crimped weed-free straw.	During revegetation	RC or EPC	Certificate holder/EPC to include in the monthly construction environmental monitoring report. ODOE to confirm

5.0 Plan Amendment and Updates

Information from reporting described in Appendix D, as well as from the certificate holder's or ODOE's review of monitoring reports or site visits, may be used to determine whether soil restoration, vegetation management, and weed control are successfully implemented. If determined necessary by the certificate holder or ODOE, adjustments or improvements may be proposed that ensure this VSMP provides effective guidance on minimizing erosion, restoring soils, managing vegetation, and controlling noxious weeds. For repeat incidences, complaints or ongoing sediment, erosion, weed, revegetation or fugitive dust control issues, see the requirements in Appendix D: Remedial Action Plans and Adaptive Management for steps for Remedial Action Plan(s). Remedial action plans must contain a scope/schedule and seasons to implement the recommendations.

This VSMP may be amended from time to time by agreement of the certificate holder and the Oregon Energy Facility Siting Council (EFSC) or ODOE, acting in its delegated authority of EFSC. Such amendments may be made without amendment of the site certificate. EFSC authorizes ODOE to agree to amendments to this VSMP. ODOE will notify EFSC of all VSMP amendments, and EFSC retains the authority to approve, reject, or modify any amendment agreed to by ODOE.

6.0 References

ODEQ (Oregon Department of Environmental Quality). 2019. OAR 340-208-0210 EPA Method 22. https://secure.sos.state.or.us/oard/viewAttachment.action?ruleVrsnRsn=256141

Appendix A. Personnel Roles

Roles and Responsibilities

The certificate holder is the overall responsible party for construction of the facility and implementation of this Vegetation and Soil Management Plan (VSMP). However, the certificate holder may use contractors to complete tasks associated with this VSMP. Responsible parties and their roles are described in Table A-1.

Specific protocols and requirements for surveys and construction monitoring/reporting to be performed prior to and during construction and revegetation efforts are described in Appendix D.

Table A-1. Roles and Responsibilities

Responsible Party	Name and Contact Information	Role
Certificate Holder	XXX, LLC	Responsible for compliance with all condition requirements, hiring contractors that meet the minimum qualifications described in Appendix A, and ensuring that all contractors perform work in accordance with the requirements of this VSMP.
Engineering, Procurement, and Construction Contractor (EPC)	Name: Contact Person: Address: Phone: Email:	Responsible for implementing best management practices (BMPs) and other measures specified in the National Pollutant Discharge Elimination System (NPDES) 1200-C permit and this VSMP to minimize impacts during construction, as well as for performing restoration and revegetation actions, as identified in this VSMP.
Revegetation Contractor (RC)	Name: Contact Person: Address: Phone: Email:	Responsible for performing revegetation actions during and immediately after construction, as described in this VSMP.
Weed Control Contractor (WC)	Name: Contact Person: Address: Phone: Email:	Responsible for performing weed control actions in the Weed Management Area, as described in this VSMP.

Table A-1. Roles and Responsibilities

Responsible Party	Name and Contact Information	Role
Construction Environmental Monitoring Contractor (EMC)	Name: Contact Person: Address: Phone: Email:	Responsible for conducting environmental monitoring and documenting compliance with this VSMP during and following construction, including conducting revegetation, dust, soil, stormwater, and noxious weed monitoring. Conduct compliance monitoring to ensure that contractors are complying with noxious weed prevention measures in this VSMP. Facilitate coordination meetings, train all personnel to maintain tracking sheets, conduct routine check-in calls with the construction team, and document communication with landowners prior to chemical application. Maintain records and provide ODOE in compliance with reporting requirements in Appendix D.
Oregon Department of Energy (ODOE)	Oregon Department of Energy Compliance Specialist 550 Capitol St. NE Salem, OR 97301 Phone: Email:	Responsible for providing technical input on proposed BMPs and other measures to minimize impacts and for validating all compliance deliverables described in this VSMP. ODOE may utilize contractors to meet its responsibilities under this VSMP during some or all phases.
XX County (County)	XX County Weed Department CONTACT, Weed Program Manager ADDRESS PHONE EMAIL	Responsible for providing input when requested on weed control and other actions described in this VSMP and its implementation as needed. The County may also attend calls with ODOE and other agencies as needed and as available.

Appendix B. Disturbance Levels

Disturbance Acreage

[to be inserted at plan finalization]

Table B-1. Acreage by Anticipated Disturbance Level

Disturbance Level				Acres
1				
2				
3				
4				
5				
			Total	

Note: Totals in this table may not appear to sum correctly due to rounding. N/A = not applicable; <0.1 = greater than zero but less than 0.05

Disturbance Levels

Revegetation and soil stabilization needs will be determined by a combination of topography, soil type, disturbance level, and existing vegetative cover. Disturbance levels will primarily be determined by conditions such as slope, gradient, and existing vegetation. As much as is feasible, use of heavy machinery and soil disturbance should be conducted on dry soil. Disturbance levels are defined as follows and depicted in Figure B-1:

- *Level 1 – Mowing:* Mowing is used to conserve vegetative resources within a facility. Vegetation will be limited to a height of 12 inches and mowed to no less than 6 inches during construction. Mowing to no less than 6 inches protects perennial grass crowns and allows grasses to regenerate. Crushing of vegetation will be minimal and this disturbance level is designed to have a minimal impact on existing vegetation. This method is least likely to result in invasions of undesirable plant species.
- *Level 2 – Overland Drive and Crush:* Disturbance caused by accessing a facility without significantly modifying the landscape. Vegetation is crushed to the ground, but no surface soil is removed so root structures are left intact. Even though vegetation may be damaged or destroyed, the surface soil and seed bank remain in place. Some crushed vegetation will likely sprout after disturbance ceases. These activities would result in minimal to moderate disturbance. This type of disturbance will result in a faster recovery time for vegetation compared to Levels 3 and 4. Soil seed banks remain largely in place, perennial vegetation can grow back, and minimal external efforts are necessary. This method is less likely to result in invasions of undesirable plant species compared to Levels 3 and 4.

- *Level 3 – Clear and Cut:* Disturbance caused by accessing the facility including having to remove all vegetation to improve or provide suitable access for equipment. All vegetation is removed, soils are compacted, and the root zone or soil A-horizon may be disturbed, but no subsurface soil is removed. Clear and cut activities would result in moderate disturbance. This type of disturbance will result in moderate recovery times for vegetation. This method has a moderate risk for invasion of undesirable plant species. An example is imprinting to crush vegetation down into the soil or incidental grading and smoothing of surface soils.
- *Level 4 – Clear and Cut with Soil Removal*: Disturbance is caused by removing all vegetation in the impact zone, soils are compacted, and surface soil and subsoil are displaced. These activities result in heavy disturbance. This type of disturbance results in an extensive recovery time for vegetation and is most likely to lead to invasions of undesirable plant species, which can result in lengthy and expensive control efforts. Includes disc-and-roll construction and other traditional construction methods where soils are disturbed and no vegetation is left intact. This category includes all work requiring the segregation and replacement of topsoil.
- *Level 5 – Development Footprint*: Disturbance is caused by removing all vegetation and covering the area surface with gravel, concrete, or other vegetation-free surfaces, or where the intended function of a specific area necessitates it remain unvegetated. This disturbance level includes roads, graveled lots, permanent fire breaks, utility pole pads, and the areas underlying any component installed on a foundation. Level 5 does not include vegetated areas under solar arrays. Level 5 disturbance will result in a complete loss of vegetation and will be required to be monitored and kept free of noxious weeds and other vegetation for the life of the facility.

Maps showing the expected disturbance levels within the Disturbance Area in relation to existing vegetation type and areas with sensitive soils are provided in Figure(s) B-1 below, or appended to the final VSMP.

Figures B-2 show construction sequencing (how the facility construction will be phased or component buildout) based on final design and expected disturbance levels. If the facility is built out by phase or component, the applicable measure in this plan will apply and be tracked by that phase or component. Figures B-2 will also include the anticipated locations of stockpiles soils.

[to be inserted at plan finalization]

Figures B-1. Disturbance Levels within the Facility with Vegetation Type and Sensitive Soils

[to be inserted at plan finalization]

Figure B-1. Construction Phasing Buildout and Disturbance Levels

Appendix C. Fugitive Dust Control

To manage fugitive dust from construction, the certificate holder and its contractors will generally follow the Dust Control Plan Flow Chart (Figure C-1).

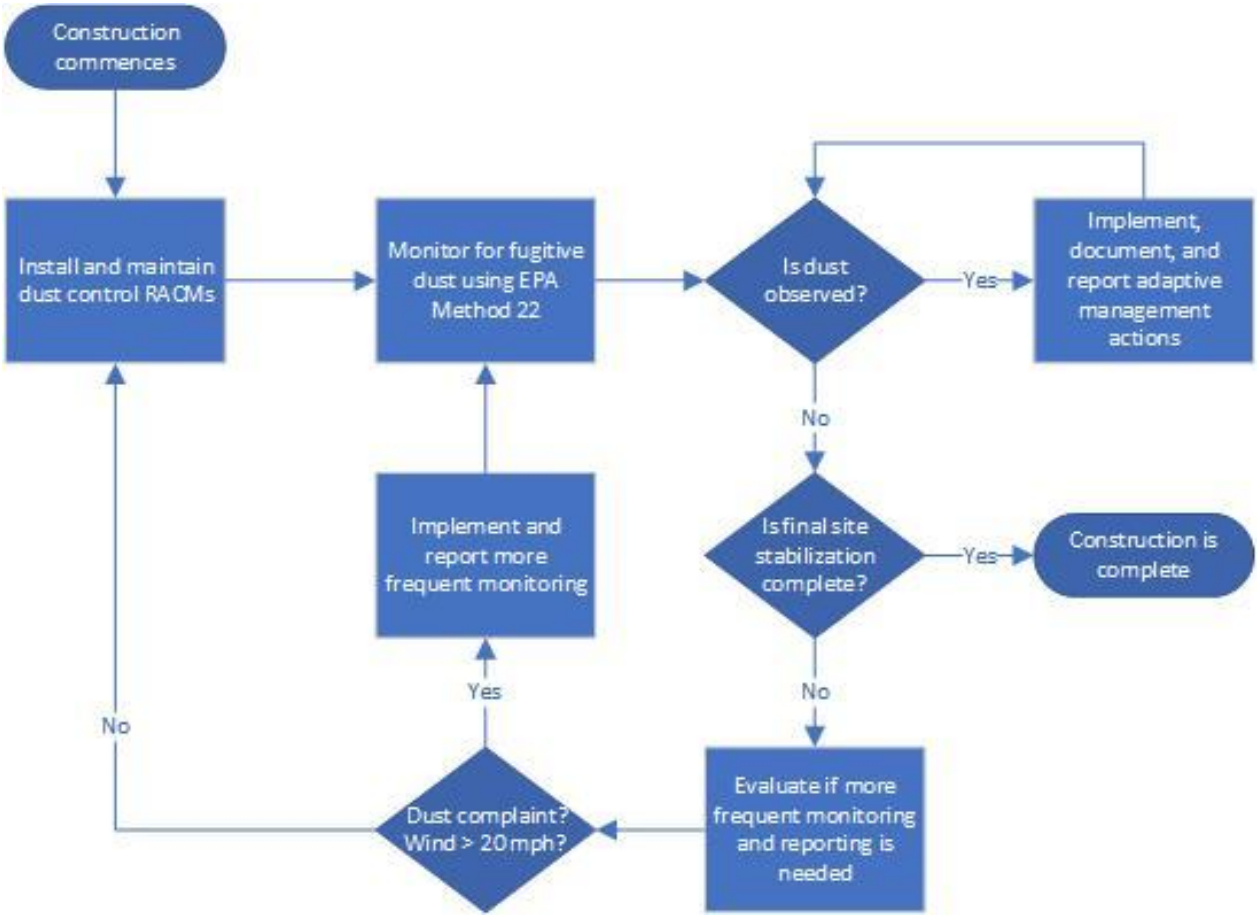


Figure C-1. Dust Control Plan Flow Chart

Fugitive Dust Monitoring and Reasonable Available Control Measures (RACMs)

Visual monitoring must occur at least once every 14 calendar days. However, because Oregon Administrative Rule (OAR) 340-208-0210 restricts visible fugitive emissions on a continuous standard to a maximum of **18 seconds in any 6-minute period** and fugitive dust emissions may provide an immediate public safety concern, this VSMP requires that fugitive dust be monitored and controlled on an ongoing basis (Table C-1).

Monitoring for fugitive dust emissions will include:

- Use of U.S. Environmental Protection Agency (EPA) Method 22 (ODEQ 2019), as specified in OAR 340-208-0210, **at least once per day during the dry season, during peak construction activities.**

- The observation will be performed during times of peak construction activity at the downwind facility boundary.
- Recording observations in a fugitive dust inspection log kept at the facility and digitally, described below.

Triggers for additional, more frequent monitoring will include:

- Observation of visible fugitive dust emissions by the Environmental Inspector, contractor(s), agency, or certificate holder staff,
- Wind speeds or gusts greater than 20 miles per hour, or
- Receipt of complaints or concerns through the Project Dust Control Hotline or other means.

Table C-1. Fugitive Dust Sources and Reasonable Available Control Measures (RACMs)

Construction Phase	RACM(s)	Supplemental RACM(s)
All Phases of Construction	Daily fugitive dust monitoring and record keeping.	Increase frequency of monitoring.
	Prominent display of Dust Control Hotline signs, providing direct access to the Environmental Inspector.	If established, proactive engagement with Community Action Council.
	Worker Environmental Awareness Program training for all construction employees.	Additional trainings and refreshers for employees.
	Maintain stockpile of best management practices (BMPs), including sufficient palliatives for a single treatment of all access roads and mulch, and/or hydromulch for a minimum of 25 percent of the total disturbed area, and machinery for application.	Increase stockpile of palliatives, mulch, and/or hydromulch and add additional BMPs.
	Documentation and reporting of adaptive management actions or Remedial Action Plans.	Development and submittal of updated RACMs
	Ensure that stockpiles are covered and that exposed soils are dampened between operational periods (breaks) from construction.	Increase stockpile of palliatives, mulch, and/or hydromulch and or additional BMPs.
Facility Access	Install and maintain stabilized construction entrances at ingress/egress locations and restrict traffic to these locations.	Add additional construction entrance BMPs (e.g., wheel wash).
	Access roads will be graveled.	Road maintenance and reapplication of gravel.

Table C-1. Fugitive Dust Sources and Reasonable Available Control Measures (RACMs)

Construction Phase	RACM(s)	Supplemental RACM(s)
	Access roads will be stabilized with water or palliative/tackifiers sufficient to eliminate visible and sustained dust from vehicular travel and wind erosion. Reapply stabilization as necessary to maintain dust-free condition. If water is unavailable, or if water use is limited by any agency or regulation, access roads will be stabilized with other palliatives/tackifiers. XX will be used for dust suppression on roads during construction.	If water is ineffective, access roads will be stabilized with longer-lasting palliatives/tackifiers and reported to the Department in the monitoring report in Appendix D.
	Restrict construction traffic to established and stabilized access routes.	Install fencing or barricades to prevent traffic outside of established routes.
	Limit traffic speeds to 15 miles per hour on stabilized unpaved roads within the facility as long as such speeds do not create significant visible dust emissions. Traffic speed signs will be displayed prominently at all entrances and exits.	Limit traffic speeds within the facility to 5 or 10 miles per hour.
	Minimize disturbance areas and soil exposure to the maximum extent feasible.	Limit work to a portion of the disturbed area until all disturbed areas receive temporary or final stabilization.
	When wind speeds or gusts exceed 20 miles per hour, minimize new disturbances to the extent possible and/or mobilize additional water trucks or palliatives to minimize fugitive dust from exposed surfaces.	Stop all ground disturbing activities and apply additional dust control measures until measures are effective or wind speeds slow and fugitive emissions stop.
	Separate and cover or otherwise stabilize topsoil to preserve it until it is replaced during revegetation.	Increase maintenance frequency for topsoil cover/stabilization. Combine methods, such as mulch plus tackifier.
	Stabilize exposed soils within the timeframes established in the 1200-C permit and VSMP (7 to 14 days). Stabilize exposed soils in stages based on soil conditions and weather.	Stabilize exposed soils more frequently, even if additional work is anticipated within the timeframe established in the 1200-C permit. Reapply stabilization measures following any additional disturbances.
	Temporarily stabilize exposed surfaces to prohibit significant and sustained visible fugitive dust from wind erosion. Utilize BMPs such as mulch, hydromulch with or without seeds, tackifier, spreading stone or gravel, and trackwalking.	Combine stabilization methods, such as mulch plus tackifier, or trackwalking plus hydromulch. Increase frequency of maintenance of stabilization.
	Seed exposed surfaces during the appropriate season with approved temporary or permanent seed mixes.	Reapply seed to newly disturbed areas or areas with poor germination. Use temporary seeding even if additional work is anticipated before final stabilization. If irrigation is used to enhance seeding success, consult with ODOE.

Table C-1. Fugitive Dust Sources and Reasonable Available Control Measures (RACMs)

Construction Phase	RACM(s)	Supplemental RACM(s)
Removing and Hauling Sand, Soil, or Other Loose Materials	Gate seals should be tight on dump trucks. Soil load will be kept below approximately 6 inches of the freeboard of the truck. Drop heights will be minimized when loaders dump soil into trucks. Gate seals will be checked and tight on dump trucks. All trucks on highways must be fully covered and secured.	Cover haul trucks with a tarp or other suitable cover.

Fugitive Dust Reporting

A dust inspection log will be completed after each dust inspection, will be kept digitally and will be included in construction monitoring reports as described in Appendix D of this VSMP.

Appendix D. Environmental Monitoring and Reporting Methods

Remedial Action Plans and Adaptive Management

Certificate holder, EMC, and/or monitoring personnel will track and report to the certificate holder regarding dust control, weed management, and revegetation progress. For ongoing weed, sediment, erosion or fugitive dust control issues or reoccurring incidences or complaints the certificate holder and EMC will submit to ODOE a Remedial Action Plan which includes remedial recommendations for erosion and sediment control, reseeding, weed control and dust control as described in this VSMP. EMC or certificate holder may propose alternate BMPs to address issues with revegetation, weeds, or dust that are not provided in this plan. Remedial action plans must contain a scope/schedule to implement the recommendations. The scope/schedule must identify the seasons where the actions will take place. The certificate holder will include the EMC's recommendations for adaptive management and measures taken in monitoring reports described in this Appendix. ODOE may require additional remedial measures.

ODOE may require a meeting with ODOE, WC, EMC, ODA, ODEQ, and/or County Weed Department to review the actual extent and condition of disturbed areas and confirm erosion, revegetation or weed management methods to be implemented. The meeting may include a site visit or may be remote to encourage attendance. If meetings are held remotely, the certificate holder will have current photographs or videos of the areas in question, if applicable.

Fugitive Dust Monitoring and Reporting

BPMs from the 1200-C permit may be implemented to control on-site erosion control or sediment control after the 1200-C permit has been terminated or if erosion and sediment control or soil damage are an ongoing issue post-construction and into operations. [1]

A dust inspection log will be completed after each dust inspection. Log records will be kept digitally and included in construction environmental monitoring reports submitted to ODOE monthly, or as directed by ODOE.

The dust inspection log included in the construction environmental monitoring reports will include:

- All information required in EPA Method 22 described in Appendix C.
- Photos and/or video taken during the observation period to document conditions.
- Any documented exceedance events will include a detailed explanation of RACMs implemented for corrective action and the results of subsequent monitoring demonstrating fugitive dust has returned to below exceedance thresholds.
- The dust inspection log will include the type of palliatives/tackifiers used for dust suppression on roads or other areas and any other BMPs from the 1200-C permit that reduce dust.

Post Construction Soil Compaction Monitoring and Reporting

[1] EFSC/ODOE reliance on the 1200-C for is for erosion control, not to ensure sediment discharge to WOS does not occur.

Post-construction phase soil compaction testing will be used to inform BMPs for revegetation.

As construction phasing is completed, the EMC will conduct post-construction soil compaction testing in Level 3 and 4 Disturbance Areas in spring or late fall following the below procedures, unless approved by ODOE.

- Soil compaction sample locations will be evenly distributed across the Disturbance Area at a rate of 1 sample per 200 acres.
- To compare with the disturbance area soil compaction soil tests, soil testing will be also conducted at sample plot(s) adjacent to or within the vicinity of the Soil compaction sample locations; or in areas that have similar soil types/conditions.
- Sample locations will be selected to avoid infrastructure such as inverters and roads where revegetation will not occur.
- Sample locations will be identified in Figures submitted to ODOE as described below.

Soil compaction testing of sample locations and sample plots will be conducted using the following standard methods, or as approved by ODOE:

- The surveyor will measure soil resistance using a penetrometer.
- Resistance will be measured at 3-inch intervals to 12 inches or until the meter goes above 300 pounds per square inch (psi) (3, 6, 9, and 12 inches if soils allow).
- Three penetrometer readings will be collected and averaged at each sample location.
- A photo will be taken of each sample location.
- Measurements will be conducted in conditions favorable to soil testing (e.g., non-saturated or frozen soils).

When site construction is still active, results must be submitted in the monthly construction environmental monitoring report. GIS data must be submitted to ODOE with report(s).

If post construction soil compaction is necessary into operation of the facility, soil compaction testing results may submitted after the testing is complete or with the Year 1-2 Operational Monitoring Report.

[to be provided post construction and prior to revegetation in applicable construction monitoring report(s)]

Figure D-1. Post Construction Soil Compaction Testing and Sample Locations

Revegetation

Baseline Vegetation Monitoring Protocol

Prior to construction, baseline vegetation surveys will be conducted in all Disturbance Areas. Baseline vegetation surveys will be conducted at a rate of 1 sample per 200 acres (Figure D-1). A 1x1 meter square quadrat will be placed on the ground at each sample location. Baseline vegetation surveys will be used to inform success criteria, reclamation methods including seed mixes, ground cover and BMPs in this VSMP.

Data collected, including GIS information, will include:

- Vascular plant species observed;
- Percent cover of each species observed including noxious weeds (see baseline weed survey methods);
- Percent cover of covered substrate (litter, moss, rock, biotic crust) and bare soil;
- Professional opinion and description of whether the vegetative cover is ideal or representative for the area;
- Evidence of grazing, erosion, or other disturbance; and
- Photo of each quadrat location with vegetation examples.

This information must be provided in the final construction VSMP.

Revegetation Monitoring and Reporting Methods and Frequency

The certificate holder or EMC will monitor revegetated Disturbance Areas by walking a meander survey to document the success of revegetation using photos and spatial data collection. Revegetated areas will be monitored by the EMC during and post construction, at a frequency detailed in Table D-2 below, to document and report the following:

- Date construction phase was completed;
- Figures/Maps representing the location and acres affected at each disturbance level;
- Description and photos of revegetated areas, including but limited to:
    - Qualitative visual assessment of cover of native, desirable (non-native species included in the seed mix), and non-native forbs and grasses,
    - Dominant species composition;
    - Percent cover of bare soil;
    - Degree of erosion.
- Date revegetation was initiated;
- Description of the revegetation and soil preparation efforts, including methods, timing for soil preparation and decompaction, type and timing of seeding application, type of tackifier and seed mix used;
- Confirmation from the landowner that cropland has been satisfactorily restored, where applicable.
- Presence of noxious weeds (see weed monitoring methods);

- Assessment of whether revegetated areas are meeting or trending toward the success criteria described in Appendix E;
- Recommendations for remedial actions, if any. If applicable, provide recommendations for soil preparation, reseeding, weed control, or other remedial measures for Disturbance Areas that are not showing progress toward meeting success criteria. Any remedial action plans or remedial actions must contain a scope/schedule to implement the recommendations. The scope/schedule must identify the seasons where the actions will take place. (see Appendix D and E).

The certificate holder will monitor all revegetated areas, unless the landowner converted an area to a use that precludes meeting revegetation success criteria such as cropland (if applicable).

Table D-1. Revegetation Monitoring and Reporting Frequency

Year	Frequency	Activity	**Report Submission**/Compliance Verification
Prior to construction	Once	Quantitative baseline vegetation monitoring.	Submit results in final Construction VSMP. Use information to inform revegetation BMPs.
During construction	Monitoring of disturbance area begins after 90 days from post-construction reseeding; then monthly monitoring after.	Qualitative meandering vegetation survey of Disturbance Areas.	Monthly in the construction environmental monitoring report
Post construction	Monthly during construction, then seasonal as directed below for Years 1-2 of operation, or as needed in areas where revegetation does not appear to be successful	Qualitative meandering vegetation survey of Disturbance Areas.	Monthly in the construction environmental monitoring report, until construction is complete, then seasonal as directed below for Years 1-2 of operation
Years 1 – 2	Seasonal; three times a year (spring, summer, fall)	Qualitative meandering vegetation survey of Disturbance Areas beginning the first year after seeding.	Year 1-2 Operational Monitoring Report shall be submitted promptly after survey, three times a year, or as directed by ODOE.

[to be inserted at plan finalization to help inform seed mixes/optimal vegetation]

Figure D-2. Baseline Vegetation Sample Locations

Weeds

The Weed Management Area is the area within the solar fence and a 10-foot buffer outside the fence, if accessible, transmission line corridor, and any area outside the fenceline impacted by construction.

Pre-construction Weed Surveys

Prior to construction conduct site-wide noxious weed surveys to identify areas for treatment prior to construction. This information must be provided in the final construction VSMP.

The EMC will record the following information for each noxious weed occurrence:

- Identify weed species and their weed status designated in this plan. Fill out draft of Table F-2 (or similar) with weed species. Finalize Appendix F, Table F-2 (or similar) and Appendix F (Weed Control Methods)..
- Photograph and map weed occurrence locations (Figure D-2) with a point or polygon using GIS;
- Approximate number/density of individuals of each species in an area;
- Disturbance type.

[to be inserted at plan finalization]

Figure D-3. Pre-construction Weed Infestation Locations

Noxious Weed Monitoring and Reporting Noxious weeds will be monitored and mapped throughout the Weed Management Area at the frequency listed in Table D-1. Weeds will be managed according to Appendix F: Weed Control Methods.

Weed Monitoring and Reporting

Monitoring reports will include the following information:

- Updated Appendix F, Table F-2 (or similar): Treatment Plan
- Identify and map occurrence location of groups of weeds of concern and Type A/B species with a point or polygon using GIS;
- Approximate number of each type or group of weeds;
- Density;
- Disturbance type;
- Monitoring methods;
- Records of herbicide types, frequency and timing of application, and application methods;
- Assessment of whether Weed Management areas are meeting success criteria described in Appendix E and effectiveness of previous treatments;
- Recommendations for weed treatment actions based on Appendix E and F which include the scope, schedule, and duration (seasons) the actions will be taken.

Beginning in Year 1 of operation (or after all construction is complete, whichever happens first), in addition to the items listed above, the following will be provided in the Year 1-2 Operational Monitoring Report and Annual Operational Monitoring Summary:

- In tabular format track by year the weed species observed on site, their status based on ODA and County designations in place at the time of reporting, and their total population or individual numbers. All reporting years will be provided in the tracking table for each annual submission. This will be used to demonstrate compliance with the success criteria described in Appendix E.

Table D-2. Noxious Weed Monitoring and Reporting Schedule

Year	Frequency	Activity	Report Submission/ Compliance Verification
Prior to construction	Once	Conduct site-wide noxious weed survey to identify areas for treatment prior to construction. Submit results in final Construction VSMP. Use information to inform weed management BMPs and necessary treatment areas prior to construction. .	Submit results in final Construction VSMP. Use information to inform weed management BMPs.

Table D-2. Noxious Weed Monitoring and Reporting Schedule

Year	Frequency	Activity	Report Submission/ Compliance Verification
During construction	Monthly	Qualitative meandering weed survey of Weed Management Areas.	Monthly in the construction environmental monitoring report
Post construction	Monthly during construction, then then seasonal as directed below for Years 1-2 of operation	Qualitative meandering weed survey of Weed Management Areas.	Monthly in the construction environmental monitoring report, until construction is complete, then seasonal as directed below for Years 1-2 of operation
Years 1 – 2	Seasonal; three times a year (spring, summer, fall)	Qualitative meandering weed survey of Site-Wide Weed Management Areas.	Year 1-2 Operational Monitoring Report shall be submitted promptly after survey, three times a year, or as directed by ODOE.

Landowners may contact the certificate holder directly to report the presence of noxious weeds related to facility activity. The certificate holder will control reported noxious weeds on a case-by-case basis and prepare a summary of measures taken for that landowner. The certificate holder will report the investigator's findings and recommendations regarding weed control in the facility's annual report required by Oregon Administrative Rule 345-026-0080.

References

Duiker, S. 2025. Diagnosing Soil Compaction Using a Penetrometer (Soil Compaction Tester). Adapted from: Lloyd Murdock, Tim Gray, Freddie Higgins, and Ken Wells, 1995. Soil Compaction in Kentucky. Cooperative Extension Service, University of Kentucky, AGR-161. https://extension.psu.edu/diagnosing-soil-compaction-using-a-penetrometer-soil-compaction-tester

Elzinga C.L, D.W. Salzer, and J.W. Willoughby. 1998. Measuring and Monitoring Plant Populations. U.S. Bureau of Land Management Papers. BLM Technical Reference 1730-1.

Herrick J.E., J.W. Van Zee, S.E. McCord, E.M. Courtright, J.W. Karl, and L.M. Burkett. 2021. Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems, Volume I: Core Methods. USDA-ARS Jornada Experimental Range. ISBN 0-9755552-0-0.

MacKinnon, W.C., J.W. Karl, G.R. Toevs, J.J. Taylor, M. Karl, C.S. Spurrier, and J.E. Herrick. 2011. BLM Core Terrestrial Indicators and Methods. Tech Note 440. U.S. Department of the Interior, Bureau of Land Management, National Operations Center, Denver, CO.

NRCS (Natural Resources Conservation Service). 2020. Cropland In-Field Soil Health Assessment Guide. Soil Health Technical Note No. 450-06. U.S. Department of Agriculture, Natural Resources Conservation Service. Washington, D.C. https://www.nrcs.usda.gov/sites/default/files/2023-03/In-Field%20Assessment%202021%20Complete%20ND.pdf

Appendix E. Success Criteria, Methods for Revegetation and Soil Stabilization

Success Criteria for Revegetation and Weed Management Areas

The certificate holder will take actions described in this VSMP to establish uniform perennial vegetation (excluding noxious or invasive weeds) that provides at least 70 percent cover on all exposed areas. For noxious or invasive weeds the vegetation would not count under this requirement.

ODOE may require a higher percentage vegetative cover if bare ground poses erosion or dust issues on site or contributes to persistent weed growth or lower if the undisturbed baseline vegetative cover is less than 70 percent (based on percentage of original vegetative density).

A-listed Weeds: To prevent new infestations follow the BMPs in Appendix F. New and existing infestations are prioritized for eradication or intensive control when and where found.

B-listed Weeds: Intensive control when and where found.

Noxious weeds will be treated as designated in the VSMP to reduce infestations below the level at which they cause failure for reclamation and revegetation success.

The certificate holder is responsible for managing weedy and invasive species (such as cheatgrass, certain Kochia, tumbleweed) that are not listed on the state or County's weed list (other weeds of concern), particularly if the species is a concern for wildfire such as invasive annual grasses.

The certificate holder must implement the monitoring, reporting, BMPs, remedial actions, and adaptive management actions identified in this VSMP to achieve and maintain the above success criteria for the life of the facility.

The certificate holder must implement the monitoring, reporting, BMPs, remedial actions, and adaptive management actions identified in this VSMP to work toward this success criteria , however, revegetation and weed management actions will likely extend into long term operations where the Operational VSMP will apply. Compliance with construction success criteria may be met by a demonstration that the certificate holder, RC, WC, and/or EMC are implementing BMPs for soil protection, revegetation, and weed management as designated in this Construction VSMP.

Site Management Based on Phase

(Add applicable BMPs from 1200-C permit. Update based on BMPs for selected seed mixes and construction methods - See Appendix D: Revegetation Methods for additional descriptions.) Highlighted measures are to be updated during finalization. Non-highlighted measures are expected to be implemented or remain in the VSMP to address ongoing issues with revegetation, erosion or dust. If the certificate holder deletes any of the measures, provide a rationale for why the BMP will not be implemented or if there is alternate BMPs to be implemented instead.)

Pre Construction Site Preparation:

Weed Treatment:

- Treat weed infestations site-wide based on the methods described in Appendix F: Weed Control Methods.

- Require construction vehicles to pass through a wheel wash station at vehicle ingress/egress points each time they enter or exit the facility.
- Apply interim seeding at road berms, sediment basins, and other sites that will have exposed soil for more than one growing season. See Appendix E Revegetation Methods.
- Apply seed to treated weed areas. Any location that has been treated for noxious weeds will be seeded with either the interim seed mix or reclamation seed mix during the fall after treatment. Leaving the area fallow after treatment increases the risk that either the same species or another species of noxious weed or non-native, invasive species will establish on the site.

Topsoil:

- In Disturbance Areas stockpile excavated soils by soil horizon to replace in the same order and prevent mixing of topsoil and subsoils.
- Topsoil and other soils from noxious weed infested areas will not be moved outside infested areas and will be returned to their previous location during reclamation activities to eliminate the transport of weed seeds, roots, or rhizomes.
- Ensure that soils from weed infested areas are treated with pre- or post-emergent herbicide as needed prior to initiation of revegetation efforts, depending on location-specific conditions.
- Make sure that all equipment is CLEAN of noxious weeds (important for every construction phase)!

Post Grading and Pre-Installation:

- After grading is complete but prior to installation of facility components, apply soil stabilization measures designated in this Appendix.
- If there is time between finishing grading and seeding, do weed treatments before seeding.
- Pre-seed disturbance areas.
- Use cover crops to help stabilize soils and suppress noxious weed infestations to reduce erosion and facilitate revegetation of desired plant species, see Methods in this Appendix.

During Construction:

- Do not move topsoil and other soil from areas with noxious weeds to areas without noxious weeds; instead, return these soils to their previous location during reclamation activities to reduce the transport of weed seeds, roots, or rhizomes.
- Follow BMPs for construction dust control and soil stabilization in this VSMP.
- Manage and prevent weeds during construction according to Appendix F: Weed Control Methods.

- Require construction vehicles to pass through a wheel wash station at vehicle ingress/egress points each time they enter or exit the facility.
- Implement the measures in the 1200-C permit.
- Make sure that all equipment is CLEAN of noxious weeds.

Post-Construction:

- Complete post-construction soil compaction testing in all Level 3 and 4 Disturbance Areas with comparable sample plots in spring or late fall in accordance with Appendix D.
- Put conserved topsoil back in place prior to revegetation activities in appropriate horizon order prior to revegetation seeding.
- Following sub-grade decompaction, prepare the seed bed (topsoil) just before seeding, using a disc or chisel plow. Note: If drill seeding, the seed bed prep can be part of the seeding operation.
- The certificate holder will restore Disturbance Areas by re-establishing slope, surface stability, and drainage features, as needed, followed by soil preparation and seeding.
- De-compact soil by mechanical scarification (tilling or ripping the soil) to an appropriate depth as described in Appendix E. Soil amendment, such as addition of organic matter (compost), may also be necessary to alleviate compaction.
- Revegetation will begin as soon as feasible after completion of each construction phase. Seeding and planting will be done in a timely manner and in the appropriate season to facilitate germination and establishment of seeded species. Seed mixes and optimal seasonal germination information is provided in Revegetation Methods of this Appendix.
- Apply seed to treated weed areas. Any location that has been treated for noxious weeds will be seeded with either the interim seed mix or reclamation seed mix during the fall after treatment. Leaving the area fallow after treatment increases the risk that either the same species or another species of noxious weed or non-native, invasive species will establish on the site.
- Following seeding, stabilize seeded areas to facilitate establishment by applying seedless, certified weed-free hydromulch containing a tackifier or crimped weed-free straw or as described in this Appendix.
- If seeding is used for soil stabilization, seed Disturbance Areas with a non-invasive, non-persistent cover crop such as winter wheat or sterile triticale, or XX.
- Prior to final regrade and revegetation efforts, any weeds that have grown during periods of construction dormancy should be treated as described in Appendix F.

- In those instances where seeding occurs prior to installation of components, follow-up seeding will occur in areas disturbed by component installation and any areas that are deficient in vegetation after construction is complete.
- Implement the measures in the 1200-C permit.
- Make sure that all equipment is CLEAN of noxious weeds.

Soil Preparation Methods

- Perform soil preparation using methods described below, or as approved by ODOE. Consider location-specific factors including slope, soil type, size of area, and erosion potential when determining methods.
  - Prepare salvaged topsoil into a firm, fine-textured seedbed before seeding or planting. Loosen the top 1 to 2 inches of the soil surface by shallow tilling with a disc, followed by harrow or drag if necessary and where feasible with construction equipment. If soil is assessed as too soft , firm with a roller or cultipacker.
  - Soil Roughening: Also known as imprinting, tracking, or track walking, soil roughening is a temporary erosion control practice and seedbed preparation technique implemented when grading a slope. This technique involves creating grooved soil surface with depressions running parallel to the hill contour to promote seed germination and provide moderate erosion control while vegetation is established. Tracking with heavy equipment may compact the soil and inhibit root penetration; this can be mitigated by using lighter-weight equipment and not tracking saturated soil. Soil roughening should be done prior to applying hydromulch, straw mulch, or installing erosion best management practices. Seed and mulch roughened areas as soon as possible to obtain optimum seed germination and growth.
  - Deep Tilling: Reduce soil compaction by fracturing restrictive soil layers in areas where compaction levels inhibit plant growth. Deep tillage is only suitable in areas outside of solar arrays and where solar infrastructure is not present (i.e., temporary roads) and should be conducted after construction and prior to revegetation when soil moisture is optimal.
  - Decompaction: Areas with intact vegetation (typically in areas with Level 1 or 2 disturbance) will not be decompacted to avoid additional soil disturbance and erosion risk.
  - Decompaction: Where sample plot soil compaction testing demonstrates that soils are compacted greater than 300 pounds per square inch (psi), then remediation activities may be completed in those areas prior to the construction contractor moving to a new location or off-site. Locations where sample plot monitoring indicates that soils were compacted more than 300 psi will only be decompacted as needed based on field assessment of likely vegetation success (see Table E-1).

- Remediation activities may include mechanical scarification (e.g., tilling or ripping the soil) to an appropriate depth to reduce the potential effects of compaction, to maintain soil productivity, and reduce the potential for erosion on compacted soils. Dry soils should be de-compacted using an agricultural disc, soil ripper, or similar equipment.

Table E-1. Decompaction Actions by Disturbance Level

Disturbance Level	Sample Plot Soil Compaction Level	
	Under 300 psi	Over 300 psi
1 – Mowing	If intact, living vegetation present, then no action; confirm vegetation success in next growing season. If bare soil, revegetate as described in the following section.	If intact, living vegetation present, then no action; confirm vegetation success in next growing season. If bare soil, decompact prior to revegetation.
2 – Overland Drive and Crush	If intact, living vegetation present, then no action; confirm vegetation success in next growing season. If bare soil, revegetate as described in the following section.	If intact, living vegetation present, then no action; confirm vegetation success in next growing season. If bare soil, decompact prior to revegetation.
3 – Clear and Cut	Revegetate as described in the following section.	Decompact prior to revegetation.
4 – Clear and Cut with Soil Removal	Revegetate as described in the following section.	Decompact prior to revegetation.

Revegetation Methods and Seeding

Table E-2 provides generalized revegetation methods for each disturbance level. See provisions in this Appendix for additional details.

Table E-2. Revegetation Methods by Disturbance Level

Disturbance Level	Soil Reclamation	Site Preparation	Seeding
1 – Mowing	No soil disturbance. Retain existing vegetation to prevent erosion. If soil is bare and compacted, decompact prior to revegetation.	Weed control.	Seed areas treated.
2 – Overland Drive and Crush	No soil disturbance. Retain existing vegetation and implement erosion control practices. If soil is bare and compacted, decompact prior to revegetation.	Weed control, sediment and erosion control.	Seed areas treated.
3 – Clear and Cut	Track or decompact soil as necessary. Implement erosion control practices and measures to support seed growth.	Weed control. Seed cover crop and/or other stabilization measures if necessary to stabilize soil. Prepare firm, fine-	Required: pre impact seeding, post construction seeding, re seeding may be applicable.

Table E-2. Revegetation Methods by Disturbance Level

Disturbance Level	Soil Reclamation	Site Preparation	Seeding
		textured seedbed prior to seeding.	
4 – Clear and Cut with Soil Removal	Stockpile topsoil separately from subsoil and stabilize during construction. Regrade and replace subsoil then topsoil prior to seeding. Track or decompact soil as necessary. Implement erosion control practices and measures to support seed growth..	Weed control. Regrade and add soil amendments if necessary. Seed cover crop and/or other stabilization measures if necessary to stabilize soil. Prepare firm, fine-textured seedbed prior to seeding.	Required: pre impact seeding, post construction seeding, re seeding may be applicable.

Landowner Preferences

(*Update during plan finalization*)

If applicable, landowner or farm operator may identify the preferred approach for soil stabilization on agricultural land until routine seeding and tillage resumes. Soil stabilization may include applying unseeded hydromulch or crimping in weed-free straw until seeding can occur. Landowner may choose to assume responsibility for soil stabilization. Agricultural lands will be restored to landowner satisfaction. Provide a list of landowners contacted, evidence of consultation, and landowner preferences.

Seed Mix and Application Guidelines

Provide the optimal seed mix(es) for the site, application methods for successful germination, and timing for seed application based on climatic conditions of the particular year when construction and revegetation efforts will be implemented.

(Provide this information in the Tables below and in final VSMP.)

Seasonal Timing Notes:

(*Update during plan finalization*)

In north/central and eastern Oregon:

September through early October is optimal for seed application.

Late February through early March is the next optimal time for seed application.

Seeding during the winter is not optimal but may have some success. Seeding over snow in certain cases as long as it's not too deep (1-2 inches). This can be a good strategy for rocky ridges.

April through early September is not a good time for seed application because it is too warm and dry.

Table E-3. Revegetation Seed Mix and Application Guidelines

Common Name	Scientific Name	Percent Pure Seed	Optimal Application Season	Application Methods/BMPs
Crop Cover Post Grading/Pre Installation (if applicable)				
Revegetation Seed Mix(es)				
Interim Seed Mix (if applicable)				

Revegetation and Seeding BMPs

(*The below methods and BMPs should not be removed in plan finalization because they are intended to be a suit of measures to apply in adaptive management to support ongoing revegetation efforts at the site. Certificate holder may add to or edit for clarity during plan finalization*.)

Seed Storage and Harvesting

(*Identify measures for seed storage in final VSMP*)

Pre-construction seed harvesting may be needed to properly restore unique vegetation assemblages or habitat. Expert advice on the particular area in question is recommended.

Pre-seeding Disturbance Areas

When feasible for Disturbance Areas, the area will be seeded after grading is complete but before placement of components to provide flexibility in seed application methods. Seeding disturbance areas after grading but prior to facility component installation helps stabilize soils, increases revegetation success, and reduces weeds. Specific weed treatments can occur in this time period as well. Seeding all disturbance areas after component installation and post construction still must occur.

Cover Crops and Seeding Post Grading/Pre Installation

Use cover crops if feasible and necessary. Cover crops can help stabilize soils and suppress noxious weed infestations to reduce erosion and facilitate revegetation of desired plant species. Select cover crop based on the time of year and establishment rate; for example, winter wheat or sterile triticale can be seeded from fall to early spring, while peas should be seeded in spring. Tillage radish and sunflowers can be seeded in spring to reduce compaction but are not suitable options for soil stability.

Pre-seed disturbance areas when feasible. Application of site-selected seed mixes may be effective if the season is appropriate for application, there is a break in construction activity (approximately 4-8 weeks) so that seeds can germinate and establish. Disturbance Areas will be seeded after grading is complete but before placement of components to provide flexibility in seed application methods. Seeding disturbance areas after grading but prior to facility component installation helps stabilize soils, increases revegetation success, and reduces weeds. Specific weed treatments can occur in this time period as well. Seeding all disturbance areas after component installation and post construction still must occur.

Interim Seeding of Long-Term Disturbance

Road berms, sediment basins, growth media stockpiles, and other sites that will have exposed soil for more than one growing season will be seeded with an interim seed mix. The interim seed mix will be certified pure live seed and weed free and include bluebunch wheatgrass (Pseudoroegneria spicata) and bottlebrush squirreltail (Elymus elymoides), which are two aggressive native perennial grass species capable of competing with invasive annual plants. The establishment of

native vegetation on these sites will reduce the potential for noxious weeds and other nonnative and invasive species to establish.

Seeding Methods

Four common seed application methods that may be used for revegetation include broadcast seeding, drill seeding, imprint seeding, and hydroseeding; each of these are discussed further below. Other seeding methods may be proposed for review and approval prior to revegetation efforts. When feasible for Disturbance Areas, the area will be seeded after grading is complete but before placement of Components to provide flexibility in seed application methods. In those instances where seeding occurs prior to installation of components, follow-up seeding will occur in areas disturbed by component installation and any areas that are deficient in vegetation after construction is complete.

Broadcast Seeding

Broadcast seeding is the application of seed directly to the ground surface. This method may be chosen for areas with shallow and rocky soils, and the type of broadcast spreader depends on the size of the area to be seeded and the terrain. In this method, seed is broadcast at 20-24 pounds of pure live seed per acre, or twice the recommended rate for drill seeding. Immediately following seed application, hydromulch or certified weed-free straw would be applied at a rate of approximately 2 tons per acre. Broadcast seeding will not be employed if winds exceed 5 miles per hour. If certified weed-free straw is unavailable, the certificate holder or EPC will identify a local source of straw.. This straw will either be crimped into the ground or applied with a tackifier.

Drill Seeding

Drill seeding can be used for large areas with deep soils and moderate to gentle terrain to accommodate mechanical equipment. This method provides the advantage of planting the seed at a uniform depth and may provide better soil to seed contact. Using a range seed drill, seeds will be sown at 12-14 pounds pure live seed per acre or according to application rates recommended by the seed supplier.

Drill seeding may be difficult after components have been installed, so it will primarily be used if seeding occurs after grading is complete but before components are installed, or in areas that were disturbed during construction that do not have any permanent infrastructure (e.g., temporary access roads, laydown areas).

If farm equipment or other seeding equipment can be used, use drill seeding as it is the most effective method.

Use crimp in straw immediately after drill seeding.

If vehicles are anticipated to continue to drive over the area, use crimped straw as opposed to seedless hydromulch.

Imprint Seeding

Imprint seeding is a no-till drill seeding method used to restore grasslands in areas with low annual precipitation. Seeds will be sown at 12 pounds pure live seed per acre or according to application rates recommended by the seed supplier. The seeder consists of a heavy metal drum roller with V-shaped, angled teeth and a seed agitator box. The teeth create V-shaped troughs with a depth of 4-7 inches to collect rainwater. The rolling drum presses the seed into the soil, insuring good seed-to-soil contact. The troughs collect rainwater for seed germination and seedling growth. Imprint seeders can be used on steep slopes and do not require seed bed preparation before seeding. Seeding can occur on soils with light to moderate vegetative cover, with the vegetation acting as a mulch, preventing soil erosion until seedlings are established. Imprint seeders do not work well in areas with shrubs or heavy vegetation cover. Heavily compacted soils may need to be ripped or de-compacted before seeding.

Hydroseeding

Hydroseeding is most applicable for areas where drill or broadcast seeding machinery cannot access; this usually includes steep slopes or narrow terrain but can be used in all terrains. Soil bed preparation is crucial for growth success and frequently includes tracking perpendicular to the slope to create micro conditions for seed. Flat grading and compaction are not recommended. Seeding rates increase by 30 to 50 percent of broadcast seeding rates (i.e., 30 pounds pure live seed per acre). Use tackifier with hydroseeding. Include type of tackifier in monthly construction reporting during construction.

If equipment isn't available for drill seeding, then hydroseed with a light amount of wood mulch (500 lbs. per acre), followed by additional quantity of mulch on top (2 step method). This increases the seed to soil contact.

Reseeding

Revegetation will be monitored beginning 90 days after post-construction seed application as designated in Appendix D. Revegetation efforts, including reseeding and soil stabilization measures may be applied on an ongoing basis during construction phasing, post-construction and into operations if site restoration is not successful.

BMPs for reseeding include but are not limited to:

- BMPs designated in this plan;
- If reseeding is needed, use methods that do not disturb the soil (e.g., hydroseeding);
- Only use drill seeding if no desirable species are present (essentially starting over);
- Additional or modified measures proposed by the certificate holder or required by ODOE in consultation with the County and/or ODA.

References

EPA (U.S. Environmental Protection Agency). 2021. Stormwater Best Management Practice, Soil Roughening. December 2021. EPA-832-F-21-028JJ. https://www.epa.gov/system/files/documents/2021-11/bmp-soil-roughening.pdf.

NRCS (Natural Resource Conservation Service). 2022. Deep Tillage Conservation Practice Standard, Code 324. November 2022. https://www.nrcs.usda.gov/sites/default/files/2022-11/324-NHCP-CPS-Deep-Tillage.pdf.

ODOT (Oregon Department of Transportation). 2023. Erosion Control Manual, Guidelines for Developing and Implementing Erosion and Sediment Controls. Salem, Oregon. April 2023. https://www.oregon.gov/odot/GeoEnvironmental/Docs_Environmental/Erosion_Control_Manual.pdf.

Oregon State Fire Marshall. 2025. 2025 Oregon Fire Code, Section 1205.5.1. https://codes.iccsafe.org/content/ORFC2025P1.

Appendix F. Weed Control Methods

Regulatory Framework

The Oregon Department of Agriculture (ODA) and the XX County Weed Department maintain lists and classifications of noxious weeds. Although not all listed noxious weeds occur in the vicinity of the facility, the certificate holder and its contractors should be aware of the entire list while monitoring and controlling weeds.

Species on ODA and XX County's list observed at the site are provided in Table F-2 below.

Management Objectives

Noxious weed control methods for the Weed Management Area (i.e., area within the fenceline and a 10-foot buffer outside the fence, if accessible, transmission line corridor, and any area outside the fenceline impacted by construction) are based off of weed species observed on site and treatment methods detailed below.

See Appendix E for Success Criteria for the Weed Management Area. Weed management includes eliminating new invasive introductions of A-listed species, controlling any A or B-listed species and reducing any weed canopy cover to levels that support establishing plant communities selected for the site.

The certificate holder is responsible for managing weedy and invasive species that are not listed on the state or County's weed list (other weeds of concern), particularly if the species is a concern for wildfire such as invasive annual grasses.

Table F-1. Weed Management by Status and Phase

Weed Classification	Years		
	Prior to/During Construction	Post-Construction	1-2
A or B(T)	Begin control prior to construction and continue throughout construction.	Intensive control. Prevent new infestations. Use in combination with seeding/reveg methods	Intensive control with the goal to eradicate infestations. Prevent new infestations.
B	Begin control prior to construction on a case-by-case basis and continue throughout construction.	Intensive control on a case-by-case basis. Prevent new infestations. Use in combination with seeding/reveg methods	Intensive control on a case-by-case basis with the goal to eradicate infestations. Prevent new infestations.
Invasive Annual Grasses	Monitor and manage to minimize wildfire risk.	Monitor and manage to minimize wildfire risk. Use in combination with seeding/reveg methods	Monitor and manage to minimize wildfire risk.
Other weeds of concern	Begin control prior to construction on a case-by-case basis and continue throughout construction.	Monitor and manage to minimize wildfire risk. Use in combination with seeding/reveg methods	Monitor and manage to minimize wildfire risk.

Treatment Plan

Table F-2, below, provides a treatment plan for noxious and invasive weeds, invasive grasses, and other weeds of concern to be managed in the Weed Management Area, including management objectives and treatment guidelines.

(*updated in plan finalization*)

Table F-2 will be updated with:

- With the results from pre-construction baseline surveys as described in Appendix D, identifying the weed species onsite;
    - Management objectives and control duration;
    - Weed control methods for each weed species;
    - Weed treatment BMPs including best season(s) for treatment;
    - Application methods for herbicides.

Table F-2 (or similar documentation/format) will be filled out and submitted in the monthly construction reporting and in the 1-2 Year Operational Monitoring Report.

Table F-2. Treatment Plan and Tracking for Noxious and Invasive Weed Control

Scientific Name	Common Name	State/County Status	Management Objective	Treatment Guidelines[1]	Treatment Actions, Frequency, and Timing Compliance Tracking
Aegilops cylindrica	jointed goatgrass	B/B	Monitor and manage to prevent new populations or spread of existing populations.	Mechanical: Timing is critical, mow after flowering but before seeds reach soft boot stage. Early mowing will result in new tiller growth. Requires multiple mowings throughout the growing season over several years. **Chemical:** Apply to actively growing plants in late winter or spring before flowering or pre-emergent herbicide in fall. Biocontrol: None	
Bassia (Kochia) scoparia	kochia	B/B	Monitor and manage to prevent new populations or spread of existing populations.	**Mechanical**: Mow prior to flowering to prevent seed production. Hand pull small populations. Chemical: Apply post emergent to seedlings and small plants. Biocontrol: None	
Centaurea diffusa	diffuse knapweed	B/B	Monitor and manage to prevent new populations or spread of existing populations.	Mechanical: Manually remove entire plant, including taproot, prior to flowering. **Chemical:** Apply to actively growing plants in fall or spring from rosette to bolting stage. Biocontrol: Agents include several seed feeding flies and weevils and a root-boring beetle.	
Centaurea solstitialis	yellow starthistle	B/A	Intensive control with the goal to eradicate within first 5 years of operations. Prevent new infestations.	Mechanical: Manually remove entire plant including taproot. **Chemical:** Post-emergent herbicide application to rapidly growing plants prior to flowering (rosette to bolting stage). Biocontrol: Agents include two seed weevils, a seed fly, and a rust.	
Centaurea stoebe ssp. *micranthos*	spotted knapweed	B(T)/B	Intensive control with the goal to eradicate within first 5 years of operations. Prevent new infestations.	Mechanical: Manually remove entire plant, including taproot, prior to flowering. **Chemical:** Apply to actively growing plants in fall or spring from rosette to bolting stage. Biocontrol: 12 approved biocontrol agents established in Oregon.	
Centromadia (*Hemizonia*) *pungens*	common spikeweed	Not Listed/A	Intensive control with the goal to eradicate within first 5 years of operations. Prevent new infestations.	Mechanical: Dig or hand pull in spring prior to flowering. **Chemical:** Apply post emergent with surfactant to seedling in spring through early summer, before flowering. Biocontrol: None	

Table F-2. Treatment Plan and Tracking for Noxious and Invasive Weed Control

Scientific Name	Common Name	State/County Status	Management Objective	Treatment Guidelines[1]	Treatment Actions, Frequency, and Timing Compliance Tracking
Chondrilla juncea	rush skeletonweed	B(T)/A	Intensive control with the goal to eradicate within first 5 years of operations. Prevent new infestations.	Mechanical: Regenerates from root fragments. Manually remove entire plant, including taproot, prior to flowering. Will require multiple efforts during the growing season for more than one year. **Chemical:** Apply to rosettes in spring immediately before or during bolting. Biocontrol: Agents include a gall midge, gall mite, rust fungus, and root-mining moth.	
Onopordum acanthium	Scotch thistle	B/A	Intensive control with the goal to eradicate within first 5 years of operations. Prevent new infestations.	Mechanical: Pull prior to flowering, cut off root below soil surface. Tilling will control emerged plants but stimulate germination. Follow up tilling with herbicide application to treat seedlings. Sheep and goats will eat young plants and flower heads. **Chemical:** Treat from rosette to bolting stage in fall or spring. Most effective on small rosettes. Biocontrol: None	
Secale cereale	cereal rye	Not listed/B	Monitor and manage to prevent new populations or spread of existing populations.	**Mechanical**: Repeated mowing in spring prior to seed set or tillage combined with herbicide application in fallow fields. Hand pull prior to seed set. Chemical: Treat prior to seed set. Herbicide more effective if applied one year after mowing to reduce thatch buildup. Biocontrol: None	
Invasive annual grasses such as cheatgrass (*Bromus tectorum*)		Not listed	Monitor and manage to minimize wildfire risk.	Mechanical: Repeated mowing (every 3 weeks) to 2 inches in spring can eliminate seed production in areas where herbicide application is unacceptable. **Chemical:** Apply pre-emergent herbicide prior to germination. Post emergent in fall or early spring/summer to rapidly growing plants prior to seed set. Biocontrol: None	
Sources: Becerra-Alvarez 2025, DiTomaso et al. 2013, ODA 2025b. 1. Preferred treatment method in bold.					

Weed Prevention BPMs

The following best management practices will be implemented to prevent the spread of noxious weeds during construction activities and revegetation efforts.

- Flag areas of noxious weed infestations prior to construction, where appropriate, to alert construction personnel. Treat these areas;
- Limit vehicle access to designated routes, whether existing roads or newly constructed roads, and the outer limits of construction disturbances per the final design for the facility;
- Limit vehicle traffic in areas with noxious weeds;
- Require construction vehicles to pass through a wheel wash station the first time they enter the facility or return to the facility from another project;
- Clean vehicles and equipment associated with ground disturbance and movement of topsoil utilizing a mobile wash station after performing work in noxious weed-infested areas and prior to performing work in non-infested areas;
- Topsoil and other soils from noxious weed-infested areas will not be moved outside of the infested areas and will be returned to its previous location during reclamation activities;
- Treat soils from infested areas with a pre- or post-emergent herbicide as needed prior to initiation of revegetation efforts, depending on site-specific conditions;
- Limit movement of topsoil and other soils from non-infested areas to eliminate the transport of weed seeds, roots, or rhizomes;
- Provide information regarding noxious weed species at the operations and maintenance building;
- Treat noxious weeds in weed management areas via biological, mechanical, or chemical control (see Control Methods Section);
- Prevent conditions favorable for noxious weed germination and spread by revegetating disturbed areas as soon as possible;
- Monitor weed management areas for noxious weeds after construction (see Appendix D), during the normal course of revegetation maintenance of temporary workspaces, and implementing control measures as appropriate;
- Revegetate disturbance areas with appropriate, local native seed or native plants; when these are not available, non-invasive, and non-persistent non-native species may be used; and
- Inspect and certify that the seed and straw mulch used for facility rehabilitation and revegetation are free of noxious weed seed and propagules.

Weed Control and Treatment Methods

(*updated in plan finalization based on weeds observed on site*)

Control of noxious weeds and other invasive weed species within weed management areas will be implemented through biological, mechanical, or chemical control measures. The control method used will depend on the weed species and size of infestation, time of year, proximity to intact native habitats, and resources available. Generally, mechanical control is best suited for small infestations of tap-rooted weeds that can be hand pulled or large occurrences in areas where mowing or soil disturbance is acceptable. Chemical control is used for most occurrences of perennial weeds with rhizomes or stolons and large occurrences of any weed in areas where mowing or soil disturbance are not recommended. **Site-wide chemical treatment is not recommended**. Successful noxious weed control programs typically combine multiple treatment strategies.

Weed Treatment Notes

- If there is time between finishing grading and revegetation seeding, treat weeds in this time before seeding.
- Treat for non-grasses while grasses are establishing. There are products that can be used, perhaps at a lower rate, without harming the perennial grasses; however, the grasses must have developed to at least the 3 - 5 leaf stage.
    - Herbicides can be more effective than mowing because the herbicide will kill the weeds and not give them a chance to adapt and still go to seed.
    - Use 1 oz glyphosate (no adjuvant or other additives) per inch of cheatgrass growth. This rate should kill the weed and not kill desirable species.
    - Apply adaptive management: May need to treat 2 or 3 times per year along with reseeding.
- Mowing may not be as effective as herbicides, but it has less risk of harming desirable plant species.
- On an ongoing basis apply a light rate of glyphosate to control cheatgrass.
- Timing is critical for specific weed treatments. Pre-emergent should be applied in the winter, not the spring. Apply weed treatment methods at the appropriate season.

Mechanical

Mechanical treatment will be the preferred method of treatment for existing noxious weed populations where appropriate within the Weed Management Area. Mechanical control methods rely on removal of plants, seed heads, and/or cutting roots with a shovel or other hand tools or equipment that can be used to remove, mow, or disc noxious weed populations. Hand removal of plants is also included under this treatment method. Mechanical methods are useful for smaller, isolated populations of noxious weeds in areas of sensitive habitats. Additionally, hand removal of small infestations can minimize soil disturbance, allowing desirable species to remain and limiting conditions favorable for noxious weeds.

Some rhizomatous plants can spread by discing or tillage because they reproduce vegetatively from small root fragments. As such, implementation of discing will be species-specific and avoided in areas where it will be counter-productive. If discing is employed in areas that will be revegetated following construction, subsequent seeding will be conducted to re-establish desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Discing,

tilling, or other mechanical treatments that disturb the soil surface within native habitats will also be avoided in favor of herbicide application, which is an effective means of reducing the size of noxious weed populations as well as preventing the establishment of new infestations.

Biological

Biological control involves the use of prescribed insects, fungi, and livestock to control noxious weeds to achieve management objectives. Biological control methods are typically targeted to a specific species or plant to control its persistence. They are also used for maintenance in targeted areas for vegetation management control in height and density that includes mitigating fire risk and erosion. Biological control is environmentally friendly and should be the first consideration when applicable.

Use of Domestic Sheep and Goats for Vegetation Management

If the certificate holder uses or keeps domestic sheep, goats, or other livestock for vegetation control or other purposes, a Grazing Management Plan will be developed and submitted to ODOE for review and approval, prior to grazing livestock at the facility to describe practices and controls that will be implemented to prevent zoonotic disease transmission to wild sheep populations. ODOE may impose additional requirements to prevent zoonotic disease transmission based on consultation with ODFW. These requirements would not apply to landowners grazing livestock outside the facility in accordance with their leases.

Chemical

Chemical control can effectively remove noxious weeds through use of selective herbicides when mechanical control is not feasible. The specific herbicide used and the timing of application, and application rates will be chosen based on the specific noxious weed being treated, as appropriate herbicides differ between species and types of plants (i.e., dicots such as rush skeletonweed versus monocots such as jointed goatgrass) and in consultation with the County Weed Department and the Weed Control Contractor as provided in Table F-2.

Herbicides will be applied to identified, treatable, noxious weed infestations If a noxious weed population is deemed to be untreatable (e.g., too widespread and established in an area to successfully control), the certificate holder will implement the applicable prevention measures or adaptive management proposals discussed in this VSMP. Herbicide application will be performed within the appropriate season to achieve desired results provided in Table F-2. No weed treatment will occur in agricultural lands without landowner permission, certificate holder will notify landowners of proposed herbicide use on their lands prior to application.

Herbicide Application and Handling

Only those herbicides that are approved by the U.S. Environmental Protection Agency and ODA will be used. In general, application of herbicides will not occur when the following conditions exists:

- Wind velocity exceeds 15 miles per hour for granular application, or exceeds 10 miles per hour for liquid applications;
- Snow or ice covers the foliage of target species; or

- Adverse weather conditions are forecasted within the next few days.

Hand application methods (e.g., backpack spraying) may be used in roadless areas or in rough terrain. Vehicle-mounted sprayers (e.g., handgun, boom, and injector) will be used mainly in open areas that are readily accessible by vehicle.

Herbicides will be transported and used in accordance with all manufacturer label recommendations and warnings.

Herbicide Spills and Cleanups

In the event of a spill, cleanup will be immediate. Contractors will keep spill kits in their vehicles to allow for quick and effective response to spills. Herbicide spills will be managed in accordance with the facility SPCC.

Herbicide Spill Reporting

In case of a spill into wetlands and waterbodies, the appropriate federal, state, and county agencies will be notified immediately. All herbicide spills equal to or greater than 200 pounds or 25 gallons of pesticide residue will be reported to the Oregon Emergency Response System in accordance with applicable laws and requirements (Oregon Administrative Rules 340-142-0050). The certificate holder will report these herbicide spills to ODOE by email within 72 hours with follow-up reporting as appropriate.

Special Considerations

Special consideration will be provided to perennial, intermittent, and ephemeral streams/draws during treatment activities. No herbicide will be sprayed where the drift can enter standing water. It will be the herbicide applicators' responsibility to ensure that no herbicide or drift enters standing water, regardless of the season when the herbicide is applied. Similar considerations will be made when in proximity to agricultural fields.

References

Becerra-Alvarez, A. (Editor). 2025. Pacific Northwest Weed Management Handbook [online]. Oregon State University Extension Communications. https://pnwhandbooks.org/weed

DiTomaso, J.M., G.B. Kyser, et al. 2013. Weed Control in Natural Areas in the Western United States. Weed Research and Information Center, University of California.

XX County

ODA (Oregon Department of Agriculture). 2025a. Noxious Weed Policy and Classification System. Noxious Weed Control Program. Salem, Oregon. https://www.oregon.gov/oda/Documents/Publications/Weeds/NoxiousWeedPolicyClassification.pdf.

ODA (Oregon Department of Agriculture). 2025b. Oregon Noxious Weed Profiles. https://www.oregon.gov/oda/weeds/oregon-noxious-weeds/Pages/default.aspx

Tu, M., C. Hurd, and J.M. Randall. 2001. Weed Control Methods Handbook: Tools & Techniques for Use in Natural Areas. The Nature Conservancy. Updated 2003. https://www.fs.usda.gov/database/feis/pdfs/weeds/methods_handbook.pdf

USEPA (U.S. Environmental Protection Agency. 2008. Integrated Vegetation Management Fact Sheet. USEPA, Office of Pesticide Programs. October 2008. https://www.epa.gov/sites/default/files/2016-03/documents/ivm_fact_sheet.pdf

Attachment C-2: Draft Operational Vegetation and Soil Management Plan

[Facility Name]

Operational Vegetation and Soil Management Plan

Prepared for
[Applicant/Certificate Holder]

Prepared by
[VSMP Preparer]

DATE

Document History

Date	Description
XXXX	XXX

Table of Contents

1.0 Introduction and Plan Goals 1
1.1 Plan Finalization 1
2.0 Definitions 4
3.0 Operational Actions and Compliance Submittals 4
4.0 Plan Amendment and Updates 9
5.0 References 9

List of Tables

Table 1. Action Items for Plan Finalization 2
Table 2. Definitions 4

List of Appendices

Appendix A. Personnel Roles
Appendix B. Disturbance Levels
Appendix C. Fugitive Dust Control
Appendix D. Environmental Monitoring and Reporting Methods
Appendix E. Success Criteria, Methods for Revegetation and Soil Stabilization
Appendix F. Weed Control Methods

Acronyms and Abbreviations

Certificate Holder	XX
BESS	battery energy storage system
BMP	best management practice
County	XX County
EFSC	Oregon Energy Facility Siting Council
EMC	Environmental Monitoring Contractor
EPC	Engineering, Procurement, and Construction Contractor
ESCP	Erosion and Sediment Control Plan
Facility	XX
gen-tie	generation tie
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
O&M Activities	Operation and Maintenance Activities
OAR	Oregon Administrative Rule
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
OSWB	Oregon State Weed Board
RACM	Reasonable Available Control Measures
RC	Revegetation Contractor
VSMP	Solar Vegetation and Soil Management Plan
WC	Weed Control Contractor

1.0 Introduction and Plan Goals

This Vegetation and Soil Management Plan (VSMP) was prepared by XX (certificate holder), a wholly owned, indirect subsidiary of XX (certificate holder owner) to serve as a primary source of commitments related to revegetation, soil management, dust control, stormwater management, and noxious weed control for the operational phases for the XX (facility), located in XX County, Oregon. The actions described in this VSMP are intended reduce erosion and fugitive dust, protect topsoil, prevent the establishment and spread of noxious weeds and increase the probability of effective revegetation/site stabilization as required under the Soil Protection and Land Use standards.

For ease of implementation and compliance tracking, this document is structured to identify actionable items by phase, with additional details provided as appendices and/or incorporated by reference. Depending on how the facility is constructed, measures from construction and post construction may overlap into operation of the facility.

1.1 Plan Finalization

This VSMP will be finalized, as necessary, in coordination with the Oregon Department of Energy (ODOE) and applicable agencies prior operation to reflect the final layout of the facility.

identifies information that must be incorporated into the VSMP before beginning operation.

Table 1. Action Items for Plan Finalization

Action	Timeframe	Implemented By[1]	Compliance Verification[1]
Update Appendix A, Table A-1 with the name and contact information of EMC, EPC, RC, WC (if still under contract) and the County Weed Manager contact. Provide operational facility personnel contact information.	Plan Finalization	Certificate Holder	ODOE
Update Appendix B with maps/figures based on final design, disturbance levels from construction.	Plan Finalization	EMC	ODOE
Update Appendix C with dust control measures. Include contact information and procedures for Dust Control Hotline.	Plan Finalization	EPC	ODOE
Update Table C-1 in Appendix C with the type of palliatives/tackifiers used for dust suppression, if necessary for O&M activities.	Plan Finalization	Certificate Holder	ODOE
If different from construction seed mixes update Appendix E Methods with seed mixes, and the optimal timing for seed application based on climatic conditions of the particular year when revegetation efforts will be implemented.	Plan Finalization	Certificate Holder & EMC	ODOE in consultation with ODA and County, as necessary
Update Appendix D with baseline vegetation sample locations used to inform seed mixes and restoration actions.	Plan Finalization	Certificate Holder & EMC	ODOE
Update Appendix E with operational vegetation management measures that are consistent with Wildfire Mitigation Plan.	Plan Finalization	Certificate Holder & EMC	ODOE
Update Appendix E with seed storage proposals. Update Appendix E and Table E-2 with the Revegetation Seed Mix and Application Guidelines	Plan Finalization	Certificate Holder & EMC	ODOE
Update Appendix F, Table F-2 with noxious weeds observed during baseline pre-construction surveys and weeds observed at the last construction monitoring report. Update Appendix D with information from baseline weed surveys used to inform weed treatment and prevention methods.	Plan Finalization	Certificate holder, EMC	ODOE
If different weeds are observed or if treatments recommendations change from construction, update Table F-2: Treatment Plan and Tracking for Noxious and Invasive Weed Control with timing and treatment methods for each identified weed species of concern in Appendix F.	Plan Finalization	WC & EMC	ODOE in consultation with ODA and County, as necessary

Table 1. Action Items for Plan Finalization

Action	Timeframe	Implemented By[1]	Compliance Verification[1]
Update Appendix E: Landowner Preferences to include any measures to minimize impacts to adjacent agricultural operations or landowners in the final VSMP. Provide evidence of landowner consultation as described in Appendix E.	Plan Finalization	Certificate Holder & EPC	ODOE

1. EMC = Environmental Monitoring Contractor; EPC = Engineering, Procurement, and Construction Contractor; ODA = Oregon Department of Agriculture; ODOE = Oregon Department of Energy; RC = Revegetation Contractor; WC = Weed Control Contractor

2.0 Definitions

Definitions applicable to this VSMP are provided in Table 2, below.

Table 2. Definitions

Term	Definition
Facility	XXX
Solar Micrositing Area	Maximum area where Solar Components may be constructed and operational activities can occur.
Disturbance Area	Any area impacted by construction of the facility within and outside the fence of a solar array.
Sensitive Soils	Soils that are highly susceptible to erosion from water, fugitive dust propagation, compaction, or other impacts.
Solar Components	Components related to photovoltaic solar power generation and BESS.
Weed Management Area	Area within the fenceline and a 10-foot buffer outside the fence, if accessible, transmission line corridor, and any area outside the fenceline impacted by construction.

3.0 Operational Actions and Compliance Submittals

Table 3 outlines tasks, actions, and submittals that must be completed before beginning operations. This list includes actions applicable throughout operations as well as actions required only initially following construction.

Table 3. Operational Transition (Year 1-2) Monitoring Reporting and Compliance Verification

Year/Action	Monitoring Frequency	Method/VSMP Reference	Report Submission/Compliance Verification
YEAR 1 to YEAR 2			
Soil Compaction Testing: If applicable and post-construction activities continue into operation, soil compaction testing may occur to inform revegetation	Post construction; prior to revegetation	Post construction sample testing in disturbance areas designated in Appendix D.	If applicable, soil compaction testing results will be submitted after the testing is complete or with the Year 1-2 Operational Monitoring Report (i.e. with results of seasonal revegetation and weed monitoring for years 1-2 of operations).
Revegetation: Post construction and into 1-2 years of operation if revegetation not successful.	Post construction; During operations. Seasonal; three times a year (spring, summer, fall) during Year 1-2 of operation, or as needed in areas where revegetation does not appear to be successful. Qualitative meandering vegetation survey of Disturbance Areas beginning the first year after seeding	Revegetation methods and seeding recommendations as designated in Appendix E.	Year 1-2 Operational Monitoring Report shall be submitted promptly after surveys, three times a year, or as directed by ODOE.
Weed management: Post construction and into 1-2 years of operation.	During Year 1-2 of operations. Seasonal; three times a year (spring, summer, fall) during Year 1-2 of operation is disturbance areas. Qualitative meandering weed survey of Site-Wide Weed Management Areas.	Weed management methods as designated in Appendix E for weeds and treatments identified in Appendix F.	Year 1-2 Operational Monitoring Report shall be submitted promptly after surveys, three times a year, or as directed by ODOE.
Inspect and maintain stormwater measures as required in the 1200-C permit.	Post construction, during operations until DEQ terminates 1200-C, or if on site erosion and runoff are an issue.	Certificate Holder & EMC to monitor and implement measures as designated in Appendix C and D.	Provide updates in Year 1-2 Operational Monitoring Report, submitted 3 times a year.

Table 3. Operational Transition (Year 1-2) Monitoring Reporting and Compliance Verification

Year/Action	Monitoring Frequency	Method/VSMP Reference	Report Submission/Compliance Verification
Inspect and maintain any permanent stormwater management infrastructure. Inspect project facilities (e.g., roads) for erosion issues.	Post construction, during operations	Certificate Holder & EMC to monitor and implement measures as designated in Appendix C and D.	Provide updates in Year 1-2 Operational Monitoring Report, submitted 3 times a year.

Table 3. Operational (Year 3+) Monitoring Reporting and Compliance Verification

Year/Action	Monitoring Frequency	Method/VSMP Reference	Report Submission/Compliance Verification
DURING OPERATIONS (Year 3+ for Life of the Facility)			
If necessary, after ground disturbing O&M activities during operation soil compaction testing may occur to inform revegetation	After ground disturbing activities or if revegetation unsuccessful and testing would help inform revegetation; prior to revegetation. To be determined by certificate holder, ODOE, or RC/EPC	Soil compaction testing methods designated in Appendix D.	If necessary to be conducted, soil compaction testing results will be submitted in the Annual Operational Monitoring Summary, or as directed by ODOE.
Conduct annual vegetation surveys during growing season	Annual; with weed surveys	Qualitative meandering vegetation survey of Disturbance Areas designated in Appendix D using success criteria and methods in Appendix E	Annual Operational Monitoring Summary, unless modified by ODOE.
Conduct re-seeding, soil stabilization, or other revegetation measures if success criteria designated in Appendix E not trending toward success criteria	Annual; or as needed during operation	Conduct re-seeding, soil stabilization, or other revegetation measures Appendix E.	Submit updates about reseeding or restoration actions in the Annual Operational Monitoring Summary, unless modified by ODOE.

Table 3. Operational (Year 3+) Monitoring Reporting and Compliance Verification

Year/Action	Monitoring Frequency	Method/VSMP Reference	Report Submission/Compliance Verification
Conduct annual weed surveys during growing season	Annual; with vegetation surveys or more often if weeds must be treated more	Qualitative meandering weed surveys of Weed Management Areas designated in VSMP and Appendix D using success criteria and methods in Appendix E. Update Table F-2. Track weed species observed in long-term weed status tracker described in Appendix D	Submit updated Table F-2 in the Annual Operational Monitoring Summary, unless modified by ODOE. Submit Long-term weed species tracker in the Annual Operational Monitoring Summary
Control noxious weeds as described in the Weed Control Methods	Annual; and as needed ongoing during operation	Conduct weed treatments and prevention based on Appendix F using the BMPs and success criteria from Appendix E.	Submit updated Table F-2 in the Annual Operational Monitoring Summary, unless modified by ODOE. Submit Long-term weed species tracker in the Annual Operational Monitoring Summary
Annually train personnel on noxious weed identification and control.	Annually during operations	Certificate holder	Provide records demonstrating that personnel have attended training and copies of the training materials in the Annual Operational Monitoring Summary.
Maintain ongoing communication with landowners. Control noxious weeds reported by landowners on a case-by-case basis and prepare a summary of measures taken for that landowner, if applicable.	During operations	Certificate holder	Submit records of landowner communications in the Annual Operational Monitoring Summary.
If revegetated areas are damaged by fire, Appendices C through F will be applied to the area for restoration.	If fire occurs that impacts vegetation	Certificate holder proposes and implements restoration BMPs offered in this VSMP or proposes alternate BMPs for restoration, subject to ODOE approval, to address the damaged area.	Report to ODOE within 72 hours of discovery. Submit to ODOE proposals for restoration of the site, if necessary, that includes BMPs provided in this VSMP. Continue to report in the Annual Operational Monitoring Summary, or as directed by ODOE.

Table 3. Operational (Year 3+) Monitoring Reporting and Compliance Verification

Year/Action	Monitoring Frequency	Method/VSMP Reference	Report Submission/Compliance Verification
If a revegetated area (5 or more acres) is damaged due to operational activities or overuse of herbicide, Appendices C through F will be applied to the area for restoration.	If revegetated areas are damaged from O&M activities or overuse of herbicide	Certificate holder proposes and implements restoration BMPs offered in this VSMP or proposes alternate BMPs for restoration, subject to ODOE approval, to address the damaged area.	Report to ODOE within 72 hours of discovery. Submit to ODOE proposals for restoration of the site, if necessary, that includes BMPs provided in this VSMP. Continue to report in the Annual Operational Monitoring Summary, or as directed by ODOE.
If O&M activities will generate fugitive dust, submit updated RACMS based on the scope of the O&M activities.	O&M Activities that generate significant dust see Appendix C	Apply applicable and reasonable RACMS to the O&M activity	Submit to ODOE as necessary as applicable
Submit updates to this VSMP based on Section 6.0 Plan Amendment and Updates to address any outstanding or ongoing issues with soils, weeds, or revegetation. Or update the VSMP if success criteria are met and ODOE or certificate holder propose modified annual monitoring.	Annual; Ongoing during operations	Certificate holder to revise and submit to ODOE	Submit to ODOE, as needed for review and approval.

4.0 Plan Amendment and Updates

Information from reporting described in Appendix D, as well as from the certificate holder's or ODOE's review of monitoring reports or site visits, may be used to determine whether soil restoration, vegetation management, and weed control are successfully implemented. If determined necessary by the certificate holder or ODOE, adjustments or improvements may be proposed that ensure this VSMP provides effective guidance on minimizing erosion, restoring soils, managing vegetation, and controlling noxious weeds. For repeat incidences, complaints or ongoing sediment, erosion, weed, revegetation or fugitive dust control issues, see the requirements in Appendix D: Remedial Action Plans and Adaptive Management for steps for Remedial Action Plan(s). Remedial action plans must contain a scope/schedule and seasons to implement the recommendations.

This VSMP may be amended from time to time by agreement of the certificate holder and the Oregon Energy Facility Siting Council (EFSC) or ODOE, acting in its delegated authority of EFSC. Such amendments may be made without amendment of the site certificate. EFSC authorizes ODOE to agree to amendments to this VSMP. ODOE will notify EFSC of all VSMP amendments, and EFSC retains the authority to approve, reject, or modify any amendment agreed to by ODOE.

Long-term monitoring and reporting for revegetation and noxious weeds are required for the life of the facility. If after Year 5 of facility operation, all success criteria are met for revegetation, erosion control, and weed management, ODOE or the certificate holder may propose modified monitoring protocols for operational of the facility, to be approved by ODOE. In any updated or amended VSMP annual and ongoing monitoring and documentation of site conditions for soil erosion, revegetation and weeds must be provided to ODOE annually.

5.0 References

ODEQ (Oregon Department of Environmental Quality). 2019. OAR 340-208-0210 EPA Method 22. https://secure.sos.state.or.us/oard/viewAttachment.action?ruleVrsnRsn=256141

Appendix A. Personnel Roles

Roles and Responsibilities

The certificate holder is the overall responsible party for operation of the facility and implementation of this Vegetation and Soil Management Plan (VSMP). However, the certificate holder may use contractors to complete tasks associated with this VSMP. If applicable to operations, responsible parties and their roles are described in Table A-1.

Table A-1. Roles and Responsibilities

Responsible Party	Name and Contact Information	Role
Certificate Holder	XXX, LLC	Responsible for compliance with all condition requirements, hiring contractors that meet the minimum qualifications described in Appendix A, and ensuring that all contractors perform work in accordance with the requirements of this VSMP.
Revegetation Contractor (RC)	Name: Contact Person: Address: Phone: Email:	Responsible for performing revegetation actions after construction, as described in this VSMP.
Weed Control Contractor (WC)	Name: Contact Person: Address: Phone: Email:	Responsible for performing weed control actions in the Weed Management Area, as described in this VSMP.
Operational Environmental Monitoring Contractor (EMC), if applicable	Name: Contact Person: Address: Phone: Email:	Responsible for conducting environmental monitoring and documenting compliance with this VSMP following construction and into operation, including conducting revegetation, dust, soil, stormwater, and noxious weed monitoring. Conduct compliance monitoring. Maintain records and provide ODOE in compliance with reporting requirements in Appendix D.
Operational Staff	Name: Contact Person: Address: Phone: Email:	Responsible for conducting environmental monitoring during operations and documenting compliance with aspects of this VSMP. Maintain records and provide ODOE with copies of these records as designed in Appendix D.

Table A-1. Roles and Responsibilities

Responsible Party	Name and Contact Information	Role
Oregon Department of Energy (ODOE)	Oregon Department of Energy Compliance Specialist 550 Capitol St. NE Salem, OR 97301 Phone: Email:	Responsible for providing technical input on proposed BMPs and other measures to minimize impacts and for validating all compliance deliverables described in this VSMP. ODOE may utilize contractors to meet its responsibilities under this VSMP during some or all phases.
XX County (County)	XX County Weed Department CONTACT, Weed Program Manager ADDRESS PHONE EMAIL	Responsible for providing input when requested on weed control and other actions described in this VSMP and its implementation as needed. The County may also attend calls with ODOE and other agencies as needed and as available.

Appendix B. Disturbance Levels

Disturbance Acreage

[to be inserted at plan finalization]

Table B-1. Acreage by Disturbance Level Impacted by Construction

Disturbance Level				Acres
1				
2				
3				
4				
5				
		Total		

Note: Totals in this table may not appear to sum correctly due to rounding. N/A = not applicable; <0.1 = greater than zero but less than 0.05

Disturbance Levels

(*To be updated in finalization*)

Maps showing the disturbance levels within the Disturbance Area in relation to existing vegetation type and areas with sensitive soils are provided in Figure(s) B-1 below, or appended to the final VSMP.

[to be inserted at plan finalization]

Figures B-1. Disturbance Levels within the Facility with Vegetation Type and Sensitive Soils

Appendix C. Fugitive Dust Control

To manage fugitive dust from during operation and maintenance activities, if necessary, the certificate holder and its contractors will generally follow the Dust Control Plan Flow Chart (Figure C-1).

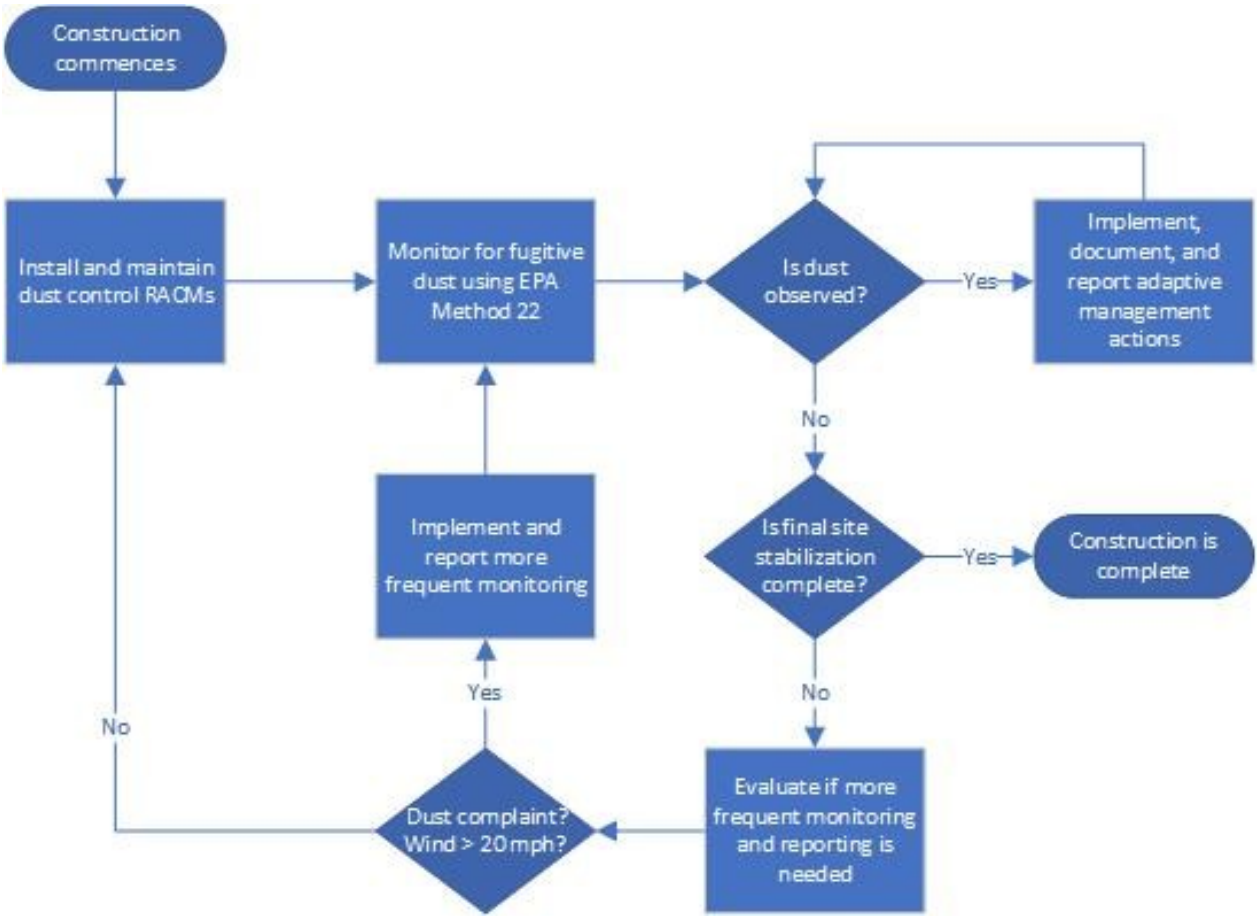


Figure C-1. Dust Control Plan Flow Chart

Fugitive Dust Monitoring and Reasonable Available Control Measures (RACMs)

Visual monitoring must occur at least once every 14 calendar days. However, because Oregon Administrative Rule (OAR) 340-208-0210 restricts visible fugitive emissions on a continuous standard to a maximum of **18 seconds in any 6-minute period** and fugitive dust emissions may provide an immediate public safety concern, this VSMP requires that fugitive dust be monitored and controlled on an ongoing basis (Table C-1).

If necessary during operational and maintenance activities as determined by the certificate holder, contractors, agencies, or ODOE and as approved by ODOE, monitoring for fugitive dust emissions will include the measures below. Certificate holder may submit revised RACMs based on the scope of the O&M activity.

- Use of U.S. Environmental Protection Agency (EPA) Method 22 (ODEQ 2019), as specified in OAR 340-208-0210, **at least once per day during the dry season, during peak dust-generating O&M activities.**
- The observation will be performed during times of peak O&M activity at the downwind facility boundary.
- Recording observations in a fugitive dust inspection log kept at the facility and digitally, described below.

Triggers for additional, more frequent monitoring will include:

- Observation of visible fugitive dust emissions by the Environmental Inspector, contractor(s), agency, or certificate holder staff,
- Wind speeds or gusts greater than 20 miles per hour, or
- Receipt of complaints or concerns through the Project Dust Control Hotline or other means.

Table C-1. Fugitive Dust Sources and Reasonable Available Control Measures (RACMs)

Activity	RACM(s)	Supplemental RACM(s)
During O&M activity	Daily fugitive dust monitoring and record keeping.	Increase frequency of monitoring.
	Prominent display of Dust Control Hotline signs, providing direct access to the Environmental Inspector.	If established, proactive engagement with Community Action Council.
	Maintain stockpile of best management practices (BMPs) at the facility, including sufficient palliatives for a single treatment of all access roads and sufficient palliatives, mulch, and/or hydromulch for a minimum of 25 percent of the total disturbed area, and machinery for application.	Increase stockpile of palliatives, mulch, and/or hydromulch and add additional BMPs.
	Documentation and reporting of adaptive management actions or Remedial Action Plans.	Development and submittal of revised Fugitive Dust Control Plan.
Facility Access	Access roads will be graveled.	Road maintenance and reapplication of gravel.
	Install and maintain stabilized entrances at ingress/egress locations and restrict traffic to these locations.	Add additional entrance BMPs (e.g., wheel wash).

Activity	RACM(s)	Supplemental RACM(s)
	Access roads will be stabilized with water or palliative/tackifiers sufficient to eliminate visible and sustained dust from vehicular travel and wind erosion. Reapply stabilization as necessary to maintain dust-free condition. If water is unavailable, or if water use is limited by any agency or regulation, access roads will be stabilized with other palliatives/tackifiers. XX will be used for dust suppression on roads during O&M if needed.	If water is ineffective, access roads will be stabilized with longer-lasting palliatives/tackifiers and reported to the Department in the monitoring report in Appendix D.
	Restrict construction traffic to established and stabilized access routes.	Install fencing or barricades to prevent traffic outside of established routes.
	Limit traffic speeds to 15 miles per hour on stabilized unpaved roads within the facility as long as such speeds do not create significant visible dust emissions. Traffic speed signs will be displayed prominently at all entrances and exits.	Limit traffic speeds within the facility to 5 or 10 miles per hour.
	Minimize disturbance areas and soil exposure to the maximum extent feasible.	Limit work to a portion of the disturbed area until all disturbed areas receive temporary or final stabilization.
	When wind speeds or gusts exceed 20 miles per hour, minimize new disturbances to the extent possible and/or mobilize additional water trucks or palliatives to minimize fugitive dust from exposed surfaces.	Stop all ground disturbing activities and apply additional dust control measures until measures are effective or wind speeds slow and fugitive emissions stop.
	Separate and cover or otherwise stabilize topsoil to preserve it until it is replaced during revegetation.	Increase maintenance frequency for topsoil cover/stabilization. Combine methods, such as mulch plus tackifier.
	Stabilize exposed soils within the timeframes established in the 1200-C permit (if applicable) and VSMP (7 to 14 days). Stabilize exposed soils in stages based on soil conditions and weather.	Stabilize exposed soils more frequently, even if additional work is anticipated within the timeframe established in the 1200-C permit. Reapply stabilization measures following any additional disturbances.
	Temporarily stabilize exposed surfaces to prohibit significant and sustained visible fugitive dust from wind erosion. Utilize BMPs such as mulch, hydromulch with or without seeds, tackifier, spreading stone or gravel, and trackwalking.	Combine stabilization methods, such as mulch plus tackifier, or trackwalking plus hydromulch. Increase frequency of maintenance of stabilization.
	Seed exposed surfaces during the appropriate season with approved temporary or permanent seed mixes.	Reapply seed to newly disturbed areas or areas with poor germination. Use temporary seeding even if additional work is anticipated before final stabilization. If irrigation is used to enhance seeding success, consult with ODOE.

Activity	RACM(s)	Supplemental RACM(s)
	Gate seals should be tight on dump trucks. Soil load will be kept below approximately 6 inches of the freeboard of the truck. Drop heights will be minimized when loaders dump soil into trucks. Gate seals will be checked and tight on dump trucks. All trucks on highways must be fully covered and secured.	Cover haul trucks with a tarp or other suitable cover.
Removing and Hauling Sand, Soil, or Other Loose Materials	Gate seals should be tight on dump trucks. Soil load will be kept below approximately 6 inches of the freeboard of the truck. Drop heights will be minimized when loaders dump soil into trucks. Gate seals will be checked and tight on dump trucks. All trucks on highways must be fully covered and secured.	Cover haul trucks with a tarp or other suitable cover.

Fugitive Dust Reporting

A dust inspection log will be completed after each dust inspection, will be kept digitally and will be included in Annual Monitoring Reports as described in Appendix D of this VSMP, if applicable.

Appendix D. Environmental Monitoring and Reporting Methods

Remedial Action Plans and Adaptive Management

Certificate holder, contractors, and/or operational personnel will track and report to the certificate holder regarding dust control, weed management, and revegetation progress. For ongoing weed, sediment, erosion or fugitive dust control issues or reoccurring incidences or complaints the certificate holder will submit to ODOE a Remedial Action Plan which includes remedial recommendations for erosion and sediment control, reseeding, revegetation, weed control and soil preparation as described in this VSMP. Certificate holder may propose alternate BMPs to address issues with revegetation, weeds, or dust that are not provided in this plan. Remedial action plans must contain a scope/schedule to implement the recommendations. The scope/schedule must identify the seasons where the actions will take place. The certificate holder will include recommendations for adaptive management and measures taken in monitoring reports described in this Appendix. ODOE may require additional remedial measures.

ODOE may require a meeting with ODOE, WC, EMC, ODA, ODEQ, and/or County Weed Department to review the actual extent and condition of disturbed areas and confirm erosion, revegetation or weed management methods to be implemented. The meeting may include a site visit or may be remote to encourage attendance. If meetings are held remotely, the certificate holder will have current photographs or videos of the areas in question, if applicable.

Fugitive Dust Monitoring and Reporting

BPMs from the 1200-C permit may be implemented to control on-site erosion control or sediment control after the 1200-C permit has been terminated if erosion and sediment control are an ongoing issue post-construction and into operations. [1]

A dust inspection log will be completed after each dust inspection if necessary during operation. Log records will be kept digitally and included in annual monitoring reports submitted to ODOE.

The dust inspection log included in the will include:

- All information required in EPA Method 22 described in Appendix C.
- Photos and/or video taken during the observation period to document conditions.
- Any documented exceedance events will include a detailed explanation of RACMs implemented for corrective action and the results of subsequent monitoring demonstrating fugitive dust has returned to below exceedance thresholds.
- The dust inspection log will include the type of palliatives/tackifiers used for dust suppression on roads or other areas and any other BMPs from the 1200-C permit that reduce dust.

Post Construction Soil Compaction Monitoring and Reporting

Post-construction phase soil compaction testing will be used to inform BMPs for revegetation.

[1] EFSC/ODOE reliance on the 1200-C for is for erosion control, not to ensure sediment discharge to WOS does not occur.

As construction phasing is completed, the EMC will conduct post-construction soil compaction testing in Level 3 and 4 Disturbance Areas in spring or late fallfollowing the below procedures, unless approved by ODOE.

- Soil compaction sample locations will be evenly distributed across the Disturbance Area at a rate of 1 sample per 200 acres.
- To compare with the disturbance area soil compaction soil tests, soil testing will be also conducted at sample plot(s) adjacent to or within the vicinity of the Soil compaction sample locations; or in areas that have similar soil types/conditions.
- Sample locations will be selected to avoid infrastructure such as inverters and roads where revegetation will not occur.
- Sample locations will be identified in Figures submitted to ODOE, as described below.

Soil compaction testing of sample locations and sample plots will be conducted using the following standard methods, or as approved by ODOE:

- The surveyor will measure soil resistance using a penetrometer.
- Resistance will be measured at 3-inch intervals to 12 inches or until the meter goes above 300 pounds per square inch (psi) (3, 6, 9, and 12 inches if soils allow).
- Three penetrometer readings will be collected and averaged at each sample location.
- A photo will be taken of each sample location.
- Measurements will be conducted in conditions favorable to soil testing (e.g., non-saturated or frozen soils).

If post construction soil compaction is necessary into operation of the facility, soil compaction testing results may submitted after the testing is complete, with the Year 1-2 Operational Monitoring Report, or Annual Report, if applicable.

[to be provided post construction and prior to revegetation]

Figure D-1. Post Construction Soil Compaction Testing and Sample Locations

Revegetation

Revegetation Monitoring and Reporting Methods and Frequency

During facility operation, revegetated areas will be monitored by an EMC, trained facility personnel, certificate holder, or other qualified personnel, at a frequency detailed in Table D-2 below, to document and report the following:

Years 1-2

- Date construction phase was completed;
- Figures/Maps representing the location, and acres affected at each disturbance level;
- Description and photos of revegetated areas, including but limited to:
    - Dates revegetation efforts were initiated in each area;
    - Qualitative visual assessment of cover of native, desirable (non-native species included in the seed mix), and non-native forbs and grasses;
    - Dominant species composition;
    - Percent cover of bare soil;
    - Degree of erosion.
- Assessment of whether revegetated areas are meeting or trending toward success criteria described in Appendix E;
- Description of the revegetation and soil preparation efforts, including methods, timing for soil preparation and decompaction, type of seeding application, type of tackifier and seed mix used;
- Confirmation from the landowner that cropland has been satisfactorily restored, where applicable.
- Presence of noxious weeds (see weed monitoring methods);
- Recommendations for remedial actions, if any. If applicable, provide recommendations for soil preparation, reseeding, weed control, or other remedial measures for Disturbance Areas that are not showing progress toward meeting success criteria. Any remedial action plans or remedial actions must contain a scope/schedule to implement the recommendations. The scope/schedule must identify the seasons where the actions will take place. (see Appendix D and E).

Years 3+

- Figures/Maps representing the location, and acres affected at each disturbance level;
- Description and photos of revegetated areas, including but limited to:
    - Dates revegetation efforts were initiated in each area;
    - Qualitative visual assessment of cover of native, desirable (non-native species included in the seed mix), and non-native forbs and grasses;
    - Dominant species composition;
    - Percent cover of bare soil;

  - Degree of erosion.
- Assessment of whether revegetated areas are meeting success criteria described in Appendix E and F;
- If applicable to meet success criteria, description of the revegetation and soil preparation efforts, including methods, timing for soil preparation and decompaction, type of seeding application, type of tackifier and seed mix used;
- Confirmation from the landowner that cropland has been satisfactorily restored, where applicable.
- Presence of noxious weeds (see weed monitoring methods);
- Recommendations for remedial actions, if any. If applicable, provide recommendations for soil preparation, reseeding, weed control, or other remedial measures for Disturbance Areas that are not showing progress toward meeting success criteria. Any remedial action plans or remedial actions must contain a scope/schedule to implement the recommendations. The scope/schedule must identify the seasons where the actions will take place. (see Appendix D and E).

The certificate holder will monitor all revegetated areas, unless the landowner converted an area to a use that precludes meeting revegetation success criteria such as cropland (if applicable).

Table D-1. Revegetation Monitoring and Reporting Frequency

Year	Frequency	Activity	**Report Submission**/Compliance Verification
Years 1 – 2	Seasonal; three times a year (spring, summer, fall)	Qualitative meandering vegetation survey of Disturbance Areas beginning the first year after seeding.	Year 1-2 Operational Monitoring Report shall be submitted promptly after survey, three times a year, or as directed by ODOE.
Years 3+ (Longterm Operational Facility)	Annual (during growing season when optimal to document vegetative species and success)	Qualitative meandering vegetation survey of Disturbance Areas.	Annual Operational Monitoring Summary, unless modified by ODOE

Weeds

The Weed Management Area is the area within the solar fence and a 10-foot buffer outside the fence, if accessible, transmission line corridor, and any area outside the fenceline impacted by construction.

Pre-construction and Construction Weed Species

(to be updated in final Operational VSMP)

Appendix F, Table F-2 (or similar) and Appendix F (Weed Control Methods) of this VSMP includes the results from pre-construction surveys, construction and post-construction monitoring for weeds observed on site and treatment methods.

Weed Monitoring and Reporting

Noxious Weed Monitoring and Reporting Noxious weeds will be monitored and mapped throughout the Weed Management Area at the frequency listed in Table D-1. Weeds will be managed according to Appendix F: Weed Control Methods.

Monitoring reports will include the following information:

- Updated Appendix F, Table F-2 (or similar): Treatment Plan
- Identify and map occurrence location of groups of weeds of concern and Type A/B species with a point or polygon using GIS;
- Approximate number of each type or group of weeds;
- Density;
- Monitoring methods;
- Records of herbicide types, frequency and timing of application, and application methods;
- Assessment of whether Weed Management areas are meeting success criteria described in Appendix E and effectiveness of previous treatments;
- Recommendations for weed treatment actions based on Appendix E and F which include the scope, schedule, and duration (seasons) the actions will be taken.

Long Term Weed Status Tracking

Beginning in Year 1 of operation (or after all construction is complete, whichever happens first), in addition to the items listed above, the following will be provided in the Year 1-2 Operational Monitoring Report and then in the Annual Operational Monitoring Summary at 3+ years of operation:

- In tabular format track by year the weed species observed on site, their status based on ODA and County designations in place at the time of reporting, and their total population or individual numbers. All reporting years will be provided in the tracking table for each annual submission. <u>This will be used to demonstrate compliance with the success criteria described in Appendix E.</u>

Table D-1. Noxious Weed Monitoring and Reporting Schedule

Year	Frequency	Activity	Report Submission/ Compliance Verification
Years 1 – 2	Seasonal; three times a year (spring, summer, fall)	Qualitative meandering weed survey of Site-Wide Weed Management Areas.	Year 1-2 Operational Monitoring Report shall be submitted promptly after survey, three times a year, or as directed by ODOE.
Years 3+ (Longterm Operational Facility)	Annual (during growing season and in optimal time to treat weeds observed)	Qualitative meandering weed survey of Site-Wide Weed Management Areas.	Annual Operational Monitoring Summary, unless modified by ODOE

Landowners may contact the certificate holder directly to report the presence of noxious weeds related to facility activity. The certificate holder will control reported noxious weeds on a case-by-case basis and prepare a summary of measures taken for that landowner. The certificate holder will report the investigator's findings and recommendations regarding weed control in the facility's annual report required by Oregon Administrative Rule 345-026-0080.

References

Duiker, S. 2025. Diagnosing Soil Compaction Using a Penetrometer (Soil Compaction Tester). Adapted from: Lloyd Murdock, Tim Gray, Freddie Higgins, and Ken Wells, 1995. Soil Compaction in Kentucky. Cooperative Extension Service, University of Kentucky, AGR-161. https://extension.psu.edu/diagnosing-soil-compaction-using-a-penetrometer-soil-compaction-tester

Elzinga C.L, D.W. Salzer, and J.W. Willoughby. 1998. Measuring and Monitoring Plant Populations. U.S. Bureau of Land Management Papers. BLM Technical Reference 1730-1.

Herrick J.E., J.W. Van Zee, S.E. McCord, E.M. Courtright, J.W. Karl, and L.M. Burkett. 2021. Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems, Volume I: Core Methods. USDA-ARS Jornada Experimental Range. ISBN 0-9755552-0-0.

MacKinnon, W.C., J.W. Karl, G.R. Toevs, J.J. Taylor, M. Karl, C.S. Spurrier, and J.E. Herrick. 2011. BLM Core Terrestrial Indicators and Methods. Tech Note 440. U.S. Department of the Interior, Bureau of Land Management, National Operations Center, Denver, CO.

NRCS (Natural Resources Conservation Service). 2020. Cropland In-Field Soil Health Assessment Guide. Soil Health Technical Note No. 450-06. U.S. Department of Agriculture, Natural Resources Conservation Service. Washington, D.C. https://www.nrcs.usda.gov/sites/default/files/2023-03/In-Field%20Assessment%202021%20Complete%20ND.pdf

Appendix E. Success Criteria, Methods for Revegetation, and Soil Stabilization

Success Criteria for Revegetation and Weed Management Areas

The certificate holder will establish uniform perennial vegetation (excluding noxious or invasive weeds) that provides at least 70 percent cover on all exposed areas. For noxious or invasive weeds the vegetation would not count under this requirement.

ODOE may require a higher percentage vegetative cover if bare ground poses erosion or dust issues on site or contributes to persistent weed growth or lower if the undisturbed baseline vegetative cover is less than 70 percent (based on percentage of original vegetative density).

A-listed Weeds: To prevent new infestations follow the BMPs in Appendix F. New and existing infestations are prioritized for eradication or intensive control when and where found.

B-listed Weeds: Intensive control when and where found.

Noxious weeds will be treated as designated in the VSMP to reduce infestations below the level at which they cause failure for reclamation and revegetation success.

The certificate holder is responsible for managing weedy and invasive species (such as cheatgrass, certain Kochia, tumbleweed) that are not listed on the state or County's weed list (other weeds of concern), particularly if the species is a concern for wildfire such as invasive annual grasses.

The certificate holder must implement the monitoring, reporting, BMPs, remedial actions, and adaptive management actions identified in this VSMP to achieve and maintain the above success criteria for the life of the facility.

Site Management

(Update based on BMPs for selected seed mixes - See Appendix D: Revegetation Methods for additional descriptions.) Certificate holder may add BMPs. If the certificate holder deletes any of the measures, provide a rationale for why the BMP will not be implemented or if there is alternate BMPs to be implemented instead.)

During Operation:

- Follow BMPs for dust control and soil stabilization in this VSMP.
- Manage and prevent weeds during operation according to Appendix F: Weed Control Methods.
- Make sure that all equipment is CLEAN of noxious weeds.
- If necessary for revegetation, de-compact soil by mechanical scarification (tilling or ripping the soil) to an appropriate depth as described in Appendix E. Soil amendment, such as addition of organic matter (compost), may also be necessary to alleviate compaction.
- Seeding and planting will be done in a timely manner and in the appropriate season to facilitate germination and establishment of seeded species. Seed mixes and optimal seasonal germination information is provided in Revegetation Methods of this Appendix.

- Apply seed to treated weed areas if necessary. Any location that has been treated for noxious weeds will be seeded with either the interim seed mix or reclamation seed mix during the fall after treatment. Leaving the area fallow after treatment increases the risk that either the same species or another species of noxious weed or non-native, invasive species will establish on the site.
- Following seeding, stabilize seeded areas to facilitate establishment by applying seedless, certified weed-free hydromulch containing a tackifier or crimped weed-free straw or as described in this Appendix.
- If seeding is used for soil stabilization, seed Disturbance Areas with a non-invasive, non-persistent cover crop such as winter wheat or sterile triticale, or XX.

Soil Preparation Methods

- Perform soil preparation using methods described below, or as approved by ODOE. Consider location-specific factors including slope, soil type, size of area, and erosion potential when determining methods.
  - Prepare salvaged topsoil into a firm, fine-textured seedbed before seeding or planting . Loosen the top 1 to 2 inches of the soil surface by shallow tilling with a disc, followed by harrow or drag if necessary and where feasible with equipment. If soil is assessed as too soft, firm with a roller or cultipacker.
  - Soil Roughening: Also known as imprinting, tracking, or track walking, soil roughening is a temporary erosion control practice and seedbed preparation technique implemented when grading a slope . This technique involves creating grooved soil surface with depressions running parallel to the hill contour to promote seed germination and provide moderate erosion control while vegetation is established. Tracking with heavy equipment may compact the soil and inhibit root penetration; this can be mitigated by using lighter-weight equipment and not tracking saturated soil. Soil roughening should be done prior to applying hydromulch, straw mulch, or installing erosion best management practices. Seed and mulch roughened areas as soon as possible to obtain optimum seed germination and growth .
  - Deep Tilling: Reduce soil compaction by fracturing restrictive soil layers in areas where compaction levels inhibit plant growth. Deep tillage is only suitable in areas outside of solar arrays and where solar infrastructure is not present (i.e., temporary roads) and should be conducted prior to revegetation when soil moisture is optimal.
  - Decompaction: Areas with intact vegetation (typically in areas with Level 1 or 2 disturbance) will not be decompacted to avoid additional soil disturbance and erosion risk.
  - Decompaction: Where sample plot soil compaction testing demonstrates that soils are compacted greater than 300 pounds per square inch (psi), then remediation activities may be completed in those areas prior to the contractor moving to a new location or off-

site. Locations where sample plot monitoring indicates that soils were compacted more than 300 psi will only be decompacted as needed based on field assessment of likely vegetation success (see Table E-1).

- Remediation activities may include mechanical scarification (e.g., tilling or ripping the soil) to an appropriate depth to reduce the potential effects of compaction, to maintain soil productivity, and reduce the potential for erosion on compacted soils. Dry soils should be de-compacted using an agricultural disc, soil ripper, or similar equipment.

Revegetation Methods and Seeding

Table E-1 provides generalized revegetation methods for each disturbance level. See provisions in this Appendix for additional details.

Table E-1. Revegetation Methods by Disturbance Level

Disturbance Level	Soil Reclamation	Site Preparation	Seeding
1 – Mowing	No soil disturbance. Retain existing vegetation to prevent erosion. If soil is bare and compacted, decompact prior to revegetation.	Weed control.	Seed areas treated.
2 – Overland Drive and Crush	No soil disturbance. Retain existing vegetation and implement erosion control practices. If soil is bare and compacted, decompact prior to revegetation.	Weed control, sediment and erosion control.	Seed areas treated.
3 – Clear and Cut	Track or decompact soil as necessary. Implement erosion control practices and measures to support seed growth.	Weed control. Seed cover crop and/or other stabilization measures if necessary to stabilize soil. Prepare firm, fine-textured seedbed prior to seeding.	Required: pre impact seeding, post seeding, re seeding may be applicable.
4 – Clear and Cut with Soil Removal	Stockpile topsoil separately from subsoil and stabilize. Regrade and replace subsoil then topsoil prior to seeding. Track or decompact soil as necessary. Implement erosion control practices and measures to support seed growth..	Weed control. Regrade and add soil amendments if necessary. Seed cover crop and/or other stabilization measures if necessary to stabilize soil. Prepare firm, fine-textured seedbed prior to seeding.	Required: pre impact seeding, post seeding, re seeding may be applicable.

Landowner Preferences

(*Update during plan finalization*)

If applicable, landowner or farm operator may identify the preferred approach for soil stabilization on agricultural land until routine seeding and tillage resumes. Soil stabilization may include

applying unseeded hydromulch or crimping in weed-free straw until seeding can occur. Landowner may choose to assume responsibility for soil stabilization. Agricultural lands will be restored to landowner satisfaction. Provide a list of landowners contacted, evidence of consultation, and landowner preferences.

Seed Mix and Application Guidelines

Provide the optimal seed mix(es) for the site (if different from construction), application methods for successful germination, and timing for seed application based on climatic conditions of the particular year when construction and revegetation efforts will be implemented.

(Provide this information in the Tables below and in final VSMP.)

Seasonal Timing Notes:

(*Update during plan finalization*)

In north/central and eastern Oregon:

September through early October is optimal for seed application.

Late February through early March is the next optimal time for seed application.

Seeding during the winter is not optimal but may have some success. Seeding over snow in certain cases as long as it's not too deep (1-2 inches). This can be a good strategy for rocky ridges.

April through early September is not a good time for seed application because it is too warm and dry.

Table E-2. Revegetation Seed Mix and Application Guidelines

Common Name	Scientific Name	Percent Pure Seed	Optimal Application Season	Application Methods/BMPs
Revegetation Seed Mix(es)				

Revegetation and Seeding BMPs

(*The below methods and BMPs should not be removed in plan finalization because they are intended to be a suit of measures to apply in adaptive management to support ongoing revegetation efforts at the site. Certificate holder may add to or edit for clarity during plan finalization*.)

Seed Storage and Harvesting

(*Identify measures for seed storage in final VSMP*)

Seed harvesting may be needed to properly restore unique vegetation assemblages or habitat. Expert advice on the particular area in question is recommended.

Interim Seeding of Long-Term Disturbance

Road berms, sediment basins, growth media stockpiles, and other sites that will have exposed soil for more than one growing season will be seeded with an interim seed mix. The interim seed mix will be certified pure live seed and weed free and include bluebunch wheatgrass (Pseudoroegneria spicata) and bottlebrush squirreltail (Elymus elymoides), which are two aggressive native perennial grass species capable of competing with invasive annual plants. The establishment of native vegetation on these sites will reduce the potential for noxious weeds and other nonnative and invasive species to establish.

Seeding Methods

Four common seed application methods that may be used for revegetation include broadcast seeding, drill seeding, imprint seeding, and hydroseeding; each of these are discussed further below. Other seeding methods may be proposed for review and approval prior to revegetation efforts. When feasible for Disturbance Areas, the area will be seeded after grading is complete but before placement of Components to provide flexibility in seed application methods. In those instances where seeding occurs prior to installation of components, follow-up seeding will occur in areas temporarily disturbed by component installation and any areas that are deficient in vegetation.

Broadcast Seeding

Broadcast seeding is the application of seed directly to the ground surface. This method may be chosen for areas with shallow and rocky soils, and the type of broadcast spreader depends on the size of the area to be seeded and the terrain. In this method, seed is broadcast at 20-24 pounds of pure live seed per acre, or twice the recommended rate for drill seeding. Immediately following seed application, hydromulch or certified weed-free straw would be applied at a rate of approximately 2 tons per acre. Broadcast seeding will not be employed if winds exceed 5 miles per hour. If certified weed-free straw is unavailable, the certificate holder or EPC will identify a local source of straw.. This straw will either be crimped into the ground or applied with a tackifier.

Drill Seeding

Drill seeding can be used for large areas with deep soils and moderate to gentle terrain to accommodate mechanical equipment. This method provides the advantage of planting the seed at a

uniform depth and may provide better soil to seed contact. Using a range seed drill, seeds will be sown at 12-14 pounds pure live seed per acre or according to application rates recommended by the seed supplier.

Drill seeding may be difficult after components have been installed, so it will primarily be used if seeding occurs after grading is complete but before components are installed, or in areas that were disturbed during construction that do not have any permanent infrastructure (e.g., temporary access roads, laydown areas).

If farm equipment or other seeding equipment can be used, use drill seeding as it is the most effective method.

Use crimp in straw immediately after drill seeding.

If vehicles are anticipated to continue to drive over the area, use crimped straw as opposed to seedless hydromulch.

Imprint Seeding

Imprint seeding is a no-till drill seeding method used to restore grasslands in areas with low annual precipitation. Seeds will be sown at 12 pounds pure live seed per acre or according to application rates recommended by the seed supplier. The seeder consists of a heavy metal drum roller with V-shaped, angled teeth and a seed agitator box. The teeth create V-shaped troughs with a depth of 4-7 inches to collect rainwater. The rolling drum presses the seed into the soil, insuring good seed-to-soil contact. The troughs collect rainwater for seed germination and seedling growth. Imprint seeders can be used on steep slopes and do not require seed bed preparation before seeding. Seeding can occur on soils with light to moderate vegetative cover, with the vegetation acting as a mulch, preventing soil erosion until seedlings are established. Imprint seeders do not work well in areas with shrubs or heavy vegetation cover. Heavily compacted soils may need to be ripped or de-compacted before seeding.

Hydroseeding

Hydroseeding is most applicable for areas where drill or broadcast seeding machinery cannot access; this usually includes steep slopes or narrow terrain but can be used in all terrains. Soil bed preparation is crucial for growth success and frequently includes tracking perpendicular to the slope to create micro conditions for seed. Flat grading and compaction are not recommended. Seeding rates increase by 30 to 50 percent of broadcast seeding rates (i.e., 30 pounds pure live seed per acre). Use tackifier with hydroseeding. Include type of tackifier in 12 Year or Annual Report.

If equipment isn't available for drill seeding, then hydroseed with a light amount of wood mulch (500 lbs. per acre), followed by additional quantity of mulch on top (2 step method). This increases the seed to soil contact.

Reseeding

Revegetation will be monitored beginning 90 days after post-construction and into operation seed application as designated in Appendix D. Revegetation efforts, including reseeding and soil

stabilization measures may be applied on an ongoing basis into operations if site restoration is not successful.

BMPs for reseeding include but are not limited to:

- BMPs designated in this plan;
- If reseeding is needed, use methods that do not disturb the soil (e.g., hydroseeding);
- Only use drill seeding if no desirable species are present (essentially starting over);
- Additional or modified measures proposed by the certificate holder or required by ODOE in consultation with the County and/or ODA.

Operations Vegetation Management

(*Update in plan finalization*)

During operation of the facility, vegetation will be managed in accordance with the facility Wildfire Mitigation Plan and this VSMP:

> *A clear brush free area of 10 feet shall be required around the perimeter of the ground-mounted photovoltaic arrays or as determined by the fire code official. A maintained vegetative surface or noncombustible base, approved by the fire code official, shall be installed and maintained under the photovoltaic arrays and associated electrical equipment installations.*

A summary of vegetation management and vegetative free areas is provided below:

- Vegetation within the Solar Components fence will be limited to a height of 10-12 inches
- Vegetation height will be maintained by mowing, chemical spray, grazing (as approved by ODOE), or other vegetation management techniques.
- A minimum 10-foot non-combustible, vegetation-free defensible space will be maintained along the fenced perimeter of the Solar Components.
- Vegetation along service roads will be managed by mowing or other vegetation removal.
- Grazing by sheep or goats is prohibited without written approval from ODOE.

References

EPA (U.S. Environmental Protection Agency). 2021. Stormwater Best Management Practice, Soil Roughening. December 2021. EPA-832-F-21-028JJ. https://www.epa.gov/system/files/documents/2021-11/bmp-soil-roughening.pdf.

NRCS (Natural Resource Conservation Service). 2022. Deep Tillage Conservation Practice Standard, Code 324. November 2022. https://www.nrcs.usda.gov/sites/default/files/2022-11/324-NHCP-CPS-Deep-Tillage.pdf.

ODOT (Oregon Department of Transportation). 2023. Erosion Control Manual, Guidelines for Developing and Implementing Erosion and Sediment Controls. Salem, Oregon. April 2023.

https://www.oregon.gov/odot/GeoEnvironmental/Docs_Environmental/Erosion_Control_Manual.pdf.

Oregon State Fire Marshall. 2025. 2025 Oregon Fire Code, Section 1205.5.1. https://codes.iccsafe.org/content/ORFC2025P1.

Appendix F. Weed Control Methods

Regulatory Framework

The Oregon Department of Agriculture (ODA) and the XX County Weed Department maintain lists and classifications of noxious weeds. Although not all listed noxious weeds occur in the vicinity of the facility, the certificate holder and its contractors should be aware of the entire list while monitoring and controlling weeds.

Species on ODA and XX County's list observed at the site are provided in Table F-2 below

Management Objectives

Noxious weed control methods for the Weed Management Area (i.e., area within the fenceline and a 10-foot buffer outside the fence, if accessible, transmission line corridor, and any area outside the fenceline impacted by construction) are based off of weed species observed on site and treatment methods detailed below.

See Appendix E for Success Criteria the Weed Management Area Weed management includes eliminating new invasive introductions of A-listed species, controlling any A or B-listed species and reducing any weed canopy cover to levels that support establishing plant communities selected for the site.

The certificate holder is responsible for managing weedy and invasive species that are not listed on the state or County's weed list (other weeds of concern), particularly if the species is a concern for wildfire such as invasive annual grasses.

Table F-1. Weed Management by Status and Phase

Weed Classification	Years	
	1-2	3+
A or B(T)	Intensive control with the goal to eradicate infestations. Prevent new infestations.	Intensive control and eradication for life of facility. Prevent new infestations.
B	Intensive control on a case-by-case basis with the goal to eradicate infestations. Prevent new infestations.	Monitor and manage to prevent new populations or spread of existing populations.
Invasive Annual Grasses	Monitor and manage to minimize wildfire risk.	Monitor and manage to minimize wildfire risk.
Other weeds of concern	Monitor and manage to minimize wildfire risk.	Monitor and manage to minimize wildfire risk.

Treatment Plan

Table F-2, below, provides a treatment plan for noxious and invasive weeds, invasive grasses, and other weeds of concern to be managed in the Weed Management Area, including management objectives and treatment guidelines.

(*updated in plan finalization*)

Table F-2 will be updated with:

- With the results from pre-construction baseline survey results as described in Appendix D, identifying the weed species onsite;
    - Management objectives and control duration;
    - Weed control methods for each weed species;
    - Weed treatment BMPs including best season(s) for treatment;
    - Application methods for herbicides.

Table F-2 (or similar documentation/format) will be filled out and submitted in the 1-2 Year Operational Monitoring Report and in the Annual Environmental Monitoring Summary as described in Appendix D.

Table F-2. Treatment Plan and Tracking for Noxious and Invasive Weed Control

Scientific Name	Common Name	State/County Status	Management Objective	Treatment Guidelines[1]	Treatment Actions, Frequency, and Timing Compliance Tracking
Aegilops cylindrica	jointed goatgrass	B/B	Monitor and manage to prevent new populations or spread of existing populations.	Mechanical: Timing is critical, mow after flowering but before seeds reach soft boot stage. Early mowing will result in new tiller growth. Requires multiple mowings throughout the growing season over several years. **Chemical:** Apply to actively growing plants in late winter or spring before flowering or pre-emergent herbicide in fall. Biocontrol: None	
Bassia (Kochia) scoparia	kochia	B/B	Monitor and manage to prevent new populations or spread of existing populations.	**Mechanical**: Mow prior to flowering to prevent seed production. Hand pull small populations. Chemical: Apply post emergent to seedlings and small plants. Biocontrol: None	
Centaurea diffusa	diffuse knapweed	B/B	Monitor and manage to prevent new populations or spread of existing populations.	Mechanical: Manually remove entire plant, including taproot, prior to flowering. **Chemical:** Apply to actively growing plants in fall or spring from rosette to bolting stage. Biocontrol: Agents include several seed feeding flies and weevils and a root-boring beetle.	
Centaurea solstitialis	yellow starthistle	B/A	Intensive control with the goal to eradicate within first 5 years of operations. Prevent new infestations.	Mechanical: Manually remove entire plant including taproot. **Chemical:** Post-emergent herbicide application to rapidly growing plants prior to flowering (rosette to bolting stage). Biocontrol: Agents include two seed weevils, a seed fly, and a rust.	
Centaurea stoebe ssp. *micranthos*	spotted knapweed	B(T)/B	Intensive control with the goal to eradicate within first 5 years of operations. Prevent new infestations.	Mechanical: Manually remove entire plant, including taproot, prior to flowering. **Chemical:** Apply to actively growing plants in fall or spring from rosette to bolting stage. Biocontrol: 12 approved biocontrol agents established in Oregon.	
Centromadia (*Hemizonia*) *pungens*	common spikeweed	Not Listed/A	Intensive control with the goal to eradicate within first 5 years of operations. Prevent new infestations.	Mechanical: Dig or hand pull in spring prior to flowering. **Chemical:** Apply post emergent with surfactant to seedling in spring through early summer, before flowering. Biocontrol: None	

Table F-2. Treatment Plan and Tracking for Noxious and Invasive Weed Control

Scientific Name	Common Name	State/County Status	Management Objective	Treatment Guidelines[1]	Treatment Actions, Frequency, and Timing Compliance Tracking
Chondrilla juncea	rush skeletonweed	B(T)/A	Intensive control with the goal to eradicate within first 5 years of operations. Prevent new infestations.	Mechanical: Regenerates from root fragments. Manually remove entire plant, including taproot, prior to flowering. Will require multiple efforts during the growing season for more than one year. **Chemical:** Apply to rosettes in spring immediately before or during bolting. Biocontrol: Agents include a gall midge, gall mite, rust fungus, and root-mining moth.	
Onopordum acanthium	Scotch thistle	B/A	Intensive control with the goal to eradicate within first 5 years of operations. Prevent new infestations.	Mechanical: Pull prior to flowering, cut off root below soil surface. Tilling will control emerged plants but stimulate germination. Follow up tilling with herbicide application to treat seedlings. Sheep and goats will eat young plants and flower heads. **Chemical:** Treat from rosette to bolting stage in fall or spring. Most effective on small rosettes. Biocontrol: None	
Secale cereale	cereal rye	Not listed/B	Monitor and manage to prevent new populations or spread of existing populations.	**Mechanical**: Repeated mowing in spring prior to seed set or tillage combined with herbicide application in fallow fields. Hand pull prior to seed set. Chemical: Treat prior to seed set. Herbicide more effective if applied one year after mowing to reduce thatch buildup. Biocontrol: None	
Invasive annual grasses such as cheatgrass (*Bromus tectorum*)		Not listed	Monitor and manage to minimize wildfire risk.	Mechanical: Repeated mowing (every 3 weeks) to 2 inches in spring can eliminate seed production in areas where herbicide application is unacceptable. **Chemical:** Apply pre-emergent herbicide prior to germination. Post emergent in fall or early spring/summer to rapidly growing plants prior to seed set. Biocontrol: None	
Sources: Becerra-Alvarez 2025, DiTomaso et al. 2013, ODA 2025b. 1. Preferred treatment method in bold.					

Weed Prevention BPMs

The following best management practices will be implemented to prevent the spread of noxious weeds during revegetation efforts and operation and maintenance activities.

- Limit vehicle access to designated routes;
- Limit vehicle traffic in areas with noxious weeds;
- Limit movement of topsoil and other soils from non-infested areas to eliminate the transport of weed seeds, roots, or rhizomes;
- Provide information regarding noxious weed species at the operations and maintenance building;
- Treat noxious weeds in weed management areas via biological, mechanical, or chemical control (see Control Methods Section);
- Prevent conditions favorable for noxious weed germination and spread by revegetating disturbed areas as soon as possible;
- Monitor weed management areas for noxious weeds (see Appendix D), during the normal course of revegetation maintenance of workspaces, and implementing control measures as appropriate;
- Revegetate disturbance areas with appropriate, local native seed or native plants; when these are not available, non-invasive, and non-persistent non-native species may be used; and
- Inspect and certify that the seed and straw mulch used for facility rehabilitation and revegetation are free of noxious weed seed and propagules.

Weed Control and Treatment Methods

(*updated in plan finalization based on weeds observed on site*)

Control of noxious weeds and other invasive weed species within weed management areas will be implemented through biological, mechanical, or chemical control measures. The control method used will depend on the weed species and size of infestation, time of year, proximity to intact native habitats, and resources available. Generally, mechanical control is best suited for small infestations of tap-rooted weeds that can be hand pulled or large occurrences in areas where mowing or soil disturbance is acceptable. Chemical control is used for most occurrences of perennial weeds with rhizomes or stolons and large occurrences of any weed in areas where mowing or soil disturbance are not recommended. **Site-wide chemical treatment is not recommended.** Successful noxious weed control programs typically combine multiple treatment strategies.

Weed Treatment Notes

- Treat for non-grasses while grasses are establishing. There are products that can be used, perhaps at a lower rate, without harming the perennial grasses; however, the grasses must have developed to at least the 3 - 5 leaf stage.
    - Herbicides can be more effective than mowing because the herbicide will kill the weeds and not give them a chance to adapt and still go to seed.
    - Use 1 oz glyphosate (no adjuvant or other additives) per inch of cheatgrass growth. This rate should kill the weed and not kill desirable species.
    - Apply adaptive management: May need to treat 2 or 3 times per year along with reseeding.
- Mowing may not be as effective as herbicides, but it has less risk of harming desirable plant species.
- On an ongoing basis apply a light rate of glyphosate to control cheatgrass.
- Timing is critical for specific weed treatments. Pre-emergent should be applied in the winter, not the spring. Apply weed treatment methods at the appropriate season.

Mechanical

Mechanical treatment will be the preferred method of treatment for existing noxious weed populations where appropriate within the Weed Management Area. Mechanical control methods rely on removal of plants, seed heads, and/or cutting roots with a shovel or other hand tools or equipment that can be used to remove, mow, or disc noxious weed populations. Hand removal of plants is also included under this treatment method. Mechanical methods are useful for smaller, isolated populations of noxious weeds in areas of sensitive habitats. Additionally, hand removal of small infestations can minimize soil disturbance, allowing desirable species to remain and limiting conditions favorable for noxious weeds.

Some rhizomatous plants can spread by discing or tillage because they reproduce vegetatively from small root fragments. As such, implementation of discing will be species-specific and avoided in areas where it will be counter-productive. If discing is employed in areas that will be revegetated, subsequent seeding will be conducted to re-establish desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Discing, tilling, or other mechanical treatments that disturb the soil surface within native habitats will also be avoided in favor of herbicide application, which is an effective means of reducing the size of noxious weed populations as well as preventing the establishment of new infestations.

Biological

Biological control involves the use of prescribed insects, fungi, and livestock to control noxious weeds to achieve management objectives. Biological control methods are typically targeted to a specific species or plant to control its persistence. They are also used for maintenance in targeted areas for vegetation management control in height and density that includes mitigating fire risk and erosion. Biological control is environmentally friendly and should be the first consideration when applicable.

Use of Domestic Sheep and Goats for Vegetation Management

If the certificate holder uses or keeps domestic sheep, goats, or other livestock for vegetation control or other purposes, a Grazing Management Plan will be developed and submitted to ODOE for review and approval, prior to grazing livestock at the facility to describe practices and controls that will be implemented to prevent zoonotic disease transmission to wild sheep populations. ODOE may impose additional requirements to prevent zoonotic disease transmission based on consultation with ODFW. These requirements would not apply to landowners grazing livestock outside the facility in accordance with their leases.

Chemical

Chemical control can effectively remove noxious weeds through use of selective herbicides when mechanical control is not feasible. The specific herbicide used and the timing of application, and application rates will be chosen based on the specific noxious weed being treated, as appropriate herbicides differ between species and types of plants (i.e., dicots such as rush skeletonweed versus monocots such as jointed goatgrass) and in consultation with the County Weed Department and the Weed Control Contractor as provided in Table F-2.

Herbicides will be applied to identified, treatable, noxious weed infestations If a noxious weed population is deemed to be untreatable (e.g., too widespread and established in an area to successfully control), the certificate holder will implement the applicable prevention measures or adaptive management proposals discussed in this VSMP. Herbicide application will be performed within the appropriate season to achieve desired results provided in Table F-2. No weed treatment will occur in agricultural lands without landowner permission, certificate holder will notify landowners of proposed herbicide use on their lands prior to application.

Herbicide Application and Handling

Only those herbicides that are approved by the U.S. Environmental Protection Agency and ODA will be used. In general, application of herbicides will not occur when the following conditions exists:

- Wind velocity exceeds 15 miles per hour for granular application, or exceeds 10 miles per hour for liquid applications;
- Snow or ice covers the foliage of target species; or
- Adverse weather conditions are forecasted within the next few days.

Hand application methods (e.g., backpack spraying) may be used in roadless areas or in rough terrain. Vehicle-mounted sprayers (e.g., handgun, boom, and injector) will be used mainly in open areas that are readily accessible by vehicle.

Herbicides will be transported and used in accordance with all manufacturer label recommendations and warnings.

Herbicide Spills and Cleanups

In the event of a spill, cleanup will be immediate. Contractors will keep spill kits in their vehicles to allow for quick and effective response to spills. Herbicide spills will be managed in accordance with the facility SPCC.

Herbicide Spill Reporting

In case of a spill into wetlands and waterbodies, the appropriate federal, state, and county agencies will be notified immediately. All herbicide spills equal to or greater than 200 pounds or 25 gallons of pesticide residue will be reported to the Oregon Emergency Response System in accordance with applicable laws and requirements (Oregon Administrative Rules 340-142-0050). The certificate holder will report these herbicide spills to ODOE by email within 72 hours with follow-up reporting as appropriate. Incidents will also be summarized in the annual operations report.

Special Considerations

Special consideration will be provided to perennial, intermittent, and ephemeral streams/draws during treatment activities. No herbicide will be sprayed where the drift can enter standing water. It will be the herbicide applicators' responsibility to ensure that no herbicide or drift enters standing water, regardless of the season when the herbicide is applied. Similar considerations will be made when in proximity to agricultural fields.

References

Becerra-Alvarez, A. (Editor). 2025. Pacific Northwest Weed Management Handbook [online]. Oregon State University Extension Communications. https://pnwhandbooks.org/weed

DiTomaso, J.M., G.B. Kyser, et al. 2013. Weed Control in Natural Areas in the Western United States. Weed Research and Information Center, University of California.

XX County

ODA (Oregon Department of Agriculture). 2025a. Noxious Weed Policy and Classification System. Noxious Weed Control Program. Salem, Oregon. https://www.oregon.gov/oda/Documents/Publications/Weeds/NoxiousWeedPolicyClassification.pdf.

ODA (Oregon Department of Agriculture). 2025b. Oregon Noxious Weed Profiles. https://www.oregon.gov/oda/weeds/oregon-noxious-weeds/Pages/default.aspx

Tu, M., C. Hurd, and J.M. Randall. 2001. Weed Control Methods Handbook: Tools & Techniques for Use in Natural Areas. The Nature Conservancy. Updated 2003. https://www.fs.usda.gov/database/feis/pdfs/weeds/methods_handbook.pdf

USEPA (U.S. Environmental Protection Agency. 2008. Integrated Vegetation Management Fact Sheet. USEPA, Office of Pesticide Programs. October 2008. https://www.epa.gov/sites/default/files/2016-03/documents/ivm_fact_sheet.pdf

Attachment D-1: Draft Habitat Mitigation Plan

Changes Recommended by ODOE Shown in Red Underline

Attachment D-1: Draft Habitat Mitigation Plan

Changes to Section 6.2.4 Recommended by ODOE Shown in Red Underline.

Carty Solar Farm

Draft Habitat Mitigation Plan

Carty Generating Station
Request for Amendment 4
October 2026

Prepared by



Portland General Electric Company

Table of Contents

1.0 Introduction 1
2.0 Finalization of the HMP (PRE-FW-01) 1
3.0 Habitat Categories and Habitat Types 3
4.0 Temporary and Permanent Impacts 4
5.0 Methods for Calculating Mitigation 5
6.0 Carty Solar Farm with Proposed RFA 4 Changes Habitat Mitigation Area 6
6.1 Habitat Assessment and Mitigation Accounting 7
6.2 Habitat Enhancement Actions 7
6.2.1 Restoration and Enhancement Actions in the Event of Fire 8
6.2.2 Noxious Weed Prevention, Inventory, and Control 8
6.2.3 Access Control 9
6.2.4 Shrub Planting 9
6.2.5 Annual Grass Treatment 10
6.2.6 Enhancing Pollinator Habitat 10
6.2.7 Provide Additional Raptor Nesting Opportunities 10
7.0 HMA Enhancement Monitoring 10
7.1 Monitoring Location Establishment 11
7.2 Photo Points 11
7.3 Vegetative Cover 11
7.4 Density 12
7.5 Weed Monitoring 12
8.0 Success Criteria 13
9.0 Data Reporting and Timeline 13
10.0 Amendment of the HMP 14
11.0 References 14

List of Tables

Table 1. Habitat Categorization Types 3
Table 2. Anticipated Temporary and Permanent Impacts by Habitat Category and Habitat Subtype . 4
Table 3. Calculating Mitigation for Permanent Impacts 5
Table 4. Calculating Mitigation for Temporary Impacts 6
Table 5. Recommended Noxious Weed Control Methods 9
Table 6. Cover Types 12
Table 7. HMA Schedule of Implementation and Monitoring 13

List of Figures

(to be provided during pre-construction finalization)

Figure 1. Habitat Mitigation Area

Figure 2. Sagebrush Planting and Photopoint Locations

List of Attachments

(to be provided during pre-construction finalization)

Attachment 1. Baseline Photo Monitoring

1.0 Introduction

This draft Habitat Mitigation Plan (HMP) was submitted by the Portland General Electric Company (PGE or Certificate Holder) for photovoltaic (PV) solar energy generation and battery storage (Carty Solar Farm with proposed Request for Amendment [RFA 4] changes) associated with the Carty Generating Station (CGS). CGS, owned and operated by PGE, is located within an approved site boundary comprising approximately 5,250 acres, approximately 13 miles southwest of Boardman in Morrow County, Oregon. CGS consists of the operating 450 megawatts (MW) natural gas-fueled combined-cycle unit (Unit 1). This HMP is specific to the Carty Solar Farm with proposed RFA 4 changes; the habitat mitigation area requirements for Unit 1 are contained in the Amended Wildlife and Habitat Monitoring and Mitigation Plan (WHMMP) developed for Unit 1.

Construction of the Carty Solar Farm with proposed RFA 4 changes is anticipated to commence in Q3 of 2027. PGE will own and operate the solar facility as a part of the CGS.

The Certificate Holder's goal is to preserve and maintain in-kind habitat in the Columbia Plateau Ecoregion to achieve a net benefit to Category 2 habitat, and no net loss of Category 3 or Category 4 habitat, through the measures described in this HMP.

2.0 Finalization of the HMP (PRE-FW-01)

Fish and Wildlife Habitat Condition PRE-FW-XX requires finalization of the draft HMP, stating the following:

> *Prior to construction of the solar facility, as applicable, the certificate holder shall submit a final Habitat Mitigation Plan substantially similar to Final Order on RFA4 Attachment X, based on the finalization requirements included in Section 2.0 of the plan. The final plan must be submitted for review and approval by the Department, in consultation with ODFW.*

This HMP must be finalized prior to construction of the Carty Solar Farm with proposed RFA 4 changes and will be amended prior to construction, if necessary. The HMP will be updated to include the estimated permanent habitat impacts associated with the facility, as applicable. Final review and approval of the HMP was delegated by Energy Facility Siting Council (EFSC) under Oregon Revised Statutes (ORS) 469.402 to the Oregon Department of Energy (ODOE). ODOE, in consultation with the Oregon Department of Fish and Wildlife (ODFW), will review the final HMP based on the following scope:

1. **Final habitat and impact assessment.** Based on final design/layout, update tabular summaries of temporary and permanent disturbance estimates (acres).
    a. Table 2. Temporary and Permanent Impacts by Habitat Category and Habitat Subtype,
    b. Table 3. Calculating Mitigation for Permanent Impacts; and
    c. Table 4. Calculating Mitigation for Temporary Impacts.

2. **Execute legal instrument.** PGE will obtain and submit to ODOE a copy of the conservation easement or legal instrument securing the Habitat Mitigation Area (HMA) for conservation purposes as outlined in this HMP:
    a. The term of the conservation easement or legal instrument will be for the life of the Carty Solar Farm with proposed RFA 4 changes.
    b. The terms of the conservation easement or legal instrument will be binding upon the landowner, heirs, or successors, and would run with the land if property is sold.
    c. The conservation easement or legal instrument will identify restricted uses that have the potential to diminish wildlife habitat functions and value, including but not limited to, grazing; grading, mowing, blading or expansion of impervious surfaces or access road networks; division of the property.
3. **Identify/map baseline condition/monitoring sites and enhancement action areas.** Map baseline habitat conditions of the HMA. Propose number and location of monitoring sites for noxious weeds and shrub-planting. Submit habitat mapping and monitoring site locations to ODOE and ODFW for review and approval.
    a. Provide baseline habitat maps, photographs, and maps/GIS data for proposed monitoring sites at the HMA with a description of the weed and vegetative cover.
        i. Baseline monitoring plot photo points within the HMA include 1) a minimum of 10 permanent photo points distributed across each Quarter Section (160 acres) to show general vegetation status throughout the HMA, and 2) additional photo points as needed to monitor success of noxious weed control and shrub-planting;
4. **Finalize enhancement actions and success criteria in Section 6.2.1, 6.2.2, and 6.2.3.** Based on the baseline assessment completed under Sub(3) above:
    a. Provide maps/GIS data of enhancement action locations.
    b. Determine sagebrush planting density.
    c. Finalize the success criteria for weed treatment and shrub planting.
        i. Success criteria for weed treatment must represent a percent increase in native vegetation cover and percent decrease in invasive cover at monitoring sites compared to baseline.
        ii. Shrub planting will be considered successful when shrub density in enhancement areas is 150 percent of existing sagebrush density within disturbance areas, as determined prior to construction.
    d. Propose restoration methods in the event of fire, which at a minimum include post-burn seeding and noxious weed control.
    e. ODOE and ODFW must evaluate whether the combined enhancement actions satisfy the Category 2 mitigation goal of a net benefit in habitat quality and the Category 3 and 4 mitigation goal of a no net loss of habitat quantity or quality. If the HMA has minimal need or opportunity for the enhancement actions as currently proposed, additional actions may be identified/required.
5. **Finalize Implementation Schedule.** Provide an implementation schedule for habitat enhancement actions and monitoring.

6. **Finalize Monitoring Protocols and Survey Methods.** Submit final proposed monitoring protocol and survey methods to monitor and evaluate the success of enhancement actions.

Approval of the final HMP will be based on review by ODOE, in consultation with ODFW, based on the adequacy of information provided to address the steps/requirements listed above.

3.0 Habitat Categories and Habitat Types

A habitat survey was conducted in 2023 to verify habitat subtypes and habitat categories of all areas to be affected by the Carty Solar Farm with proposed RFA 4 changes. The survey area covered approximately 1,213 acres. The ODFW Fish and Wildlife Habitat Mitigation Policy (Oregon Administrative Rules [OAR] 635-415-0025) provides a framework to categorize habitats based on type, quality, availability, and usefulness/importance to wildlife, and establishes mitigation goals and implementation standards for each. Table 1 defines each of the six habitat category types as presented in the ODFW Habitat Mitigation Policy.

Table 1. Habitat Categorization Types

Category Type	Definition[1]	Mitigation Goal
1	Irreplaceable, essential habitat for a fish or wildlife species, population, or a unique assemblage of species and is limited on either a physiographic province or site-specific basis, depending on the individual species, population or unique assemblage.	The mitigation goal for Category 1 habitat is no loss of either habitat quantity or quality.
2	Essential habitat for a fish or wildlife species, population, or unique assemblage of species and is limited either on a physiographic province or site-specific basis depending on the individual species, population, or unique assemblage.	The mitigation goal, if impacts are unavoidable, is no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality.
3	Essential habitat for fish and wildlife, or important habitat for fish and wildlife that is limited either on a physiographic province or site-specific basis, depending on the individual species or population.	The mitigation goal is no net loss of either habitat quantity or quality.
4	Important habitat for fish and wildlife species.	The mitigation goal is no net loss of either habitat quantity or quality.
5	Habitat for fish and wildlife having high potential to become either essential or important habitat.	The mitigation goal, if impacts are unavoidable, is to provide a net benefit in habitat quantity or quality.
6	Habitat that has low potential to become essential or important habitat for fish and wildlife.	The mitigation goal is to minimize impacts.

1. Source: OAR 635-415-0025.

4.0 Temporary and Permanent Impacts

Impacts may be permanent or temporary. Permanent impacts are defined as those impacts that will exist for the life of the Carty Solar Farm with proposed RFA 4 changes. Temporary impacts are those impacts that will last for a time less than the life of the Carty Solar Farm with proposed RFA 4 changes. The duration of temporary impacts to habitat will vary by habitat subtype. For example, grasslands generally recover within 3 to 7 years, and shrublands may require 10 to 50 years to recover (with the longer recovery periods associated with disturbances in mature sagebrush [*Artemisia* sp.] habitats). The Certificate Holder will restore temporary impacts consistent with the Vegetation and Soil Management Plan (VSMP; see Exhibit I, Attachment I-2 of RFA 4).

As described in Exhibit P of RFA 4, there are no impacts to Category 1 habitat within the Carty Solar Farm with proposed RFA 4 changes. Category 2 habitat occurs in the Solar Areas and will be impacted by the solar components (Table 2). Category 2 habitat within the Amended Site Boundary is associated with Washington ground squirrel (*Urocitellus washingtoni*; WGS) seasonal home range shift areas. A 1,500-meter buffer, including all suitable habitat, from the edge of Category 1 habitat areas was used to delineate Category 2 habitats, which is ODFW's typical recommendation. This recommendation from ODFW is based on the average dispersal distance of most WGS, and is the standard that ODFW has used on previous projects (ODFW 2019). Category 3, 4, 5, and 6 habitat will also be impacted by the Carty Solar Farm with proposed RFA 4 changes. Table 2 shows the acres of anticipated permanent and temporary impacts in each habitat category by habitat subtype for the Carty Solar Farm with proposed RFA 4 changes.

Table 2. Anticipated Temporary and Permanent Impacts by Habitat Category and Habitat Subtype

ODFW Habitat Category	Habitat Type	Disturbance (acres)	
		Temporary Impacts	Permanent Impacts
1	N/A	0	0
2[2]	Big Sage Shrubland	0.3	15.3
	Big Sage/Juniper Woodland	0.1	7.8
	Broom Snakeweed Shrubland	0.9	126.6
	Rabbitbrush Shrubland	2.5	5.2
	Category 2 Subtotal	**3.8**	**154.9**
3	Big Sage Shrubland	0	40.3
	Big Sage/Juniper Woodland	0	57.3
	Open Water[1]	0.3	0
	Riparian	0.8	4.9
	Category 3 Subtotal	**1.1**	**102.5**
4	Broom Snakeweed Shrubland	0.4	149.2
	Non-native Grassland	0.5	132.4
	Rabbitbrush Shrubland	8.4	151.9

ODFW Habitat Category	Habitat Type	Disturbance (acres)	
		Temporary Impacts	Permanent Impacts
	Category 4 Subtotal	**9.3**	**433.5**
5	N/A	0	0
6	Developed	29.3	169.1
	Category 6 Subtotal	**29.3**	**169.1**
	Total	**43.5**	**859.9**

[1] There are not any temporary disturbances in open water habitat types. The habitat mapping included the rip-rap shoreline on the eastern edge of Carty Reservoir as an open water habitat type. Refer to Exhibit J for detailed analysis of impacts on wetlands and waters.
[2] Note that all Category 2 habitat is classified as such due to WGS home range and none of the underlying habitat type has been classified as Category 2 on its own.

5.0 Methods for Calculating Mitigation

Carty Solar Farm with proposed RFA 4 changes impacts would result in a mitigation need of 854.8 acres, including 845.8 acres of mitigation for permanent impacts and 9.0 acres of mitigation for temporary impacts (Table 3 and Table 4).[1] The actual acres of temporary and permanent impacts and the associated mitigation requirements will be confirmed based on final design and again following construction. The Certificate Holder is not proposing compensatory mitigation under the ODFW Fish and Wildlife Habitat Mitigation Policy for impacts to Category 6 habitat.

Table 3. Calculating Mitigation for Permanent Impacts

Habitat Category	Impact Acres	Mitigation Ratio[1]	Mitigation Need	Mitigation Description
Category 2	154.9	2:1	309.8	The mitigation goal for Category 2 habitat is "no net loss" and "net benefit." Accordingly, mitigation for permanent impacts on Category 2 habitat needs to demonstrate a net benefit in quality or quantity.
Category 3	102.5	1:1	102.5	The mitigation goal for Category 3 habitat is "no net loss" in quantity or quality.
Category 4	433.5	1:1	433.5	The mitigation goal for Category 4 habitat is "no net loss" in quantity or quality.
Category 6	169.1	0:1	0	The mitigation goal for impacts on Category 6 habitat is minimization; no compensatory mitigation proposed.
Grand Total	**860.0**	**--**	**845.8**	--

1. Acres mitigation per acres impacted.
Note: Totals in this table may not sum correctly due to rounding.

[1] Temporary impacts result in temporal loss of habitat function and values from the time an impact occurs to the time when the restored habitat provides a pre-impact level of habitat function. Sagebrush steppe and riparian tree habitat subtypes are reasonably expected to require a longer restoration timeframe (5+ years) and therefore would be expected to result in temporal loss requiring compensatory mitigation beyond the Certificate Holder's revegetation obligation.

Table 4. Calculating Mitigation for Temporary Impacts

Habitat Category	Impact Acres	Mitigation Ratio[1]	Mitigation Need	Mitigation Description
Category 2	3.8	1:1	3.8	The mitigation goal for Category 2 habitat is "no net loss" and "net benefit." Accordingly, mitigation for permanent impacts on Category 2 habitat needs to demonstrate a net benefit in quality or quantity.
Category 3	1.1	0.5:1	.5	The mitigation goal for Category 3 habitat is "no net loss" in quantity or quality.
Category 4	9.3	0.5:1	4.7	The mitigation goal for Category 4 habitat is "no net loss" in quantity or quality.
Category 6	29.3	0:1	0	The mitigation goal for impacts on Category 6 habitat is minimization; no compensatory mitigation proposed.
Grand Total	**43.5**	**--**	**9.0**	--

1. Acres mitigation per acres impacted.
Note: Totals in this table may not sum correctly due to rounding.

6.0 Carty Solar Farm with Proposed RFA 4 Changes Habitat Mitigation Area

The HMA is the area where the Certificate Holder is proposing to perform enhancement and preservation actions that are in addition to the revegetation of areas of temporary disturbance associated with the Carty Solar Farm with proposed RFA 4 changes. The HMA must be large enough and have the characteristics to meet the standards set in OAR 635-415-0025.

According to ODFW standards, areas appropriate for mitigation of Category 2 habitat impacts must provide "in-kind" mitigation that creates similar structure and function to that being disturbed, be "in-proximity" to the Carty Solar Farm with proposed RFA 4 changes, and have potential for habitat enhancement. The mitigation goal for Category 3 habitat is "no net loss" in quantity or quality and mitigation for impacts to Category 4 habitat may be "in-kind" or "out-of-kind" and "in-proximity" or "out-of-proximity."

The Certificate Holder identified 880 acres of suitable in-kind and in-proximity habitat with potential for habitat enhancement for the HMA located within a PGE-owned natural habitat area adjacent to the Carty Generating Facility to fulfill the mitigation need for the Carty Solar Farm with proposed RFA 4 changes (Figure 1). The identified area is larger than its mitigation need to allow for flexibility during final design, construction, and management of the HMA. ODOE and ODFW previously approved the identified 880-acre natural habitat area for solar mitigation in the Second Amended WHMMP, providing assurance that the mitigation goals of "in-kind" and "in-proximity" can be met.

6.1 Habitat Assessment and Mitigation Accounting

The 880 acres of suitable in-kind and in-proximity habitat within the PGE-owned natural habitat area (Figure 1) adjoins two other HMA easements and a large conservation area maintained by The Nature Conservancy (South Farm Conservation Area; Figure 1). The proposed Carty Solar HMA is located in Section 26, T3N R24E tax lot 101 and the eastern half of Section 35, T3N R24E, tax lot 113. Final location of the HMA for the Carty Solar Farm with proposed RFA 4 changes will be delineated in coordination with ODFW prior to construction, once final design layout and mitigation acreage is determined.

Habitat mapped within the HMA includes rabbitbrush shrubland and broom snakeweed shrubland (Figure 1). The HMA is dominated by Sandberg's bluegrass (*Poa secunda*), bluebunch wheatgrass (*Pseudoroegneria spicata*), and intermittent areas of needle-and-thread grass (*Hesperostipa comata*), as well as cheatgrass (*Bromus tectorum*). There are also occasional occurrences of green rabbitbrush (*Chrysothamnus viscidiflorus*), gray rabbitbrush (*Ericameria nauseosa*), big sagebrush (*Artemisia tridentata*), antelope bitterbrush (*Purshia* tridentata), fiddleneck (*Amsinckia menziesii*), Carey's balsamroot (*Balsamorhiza careyana*), and yarrow (*Achillea millefolium*).

The HMA is mostly within a Priority Wildlife Connectivity Area (PWCA) connector (ODFW 2026)[2], and considered Category 2 habitat by ODFW. The HMA also contains Category 2 habitat associated with active WGS colonies that are immediately adjacent to the HMA. Historically, PGE has documented active WGS colonies throughout the HMA area, suggesting much of the habitat is suitable for WGS occupancy.

The Certificate Holder plans to mitigate for the habitats impacted by placing a conservation easement on the appropriate acreage and by providing habitat uplift through the habitat enhancement and monitoring activities described below.

6.2 Habitat Enhancement Actions

The objectives of habitat enhancement and restoration are to protect habitat within the HMA from degradation and improve the habitat quality of the HMA. The Certificate Holder shall initiate habitat enhancement actions for the Carty Solar Farm with proposed RFA 4 changes before beginning operation. The Certificate Holder shall restrict uses of the HMA that are inconsistent with the goal of no net loss and net benefit of Category 2 habitat and no net loss of Category 3 and 4 habitats, as designated in the conservation easement. The Certificate Holder shall implement habitat enhancement actions as described in this HMP and as specified in the Site Certificate. Enhancement actions and monitoring procedures are detailed below, as finalized in this HMP prior to

[2] The Oregon Conservation Strategy (ODFW 2026) defines PWCA "regions" as the combined top one percent of connectivity priorities across all 54 Oregon Connectivity Assessment and Mapping Project (OCAMP) species' connectivity models. Regions are large, contiguous areas and represent the highest-value habitat for facilitating species movement throughout the state. PWCA "connectors" are described as pathways that provide the best available habitat for facilitating movement between regions. Connectors may pass through high-quality habitat in intact, relatively undisturbed parts of the landscape, as well as the best remaining marginal habitat in developed or degraded areas.

construction. Besides legal protection to ensure no development, enhancement actions for the HMA include those detailed in the following subsections.

6.2.1 Restoration and Enhancement Actions in the Event of Fire

The following actions will be implemented at the HMA if the site is damaged from fire or fire suppression efforts (e.g., vehicular disturbance or chemical application):

1. GIS mapping of fire scar, fire lines, and/or chemical disturbance areas.
2. Photopoint monitoring at all established monitoring points.
3. Assessment of fire severity and native vegetation damage to inform restoration needs.
4. Invasive annual grass surveys will be performed in fall and early spring for a minimum of two years after the fire. Noxious weed surveys will be performed according to HMP noxious weed survey requirements.
5. Annual grass treatments as needed (pre- and/or post-seeding) as native vegetation establishes, especially during the first two growing seasons.
6. Noxious and nuisance weed treatments as needed until noxious weeds are controlled at pre-fire levels.
7. Seeding where warranted during the first seeding window following the fire (based on timing of fire and climatic conditions but likely September–November) using an appropriate native bunchgrass seed mix at a drill seeding rate of 8–10 pounds pure live seed per acre. Appropriate seeding method will be determined based on the size and severity of the disturbance area and presence of WGS colonies. Seeding methods may include drill seeding or broadcast seeding (hand, ATV with harrow, and/or aerial). Low intensity fire is often beneficial to native vegetation and may not require reseeding.
8. Sagebrush will be planted to replace burned sagebrush stands to pre-fire conditions.
9. Secondary seeding of native forbs, as needed, after native grasses have reestablished. Need for forb seeding will be determined based on the presence/absence and diversity of forbs naturally established in the burn area.

6.2.2 Noxious Weed Prevention, Inventory, and Control

Weeds will be controlled as needed to maintain and enhance habitat quality within the mitigation area, with the goal of working toward eradication of targeted noxious weeds or, if eradication is not practical, decreasing their abundance to minimize impacts on native plant communities. Weeds known to occur within the HMA include rush skeletonweed (*Chondrilla juncea*), knapweed (*Centaurea* spp.), and yellow starthistle (*Centaurea solstitialis*). Recommended control methods are provided in Table 5. The Certificate Holder shall obtain ODFW's approval prior to the use of pesticides. Controlling weeds in the HMA should promote growth of native vegetation.

Table 5. Recommended Noxious Weed Control Methods

Scientific Name	Common Name	Recommended Treatment
Centaurea sp.	knapweed	Mechanical: Manually remove entire plant, including taproot, prior to flowering. Chemical: Apply to actively growing plants in fall or spring from rosette to bolting stage. Biocontrol: Agents include several seed feeding flies and weevils and a root-boring beetle.
Centaurea solstitialis	yellow starthistle	Mechanical: Manually remove entire plant including taproot. Chemical: Post-emergent herbicide application to rapidly growing plants prior to flowering (rosette to bolting stage). Biocontrol: Agents include two seed weevils, a seed fly, and a rust.
Chondrilla juncea	rush skeletonweed	Mechanical: Regenerates from root fragments. Manually remove entire plant, including taproot, prior to flowering. Will require multiple efforts during the growing season for more than one year. Chemical: Apply to rosettes in spring immediately before or during bolting. Biocontrol: Agents include a gall midge, gall mite, rust fungus, and root-mining moth.
Sources: DiTomaso et al. 2013: ODA 2025; Prather et al. 2019.		

6.2.3 Access Control

The Certificate Holder will monitor and control access to the HMA and will post informative signs depicting the area(s) as "protected" and will include natural resources information as appropriate for the life of the facility. Primary access to the PGE property is controlled by a gate off Tower Road north of the CGS (currently used by PGE and The Nature Conservancy), the gated entrance to the former Boardman Coal Plant area, and a gated road from Ione to the south. The Nature Conservancy and Three Mile Canyon Farms may occasionally use the two-track access crossing PGE's property to access the Farm's conservation area. Approved access to the HMA is currently limited to such occasional approved use of access roads and PGE's general operational needs. No livestock grazing is currently occurring within the HMA, and grazing will be a restricted use identified in the conservation easement, as established in Section 2.0 of this HMP. Periodic monitoring will be conducted to evaluate the effectiveness of access control measures and signage maintenance needs.

6.2.4 Shrub Planting

To mitigate for temporal and permanent impacts to Category 2, 3, and 4 sagebrush habitat, the Certificate Holder will plant sagebrush and/or bitterbrush seedlings in the Carty Solar Farm HMA focusing on enhancing and expanding remnant stands of shrubs that were impacted by past wildfires. Planting density will be determined in this HMP prior to construction.

6.2.5 Annual Grass Treatment

The Certificate Holder will treat the entire HMA with a pre-emergent herbicide such as Rejuvra to control invasive annual grasses during the first year after construction. Additional pre-emergent or post-emergent broadcast or spot herbicide applications will be conducted as necessary to control annual grasses prior to seeding or planting. The timing of sagebrush planting and pollinator habitat enhancement will depend on the timing and efficacy of invasive annual grass control.

6.2.6 Enhancing Pollinator Habitat

Many native forb species that provide pollinator habitat are well established throughout the HMA and are expected to increase after invasive annual grasses are controlled. If vegetation monitoring does not demonstrate an increase in native forb cover within 3 to 5 years of annual grass treatment, then the Certificate Holder will seed native forbs to enhance pollinator habitat as necessary to meet success criteria. The location of pollinator habitat enhancement will be determined, if necessary, after 3 to 5 years of monitoring.

6.2.7 Provide Additional Raptor Nesting Opportunities

As recommended by ODFW, to mitigate for removal of juniper trees and potential raptor nesting sites in the Carty Solar Farm with proposed RFA 4 changes permanent footprint, the certificate holder may plant juniper trees and/or create other artificial nesting opportunities for raptors within the Carty Solar HMA. Based on the final construction impacts to juniper trees, the exact location(s), type of structures, monitoring and performance criteria will be finalized through consultation with ODFW. Mitigation measures will be finalized in this HMP prior to construction.

7.0 HMA Enhancement Monitoring

The Certificate Holder will use a qualified investigator (botanist, wildlife biologist, or revegetation specialist) to conduct monitoring at the HMA. The purpose of this monitoring is to evaluate, on an ongoing basis, the protection of habitat quality and the results of enhancement actions. Final monitoring methods are presented below for ODOE concurrence. The vegetation monitoring methods for cover and density, including fixed radius plots and Daubenmire cover scale, were recommended and reviewed by Tim Walters of Haley Aldrich as the consulting botanist for ODOE in May 2026.

The investigator will visit the HMA during the growing season for the first 5 years post planting/weed treatment. If success is achieved at year 5, monitoring may be reduced to every fifth year thereafter (in years divisible by 5, unless otherwise specified for specific measures) for the life of the Facility. Monitoring shall include an assessment of the following:

1. General quality of vegetation cover (dominant species, structural stage, etc.), as determined by ocular estimates, measurements, and photo points;

2. Success of weed control efforts;
3. Sagebrush density in enhancement areas;
4. Success of remedial actions to restore habitat quality in damaged areas (such as managed weed infestations, fire damage, and any necessary seeding/planting areas), as determined by vegetation cover (ocular estimate) and photo points;
5. Incidental wildlife occurring within the HMA;
6. Environmental factors found on site during monitoring activities and annual precipitation records;
7. Surveys of resident special status wildlife species (WGS) that have been documented during previous monitoring or survey efforts within the HMA, using existing protocols approved by ODFW; and
8. Avian point counts during the breeding season at existing point count stations, formerly monitored under the Boardman Plant Ecological Monitoring Program, in the vicinity of the HMA(s). Six additional point-count stations are located in the immediate vicinity of the proposed Carty Solar HMA.

7.1 Monitoring Location Establishment

Monitoring locations will be established using the following methods after determining the final mitigation acreage and enhancement actions. Each half of each Quarter Section of the HMA will be divided into four quadrants (NW, NE, SW, SE). The monitoring location within each quadrant (photo point and fixed radius plot) will be randomly generated using the ESRI ArcGIS Pro Create Random Points tool. If a point is located within 100 feet of the proposed HMA boundary or is located within line of sight of another monitoring location, an alternate randomly generated location will be used. The fifth monitoring location will be placed at the centroid (C) of the four quadrants. This will result in a minimum of 10 monitoring locations within each Quarter Section of the HMA. All monitoring locations will be monumented with a t-post and survey nail. Additional monitoring locations to monitor weed infestations and shrub planting success will be established as needed.

7.2 Photo Points

At each monitoring location , a photo will be taken in each of the four cardinal directions.

7.3 Vegetative Cover

To determine vegetative cover, measurements will be made using 100 meter squared (m^2, 0.025 acre) fixed radius plots at the established monitoring locations. Each plot will be sampled using a 5.64-meter radius string secured around the t-post located at the center of the monitoring plot. Within each plot, percent cover measurements of cover types described in Table 6 will be recorded using the Daubenmire cover scale modified by Bailey and Poulton to account for the presence of small forbs commonly found in grasslands (Bonham 2013). The Class midpoints are then averaged for each plot to estimate the percent cover for each cover type. To ensure consistency

during classification, a botanist will perform an initial plant species inventory of the HMA, categorizing all species as desirable, undesirable, or noxious.

Table 6. Cover Types

Cover Type	Description
Desirable grasses	Seeded or naturally recruited native and desirable non-native herbaceous grasses.
Desirable forbs	Seeded or naturally recruited native and desirable non-native herbaceous forbs.
Shrubs	Species such as rabbitbrush (*Chrysothamnus* sp.) and big sagebrush (*Artemisia tridentata*).
Undesirable species	Invasive, non-native species not found on ODA or county A, B, and T noxious weeds lists, such as cheatgrass (*Bromus tectorum*) and Russian thistle (*Salsola tragus*).
Noxious weeds	Species found on the ODA and/or county A, B, and T noxious weed lists.
Litter/mulch	Natural litter layer or mulch from hydroseeding.
Rock	Gravel, cobble, boulders, and bedrock.
Bare ground	Exposed soil with no litter or vegetation.

7.4 Density

Due to the patchy and uneven distribution of shrub and weed species throughout the HMA, density will be used to help determine success of shrub plantings and noxious weed management at monitoring locations. Measurements will be made using 100 m^2 fixed radius plots at each shrub and weed infestation monitoring point. Each plot will be sampled by using a 5.64-meter radius string secured around the t-post located at the center of the monitoring plot. Occasionally, a scaled-down radius may be used for dense populations. Noxious weed species densities will be assessed at the established monitoring locations and at all weed infestation monitoring locations. Shrub density will be collected at monitoring locations within delineated shrub planting areas and only for planted species, such as big sagebrush. Shrub monitoring locations will be set up at a subset of sagebrush planting clusters throughout the shrub planting area.

For species density measurements, every plant species of interest that is rooted within the circular 100 m^2 plot will be counted. Larger plants that are on the line will be included if the majority of their stem is within the plot. The total number of individuals per acre will then be calculated by multiplying the density count per 100 m^2 by 40.4686.

7.5 Weed Monitoring

Annual noxious weed inventories will be conducted within the HMA during construction and in preparation for sagebrush planting, then every year for the first 5 years following implementation of initial enhancement. Noxious weed monitoring will be conducted every fifth year thereafter (in years divisible by 5) for the life of the Facility, concurrent with WGS monitoring. Control and monitoring of specific noxious weed occurrences will be conducted more frequently (at least every 2 years) in areas prioritized based on the 5-year monitoring results. Weed monitoring will identify

new noxious weed occurrences, the status of existing occurrences, and the progress of weed control efforts in eradicating or reducing populations. Weed inventories will be conducted on foot. Detailed information on noxious weed occurrences will be collected, including but not limited to, species, location, growth form, number of individuals, and density. In addition, the surveyor will identify potential weed control strategies for each occurrence, as well as constraints that could limit the effectiveness of weed control efforts.

Results from the surveys will be incorporated into a GIS database and provided to ODOE with the Monitoring Report. Weed occurrences will also be photographed over time to document progress of weed control efforts.

8.0 Success Criteria

Enhancement actions will be assessed using the following success criteria:

- **Native and Invasive Vegetative Cover -** Decrease in invasive plant cover and increase in native/desirable plant cover at monitoring sites compared to baseline.
- **Sagebrush -** Sagebrush density in enhancement areas is 150 percent of pre-construction shrub density at the Facility 5 years after planting.

9.0 Data Reporting and Timeline

The Certificate Holder will submit a report including wildlife and habitat monitoring data and analysis to ODOE and ODFW during each monitoring year according to the schedule in Table 7. The Certificate Holder will notify the U.S. Fish and Wildlife Service and ODFW within one business day if any federal or state endangered or threatened species are killed or injured within the HMA. The Certificate Holder may include the reporting of wildlife monitoring data and analysis in the report required under OAR 345-026-0080 or submit this information as a separate document concurrently with the submittal of the report. In addition, the Certificate Holder will provide ODOE with any data or record generated by the investigators in carrying out this Plan upon request by ODOE.

Table 7. HMA Schedule of Implementation and Monitoring

Task	Schedule
Baseline Monitoring	During the first year of construction.
General Monitoring	Every year for the first 5 years post planting/weed treatment. If success is achieved at year 5, monitoring may be reduced to every fifth year (in years divisible by 5) thereafter for the life of the Facility.
Washington Ground Squirrel Monitoring	During the first, third, and fifth years after construction of the Carty Solar Farm with proposed RFA 4 changes, and every fifth year (in years divisible by 5) thereafter for the life of the facility.

Task	Schedule
Raptor Nest Monitoring	In accordance with WHMMP.
Additional Raptor Nest Opportunities	Annually for a period of 5 years, and every fifth year (in years divisible by 5) thereafter for the life of the facility.
General Weed Inventory, Control and Monitoring	During construction and in preparation for sagebrush planting, then every year for the first 5 years following implementation of initial enhancement. Long-term monitoring will be conducted every fifth year thereafter (in years divisible by 5) for the life of the Facility, concurrent with Washington ground squirrel monitoring. Control and monitoring of specific noxious weed occurrences will be conducted more frequently (at least every 2 years) in areas prioritized based on the 5-year monitoring results.
Annual Grass Treatment	Initial treatment during construction, in preparation for sagebrush planting, with follow up spot applications as necessary.
Shrub Planting	Fall of the first year of operations or one year after initial annual grass planting.
Sagebrush Habitat Monitoring	Every year for the first 5 years following implementation of initial enhancement and then every fifth year (in years divisible by 5) thereafter for the life of the facility.
Pollinator Habitat Enhancement	Native forbs will be seeded or planted to enhance pollinator habitat if vegetation monitoring does not demonstrate an increase in native forb cover within 5 years of annual grass treatment.

10.0 Amendment of the HMP

This HMP may be amended from time to time by agreement of the Certificate Holder and EFSC, or ODOE, acting within its delegated authority of EFSC under ORS 469.402. Such amendments may be made without amendment of the site certificate. EFSC authorizes ODOE to agree to amendments to this HMP. ODOE shall notify EFSC of all amendments, and EFSC retains the authority to approve, reject, or modify any amendment of this plan agreed to by ODOE.

11.0 References

Bonham, C. 2013. *Measurements for Terrestrial Vegetation, 2nd Edition*. Wiley. 272 p.

DiTomaso, J.M., G.B. Kyser, S.R. Oneto, R.G. Wilson, S.B. Orloff, L.W. Anderson, S.D. Wright, J.A. Roncoroni, T.L. Miller, T.S. Prather, C. Ransom, K.G. Beck, C. Duncan, K.A. Wilson, and J.J. Mann. 2013. Weed Control in Natural Areas in the Western United States. Weed Research and Information Center, University of California. 544 pp.

ODA (Oregon Department of Agriculture). 2025. Oregon Noxious Weed Profiles. Noxious Weed Control Program. https://www.oregon.gov/oda/weeds/oregon-noxious-weeds/Pages/default.aspx.

ODFW (Oregon Department of Fish and Wildlife). 2019. WGS Protections and Survey Requirements. https://www.dfw.state.or.us/habitat/docs/WGS%20Protections%20and%20Survey%20requirements%2010-15-19.pdf

ODFW. 2026. Priority Wildlife Connectivity Areas. https://oregonconservationstrategy.org/success-story/priority-wildlife-connectivity-areas-pwcas/.

Prather, T., T. Miller, A. Hulting, and E. Peachey. 2019. Control of Problem Weeds. In: Peachey, E. editor. Pacific Northwest Weed Management Handbook. Oregon State University. Corvallis, OR. P. Y-1 to Y-58.

Figures

(to be provided during pre-construction finalization)

Attachments

(to be provided during pre-construction finalization)

Attachment D-2: Draft Amended Wildlife Habitat Monitoring and Mitigation Plan

Attachment D-2: Draft Amended Wildlife Habitat Monitoring and Mitigation Plan

Carty Generating Station: Amended Wildlife and Habitat Monitoring and Mitigation Plan[1]

December 14, 2018[2], February 23, 2021[3], October 26, 2026[4]

I. INTRODUCTION

The Carty Generating Station includes existing generating components (Unit 1 and its associated components and existing components originally approved under the Boardman Coal Plant site certificate) and approved, but not yet constructed generating components (Carty Solar Farm and its associated components and new components proposed in the Second and Fourth Amended site certificate). Portland General Electric (PGE or certificate holder) received a site certificate from the Energy Facility Siting Council (Council) in June 2012 authorizing the construction and operation of a 900 megawatt (MW) combined-cycle natural gas-fueled energy generating facility in Boardman, Oregon in Morrow County (Carty Generating Station). The Council's 2012 approval authorized construction and operation of two 450-MW combined-cycle natural gas-fueled turbine generators (Unit 1 and Unit 2). PGE commenced Unit 1 construction on January 9, 2014; PGE completed Unit 1 construction on December 26, 2016; Unit 1 began operation on July 29, 2016. The construction commencement deadline for Unit 2 expired in June 2017 and therefore the certificate holder no longer has the authority to construct or operate Unit 2.

The Council issued the First Amended site certificate on December 14, 2018, authorizing a site boundary change and the construction and operation of a 50 MW photovoltaic solar unit, five 34.5 kilovolt (kV) interconnecting transmission line routing options, and temporary construction and laydown areas (Carty Solar Farm). The construction commencement and completion deadlines for the components authorized in the First Amended site certificate are February 4, 2022, and February 4, 2025, respectively. The Council issued the Second Amended site certificate on November 19, 2020- authorizing a boundary change; construction and operation of a new substation and associated distribution lines, septic system, backup water pipeline, wastewater pipeline, office/warehouse building, and security guard station; and incorporation of existing facilities that had been permitted under the Boardman Coal Plant site certificate including Carty Reservoir, existing transmission infrastructure, and interconnecting water pipelines. The construction commencement and completion deadlines for the components authorized in the Second Amended site certificate are December 9, 2023, and December 9, 2026 respectively. The Council issued the Third Amended site certificate on July 22, 2022, authorizing the certificate holder to extend the construction commencement and completion deadlines for the components authorized with the first amendment. The construction commencement and completion deadlines authorized in the Third Amended site certificate are February 4, 2025, and February 4, 2028, respectively. The 50-MW Carty Solar Farm was not constructed before the construction commencement date and therefore is no longer authorized to

[1] This Amended Plan is incorporated by reference in the site certificate for the Carty Generating Station and must be understood in that context. It is not a "stand-alone" document. This plan does not contain all mitigation required of the certificate holder.

[2] A draft version of this plan was included as Exhibit 1 to the Energy Facility Siting Council's *Final Order on the Carty Generating Station Application for Site Certificate* (June 29, 2012). In accordance with Site Certificate Condition 10.1, the certificate holder consulted with the Oregon Department of Fish and Wildlife (ODFW) and obtained Department approval of the Plan prior to the start of construction (December 2013). As allowed by Section IX of the Plan, ODOE reviewed and approved an amended Plan on July 7, 2014. ~~This~~ The February 2018 amended plan ~~is being~~was submitted as part of the Request for Amendment No. 1 of the Carty Generating Station Site Certificate.

[3] Minor Plan updates were made to reference additional facilities within Morrow and Gilliam Counties included in the Second Amended site certificate.

[4] Minor Plan updates were made to reference changes to the Carty Solar Farm proposed in RFA 4.

be constructed.

The certificate holder submitted a Request for Amendment 4 (RFA 4) to the Site Certificate. In RFA 4, the certificate holder proposed to add a Carty Solar Farm with approximately 200 MW by expanding into areas formerly used for PGE's Boardman Coal Plant (BCP) and maximizing the buildable area southeast of Carty Reservoir. As part of RFA 4, the certificate holder proposed the addition of battery energy storage systems (BESS) to the Carty Generating Station.

This Amended Wildlife and Habitat Monitoring and Mitigation Plan (Amended Plan) describes wildlife monitoring and habitat mitigation that the certificate holder shall conduct during construction and operation of the Carty Generating Station (facility), including the already constructed Carty Unit 1; Grassland Switchyard; the transmission line segment connecting Unit 1 to the switchyard; ~~additional facilities as approved under Site Certificate Amendment 1, including the Carty Solar Farm site just southeast of Carty Reservoir and the associated interconnection transmission line; and~~additional facilities as approved under the Second Amended site certificate; and any wildlife monitoring required for the Carty Solar Farm proposed in RFA4. A separate Habitat Mitigation Plan (HMP) has been prepared for the Carty Solar Farm Habitat Mitigation Area (HMA) proposed in RFA 4. The monitoring objectives are to determine whether the facility causes significant fatalities of wildlife species or results in a loss of habitat quality.

This Amended Plan also describes methods and standards for preservation and enhancement of land near the Carty Generating Station to mitigate for impacts of the Carty Unit 1 facility on wildlife habitat and addresses mitigation for both the permanent impacts of facility components and the temporal impacts of Unit 1 facility construction. The certificate holder has prepared a separate HMP specific to the permanent and temporal construction impacts of the Carty Solar Farm proposed in RFA 4. The certificate holder shall protect and enhance the Unit 1 mitigation area~~(s)~~ as described herein. This Amended Plan specifies habitat enhancement actions and monitoring procedures to evaluate the success of those actions. Remedial action may be necessary if the mitigation area(s) do not demonstrate progress toward habitat enhancement success.

II. DESCRIPTION OF THE FACILITY

The Carty Generating Station Site is located in Morrow and Gilliam Counties, Oregon, approximately 13 miles southwest of the town of Boardman, Oregon. The facility includes two transmission lines: one 500 kV line that extends west from the Grassland Switchyard 17 miles to the Slatt Substation and one 230 kV line that extends approximately 17 miles northwest to the Dalreed Substation. There is no proposed disturbance associated with the existing transmission lines. All proposed disturbance is within Morrow County. The facility would be located on an upland plateau at an elevation of approximately 650 feet above sea level. The facility components would be located entirely on private lands that are mostly characterized as shrub-steppe, grassland, developed or agricultural areas. There are some riparian and wetlands habitats present within the amended site boundary.~~; however, all~~ All new facility components will be sited to avoid impacts on ~~these habitats~~wetlands; there may be minor impacts to riparian habitats. Soil types in the area consist primarily of sandy loam, silt loam, and very stony loam.

Much of the native shrub-steppe vegetation within the site boundary has been modified by livestock grazing and past wildfires. Functional mature shrub-steppe habitat is patchy and is dominated by big sagebrush (*Artemisia tridentata*), broom snakeweed (*Gutierrezia sarothrae*), bluebunch wheatgrass (*Pseudoroegneria spicata*), cheatgrass (*Bromus tectorum*), gray rabbitbrush (*Ericameria nauseosa*~~us~~), needle-and-thread grass (*Hesperostipa comata)*, and Sandberg's bluegrass *(Poa secunda)*. Grasslands consist of cheatgrass, crested wheatgrass (*Agropyron cristatum*), bulbous bluegrass (*Poa bulbosa*), bluebunch wheatgrass, needle-and-thread grass, Sandberg's bluegrass, redstem filaree (*Erodium cicutarium*), and mouse-ear chickweed (*Cerastium* sp.). Additional species found within the site

boundary include yarrow (*Achillea millefolium*), yellow sweet clover (*Melilotus officinalis*), balsam root (*Balsamorhiza* sp.), tall tumble mustard (*Sisymbrium altissimum*), Western juniper (*Juniperus occidentalis*), and black cottonwood (*Populous trichocarpa*). Riparian forests are dominated by Russian olive (*Elaeagnus angustifolia*), Pacific willow (*Salix lucida ssp*.), Canada goldenrod (*Solidago canadensis*), amaranth (*Amaranthus* sp.), and broadleaf cattail (*typha latifolia*). Wetland areas associated with Sixmile Canyon not only contain similar riparian vegetation found around the reservoir; these areas also contain wetland plants such as common reed (*Phragmites australis*).

The Oregon Department of Fish and Wildlife (ODFW) describes habitat categories in its Wildlife Habitat Mitigation Policy (Oregon Administrative Rules [OAR] 635-415-0025). The facility will be constructed in two phases, with the generating components referred to as Unit 1 and the Carty Solar Farm. Unit 1 (generating unit and a portion of the switchyard), completed in 2016, occupies approximately 45 acres of Category 4 shrub-steppe habitat, and temporary construction-related impacts occurred on approximately 55.4 acres of Category 4 shrub-steppe habitat. Portland General Electric Company (PGE) established a Habitat Mitigation Area (HMA) of 78 acres (the HMA for Unit 1) to mitigate these permanent and temporal impacts.

~~PGE will establish the HMA for the Carty Solar Farm to mitigate permanent and temporal impacts that result from construction of the Carty Solar Farm.~~ The ~~overall~~ HMA described in this Amended WHMMP is specific for the Carty Generating Station, Unit 1. ~~(the Carty Generating Station HMA, or just HMA in this document) will consist of the combined areas of the HMA for Unit 1 and the HMA for the Carty Solar Farm. Disturbance and mitigation acreage for the Carty Solar Farm will be finalized and updated in this Amended Plan in consultation with ODFW and the Oregon Department of Energy (ODOE) prior to construction of each phase of the project (see Section IV for HMA acreage calculation).~~

In addition ~~to these two construction phases~~to the Unit 1 construction phase, minor construction activities will occur as a result of the Second Amended site certificate, which includes a new substation and associated distribution lines, septic system, new back up water pipeline, wastewater pipeline, new security guard station and associated plumbing and communication lines, and new office/warehouse building. Only the new septic system, new wastewater pipeline, and new security guard station and associated plumbing and communication lines would be constructed in vegetated areas with a total temporary disturbance of approximately 2.15 acres and permanent disturbance of 1.45 acre (estimated at the time of the Second Amendment). The ~~existing habitat management area (HMA)~~HMA for Unit 1 is large enough to accommodate this additional disturbance; therefore, no new HMA is proposed to account for the additional mitigation associated with the Second Amended site certificate.

III. WILDLIFE MITIGATION AND MONITORING MEASURES

The certificate holder shall use a qualified investigator (wildlife biologist) to conduct monitoring for Washington ground squirrel (WGS; *Spermophilus washingtoni*), ~~post-construction avian and bat mortality study,~~ raptor nest surveys, and avian use of the facility area. Specific monitoring and mitigation measures for these species are described below (also see Section VII for Unit 1 HMA monitoring requirements):

A. Washington Ground Squirrel

Best Management Practices

- The certificate holder shall impose and enforce a construction and operation speed limit of 20 miles-per-hour throughout the facility site and, during the active squirrel season (February 1 through June 30) a speed limit of 10 miles-per-hour on private roads near known WGS colonies.

- Conduct Environmental Awareness Training for all facility personnel and construction contractors prior to the beginning of construction or before entering the Project right-of-way (ROW). The training program shall discuss WGS and all other environmental issues related to the facility and ~~include handouts with WGS identification information and~~ reporting procedures. Smaller training sessions shall be conducted as needed for personnel that start after the beginning of construction.
- In order to discourage WGS from moving into planned construction areas that are currently not within 785 feet of a known WGS colony the certificate holder may disc or till a minimum of an 800-foot buffer within the perimeter of the planned ground disturbance areas in closest proximity to squirrel activity areas. Proposed measures and areas where measures will be implemented shall be reviewed by ODOE, in consultation with ODFW, and shall be informed by the most recent WGS survey data. If the certificate holder discs or tills areas, the certificate holder shall plant dryland wheat or another sterile cover crop approved by ODFW in tilled areas. Such areas shall be tilled annually until construction begins to maintain a soil disturbance regime that is unsuitable for use by WGS. Other potential measures for deterring WGS movement into planned construction areas, such as installation of perimeter silt fences, will be planned in coordination with and approved by ODFW. In addition to preventing WGS from moving into the planned construction areas, discing or tilling the planned construction area, and/or implementing other approved deterrence measures, means the area will no longer be considered WGS habitat and would not be included in the no-impact buffer area for any new WGS burrows that are established within 785 feet of the Facility Site Boundary. (Note, an approximately 45-acre portion of the Energy Facility Site was tilled and planted with winter wheat in December 2012 following coordination with ODFW and USFWS).
- If pre-construction surveys determine that WGS burrows have been established in previously inactive areas, the certificate holder shall immediately report to ODOE and ODFW. The certificate holder shall coordinate with ODOE and ODFW to establish additional mitigation measures or to obtain an Incidental Take Permit, as appropriate.
- The certificate holder will consult with ODOE and ODFW to discuss the situation and potential additional avoidance measures should WGS establish burrows within 785 feet of existing facilities, construction activity, or planned construction disturbance areas. If there is concern that, despite reasonable avoidance measures, WGS may accidently be killed or injured by construction activities, then the certificate holder shall work with ODFW to obtain an Incidental Take permit, as appropriate.

WGS Monitoring

The certificate holder shall conduct post-construction surveys on known colonies within the amended Site Boundary, on land owned by the certificate holder, ~~and~~ within the Unit 1 and Solar HMAs, and where known active burrows were recorded during pre-construction field surveys. The surveys shall be led by a qualified wildlife biologist with WGS survey experience leading a survey crew experienced in biological surveys and confirmed ability to identify WGS burrows and hear WGS calls. Surveys will be conducted in year one, year three, and year five after operation of Unit 1 has begun (i.e., 2017, 2019, and 2021), and in year one, year three, and year five after Carty Solar Farm operation has begun (years tbd), and ~~otherwise~~ at least every five years thereafter (in years divisible by five) for the life of the facility. Known colonies, if identified, within the existing right-of-way for the 500 kV Grassland to Slatt and 230 kV Boardman to Dalreed transmission lines incorporated into the Second Amended site certificate will be included in the every-five-year WGS surveys. Planned work areas associated with transmission line maintenance will be spot checked for WGS activity as needed. Surveyors shall

record evidence of WGS activity, current land use, and any conditions caused by the facility that might increase erosion or result in a decline in vegetation quality and adversely affect a WGS colony. Unit 1, portions of the potential Carty Solar Farm transmission line, and portions of new components proposed as part of the second amended site certificate are located on the southwest side of Tower Road. In consultation with ODFW, it was determined that Tower Road is a significant boundary to WGS habitat. Therefore, for active burrows located on the northeast side of Tower Road, the 785-foot buffer will not extend across Tower Road.

B. Raptor Nest Monitoring

During the year in which any phase of construction occurs, the certificate holder shall use a protocol approved by ODFW to conduct raptor nest surveys to determine whether there are any active nests that would potentially be disturbed during construction. Surveys will consist of ground-based and/or helicopter aerial searches, as appropriate to the construction activity locations planned for a given year. Surveys will be carried out to one mile from portions of the amended site boundary within which construction is planned.

If a nest is occupied by any of these sensitive raptor species, 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 designated buffer distances for each species (Table 1). Buffer distances may be decreased with approval by ODFW and USFWS depending on the intensity of construction activity and whether sufficient barriers (e.g., vegetation, topography) are present to shelter a particular nest site from construction disturbance or if consultation determines a lesser distance is feasible and appropriate. The certificate holder also will instruct construction personnel to avoid any unnecessary activity within the buffer area.

Table 1. Critical Nesting Periods for Sensitive Raptors

Species	Disturbance Buffer Distance (line of sight)	Critical Nesting Period	Early Release Date
Ferruginous Hawk	0.6 mile	March 15 to August 15	May 31
Bald Eagle	0.5 mile	January 1 to August 15	May 31
Swainson's Hawk	0.25 mile	April 1 to August 15	May 31
Golden Eagle	1 mile	January 1 to August 15	May 31
Burrowing Owl	0.25 mile	April 1 to August 15	July 15
Long-billed Curlew*	0.5 mile	March 8 to June 15	May 31

*Although not a raptor species, a critical nesting period and buffer of 0.5 mile for active long-billed curlew nests were included in the Site Certificate. While not actively surveyed for, any curlew nests that are incidentally found will be protected with the stipulated nest buffer.

The certificate holder will direct a qualified biological monitor, as approved by ODOE, to observe the active nest sites during the sensitive period for signs of disturbance. The qualifications of the biological monitor shall be provided to ODOE in the annual report; the certificate holder shall provide notification to ODOE if changes in biological monitor occur. If an active State-sensitive raptor nest is found during construction that is for a species not

currently identified in Table 1, the certificate holder will consult with ODFW and USFWS and institute buffer distances and monitoring as appropriate.

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 (Table 1). If a nest site is occupied, the certificate holder may begin or resume high-impact construction before the ending day of the sensitive period, with the approval of ODFW and USFWS, after the young are fledged. The certificate holder would use, and shall provide a copy to ODOE, of a protocol approved by ODFW and USFWS to determine when the young are fledged (that is, when the young are independent of the core nest site).

Annually during construction and in year one, year three, and year five after operations of Unit 1 have begun (i.e., 2017, 2019, and 2021) and year one, year three and year five after operations of Carty Solar Farm have begun (years tbd) and ~~otherwise~~ at least every five years (in years divisible by five) for the life of the facility thereafter, the certificate holder shall provide sensitive species raptor nest monitoring report to ODOE, ODFW and USFWS. The report will document the locations and nest productivity of sensitive raptor species nests within one mile of the amended site boundary. The existing 500 kV Grassland to Slatt and 230 kV Boardman Coal Plant to Dalreed transmission lines incorporated into the Second Amended site certificate will be included in the every-five-year raptor nest surveys with focus on any nests on transmission line structures or nearby that may be impacted by transmission line maintenance. Planned work areas associated with transmission line maintenance or construction will be spot checked for nearby raptor nesting activity prior to work. The certificate holder shall consult with USFWS and ODFW regarding any active protected bird nests found within the construction disturbance area or within the disturbance buffer distances (Table 1) of facility construction or operational activities.

If nest monitoring detects nest site abandonment or other adverse impact to nesting activity caused by facility activity, the certificate holder shall implement appropriate mitigation, in consultation with ODFW and subject to the approval of ODOE. The certificate holder shall propose and implement mitigation for the affected species in consultation with ODOE, ODFW, and USFWS. Mitigation shall be designed to benefit the affected species or contribute to overall scientific knowledge and understanding of what causes nest abandonment or nest failure. Mitigation may be designed to proceed in phases over several years. It may include, but will not be limited to, additional raptor nest monitoring, protection of natural nest sites from human disturbance or cattle activity (preferably within the general area of the facility), or participation in research projects designed to improve scientific understanding of the needs of the affected species.

All bird mortalities and active nests of all other protected bird species found in association with facility components shall be documented and reported consistent with PGE's adopted Avian Protection Plan. All eagle and other sensitive raptor species mortalities shall be reported immediately to USFWS and ODFW.

C. Avian Protection

The certificate holder maintains a company-wide Avian Protection Plan (APP) to reduce impacts to avian species from electrocutions and collisions with electric utility power lines and equipment. The APP is hereby adopted by reference. The APP includes the following three-phased approach to address avian risks that will be applied to the development of the Carty Generating Station:

- Preventive – Emphasize compliance with applicable laws, regulations, and permits. Use avian-

safe standards company-wide for all designs ~~in areas identified as having high avian risk~~;

- Reactive – Implement the Avian Reporting System ~~(~~to ~~report~~document bird mortalities and conduct remedial measures as appropriate~~)~~; and
- Proactive – Conduct employee training and risk assessments of existing lines, modify lines when necessary, install nesting platforms, and contribute to research of avian/electrical equipment interactions.

Electrocution from high-voltage transmission lines is very rare because the distances between conductors, and between conductors and grounded hardware, are greater than the wingspan of any raptor (APLIC 2006).[5] However, transmission lines ~~do~~ can present a collision risk for birds, particularly the static wire at the top of the structures. Consistent with the APP, the certificate holder shall employ ~~pre-construction~~ measures to protect raptors in the design and construction of transmission lines. Protection measures to reduce the potential risks to raptors and other birds will include the following:

- Design and construct all above-ground transmission line support structures following the practices suggested by the Avian Powerline Interaction Committee (APLIC)~~, including a minimum separation of 9 feet between all energized transmission conductors~~;
- If perching or nesting is determined to put birds at risk, measures to reduce risk will be evaluated and implemented if feasible;~~Install perch guards or other deterrents as needed and safe alternative perching or nesting locations, as appropriate;~~ and
- Install bird flight diverters ~~and~~ or other line marking devices ~~where necessary to minimize~~ in areas of bird collision risk if evaluation of the area, including ~~, such as~~ bird concentration areas (wetland/riparian areas) and known migratory flight routes, presents a probable risk.

A nest management procedure, which identifies steps facility employees must take when a nest is encountered on utility structures, is also included in the APP. As described in the APP, the certificate holder will track avian mortalities, nest management issues, and remedial actions taken using an internal reporting system and database~~, the Avian Reporting System~~. This reporting database allows: (1) tracking of incidents and remedial actions to ensure that all measures are completed and documented, (2) accumulation of a long-term data set, and (3) compliance with the reporting requirements of the USFWS Special Purpose Permit currently held by the certificate holder. The reporting system also provides data on the location and frequency of bird mortalities and problem nests.

Where feasible, the certificate holder shall conduct site preparation for construction of the Carty Generating Station and transmission line in a manner that minimizes potential for impacting nesting native birds protected by the Migratory Bird Treaty Act, such as conducting initial site clearing outside of the typical bird breeding season (generally March to July). Prior to commencement of construction activity during the breeding season, a qualified biologist shall survey the construction site to determine the presence of any active protected bird nests. Construction personnel shall be trained in avian awareness, reporting of protected bird nests, and the proper procedures if dead birds are found at the construction site.

[5] APLIC (Avian Power Line Interaction Committee). 2006. Suggested Practices for Avian Protection On Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington D.C. and Sacramento, CA. http://www.aplic.org/uploads/files/2643/SuggestedPractices2006(LR-2).pdf. Accessed August 23, 2016.

D. ~~Post-construction Avian and Bat Mortality Monitoring (Carty Solar Farm)~~

~~Monitoring Goals~~

~~The monitoring program will involve surveys designed to estimate bird and bat fatality rates at the Carty Solar Farm in the year following start of Carty Solar Farm operation. The certificate holder will analyze bird and bat carcass monitoring data to accomplish the following goals:~~

- ~~Detect carcasses and estimate bird and bat fatality rates for the Carty Solar Farm;~~
- ~~Estimate fatality rates for species of concern, if practicable; and~~
- ~~Determine whether additional conservation measures are needed to reduce impacts to birds and bats at the Carty Solar Farm.~~

~~Monitoring Methods~~

~~i)~~ ~~Study Design~~

~~The avian and bat mortality monitoring study is designed to maximize the accuracy of the fatality estimates and to correct for the following sources of field sampling error: (1) carcasses that occur on a highly periodic basis, (2) carcass removal by scavengers, (3) searcher efficiency, and (4) carcasses or injured birds or bats that may land or move to areas not included in the search transects (Kunz et al. 2007). Post-construction monitoring at the Carty Solar Farm will involve standardized distance-sampling based carcass searches, searcher efficiency trials, and carcass persistence trials, consistent with recommendations from Huso et.al (2016b) and accepted monitoring designs at other utility-scale solar facilities (WEST 2016a-c). Surveys of the PV panel area will be conducted using a distance-sampling based methodology. The layout of PV facilities is often well-suited to a distance-sampling approach. Distance sampling involves searching a transect line and assumes that searcher efficiency decreases (possibly dramatically) as a function of distance from the observer and is ideally suited to situations in which animals (or carcasses) are sparsely distributed across a landscape (Buckland et al. 1993). As the landscape at the Carty Solar Farm would be flat and relatively clear of vegetation, a distance sampling design is well supported, as demonstrated at other PV solar facilities (WEST 2016a; Huso et. al 2016b).~~

~~Distance sampling adjusts carcass counts for variable searcher efficiency by calculating the *effective* searcher efficiency along a transect. Effective searcher efficiency is the average probability of detection in the searched area, derived from the detection function. As a highly simplified example, if a searcher walks a 10-m (33-ft) long transect line and detects 90% of all carcasses within 10-m of the line, and 60% of carcasses that are 10 to 30 m (33 to 99 ft) from the line, then the effective searcher efficiency between zero and 10 m would be 0.9 and the effective searcher efficiency between 10 and 30 m would be 0.6. For the total 10 by 30-m area, the effective searcher efficiency would be = 0.5.~~

~~In practice, searcher efficiency is modeled as a continuous function of distance, and the detection function is estimated from bias trial data. An advantage to the use of data from bias trials is that the assumption that carcasses are randomly distributed within the search area (typical of most distance sampling designs) becomes unnecessary. Furthermore, having a sufficient sample size to fit the detection function is no longer dependent on what is observed, as in most distance sampling studies, and trials can be placed to measure potential covariates such as carcass size and ground cover. The fitted detection function is used to determine the overall probability of detection as well as to inform the approximate effective view shed of non-zero detection probability for observers.~~

~~Final study design will depend on actual as-built configuration of the Carty Solar Farm and post-construction site conditions, and current knowledge of avian mortality at PV solar farms~~

~~and will be determined in coordination with ODFW. One potential design, if compatible with site design and conditions such as vegetation height, would be for surveyors to walk or drive an ATV along the facility's access roads, perpendicular to panel rows, and scan 90 meters (295 ft) along the PV array rows (Figure 1). Surveys will include a 50% sample of the blocks in the PV panel area. Study design may be refined, scaled down, or systematic study eliminated entirely if results from other PV solar farm systematic studies to date at the time of project construction indicate a low expected risk of bird mortality at Carty Solar Farm.~~

~~ii) Search Interval and Search Period~~

~~Surveys will be conducted once every three weeks November through February, and once every two weeks from March through October in the year following start of Carty Solar Farm operation; this period includes spring and fall migration and summer nesting/maternity seasons for birds and bats, respectively. Carcass persistence trials will be conducted concurrently with carcasses searches, and if documented scavenger rates indicate that shorter or longer search intervals are needed, the search intervals may be modified to improve carcass detection rates. Guidance from Huso et. al (2016b) suggests determining search intervals such that the average probability a carcass is available to be found is at least 50%. Since carcass persistence may vary by carcass size, search intervals should be determined based on the size or sizes of principal species of interest; for example, if impacts to water-associated birds are a focus, then search intervals can be adjusted based on persistence times for large and medium-sized birds, such as grebes, ducks, and loons.~~

~~iii) Searcher Qualifications~~

~~Searchers will be trained to conduct carcass searches and will be familiar with and able to accurately identify bird and bat species likely to be found in the Carty Solar Farm area. Any unknown birds and bats or suspected state or ESA-listed species discovered during carcass searches will reported to a qualified biologist for positive identification.~~

~~iv) Data Collection~~

~~For each carcass or injured bird found, data recorded will include the following:~~

- ~~Photos of the carcass from different angles and including a size-referencing object~~
- ~~Date and time~~
- ~~Initial species identification~~
- ~~Sex, age, and reproductive condition (when possible)~~
- ~~GPS location~~
- ~~Nearest CARTY SOLAR FARM component (PV array, control house/storage facility, equipment, or other)~~
- ~~Distance to the nearest PV panel~~
- ~~Distance from observer when carcass first observed~~
- ~~Substrate/ground cover conditions~~
- ~~Condition of specimen~~
  - ~~Dead and intact~~
  - ~~Fresh or Dry~~
  - ~~Dismembered~~
  - ~~Feather spot (at least two or more primary feathers, five or more tail feathers, or ten or more feathers)~~
  - ~~Other evidence of scavenging~~

- Injured (note apparent injuries)

Bird and bat carcasses found in non-search areas (i.e., outside of the sampled areas described in Section i) will be coded as incidental finds and documented in a similar fashion to those found during standard searches. Incidental finds will be included in the raw survey summary totals but will not be included in the estimated fatality calculations. Carcasses be collected and disposed of consistent with PGE's Avian Protection Program and existing federal Migratory Bird Special Purpose Utility permit. Injured birds will be transferred to a licensed rehabilitator.

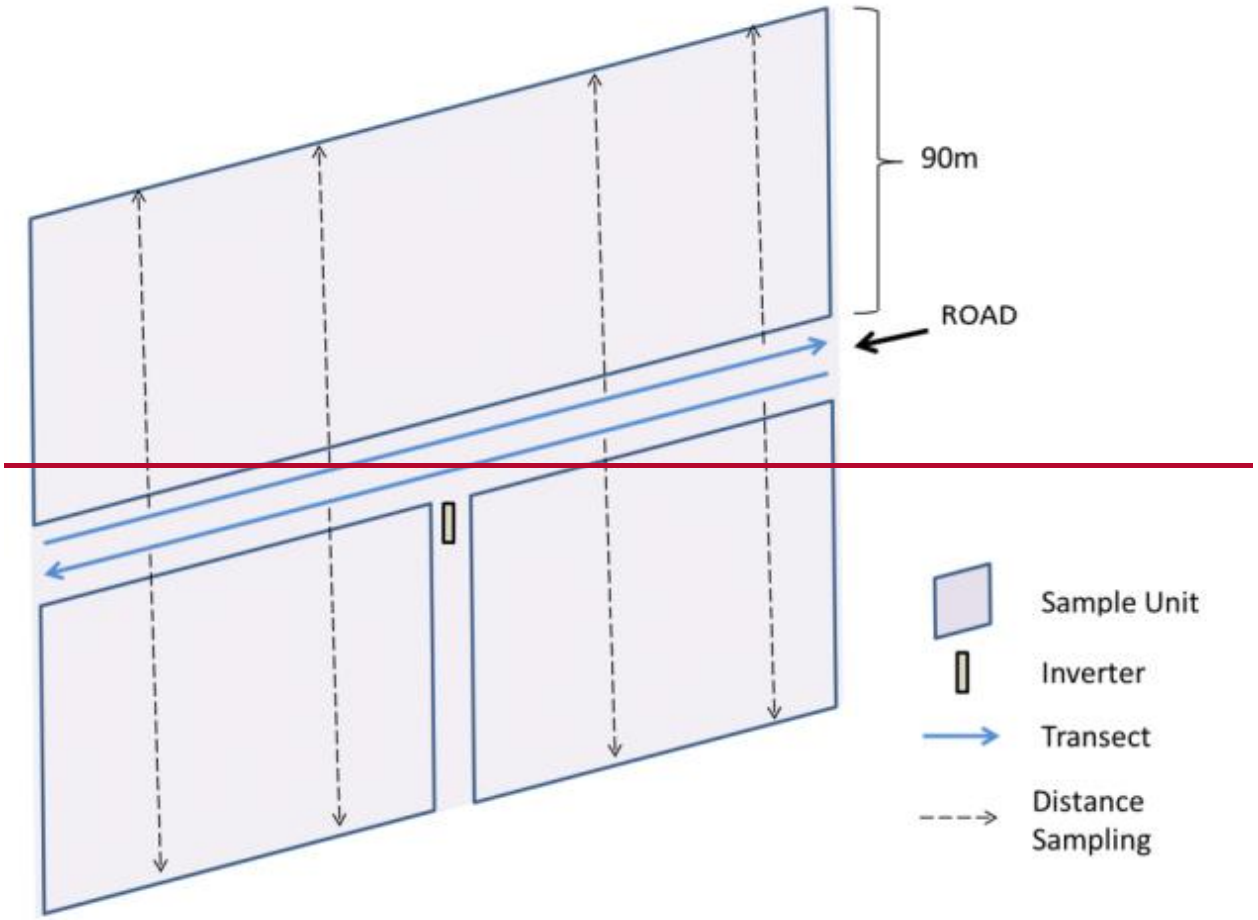


Figure 1. Example illustration of generic PV sampling unit with travel routes and searches using distance sampling ('observation perspectives').

(1) Searcher Efficiency and Carcass Persistence Trials

Searcher efficiency and carcass persistence trials will be conducted in conjunction with standard carcass surveys. Searcher efficiency trials will be placed throughout each season on scheduled search days to ensure trials are representative of search conditions throughout each season. Trials will be placed on at least five different days throughout each season. Searcher efficiency trials will be used to estimate the percentage of bird and bat carcasses that are detected during the carcass searches. Using the detection function fit from searcher efficiency trial data, the average probability of detecting a carcass along a specified length of panel rows can be calculated and used to adjust discovered carcasses for detection bias. Similarly, carcass persistence trials will be used to estimate the percentage of bird and bat carcasses that persist (i.e. are not removed by scavengers) long enough to be located by searchers. When

~~considered together, the results of searcher efficiency and carcass persistence trials will inform the likelihood that a bird or bat carcass that falls within the searched area will be recorded. These correction factors will be incorporated into a fatality estimate model to estimate fatality rates.~~

~~The bias trial sample sizes required to produce precise, adjusted fatality estimates are not well established, in part because needs may vary substantially depending on actual project-specific searcher efficiency, carcass persistence, and fatality rates. However, using searcher efficiency trials to help evaluate the efficacy of the distance sampling approach used in this investigation will require larger sample sizes to produce a sampling design that effectively accounts for distance as a key covariate of interest. A minimum of 25 carcass samples per small size class, 15 for medium, and 10 for large is anticipated within the solar array per season (Table 2). Searcher efficiency will be summarized for each individual searcher, but to avoid needlessly inflating the variance of the estimate, individual searcher effects will not be included in the fatality estimation model.~~

Table 2. Approximate Searcher efficiency trial sample sizes per season.

Facility component	Size	Sample size
solar arrays	Small	25
	Medium	15
	Large	10
Totals		50

~~Carcasses of bird or bat species recovered during the study that are not listed under the Migratory Birds Species Act or state or federal endangered species regulations may be re-used in the searcher efficiency trials, as carcass condition allows. Species such as house sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*) may be used to represent small-sized birds; rock doves (*Columba livia*) and commercially raised hen mallards (*Anas platyrhynchos*) or hen pheasants (*Phasianus colchicus*) may be used to represent medium to large-sized birds. If visibility classes are established, to account for differences in vegetation, trial carcasses will be placed in a variety of vegetation types so that searcher efficiency rates can be determined for each visibility class. The number of carcasses used will be limited to ensure that a scavenger swamping does not occur. Searcher efficiency trials will be conducted blindly; the searchers will not know when trials are occurring, within which transects the trial carcasses are placed, or where trial carcasses are located within the project.~~

~~The number and location of trial carcasses found by searchers will be recorded and compared to the total number placed in the transects. Searchers will be instructed prior to the initial search effort to leave carcasses, once discovered to be trial carcasses (by inconspicuous ID tags), in place (these carcasses will also be used to calculate carcass persistence). The number of trial carcasses available for detection (non-scavenged) will be determined immediately after the conclusion of the trial. Searcher efficiency of the surveyors will generate the estimate of searcher bias for input into the fatality estimate models.~~

~~Carcass persistence trials will be conducted concurrently with searcher efficiency trials and, to the extent possible, using the same carcasses from the searcher efficiency trials. In total, 30 small, 20 medium, and 10 large carcasses will be randomly placed and monitored within the solar arrays, each season (Table 3). Carcass persistence trials in the solar arrays will be monitored, using motion-triggered, digital trail cameras (e.g., see Smallwood et al. 2010). The status of each trial carcass (e.g. gone/present, fresh/desiccated, whole/partial) will be recorded throughout the trial. The length of time carcasses persist on the ground will be used to generate the estimate of carcass persistence for input into the fatality estimate models.~~

~~It may not be necessary to use cameras to monitor every carcass, as carcass persistence can also be conservatively estimated by frequent field visits and using the last date a carcass was observed as its removal date. However, at least a subset of carcasses will be monitored with cameras to help determine fate of scavenged carcasses. Cameras may also be useful for other purposes. For example, if trained on solar arrays and facility fences, motion-activated cameras could help to document cause of avian and bat fatalities, which is often undetermined at solar farms. The number and purpose of cameras used will be determined along with final study protocol in consultation with ODFW and ODOE.~~

Table 3. Approximate Carcass Persistence Trail Sample Sizes Per Season.

Facility component	Size	Sample size
solar arrays	Small	30
	Medium	20
	Large	10
Totals		60

~~Fake cameras or cameras without bias trial carcasses may also be placed to avoid training ravens to recognize cameras as "feeding stations". Periodic ground-based checking of carcasses also will occur to guard against misleading indicators of carcass removal, such as wind blowing the carcass out of the camera's field of view. To minimize potential bias caused by scavenger swamping (Smallwood 2007, Smallwood et al. 2010), carcass persistence specimens will be distributed across the entire Facility, not just in areas subject to standard surveys, and new specimens will be placed every two to three weeks in small numbers.~~

~~*(2) Data Analysis and Modeling*~~

~~Because the detectability of carcasses during field surveys can be imperfect, raw carcass counts generally underestimate actual mortality. Therefore, the Huso fatality estimator (Huso 2011; Huso et al. 2012, Huso et. al 2016a), modified to account for distance sampling (WEST 2016a, Huso et. al 2016b), will be applied to generate corrected fatality rate estimates for the Carty Solar Farm.~~
~~The Huso fatality estimator (Huso 2011; Huso et al. 2012) allows the user to model categorical covariates that may affect searcher efficiency and carcass persistence. AICc scores are used to evaluate the effectiveness of candidate models before generating final fatality estimates. Because the underlying assumption that searchers have a single opportunity to discover a carcass, only those carcasses determined to have occurred within the previous search interval will be used to generate adjusted fatality estimates. In addition, the model does not produce reliable estimates when there are few carcasses included in analysis.~~

~~When fewer than five carcasses belonging to a group of interest (e.g. small birds) are found and included in analysis, estimates will not be provided. Corrected fatality estimates will be reported for the solar Facility (PV panel area). Estimated mortalities will be expressed in terms of carcasses/MW/season and in other metrics appropriate for a solar facility to facilitate comparison with other studies. Analysis of data collected during the post-construction study will include seasonal fatality estimates for all birds and bats to the taxonomic level where fatality estimates can be calculated. Fatality estimates and confidence intervals will be compared to determine if differences in fatality estimates between taxa or group (e.g. birds compared to bats, large birds compared to small birds), or season. Because representative fatality estimates are more challenging to develop for small (i.e. <5) numbers of carcasses, appropriate taxonomic level fatality estimates will only be calculated if the number of carcasses is sufficient.~~

~~Reporting~~

~~The Certificate Holder will document the results of the monitoring in a summary report following the completion of the post-construction monitoring. The certificate holder may include this summary report of bird and bat fatality monitoring data and analysis in the annual report required under OAR 345-026-0080 or submit this information as a separate document at the same time the annual report is submitted.~~

~~The summary report will include fatality estimates and data summaries. The report will include all data analyses, including correlation analyses and overall fatality estimates, and a discussion of monitoring results and their implications. The certificate holder shall notify the appropriate agency immediately upon the discovery of a carcass of any state-listed, ESA-listed species or eagle on the Facility site.~~

~~Adaptive Management~~

~~i. Adaptive Management Goals~~

~~Adaptive management will allow the Certificate Holder to meet the goals of avoiding and minimizing impacts to birds and bats. After the end of the first year of post-construction monitoring, if the fatality rates do not exceed any thresholds of concern identified in Section 3.2, no additional monitoring will be conducted. However, if the fatality rates do exceed any of the thresholds of concern in Section 3.2, ODOE, in consultation with ODFW and the Certificate Holder, will determine if additional monitoring is warranted based on the number of observed carcasses and estimated fatality rates and consideration of any other significant information available at the time.~~

~~ii. Adaptive Management Process~~

~~To enable new information, including the results of post-construction monitoring, to influence and improve avoidance and minimization measures, certain trigger events and the subsequent changes or actions have been established. The events that would trigger need to consider the additional avoidance and minimization measures presented herein would be:~~

- ~~Discovery of an eagle carcass~~
- ~~New ESA-listing of a bird or bat species~~
- ~~Discovery of an ESA-listed species carcass~~
- ~~New state-listing of a bird or bat species~~
- ~~Discovery of a state-listed species carcass~~
- ~~The total number of observed bird and bat mortalities is higher than expected and likely to be significant, as defined in Section 3.2.6.~~

~~1) Discovery of an Eagle or ESA-listed Species Carcass~~

~~If an eagle or ESA-listed species carcass is discovered within the Carty Solar Farm, the following actions will be taken:~~

- ~~Certificate Holder will, working with a qualified wildlife biologist, promptly identify and secure the carcass at the place of its discovery in the field until USFWS personnel can be reached and provide the further instruction for the storage of the carcass.~~
- ~~Certificate Holder will notify USFWS, ODFW, and ODOE within one business day after discovery and positive identification of the carcass.~~
- ~~Certificate Holder will work with the USFWS to evaluate available data concerning the find and, as appropriate, identify and implement avoidance and minimization measures to reduce the risk of future carcasses. Potential adaptive management approaches are presented in Section 3.2.7~~

~~below.~~

- ~~Certificate Holder will assess the need to obtain additional authorizations in view of the new information.~~

~~2) New ESA-listing of a Bird or Bat Species~~

~~If a bird or bat species, known to occur or that has a high likelihood to occur within the Carty Solar Farm area, becomes listed under the ESA during the life of the facility, Certificate Holder will coordinate with USFWS. If this trigger is met, Certificate Holder will work with USFWS to assess the potential for the facility to impact the species and subsequently to determine the appropriate action(s), if any.~~

~~3) New State-listing of a New Bird or Bat Species~~

~~If a bird or bat species, known to occur or that has a high likelihood to occur within the Carty Solar Farm area, becomes listed by ODFW during the life of the facility, Certificate Holder will coordinate with ODFW and ODOE. If this trigger is met, Certificate Holder will work with ODFW and ODOE to assess the potential for the facility to impact the species and subsequently to determine the appropriate action(s).~~

~~4) Discovery of a State-listed Species Carcass~~

- ~~Certificate Holder will, working with a qualified wildlife biologist, promptly identify and secure the carcass at the place of its discovery in the field until ODFW personnel can be reached and provide the further instruction for the storage of the carcass.~~
- ~~Certificate Holder will notify ODFW and ODOE within one business day after the discovery and positive identification of the carcass.~~
- ~~Certificate Holder will work with the ODFW and ODOE to evaluate available data concerning the discovery and, as appropriate, identify and implement avoidance and minimization measures to reduce the risk of future mortalities.~~
- ~~Certificate Holder will assess the need to obtain additional authorizations in view of the new information.~~

~~5) Total Number of Observed Bird and Bat Mortalities is Higher than Expected and Likely to be Significant~~

~~Mortalities to birds and bats during operations are expected to be low. Significance of the levels of mortality of any bird or bat species would be determined in coordination with USFWS, ODFW and ODOE based on the best available information, including the most recent data on species' population sizes and trends and fatality rates at technologically and geographically similar facilities if available. At this time, there is no publicly available avian fatality data at PV facilities in Oregon, but there may be in the future. This approach recognizes that higher levels of mortality of common species may not be significant. Conversely, lower levels of mortalities of less common species may be of more concern, particularly if these species appear to be at risk (e.g., Oregon sensitive-critical species). Given the assessment and prediction that impacts are likely to be low, the following actions are suggested in response to monitoring outcomes:~~

- ~~If documented fatalities are low and not considered significant for the species involved, no mitigation will be conducted.~~
- ~~If fatalities are high enough that they could be considered significant for the species involved, Certificate Holder will meet and confer with the ODFW and ODOE and the applicable actions presented below will be carried out. If a particular cause can be identified, Certificate Holder will~~

~~develop specific mitigation measures in consultation with ODFW and ODOE to address the occurrence.~~

~~6) Potential Adaptive Management Approaches~~

~~Circumstances that trigger the need for adaptive management will be investigated such that the Certificate Holder can, in consultation with ODFW and ODOE, implement avoidance, minimization, and mitigation measures designed and implemented to reduce impacts to birds and/or bats while maintaining Facility viability. If ODOE determines that additional avoidance, minimization or mitigation measures are appropriate based on analysis of the data, consultation with ODFW, and consideration of other significant information available at the time, the Certificate Holder, in consultation with ODOE and ODFW, shall propose and implement measures to address the concern, subject to the approval of ODOE. Avoidance, minimization, and mitigation actions that may be taken under adaptive management include, but are not limited to, the following:~~

- ~~Remove or modify any identified sources of bird or bat attraction to the extent practicable.~~
- ~~If more than one eagle carcass is discovered in a 5-year time period, Certificate Holder will develop and implement a roadkill removal program on roads within or near the Carty Solar Farm, as appropriate, to offset Carty Solar Farm impacts to eagles.~~
- ~~Implement technological solutions. If bird and/or bat carcass discoveries exceed the above-defined adaptive management triggers and new techniques or technology become available, the Certificate Holder, ODOE, and/or ODFW shall propose new approaches, techniques or technology designed to avoid and/or minimize impacts to the affected species, taking into consideration factors including but not limited to cost effectiveness and feasibility to implement, subject to the approval of ODOE. At this time, there are no technological solutions available. If ODOE determines that additional monitoring is appropriate based on analysis of the data, consultation with ODFW and Certificate Holder, and consideration of any other significant information available at the time, the Certificate Holder shall conduct additional specific, targeted monitoring to determine if adaptive management measures are effective.~~

IV. CALCULATION OF THE SIZE OF THE MITIGATION AREA

The HMA must be large enough and have characteristics that meet the standards set by ODFW's Wildlife Habitat Mitigation Policy. These standards include: no net loss of habitat quantity or quality and to provide a net benefit of habitat quantity or quality for Category 2 habitat; no net loss of habitat quantity or quality for Category 3 habitat (in-kind, in-proximity mitigation); no net loss of habitat quantity or quality for Category 4 habitat; net benefit in habitat quantity or quality for Category 5 habitat (i.e., actions that improve habitat conditions); and minimize impacts for Category 6 habitat.

~~Unit 1 permanent impacts and estimated acreage permanent impacts for the Carty Solar Farm are shown in Table 4~~Table 4 shows the acres of temporary and permanent impacts for the Carty Generating Station Unit 1 and associated mitigation acreage. For permanent impacts, the mitigation area shall include 2 acres for every acre of impacts to Category 2 habitat (a 2:1 ratio to provide no net loss and a net benefit of habitat quantity) and 1 acre for every acre of permanent impacts to Category 3 and 4 habitats (a 1:1 ratio to provide no net loss). Mitigation for temporary impacts shall include 1 acre for every acre of impacts to Category 2 habitat (a 1:1 ratio) and 0.5 acre for every acre of temporary impacts to Category 3 and 4 habitat (a 0.5:1 ratio) that have not previously been mitigated for temporary impacts (e.g., areas of temporary impacts that are mitigated as part of construction for Unit 1 that are reused for subsequent units will not result in additional mitigation acreage). Temporary impacts on grasslands typically do not require mitigation in the form of land acquisition and/or conservation.

The acreages of impact in this Amended Plan for Unit 1 are based on the final design layout of the facility

submitted to ODOE and ODFW prior to beginning of Unit 1 construction and the revised final design layout of the facility and the associated impact acreages provided to ODOE and ODFW during construction. The construction of Unit 1 resulted in 45 acres of permanent disturbance and 55.4 acres of temporary disturbance, resulting in a total required mitigation area of 72.7 acres.

~~The acreages of impact for the Carty Solar Farm are based on preliminary design and will be updated based on final design layout of the amended facility. The acreages of impact will be submitted for approval to ODOE and ODFW prior to beginning construction to demonstrate that the HMA is appropriately sized. The calculated maximum habitat impact estimates of the Carty Generating Station construction associated with each unit are shown in the table below (Table 4).~~The acreages of impact for the septic system and security guard station including associated plumbing and communication lines ~~are~~ were based on preliminary design; the guard station and associated plumbing and communication lines were never constructed ~~and will be updated based on the final design layout of the amended facility. The acreages of impact will be submitted for approval to ODOE and ODFW prior to beginning construction to demonstrate that no new HMA is needed.~~. The calculated maximum habitat impact estimates associated with the Second Amended site certificate are shown in Table 4. The HMA for Unit 1 is 78 acres; the maximum habitat impact estimates in Table 4 are 73.65 acres; therefore the HMA for Unit 1 impacts remains sufficient.

Table 4. Estimated Habitat Impacts of the Carty Generating Station by Habitat Category

Habitat Type by Project Area	Temporary Impacts (acres)[1]	Permanent Impacts (acres)[2]	Calculated Mitigation Area (acres)[1,2]
Unit 1 and Supporting Facilities[3]			
Category 4	55.4	45	72.75
Total Unit 1 Area Requiring Mitigation[1,2]	27.75	45	72.75
Proposed new Facility components of Request for Amendment 2[4]			
Category 4	0.8	0	0.4
Category 6	0	1.07	0
Total Area RFA2 Area Requiring Mitigation[1,2]	0.4	0	0.4
~~**Carty Solar Farm and Related or Supporting Facilities[5]**~~			
~~Category 2~~	~~6.39~~	~~259.32~~	~~525.03~~
~~Category 3~~	~~7.66~~	~~42.84~~	~~46.67~~
~~Category 4~~	~~90.57~~	~~18.79~~	~~64.08~~
~~Category 6~~	~~2.81~~	~~0.19~~	~~0.00~~
~~Total Solar Farm Area Requiring Mitigation[1,2]~~	~~55.51~~	~~580.27~~	~~635.78~~
Mitigation Summary			
Mitigation Required to date (Unit 1)			72.75
Additional Mitigation Required under RFA2			0.9
Total Mitigation for Amended Project			~~709.43~~73.65

Table 4. Estimated Habitat Impacts of the Carty Generating Station by Habitat Category

Habitat Type by Project Area	Temporary Impacts (acres)[1]	Permanent Impacts (acres)[2]	Calculated Mitigation Area (acres)[1,2]
Notes:			
In all cases, impacts in a given project area will only be mitigated once.			
[1]Temporary impact mitigation is based on a 1:1 ratio for Category 2, a 0.5:1 acre ratio of Category 3 and 4, and zero for Category 6.			
[2] Permanent impact mitigation is based on a 2:1 ratio for Category 2, a 1:1 acre ratio of Category 3 and 4 and zero for Category 6.			
[3] Unit 1 includes Unit 1 and all related or supporting facilities constructed as part of Unit 1.			
[4] New facility components as proposed in RFA2 include the new security guard station, wastewater pipeline, septic system, water pipeline, office/warehouse building, and the Carty substation and associated distribution lines. Note that the septic system, substation, and office/warehouse were constructed so the acreage in Table 6 is for only components that have been constructed and does not match the amount originally estimated in the Second Amendment.			
~~[5] The Carty Solar Farm includes the Carty Solar Farm energy facility site, the potential route for the Carty Solar Farm interconnection transmission line that would require the most mitigation acres (Route 1), the Grassland Switchyard buildout area if interconnection Option 1 is selected (along with potential interconnection Route 1), and temporary construction laydown and parking areas.~~			

V. DESCRIPTION OF THE MITIGATION AREA

To comply with the mitigation criteria outlined in OAR 635-415-0025, the certificate holder shall mitigate for impacts to Category 2, 3, 4, and 5 habitats in a manner consistent with the ODFW habitat mitigation policy and subject to the approval of ODFW. The certificate holder will establish a HMA (or areas) that will be maintained, enhanced, and monitored throughout the life of the facility[6] through implementation of the habitat enhancement actions described in this Amended Plan. The certificate holder shall provide appropriate legal documentation to ODOE showing the legal right to create, maintain, and protect the HMA for the life of the facility. The certificate holder shall not undertake any development activities within the HMA throughout the life of the facility.

The 78-acre HMA for Unit 1 is located immediately east of the Site Boundary and comprises all or portions of map T3N R24E, tax lots 101, 113, and 116. The parcel is owned and has been placed under conservation easement by the certificate holder. It is adjacent to the existing PGE-owned natural habitat areas on the north and east sides, and a conservation area maintained by The Nature Conservancy along part of the west boundary. The vegetation in the HMA is dominated by Sandberg's bluegrass, bluebunch wheatgrass, and intermittent areas of needle-and-thread grass, as well as cheatgrass. There are also occasional green rabbitbrush (*Chrysothamnus viscidiflorus*), gray rabbitbrush, big sagebrush, fiddleneck (*Amsinckia menziesii*), and yarrow (*Achillea millefolium*). WGS burrows were identified within the HMA for Unit 1 in 2006. As of 2010, approximately 80 percent of the HMA for Unit 1 area was located within 785 feet of identified WGS burrows and was therefore considered Category 1 habitat. The remainder of the HMA for Unit 1 was included in the buffer area for previously occupied WGS habitat and was therefore designated as Category 2 habitat. ~~Based on 2016–2017 WGS surveys, the majority of the HMA for the Carty Solar Farm (see below) would be located on Category 2 or Category 3 habitat based on the current habitat categorization for Amendment 1.~~ The 78-acre HMA is 5.25 acres larger than required for temporary and permanent impacts associated with Unit 1 and supporting facilities. Therefore; the

[5] As used in this plan, "life of the facility" means continuously until the facility site is restored and the site certificate is terminated in accordance with OAR 345-027-0110.

additional 1.10 acres of mitigation required for the septic system and security guard station included in the Second Amended Site Certificate are covered by this HMA.

~~The proposed HMA for the Carty Solar Farm and supporting facilities (the HMA for the Carty Solar Farm), estimated at approximately 636 acres per Table 4, would be located within a portion of the PGE-owned, 880-acre natural habitat area that contains remnant stands of sagebrush. The parcel adjoins the HMA for Unit 1 to the north and east and is located in Section 26, T3N R24E tax lot 101 and the eastern half of Section 35, T3N R24E, tax lot 113). The certificate holder plans to mitigate for the habitats impacted by placing a conservation easement on the appropriate acreage and by providing habitat uplift through the habitat enhancement and monitoring activities described below. Final location of the HMA for the Carty Solar Farm will be delineated in coordination with ODFW prior to construction once final design layout and mitigation acreage is determined.~~

VI. HABITAT ENHANCEMENT ACTIONS

The objectives of habitat enhancement and restoration are to protect habitat within the mitigation area from degradation and improve the habitat quality of the mitigation area. The certificate holder shall initiate the habitat enhancement actions for the facility before beginning operation. The certificate holder shall restrict uses of the mitigation area that are inconsistent with the goal of no net loss and net benefit of Category 2 habitat and no net loss of Category 3 and 4 habitats. The certificate holder shall implement habitat enhancement actions as described in this Amended Plan and as specified in the amended Site Certificate.

A. Noxious Weed Prevention, Inventory, and Control within the Habitat Management Area

The certificate holder shall conduct comprehensive noxious weed inventories to identify patches of weed infestation within the HMA during year one, year three, and year five after construction of Unit 1 (i.e., 2017, 2019, and 2021), and then continue once every five years (in years divisible by five) for the life of the facility. Weed control and monitoring activities will be conducted more frequently (at least every two years) in areas prioritized based on the results of the comprehensive surveys and reported to ODOE and ODFW. Weeds will be controlled as needed to maintain and enhance habitat quality within the mitigation area, with the goal of working toward eradication of targeted noxious weeds or, if eradication is not practical, decreasing their abundance to minimize impacts on native plant communities. Weed management practices will be consistent with an integrated weed management approach, using an appropriate combination of inventory; prevention (such as best management practices to prevent weed establishment); and control methods (such as hand pulling, mowing, biological control, and/or herbicides). The certificate holder shall obtain ODFW's approval prior to the use of pesticides. Controlling weeds in the HMA should promote growth of native vegetation. If a substantial area of soil is left bare from weed control activities, the area will be seeded using the appropriate methods (as described in the Revegetation and Noxious Weed Control Plan) during the appropriate time of year and using an appropriate mixture of native grass and/or shrub seeds.

B. Fire Damage Revegetation

If vegetation in the HMA is damaged from fire or from fire suppression efforts (e.g., vehicular disturbance), the area would be seeded as necessary with the appropriate seed mix using the appropriate methods, as described in the Revegetation and Noxious Weed Control Plan.

C. Access Control and Wildlife-Compatible Fencing

The certificate holder will monitor and control access to the HMA and will post informative signs depicting the area(s) as "protected" and including natural resources information as appropriate for the

life of the facility. Primary access to the PGE property is controlled by a gate off Tower Road north of the Carty Generating Station (currently used by PGE and The Nature Conservancy [TNC]), the gated entrance to the Boardman Plant, and a gated road from Ione to the south. TNC and Three Mile Canyon Farms may occasionally use the two-track access crossing PGE's property to access the Farm's conservation area. Approved access to the site is currently limited to such occasional approved use of access roads and PGE's general operational needs. Any fences within or bordering the mitigation area(s) will be removed or modified to wildlife-friendly specifications as appropriate. No livestock grazing is currently occurring on the site, and grazing would not be allowed in the future. Periodic monitoring (at least annually but typically more frequently concurrent with other site activities) will be conducted to evaluate effectiveness of access control measures and signage maintenance needs.

~~**D. Enhancement and Sagebrush Habitat**~~

~~To mitigate for permanent impacts to Category 3, and 4 sagebrush habitat affected at the Carty Solar Farm (see acreage in Table 4), the certificate holder will plant sagebrush and/or bitterbrush seedlings in the HMA for the Carty Solar Farm, focusing on enhancing and expanding remnant stands of shrubs that were impacted by past wildfires. Sagebrush and/or bitterbrush seedlings will be planted at a density of 450 plants per acre (approximately 10 feet on center). Planted shrubs will be monitored annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period. Methods and performance criteria to be finalized through consultation with ODFW.~~

E. ~~**Provide Additional Raptor Nesting Opportunities**~~

~~As recommended by ODFW, to mitigate for removal of juniper trees and potential raptor nesting sites in the Carty Solar Farm permanent footprint, the certificate holder will plant up to one tree per 10 acres (roughly 660-foot spacing on center) based on the final size of the HMA for the Carty Solar Farm. Initial planting will be conducted in the October/November or February/March time period during the first year following start of construction. Planted juniper trees will be monitored annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period. Methods and performance criteria to be finalized through consultation with ODFW.~~

VII. MITIGATION AREA MONITORING

The certificate holder shall use a qualified investigator (botanist, wildlife biologist, or revegetation specialist) to conduct a comprehensive monitoring program for the HMA. The purpose of this monitoring is to evaluate on an ongoing basis the protection of habitat quality, the results of enhancement actions, and the use of the area by avian and mammal species, especially during the wildlife breeding season.

The investigator shall visit the HMA as necessary to complete the required monitoring during the first, third, and fifth year after Unit 1~~, and the Carty Solar Farm construction (i.e., 2017, 2019, 2021)~~ and every fifth year thereafter (in years divisible by five, unless otherwise specified for specific measures) for the life of the Project. Monitoring activity shall include an assessment of the following:

General quality of vegetation cover (dominant species, structural age, etc.), as determined by ocular estimates and photo points (see below);

1) Success of weed control efforts;
2) Success of remedial actions to restore habitat quality in damaged areas (such as managed weed infestations and any necessary seeding/planting areas), as determined by vegetation cover (ocular estimate) and photo points (see below). Areas where remedial actions involve soil disturbance and reseeding would be monitored consistent with the revegetation monitoring methods and schedule as described in the Amended Carty Generating Station Revegetation and Noxious Weed Plan. ~~See~~

~~Section VI for schedule and performance criteria for habitat enhancements involving shrub and juniper plantings.~~

3) Photos taken from established photo points within the HMA, including 1) a minimum of five permanent photo points distributed to show general vegetation status throughout the HMA, and 2) additional photo points as needed to monitor success of significant enhancement activities, such as managed weed infestations and/or any necessary seeding/planting areas;
4) Incidental wildlife occurring within the HMA (counts concurrent with all other monitoring work);
5) Environmental factors found on site during monitoring activities and annual summary records (such as precipitation);
6) Surveys of resident special status wildlife species (WGS) that have been documented during previous monitoring or survey efforts within the HMA, using existing protocols approved by ODFW; and
7) Avian point counts during the breeding season at existing point count stations, formerly monitored under the Boardman Plant Ecological Monitoring Program, in the vicinity of the HMA(s). Four point-count stations are located in the immediate vicinity of the HMA for Unit 1, and an additional ~~four sites~~ six point-count stations are located in the immediate vicinity of the proposed HMA for the Carty Solar Farm.

VIII. DATA REPORTING

The certificate holder shall submit a report including wildlife and habitat monitoring data and analysis to ODOE and ODFW during each monitoring year according to the schedule in Table 5. The certificate holder shall notify USFWS and ODFW within one business day if any federal or state endangered or threatened species are killed or injured on the facility site or within the HMA. The certificate holder may include the reporting of wildlife monitoring data and analysis in the report required under OAR 345-026-0080 or submit this information as a separate document concurrent with the submittal of the report. In addition, the certificate holder shall provide ODOE with any data or record generated by the investigators in carrying out this Amended Plan upon request by ODOE.

Table 5. Schedule of Wildlife Mitigation and Monitoring Programs

Task	Schedule
Post-construction Washington Ground Squirrel Survey Monitoring	Year one, three and five after operation of Unit 1 has begun and in year one, three and five after operation of Carty Solar Farm has begun, and otherwise at least every five years (in years divisible by five) thereafter for the life of the facility.
Raptor Nest Monitoring	
~~Post-construction Avian and Bat Mortality Monitoring~~	~~A full year of formal post construction avian and bat monitoring in the year following start of Carty Solar Farm operation.~~ ~~N/A for Unit 1.~~
General HMA Monitoring	During the first, third, and fifth year after Unit 1 HMA, (i.e., 2017, 2019, 2021) ~~and during the first, third, and fifth years after Carty Solar Farm construction for Carty Solar Farm HMA,~~ and ~~otherwise~~ every fifth year thereafter for
Noxious Weed Inventory for HMA	

	the life of the facility for entire applicable HMA.
General Weed Control and Monitoring Activity for HMA	At least every two years (in priority areas based every-five-year comprehensive inventory results) starting from the completion of construction.
~~HMA Sagebrush Habitat Monitoring~~	~~Annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period, for the Carty Solar Farm.~~ ~~N/A for Unit 1.~~
~~Additional Raptor Nest Opportunities (juniper plantings) Monitoring for HMA~~	~~Annually for a period of five years, with a performance goal of 60% survival at the end of the five-year monitoring period for Carty Solar Farm.~~ ~~N/A for Unit 1.~~

IX. AMENDMENT OF THE PLAN

This Wildlife and Habitat Monitoring and Mitigation Plan may be periodically amended and updated to include current and best available practices by agreement of the certificate holder and ODOE. Such amendments may be made without amendment of the Site Certificate. The Energy Facility Siting Council (Council) authorizes ODOE to agree to amendments to this plan and to mitigation actions that may be required under this Plan. ODOE shall notify the Council of all amendments and mitigation actions, and the Council retains the authority to approve, reject, or modify any amendment of this plan or mitigation action agreed to by ODOE.

X. LITERATURE CITED

Buckland, S. T., D. R. Anderson, K. P. Burnham, and J. L. Laake. 1993. Distance Sampling: Estimating Abundance of Biological Populations. Chapman & Hall, London, United Kingdom.

Huso, M. 2011. An estimator of wildlife fatality from observed carcasses. *Environmetrics*, n/a. doi: 10.1002/env.1052.

Huso, M., N. Som, and L. Ladd. 2012. Fatality estimator user's guide. U.S. Geological Survey Data Series 729. Available at: http://pubs.usgs.gov/ds/729/pdf/ds729.pdf.

Huso, M., D. H. Dalthorp, T. Miller, and D. Bruns. 2016a. Wind Energy Development- Methods for Assessing Post-Construction Bird and Bat Mortality. Human-Wildlife Interactions 10(1): 62-70.

Huso, M., T. Dietsch, and C. Nicolai. 2016b. Mortality Monitoring Design for Utility-Scale Solar Power Facilities. US Geological Survey (USGS) Open-File Report 2016-1087. 44 pp.

Kagan, R.A., Viner T.C., Pepper W. T. and Espinoza E.O. 2014. Avian Mortality at Solar Energy Facilities in Southern California: A Preliminary Analysis. National Fish and Wildlife Forensics Laboratory

Western Ecosystems Technology, Inc. (WEST). 2016a. Avian and Bat Monitoring at the Desert Sunlight Solar Farm Project Riverside County, California, 2015 - 2016 Annual Report [Draft]. Prepared for Desert Sunlight 250, LLC and Desert Sunlight 300, LLC, Juno Beach, Florida. Prepared by WEST, Cheyenne Wyoming.

Western EcoSystems Technology, Inc. (WEST). 2016b. Bird and Bat Conservation Strategy, Blythe Solar Energy Project, Riverside County, California. 57 pp.

Western EcoSystems Technology, Inc. (WEST). 2016c. Bird and Bat Conservation Strategy, McCoy Solar Energy Project, Riverside County, California. 57 pp.

Attachment E: Draft Inadvertent Discovery Plan

1 Purpose

This procedure provides a protection and mitigation protocol for an inadvertent cultural resource's discovery, until the discovery has reached an appropriate resolution. Most inadvertently-discovered cultural resources occur during ground-disturbing activities associated with facilities development, maintenance, or improvement.

Cultural Resources consist of the physical remains of the activities of people in the past. This Inadvertent Discovery Procedure (IDP) should be followed should any archaeological sites, objects, or human remains are found. These are protected under Federal and State laws and their disturbance can result in criminal penalties.

1.1 Scope

1.1.1 The scope of this procedure is to minimize impacts to **cultural resources**.

1.1.2 This procedure is applicable to all PGE personnel and PGE contractors.

1.1.3 The procedure outlines appropriate steps for PGE employees and their contractors when **cultural resources** are inadvertently or unanticipatedly discovered during work.

1.1.4 **Inadvertent discoveries** are categorized as either "definitely human remains" or "not definitely human remains" and the steps after each type of discovery are distinct.

1.1.5 **Cultural resources** can be found during any ground-disturbing activity. If encountered all excavation and work in the area MUST STOP. Archaeological objects vary and can include evidence or remnants of historic-era and precontact activities by humans. Archaeological objects can include but are not limited to:

A. Stone flakes, arrowheads, stone tools, bone or wooden tools, baskets, beads

B. Historic building materials such as nails, glass, metal such as cans, barrel rings, farm implements, ceramics, bottles, marbles

C. Layers of discolored earth resulting from hearth fire

D. Structural remains such as foundations

E. Shell Middens

F. Culturally Modified Trees

G. Human skeletal remains and/or bone fragments which may be whole or fragmented

1.1.6 If there is an **inadvertent discovery** of any **cultural resources**, follow this procedure. If in doubt, call it in.

1.2 Precautions

1.2.1 Determine that the area of the **inadvertent find** is safe to work in before implementing protection measures.

1.2.2 The **inadvertent find** should not be photographed, handled or removed until a professional archaeologist is contacted or on site.

1.2.3 Any communication with media should be routed through PGE's Corporate Communication department and must be avoided until adequate assessment of the discovery is made.

1.2.4 If the **inadvertent find** is clearly human, it must be treated with respect and not further disturbed.

1.2.5 PGE shall make its best efforts, in accordance with federal and state law to ensure that its personnel and contractors keep any discovery confidential. PGE will not contact the media, or any third-party member or members of the public regarding a discovery. Prior to any release of information by PGE, PGE shall concur with the responsible agencies and Tribes on the amount of information, if any, to be released to the public.

1.2.6 If applicable, review the sites HPMP (Historical Properties Management Plan) which is included in the FERC license.

1.2.7 For known environmentally sensitive areas, notify EHS prior to any ground disturbance.

1.3 Limitations

1.3.1 This procedure is limited to the treatment of unanticipated identification of **cultural resources** in the course of a PGE action/operation.

2 Responsibilities

2.1 PGE Personnel and Contractors

2.1.1 Stops work when an **inadvertent discovery** of a **cultural resource** is made.

2.1.2 Contacts appropriate personnel and protects the area, per the procedure.

2.2 PGE Security

2.2.1 Acts as point of contact for calls about inadvertent discoveries.

2.2.2 Notifies law enforcement when probable human remains are involved.

2.3 Cultural Resources Specialist

2.3.1 Conducts preliminary in-field assessment of the discovery.

2.3.2 Coordinates with PGE security as required.

2.3.3 Notifies appropriate agencies and/or appropriate Tribes within 24 hours of the discovery.

2.3.4 Provides direction and support services to affected personnel.

2.3.5 Engages an external consultant if required.

2.4 PGE Management

2.4.1 Ensures all site/facility employees have received the **cultural resources** sensitivity training.

2.4.2 Contacts PGE's Cultural Resources Specialist to discuss adequate protection for the discovery until a professional in-field assessment of the discovery is made.

2.4.3 Follows any additional management plan guidance specific to PGE project facilities.

3 Procedure

3.1 Prerequisite Actions

3.1.1 Field personnel and supervisors must complete the required Environmental Compliance Training provided by Environmental and Licensing Services that includes cultural awareness training.

3.2 Procedure

3.2.1 Initial Response

A. If an **inadvertent discovery** of a cultural resource is made, all work within the area of discovery shall cease immediately.

1. If the **inadvertent discovery** is believed to be human remains stop ALL work immediately and follow these steps.

a. Contact PGE Security and Environmental Health & Safety (EHS) immediately within two hours or as soon as reasonably practical.

b. Cover remains from view and protect them from damage or exposure, restrict access, and leave in place until directed otherwise. **Do not take photographs. Do not speak to the media.**

c. PGE Security: Contact local law enforcement to determine whether the find is forensic, i.e., a recent death requiring a criminal investigation.

d. Contact the PGE's Cultural Resources Specialist (EHS): See the "Cultural Resources Discovery Contact List" (A01).

2. If the discovery is not definitively human remains, PGE's personnel who uncovered the find or their supervisor will contact PGE's Cultural Resources Specialist (EHS) within two hours of discovery or as soon as practical.

a. PGE's Security does not need to be contacted.

B. PGE Personnel will flag off a buffered area about 200 feet around the discovery if possible.

1. The area of work stoppage must be large enough to provide for the security, protection, and integrity of the discovery.

C. PGE Personnel must promptly protect the discovery from continued exposure to the weather and from public view.

1. This may be accomplished using a clean tarp or other fabric.

3.2.2 Assessment

A. If the local law enforcement has been contacted by PGE Security, law enforcement will conduct an assessment to determine if it is a crime scene.

B. If the site is determined not to be a crime scene by local law enforcement or that the find is definitely not modern, do not move anything! The remains will continue to be secured in place along with any associated funerary objects, and protected from weather, water runoff, and shielded from view. PGE's Cultural Resources Specialist will conduct an on-site assessment of the **inadvertent discovery**.

1. PGE's Cultural Resources Specialist will ensure that all work has halted near the find, that the protection buffer has been created and is adequate, and that the **inadvertent discovery** continues to be treated with respect and secured from harm.

2. If the discovery has been determined non-modern human remains by law enforcement, PGE's Cultural Resources Specialist will contact the State Historic Preservation Office (SHPO) and Commission on Indian Services (CIS) for further guidance as soon as possible, along with the notifying the appropriate Tribes as designated by CIS.
3. If the discovery is not human remains but a cultural resource, PGE's Cultural Resources Specialist will contact the State Historic Preservation Officer and appropriate Tribes as designated by CIS within 24 hours of the discovery.
4. PGE's Cultural Resources Specialist will inform PGE Management or Project Manager of a reasonable time frame within which construction or maintenance activity can resume at the location of discovery.
5. PGE's Cultural Resources Specialist will inform appropriate PGE management of the **inadvertent discovery** within 24 hours of the find.

C. Do not resume any work in the buffered area until a plan is developed and carried out between the State Police, SHPO, CIS, and appropriate Native American Tribes and you are directed that work may proceed.

3.3 Acceptance Criteria

None

3.4 Post-Performance Activity

3.4.1 PGE's Cultural Resources Specialist will coordinate further archaeological fieldwork and reporting required to complete documentation of the **inadvertent find**.

3.4.2 If Tribes require repatriation of any **cultural resources**, PGE's Cultural Resources Specialist will coordinate the effort with stakeholders jointly identified by the SHPO, Tribes designated by CIS, and PGE within a reasonable time frame.

3.4.3 PGE will follow appropriate laws and management procedures to assure the proper treatment and care of the discovery.

3.4.4 PGE's Cultural Resources Specialist will confirm with PGE Management when the area is cleared for work to resume.

4 References

4.1 Industry Standards or Codes

4.1.1 Code Federal Regulations (CFR): Native American Graves Protection and Repatriation Act (NAGPRA): 43 CFR 10

4.1.2 Oregon Revised Statute:

A. ORS 97.740-994 and 358.905-961: Protection under Oregon State law

B. ORS 146.090 & .095: Deaths requiring investigation in OR

4.1.3 Revised Code of Washington: RCW 68.50.645, 27.44.055, and 68.60.055: Inadvertent Discoveries in WA

5 Definitions and Acronyms

5.1 Definitions

5.1.1 **Cultural Resources:** Physical evidence of past human activity (site, object, structure, natural feature or landscape) considered significant by a group of people traditionally associated with it. **Cultural resources** are defined as being fifty years or older. These resources may include artifacts (lithic or stone tools or fragments of tools, ceramic vessels, animal remains, can scatters, farm equipment), or features (remnants of walls, petroglyphs, cooking hearths or trash middens). **Cultural resources** may be the location of a significant event, prehistoric or historic occupation or activity, whether standing, ruined, or vanished, and possessing historical, cultural, or archaeological value.

5.1.2 **Inadvertent Discoveries/Finds: Cultural resources** found unexpectedly during construction or maintenance activities.

5.2 Acronyms

5.2.1 CIS: Commission on Indian Services

5.2.2 EHS: Environmental Health and Safety

5.2.3 HPMP: Historical Properties Management Plan

5.2.4 IDP: Inadvertent Discovery Procedure

5.2.5 NAGPRA: Native American Graves Protection and Repatriation Act

5.2.6 SHPO: State Historic Preservation Office

6 Forms and Appendices

6.1 Forms

None

6.2 Appendices

6.2.1 A01: IDP Contact List

7 Revision Table

Review this document no later than three (3) years of the effective date, as required by the Document Governance.

Rev. No.	Revision Date	Reason for Revision	Affected Pages
0	3/9/2016	Issued for implementation by the Generation Procedure Advisory Committee	ALL
1	2/19/2018	New template; correcting typos in A01.	A01
2	09/14/2021	Purpose statement and Scope section edited; Revised Procedure Steps and Process; Added Confidentiality statement; new template. Scope applicable to all of PGE: numbering changed.	ALL

Name	Affiliation	Office Phone	Mobile Phone	Email/Other	Availability
On Duty	PGE Security	503-464-8196	–		24/7
Kenny Gunn	PGE Cultural Resources Specialist (EHS)	**503-464-BONE (503-464-2663)**	503-550-5822	kenny.gunn@pgn.com	24/7
Oregon State Police – Lt. Craig Heuberger	Oregon Law Enforcement	Dial *OSP or *677	503-480-0779	ask.osp@osp.oregon.gov or cheuber@osp.oregon.gov	Dispatch 24/7
Washington State Patrol (Vancouver District)	Washington Law Enforcement	360-449-7999	–		Dispatch 24/7
Dr. Veronica Vance	Oregon Physical Anthropologist	971-673-8200	971-673-8220 (Dispatch)		Dispatch 24/7
Dr. Guy Tasa	Washington State Physical Anthropologist	360-790-1633	Same	Guy.tasa@dahp.wa.gov	Mon–Fri 8–4
John Pouley	State Archaeologist/ Oregon SHPO	503-480-9164	Same	john.pouley@oregon.gov	Mon–Fri 7:30–3:30
Elissa Bullion	State Physical Anthropologist/ Commission on Indian Services	503-986-1067		Elissa.Bullion@oregonlegislature.gov	24/7

Attachment F: Retirement Cost Estimate

Estimate Summary
TETRA TECH EC, INC.
Job Code: PGE-Carty Solar
Description: Decommissioning Estimate

CBS Position Code	Quantity	UM	Cost Item Description	UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1	1.00	Lump Sum	PGE - CARTY SOLAR RETIREMENT	0.00	Detail	U.S. Dollar	16,234,459.63	16,234,459.63
1.1	1.00	Lump Sum	Equipment & Facilities Mob / Demob	0.17	Detail	U.S. Dollar	195,841.35	195,841.35
1.1.1	1.00	Lump Sum	Equipment Mob	0.00	Detail	U.S. Dollar	81,200.00	81,200.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UERNTRLG	Rental Equip Transp-Large		8.00	Each	U.S. Dollar	10,000.00	80,000.00
UERNTRSM	Rental Equip Transp-Small		8.00	Each	U.S. Dollar	150.00	1,200.00

1.1.2	1.00	Lump Sum	Site Facilities	0.00	Detail	U.S. Dollar	5,600.00	5,600.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UOCONMOB	Connex Box Mob		8.00	Each	U.S. Dollar	300.00	2,400.00
UOTRLTRN	Trailer Trnsp/Setup/Trdwn		4.00	Each	U.S. Dollar	800.00	3,200.00

1.1.3	3.00	Day	Crew Mob & Site Setup	1.00	Detail	U.S. Dollar	18,173.56	54,520.67

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	900.00	30.00	Each (hourly)	U.S. Dollar	45.44	40,899.87
L010101	OPERATOR	240.00	8.00	Each (hourly)	U.S. Dollar	56.75	13,620.80

1.1.4	3.00	Day	Crew Demob & Site Cleanup	1.00	Detail	U.S. Dollar	18,173.56	54,520.67

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	900.00	30.00	Each (hourly)	U.S. Dollar	45.44	40,899.87
L010101	OPERATOR	240.00	8.00	Each (hourly)	U.S. Dollar	56.75	13,620.80

1.2	1.00	Lump Sum	Project Site Support	0.00	Detail	U.S. Dollar	621,672.83	621,672.83
1.2.1	10.00	Month	Site Facilities	0.00	Detail	U.S. Dollar	8,220.00	82,200.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
URCONNEX	Connex Box		80.00	Month	U.S. Dollar	150.00	12,000.00
UROFFTRL	Office Trailer -12x60		40.00	Month	U.S. Dollar	500.00	20,000.00
UO1STAID	1st Aid Supplies		40.00	Month	U.S. Dollar	300.00	12,000.00
UOOFFSUP	Office Supplies($/prs/mo)		40.00	Month	U.S. Dollar	55.00	2,200.00
URPRTAJH	Port-a-John Unit(s) (4)		120.00	Month	U.S. Dollar	300.00	36,000.00

1.2.2	10.00	Month	Field Management	0.05	Detail	U.S. Dollar	53,947.28	539,472.83

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L90FXX02	Field - Proj Superintendent	2,200.00	1.00	Each (hourly)	U.S. Dollar	83.18	183,000.40
RPUTRK05	F-250 4X4 3/4 TON PICKUP	6,600.00	3.00	Each (hourly)	U.S. Dollar	11.07	73,029.00
L90FEL00	Field - Engr. Tech	2,200.00	1.00	Each (hourly)	U.S. Dollar	39.57	87,062.85
L90FXX03	Field - SHSO	2,200.00	1.00	Each (hourly)	U.S. Dollar	89.26	196,380.58

1.3	1.00	Each	Substation Retirement	0.05	Detail	U.S. Dollar	167,977.15	167,977.15
1.3.1	1.00	Day	Fence Removal	1.00	Detail	U.S. Dollar	1,354.33	1,354.33

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	10.00	1.00	Each (hourly)	U.S. Dollar	56.75	567.53
L060100	GENERAL LABORER	10.00	1.00	Each (hourly)	U.S. Dollar	45.44	454.44
RBACKH09	Deere 710J BACKHOE, 1.62CY	10.00	1.00	Each (hourly)	U.S. Dollar	33.24	332.35

1.3.2	1.00	Each	Transformer Removal	0.17	Detail	U.S. Dollar	102,049.58	102,049.58
1.3.2.1	1.00	Each	Oil Removal & Disposal	1.00	Detail	U.S. Dollar	66,283.89	66,283.89

Copyright ©020 InEight Inc. All Rights Reserved.

CBS Position Code	Quantity	UM	Description	UM/Day	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item					
1.3.2.1.1	1.00	Each	Oil Removal	1.00	Detail	U.S. Dollar	908.89	908.89

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	20.00	2.00	Each (hourly)	U.S. Dollar	45.44	908.89

1.3.2.1.2	16,000.00	Gallon	Oil Disposal	0.00	Detail	U.S. Dollar	4.00	64,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USDISPOSAL	Disposal Fee's		64,000.00	Each	U.S. Dollar	1.00	64,000.00

1.3.2.1.3	1.00	Each	Trucking - Per Load	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

1.3.2.2	1.00	Each	Dismantle & Loadout Transformer	0.20	Detail	U.S. Dollar	35,765.70	35,765.70

1.3.2.2.1	1.00	Each	Dismantle, Cut & Size	0.20	Detail	U.S. Dollar	30,265.70	30,265.70

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	200.00	4.00	Each (hourly)	U.S. Dollar	45.44	9,088.86
L010101	OPERATOR	100.00	2.00	Each (hourly)	U.S. Dollar	56.75	5,675.34
*REXCAV06A	Excav 100K w/ Bucket & Grapple	50.00	1.00	Each (hourly)	U.S. Dollar	124.54	6,226.75
*REXCAV06E	Excav 100K w/ Shear	50.00	1.00	Each (hourly)	U.S. Dollar	185.50	9,274.75

1.3.2.2.2	4.00	Each	Trucking - Per Load	0.00	Detail	U.S. Dollar	1,375.00	5,500.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		5,500.00	Each	U.S. Dollar	1.00	5,500.00

1.3.3	1.00	Each	Remove Control Building	2.00	Detail	U.S. Dollar	2,508.66	2,508.66

1.3.3.1	1.00	Each	Demo	2.00	Detail	U.S. Dollar	1,133.66	1,133.66

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	5.00	1.00	Each (hourly)	U.S. Dollar	45.44	227.22
L010101	OPERATOR	5.00	1.00	Each (hourly)	U.S. Dollar	56.75	283.77
*REXCAV06A	Excav 100K w/ Bucket & Grapple	5.00	1.00	Each (hourly)	U.S. Dollar	124.54	622.68

1.3.3.2	1.00	Each	Trucking - Per Load	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

1.3.4	1.00	Day	UG Utility & Ground Removal	1.00	Detail	U.S. Dollar	1,354.33	1,354.33

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	10.00	1.00	Each (hourly)	U.S. Dollar	56.75	567.53
L060100	GENERAL LABORER	10.00	1.00	Each (hourly)	U.S. Dollar	45.44	454.44
RBACKH09	Deere 710J BACKHOE, 1.62CY	10.00	1.00	Each (hourly)	U.S. Dollar	33.24	332.35

1.3.5	502.00	Cubic Yard	Remove Foundations To Subgrade	73.68	Detail	U.S. Dollar	27.85	13,979.03

1.3.5.1	502.00	Cubic Yard	Excavate / Remove Foundation - Various Depth	280.00	Detail	U.S. Dollar	15.87	7,968.37

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	17.93	1.00	Each (hourly)	U.S. Dollar	45.44	814.75
L010101	OPERATOR	35.86	2.00	Each (hourly)	U.S. Dollar	56.75	2,035.01
*REXCAV06C	Excav 100K w/ Hammer	17.93	1.00	Each (hourly)	U.S. Dollar	160.97	2,885.87

Copyright ©020 InEight Inc. All Rights Reserved.

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
*REXCAV06A	Excav 100K w/ Bucket & Grapple		17.93	1.00 Each (hourly)	U.S. Dollar		124.54	2,232.73
1.3.5.2	502.00	Cubic Yard	Concrete Transport Offsite	100.00	Detail	U.S. Dollar	11.97	6,010.66
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
RDUTRK06	CAT D350D, 18CY-24CY		50.20	1.00 Each (hourly)	U.S. Dollar		74.29	3,729.36
L080940	TEAMSTER		50.20	1.00 Each (hourly)	U.S. Dollar		45.44	2,281.30
1.3.6	1.00	Each	Misc. Material Disposal	0.00	Detail	U.S. Dollar	2,575.00	2,575.00
1.3.6.1	1.00	Each	Trucking - Per Load	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
1.3.6.2	20.00	Ton	Disposal Cost	0.00	Detail	U.S. Dollar	60.00	1,200.00
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
USDISPOSAL	Disposal Fee's			1,200.00 Each	U.S. Dollar		1.00	1,200.00
1.3.7	1.00	Each	Restore Yard	0.16	Detail	U.S. Dollar	44,156.22	44,156.22
1.3.7.1	3.20	Acre	Remove Aggregate / Backfill / Regrade	1.60	Detail	U.S. Dollar	2,115.37	6,769.18
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
L060100	GENERAL LABORER		40.00	2.00 Each (hourly)	U.S. Dollar		45.44	1,817.77
L010101	OPERATOR		40.00	2.00 Each (hourly)	U.S. Dollar		56.75	2,270.13
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
1.3.7.2	1,290.00	Cubic Yard	Vegetative Cover	300.00	Detail	U.S. Dollar	27.74	35,787.04
1.3.7.2.1	1,290.00	Cubic Yard	Topsoil, Delivered	0.00	Detail	U.S. Dollar	20.00	25,800.00
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
IMSOIL	Topsoil			1,290.00 Cubic Yard	U.S. Dollar		20.00	25,800.00
1.3.7.2.2	1,290.00	Cubic Yard	Placement	300.00	Detail	U.S. Dollar	7.74	9,987.04
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
L010101	OPERATOR		86.00	2.00 Each (hourly)	U.S. Dollar		56.75	4,880.79
RDOZER08	CAT D6N XL		86.00	2.00 Each (hourly)	U.S. Dollar		59.38	5,106.25
1.3.7.3	3.20	Acre	Re-Seed With Native Vegetation	0.00	Detail	U.S. Dollar	500.00	1,600.00
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
USLANDSCAPE	Landscape Sub			3.20 Acre	U.S. Dollar		500.00	1,600.00
1.4	1.00	Lump Sum	Transmission Line Retirement	0.45	Detail	U.S. Dollar	10,944.13	10,944.13
1.4.1	300.00	Linear Feet	Conductor Removal	1,500.00	Detail	U.S. Dollar	2.09	627.39
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
L060100	GENERAL LABORER		8.00	4.00 Each (hourly)	U.S. Dollar		45.44	363.55
L010101	OPERATOR		2.00	1.00 Each (hourly)	U.S. Dollar		56.75	113.51
*RXMISC14	MAN LIFT GAS 125ft		2.00	1.00 Each (hourly)	U.S. Dollar		53.52	107.04
RLIFTS05	JCB 508C, 8,000lbs FRKLFT		2.00	1.00 Each (hourly)	U.S. Dollar		21.65	43.29
1.4.2	1.00	Each	Structure Removal	1.00	Detail	U.S. Dollar	5,391.45	5,391.45
1.4.2.1	1.00	Each	Cut / Lower Structure	2.00	Detail	U.S. Dollar	1,914.80	1,914.80
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
L060100	GENERAL LABORER		20.00	4.00 Each (hourly)	U.S. Dollar		45.44	908.89

Copyright ©020 InEight Inc. All Rights Reserved.

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
L010101	OPERATOR		5.00	1.00 Each (hourly)	U.S. Dollar		56.75	283.77
*RXMISC14	MAN LIFT GAS 125ft		5.00	1.00 Each (hourly)	U.S. Dollar		53.52	267.60
*RXMISC23	GROVE RT 200 TON		5.00	1.00 Each (hourly)	U.S. Dollar		90.91	454.55
1.4.2.2	1.00	Each	Cut / Size Structure & Loadout	2.00	Detail	U.S. Dollar	2,101.65	2,101.65

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	30.00	6.00	Each (hourly)	U.S. Dollar	45.44	1,363.33
L010101	OPERATOR	5.00	1.00	Each (hourly)	U.S. Dollar	56.75	283.77
*RXMISC23	GROVE RT 200 TON	5.00	1.00	Each (hourly)	U.S. Dollar	90.91	454.55
1.4.2.3	1.00 Each	Trucking - Per Load	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

Notes: **********
Assume 9 ton per steel structure and cable span
****

1.4.3	1.00 Each	Remove Foundations To Subgrade	0.98	Detail	U.S. Dollar	4,925.29	4,925.29
1.4.3.1	1.00 Each	Excavate / Remove Foundation - Various Depth	1.00	Detail	U.S. Dollar	4,898.95	4,898.95

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	20.00	2.00	Each (hourly)	U.S. Dollar	45.44	908.89
L010101	OPERATOR	20.00	2.00	Each (hourly)	U.S. Dollar	56.75	1,135.07
*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
1.4.3.2	1.65 Cubic Yard	Concrete Transport Offsite	75.00	Detail	U.S. Dollar	15.96	26.34

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
RDUTRK06	CAT D350D, 18CY-24CY	0.22	1.00	Each (hourly)	U.S. Dollar	74.29	16.34
L080940	TEAMSTER	0.22	1.00	Each (hourly)	U.S. Dollar	45.44	10.00
1.5	1.00 Lump Sum	Collector Line Retirement	0.05	Detail	U.S. Dollar	69,243.18	69,243.18
1.5.1	5,280.00 Linear Feet	Conductor Removal	528.00	Detail	U.S. Dollar	6.72	35,494.56
1.5.1.1	1.00 Lump Sum	Cut / Lower Cable, Size & Loadout	0.10	Detail	U.S. Dollar	31,369.56	31,369.56

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	400.00	4.00	Each (hourly)	U.S. Dollar	45.44	18,177.72
L010101	OPERATOR	100.00	1.00	Each (hourly)	U.S. Dollar	56.75	5,675.34
*RXMISC14	MAN LIFT GAS 125ft	100.00	1.00	Each (hourly)	U.S. Dollar	53.52	5,352.00
RLIFTS05	JCB 508C, 8,000lbs FRKLFT	100.00	1.00	Each (hourly)	U.S. Dollar	21.65	2,164.50
1.5.1.2	3.00 Each	Trucking - Per Load	0.00	Detail	U.S. Dollar	1,375.00	4,125.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		4,125.00	Each	U.S. Dollar	1.00	4,125.00
1.5.2	30.00 Each	Utility Pole Removal	3.08	Detail	U.S. Dollar	1,124.95	33,748.63
1.5.2.1	30.00 Each	Cut / Lower Pole	5.00	Detail	U.S. Dollar	570.74	17,122.23

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	240.00	4.00	Each (hourly)	U.S. Dollar	45.44	10,906.63
L010101	OPERATOR	60.00	1.00	Each (hourly)	U.S. Dollar	56.75	3,405.20
RHYDCR05	GROVE RT600E 40 TON	60.00	1.00	Each (hourly)	U.S. Dollar	46.84	2,810.40
1.5.2.2	30.00 Each	Size & Loadout	8.00	Detail	U.S. Dollar	356.71	10,701.40

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost

Copyright ©020 InEight Inc. All Rights Reserved.

Cost Item								
CBS Position Code	Quantity UM	Description		UM/Day	Cost Source	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER		150.00	4.00 Each (hourly)	U.S. Dollar		45.44	6,816.65
L010101	OPERATOR		37.50	1.00 Each (hourly)	U.S. Dollar		56.75	2,128.25
RHYDCR05	GROVE RT600E 40 TON		37.50	1.00 Each (hourly)	U.S. Dollar		46.84	1,756.50
1.5.2.3	3.00 Each	Trucking - Per Load		0.00	Detail	U.S. Dollar	1,375.00	4,125.00
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
USTRUCKING	Trucking Sub			4,125.00 Each	U.S. Dollar		1.00	4,125.00
1.5.2.4	30.00 Ton	Disposal Cost		0.00	Detail	U.S. Dollar	60.00	1,800.00
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
USDISPOSAL	Disposal Fee's			1,800.00 Each	U.S. Dollar		1.00	1,800.00
Notes: ********** Assumption: 30 poles x 2000' per pole **********								
1.6	1.00 Lump Sum	O&M Building Removal		0.11	Detail	U.S. Dollar	46,179.48	46,179.48
1.6.1	1.00 Day	Excavate, Cut & Cap Utilities		1.00	Detail	U.S. Dollar	1,354.33	1,354.33
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
L060100	GENERAL LABORER		10.00	1.00 Each (hourly)	U.S. Dollar		45.44	454.44
L010101	OPERATOR		10.00	1.00 Each (hourly)	U.S. Dollar		56.75	567.53
RBACKH09	Deere 710J BACKHOE, 1.62CY		10.00	1.00 Each (hourly)	U.S. Dollar		33.24	332.35
1.6.2	1.00 Lump Sum	Interior Demo & Removal		0.33	Detail	U.S. Dollar	15,820.37	15,820.37
1.6.2.1	3.00 Day	Interior Demo		1.00	Detail	U.S. Dollar	3,373.46	10,120.37
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
L060100	GENERAL LABORER		120.00	4.00 Each (hourly)	U.S. Dollar		45.44	5,453.32
L010101	OPERATOR		30.00	1.00 Each (hourly)	U.S. Dollar		56.75	1,702.60
*RXMISC19	Material Handler		30.00	1.00 Each (hourly)	U.S. Dollar		98.82	2,964.45
1.6.2.2	60.00 Ton	Material T&D		0.00	Detail	U.S. Dollar	95.00	5,700.00
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
USTRUCKING	Trucking Sub			3,900.00 Each	U.S. Dollar		1.00	3,900.00
USDISPOSAL	Disposal Fee's			1,800.00 Each	U.S. Dollar		1.00	1,800.00
1.6.3	2.00 Day	Structure Demo		1.00	Detail	U.S. Dollar	10,178.14	20,356.28
1.6.3.1	2.00 Day	Structure Demo		1.00	Detail	U.S. Dollar	6,053.14	12,106.28
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
*REXCAV06A	Excav 100K w/ Bucket & Grapple		20.00	1.00 Each (hourly)	U.S. Dollar		124.54	2,490.70
*REXCAV06E	Excav 100K w/ Shear		20.00	1.00 Each (hourly)	U.S. Dollar		185.50	3,709.90
L010101	OPERATOR		40.00	2.00 Each (hourly)	U.S. Dollar		56.75	2,270.13
L060100	GENERAL LABORER		80.00	4.00 Each (hourly)	U.S. Dollar		45.44	3,635.54
1.6.3.2	6.00 Each	Trucking - Per Load		0.00	Detail	U.S. Dollar	1,375.00	8,250.00
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**
USTRUCKING	Trucking Sub			8,250.00 Each	U.S. Dollar		1.00	8,250.00
Notes: ********** Assumption: 45,000 lbs per load **********								
1.6.4	242.00 Cubic Yard	Remove Foundations To Subgrade		71.43	Detail	U.S. Dollar	35.74	8,648.51
1.6.4.1	242.00 Cubic Yard	Excavate / Remove Foundation - Various Depth		250.00	Detail	U.S. Dollar	17.78	4,302.29
Resource Code	**Description**		**Hours**	**Quantity UM**	**Currency**		**Unit Cost**	**Total Cost**

Copyright ©020 InEight Inc. All Rights Reserved.

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER		9.68	1.00 Each (hourly)	U.S. Dollar		45.44	439.90
L010101	OPERATOR		19.36	2.00 Each (hourly)	U.S. Dollar		56.75	1,098.74
*REXCAV06C	Excav 100K w/ Hammer		9.68	1.00 Each (hourly)	U.S. Dollar		160.97	1,558.14
*REXCAV06A	Excav 100K w/ Bucket & Grapple		9.68	1.00 Each (hourly)	U.S. Dollar		124.54	1,205.50

Notes: **********
Assume monolithic slab on grade
****

1.6.4.2	242.00	Cubic Yard	Concrete Transport Offsite	100.00	Detail	U.S. Dollar	17.96	4,346.22

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
RDUTRK06	CAT D350D, 18CY-24CY	24.20	1.00	Each (hourly)	U.S. Dollar	74.29	1,797.82
L080940	TEAMSTER	24.20	1.00	Each (hourly)	U.S. Dollar	45.44	1,099.75
L010101	OPERATOR	12.10	0.50	Each (hourly)	U.S. Dollar	56.75	686.72
RFELWH09	CAT 966F LOADER, 4.25CY	12.10	0.50	Each (hourly)	U.S. Dollar	62.97	761.94

1.7	156.00	MW	DC Storage Retirement	0.44	Detail	U.S. Dollar	13,675.75	2,133,417.15
1.7.1	4,514.00	Linear Feet	Fence Removal	5,124.80	Detail	U.S. Dollar	1.36	6,154.57
1.7.1.1	4,514.00	Linear Feet	Fence Removal	5,124.80	Detail	U.S. Dollar	1.06	4,779.57

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	26.42	3.00	Each (hourly)	U.S. Dollar	56.75	1,499.68
L060100	GENERAL LABORER	52.85	6.00	Each (hourly)	U.S. Dollar	45.44	2,401.68
RBACKH09	Deere 710J BACKHOE, 1.62CY	26.42	3.00	Each (hourly)	U.S. Dollar	33.24	878.22

1.7.1.2	1.00	Each	Trucking - Per Load	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

1.7.2	156.00	MW	Battery Removal & Disposal	3.71	Detail	U.S. Dollar	2,880.31	449,328.44
1.7.2.1	42.00	Day	Remove Batteries, Load For Transport	1.00	Detail	U.S. Dollar	3,159.56	132,701.44

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	2,520.00	6.00	Each (hourly)	U.S. Dollar	45.44	114,519.64
RLIFTS05	JCB 508C, 8,000lbs FRKLFT	840.00	2.00	Each (hourly)	U.S. Dollar	21.65	18,181.80

1.7.2.2	45.00	Each	Transport Batteries	0.00	Detail	U.S. Dollar	1,480.60	66,627.00
1.7.2.2.1	45.00	Each	Roll Off Liners	0.00	Detail	U.S. Dollar	105.60	4,752.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
UODCLINER	Rolloff Liner		45.00	Each	U.S. Dollar	105.60	4,752.00

1.7.2.2.2	45.00	Each	Trucking - Per Load	0.00	Detail	U.S. Dollar	1,375.00	61,875.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		61,875.00	Each	U.S. Dollar	1.00	61,875.00

1.7.2.3	1,000.00	Ton	Disposal Fee's	0.00	Detail	U.S. Dollar	250.00	250,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USDISPOSAL	Disposal Fee's		250,000.00	Each	U.S. Dollar	1.00	250,000.00

1.7.3	156.00	MW	Structure & Components Removal	0.76	Detail	U.S. Dollar	9,384.47	1,463,976.81
1.7.3.1	20.00	Day	Refrigerant Recovery	1.00	Detail	U.S. Dollar	1,275.93	25,518.56

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010110	Craft - MEP	400.00	2.00	Each (hourly)	U.S. Dollar	63.80	25,518.56

Copyright ©020 InEight Inc. All Rights Reserved.

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1.7.3.2	8,000.00	Ton	Structure Demo	43.33	Detail	U.S. Dollar	118.71	949,708.25

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
*REXCAV06A	Excav 100K w/ Bucket & Grapple	1,846.15	1.00	Each (hourly)	U.S. Dollar	124.54	229,910.77
*REXCAV06E	Excav 100K w/ Shear	1,846.15	1.00	Each (hourly)	U.S. Dollar	185.50	342,452.31
L010101	OPERATOR	3,692.31	2.00	Each (hourly)	U.S. Dollar	56.75	209,550.83
L060100	GENERAL LABORER	3,692.31	2.00	Each (hourly)	U.S. Dollar	45.44	167,794.34

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1.7.3.3	330.00	Each	Trucking - Per Load	0.00	Detail	U.S. Dollar	1,375.00	453,750.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		453,750.00	Each	U.S. Dollar	1.00	453,750.00

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1.7.3.4	33,000.00	Gallon	Glycol Recovery & Disposal	0.00	Detail	U.S. Dollar	1.06	35,000.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USLIQUID	Liquids T&D		35,000.00	Each	U.S. Dollar	1.00	35,000.00

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1.7.4	30.00	Each	Transformer Removal	0.80	Detail	U.S. Dollar	2,650.08	79,502.50
1.7.4.1	30.00	Each	Disconnect Electrical	1.00	Detail	U.S. Dollar	1,203.06	36,091.71

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010110	Craft - MEP	300.00	1.00	Each (hourly)	U.S. Dollar	63.80	19,138.92
L060100	GENERAL LABORER	300.00	1.00	Each (hourly)	U.S. Dollar	45.44	13,633.29
RPUTRK05	F-250 4X4 3/4 TON PICKUP	300.00	1.00	Each (hourly)	U.S. Dollar	11.07	3,319.50

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1.7.4.2	30.00	Each	Loadout Inverter & Transformer	4.00	Detail	U.S. Dollar	759.53	22,785.79

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	300.00	4.00	Each (hourly)	U.S. Dollar	45.44	13,633.29
L010101	OPERATOR	75.00	1.00	Each (hourly)	U.S. Dollar	56.75	4,256.50
RHYDCR06	GROVE RT880 73 TON	75.00	1.00	Each (hourly)	U.S. Dollar	65.28	4,896.00

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1.7.4.3	15.00	Each	Trucking - Per Load	0.00	Detail	U.S. Dollar	1,375.00	20,625.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		20,625.00	Each	U.S. Dollar	1.00	20,625.00

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1.7.5	58.00	Each	Inverter Removal	0.80	Detail	U.S. Dollar	2,318.19	134,454.84
1.7.5.1	58.00	Each	Disconnect Electrical	1.00	Detail	U.S. Dollar	1,203.06	69,777.31

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010110	Craft - MEP	580.00	1.00	Each (hourly)	U.S. Dollar	63.80	37,001.91
L060100	GENERAL LABORER	580.00	1.00	Each (hourly)	U.S. Dollar	45.44	26,357.69
RPUTRK05	F-250 4X4 3/4 TON PICKUP	580.00	1.00	Each (hourly)	U.S. Dollar	11.07	6,417.70

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1.7.5.2	58.00	Each	Loadout Inverter & Transformer	4.00	Detail	U.S. Dollar	759.53	44,052.53

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	580.00	4.00	Each (hourly)	U.S. Dollar	45.44	26,357.69
L010101	OPERATOR	145.00	1.00	Each (hourly)	U.S. Dollar	56.75	8,229.24
RHYDCR06	GROVE RT880 73 TON	145.00	1.00	Each (hourly)	U.S. Dollar	65.28	9,465.60

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1.7.5.3	15.00	Each	Trucking - Per Load	0.00	Detail	U.S. Dollar	1,375.00	20,625.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		20,625.00	Each	U.S. Dollar	1.00	20,625.00

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost
1.8	1.00	Lump Sum	Solar Array Retirement	0.01	Detail	U.S. Dollar	7,170,337.22	7,170,337.22
1.8.1	77,794.00	Linear Feet	Fence Removal	5,124.80	Detail	U.S. Dollar	1.31	101,620.87
1.8.1.1	77,794.00	Linear Feet	Fence Removal	5,124.80	Detail	U.S. Dollar	1.06	82,370.87

Copyright ©020 InEight Inc. All Rights Reserved.

CBS Position Code	Quantity	UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	455.40	3.00	Each (hourly)	U.S. Dollar	56.75	25,845.32
L060100	GENERAL LABORER	910.79	6.00	Each (hourly)	U.S. Dollar	45.44	41,390.42
RBACKH09	Deere 710J BACKHOE, 1.62CY	455.40	3.00	Each (hourly)	U.S. Dollar	33.24	15,135.13

1.8.1.2	14.00 Each	Trucking - Per Load	0.00	Detail	U.S. Dollar	1,375.00	19,250.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		19,250.00	Each	U.S. Dollar	1.00	19,250.00

1.8.2	390,879.00 Each	Solar Panel Removal & Disposal	10,000.00	Detail	U.S. Dollar	7.41	2,896,798.81

1.8.2.1	390,879.00 Each	Solar Panel Removal	10,000.00	Detail	U.S. Dollar	3.06	1,194,603.81

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
RLIFTS05	JCB 508C, 8,000lbs FRKLFT	3,908.79	10.00	Each (hourly)	U.S. Dollar	21.65	84,605.76
L010101	OPERATOR	3,908.79	10.00	Each (hourly)	U.S. Dollar	56.75	221,836.93
L060100	GENERAL LABORER	19,543.95	50.00	Each (hourly)	U.S. Dollar	45.44	888,161.13

Notes: **********
Assumed production: 20 panels per laborer per hour,
Includes packaging and preparing for shipment offsite.
****

1.8.2.2	625.00 Each	Trucking - Per Load	0.00	Detail	U.S. Dollar	1,375.00	859,375.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		859,375.00	Each	U.S. Dollar	1.00	859,375.00

Notes: **********
Assumption: 45,000 lbs per load
****

1.8.2.3	14,047.00 Ton	Disposal Cost	0.00	Detail	U.S. Dollar	60.00	842,820.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USDISPOSAL	Disposal Fee's		842,820.00	Each	U.S. Dollar	1.00	842,820.00

Notes: **********
Assumption: 390,879 modules x 71.87 lbs each
****

1.8.3	1.00 Lump Sum	Solar Rack (Trackers) & Post Removal	0.01	Detail	U.S. Dollar	4,171,917.53	4,171,917.53

1.8.3.1	14,477.00 Each	Solar Rack (Trackers) & Post Removal	160.00	Detail	U.S. Dollar	257.21	3,723,667.53

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010101	OPERATOR	14,477.00	16.00	Each (hourly)	U.S. Dollar	56.75	821,618.25
L060100	GENERAL LABORER	14,477.00	16.00	Each (hourly)	U.S. Dollar	45.44	657,897.13
*REXCAV06A	Excav 100K w/ Bucket & Grapple	7,238.50	8.00	Each (hourly)	U.S. Dollar	124.54	901,446.60
*REXCAV06E	Excav 100K w/ Shear	7,238.50	8.00	Each (hourly)	U.S. Dollar	185.50	1,342,705.56

Notes: **********
Assumed production: .5 hour per rack per crew. Crew to include
1 excavator w/shear, 1 excavator w/grapple, 2 operators and 2
laborers. Includes post removal and sizing of steel for sale as scrap,
and loadout to haul trucks. 27 modules per rack/post assembly
****

1.8.3.2	326.00 Each	Trucking - Per Load	0.00	Detail	U.S. Dollar	1,375.00	448,250.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		448,250.00	Each	U.S. Dollar	1.00	448,250.00

Notes: **********
Assumption: 45,000 lbs per load
****

1.9	44.00 Each	Solar Inverter / Transformer Removal	0.50	Detail	U.S. Dollar	5,616.16	247,111.15

Copyright ©020 InEight Inc. All Rights Reserved.

CBS Position Code	Quantity	UM	Description	UM/Day	Cost Source	Currency	Unit Cost	Total Cost
			Cost Item					
1.9.1	44.00	Each	Disconnect Electrical	1.00	Detail	U.S. Dollar	1,203.06	52,934.51

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L010110	Craft - MEP	440.00	1.00	Each (hourly)	U.S. Dollar	63.80	28,070.42
L060100	GENERAL LABORER	440.00	1.00	Each (hourly)	U.S. Dollar	45.44	19,995.49
RPUTRK05	F-250 4X4 3/4 TON PICKUP	440.00	1.00	Each (hourly)	U.S. Dollar	11.07	4,868.60

1.9.2	44.00	Each	Loadout Inverter & Transformer	1.00	Detail	U.S. Dollar	3,038.11	133,676.64

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	1,760.00	4.00	Each (hourly)	U.S. Dollar	45.44	79,981.97
L010101	OPERATOR	440.00	1.00	Each (hourly)	U.S. Dollar	56.75	24,971.47
RHYDCR06	GROVE RT880 73 TON	440.00	1.00	Each (hourly)	U.S. Dollar	65.28	28,723.20

1.9.3	44.00	Each	Trucking - Per Load	0.00	Detail	U.S. Dollar	1,375.00	60,500.00

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
USTRUCKING	Trucking Sub		60,500.00	Each	U.S. Dollar	1.00	60,500.00

1.10	2,360.00	Cubic Yard	Remove Inverter / Transformer Foundations	73.68	Detail	U.S. Dollar	27.85	65,718.16

1.10.1	2,360.00	Cubic Yard	Excavate / Remove Foundation	280.00	Detail	U.S. Dollar	15.87	37,460.87

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	84.29	1.00	Each (hourly)	U.S. Dollar	45.44	3,830.31
L010101	OPERATOR	168.57	2.00	Each (hourly)	U.S. Dollar	56.75	9,566.99
*REXCAV06C	Excav 100K w/ Hammer	84.29	1.00	Each (hourly)	U.S. Dollar	160.97	13,567.05
*REXCAV06A	Excav 100K w/ Bucket & Grapple	84.29	1.00	Each (hourly)	U.S. Dollar	124.54	10,496.52

1.10.2	2,360.00	Cubic Yard	Concrete Transport Offsite	100.00	Detail	U.S. Dollar	11.97	28,257.29

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
RDUTRK06	CAT D350D, 18CY-24CY	236.00	1.00	Each (hourly)	U.S. Dollar	74.29	17,532.44
L080940	TEAMSTER	236.00	1.00	Each (hourly)	U.S. Dollar	45.44	10,724.85

1.11	1,148.00	Cubic Yard	Remove BESS Foundations	73.68	Detail	U.S. Dollar	27.85	31,967.99

1.11.1	1,148.00	Cubic Yard	Excavate / Remove Foundation	280.00	Detail	U.S. Dollar	15.87	18,222.49

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
L060100	GENERAL LABORER	41.00	1.00	Each (hourly)	U.S. Dollar	45.44	1,863.22
L010101	OPERATOR	82.00	2.00	Each (hourly)	U.S. Dollar	56.75	4,653.77
*REXCAV06C	Excav 100K w/ Hammer	41.00	1.00	Each (hourly)	U.S. Dollar	160.97	6,599.57
*REXCAV06A	Excav 100K w/ Bucket & Grapple	41.00	1.00	Each (hourly)	U.S. Dollar	124.54	5,105.94

1.11.2	1,148.00	Cubic Yard	Concrete Transport Offsite	100.00	Detail	U.S. Dollar	11.97	13,745.50

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
RDUTRK06	CAT D350D, 18CY-24CY	114.80	1.00	Each (hourly)	U.S. Dollar	74.29	8,528.49
L080940	TEAMSTER	114.80	1.00	Each (hourly)	U.S. Dollar	45.44	5,217.01

1.12	1.00	Lump Sum	Site Restoration - Partial Site Seeding	0.03	Detail	U.S. Dollar	350,901.80	350,901.80

1.12.1	64,944.00	Linear Feet	Site Roads - Removal & Restoration	3,600.00	Detail	U.S. Dollar	1.74	113,010.09

Resource Code	Description	Hours	Quantity	UM	Currency	Unit Cost	Total Cost
*RDOZER08	CAT D6 LGP Dozer	360.80	2.00	Each (hourly)	U.S. Dollar	58.34	21,047.27
L010101	OPERATOR	902.00	5.00	Each (hourly)	U.S. Dollar	56.75	51,191.52
RDUTRK06	CAT D350D, 18CY-24CY	360.80	2.00	Each (hourly)	U.S. Dollar	74.29	26,803.83
*RFELWH08C	CAT 980 LOADER	180.40	1.00	Each (hourly)	U.S. Dollar	77.43	13,967.47

Copyright ©020 InEight Inc. All Rights Reserved.

CBS Position Code	Quantity UM	Description	Cost Item UM/Day	Cost Source	Currency	Unit Cost	Total Cost

Notes: **********
Assume topsoil for restoration available onsite.
12.3 miles
****

1.12.2	302.00 Acre	Spot Grade Disturbed Areas	16.00	Detail	U.S. Dollar	287.72	86,891.70

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
*RDOZER08	CAT D6 LGP Dozer	755.00	4.00 Each (hourly)	U.S. Dollar	58.34	44,042.93
L010101	OPERATOR	755.00	4.00 Each (hourly)	U.S. Dollar	56.75	42,848.78

Notes: **********
Assumtion: 862 acres total property area.
Assume that 35% of the area distrubed by construction will be regraded.
****

1.12.3	302.00 Acre	Re-Seed With Native Vegetation - Roads & Areas Disturbed By Construction	0.00	Detail	U.S. Dollar	500.00	151,000.00

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
USLANDSCAPE	Landscape Sub		302.00 Acre	U.S. Dollar	500.00	151,000.00

Notes: **********
Assumtion: 862 acres total property area.
Assume that 35% of the area distrubed by construction will be re-seeded.
****

1.13	1.00 Lump Sum	Contractor Markups	0.00	Detail	U.S. Dollar	2,305,597.15	2,305,597.15
1.13.1	1.00 Lump Sum	Home Office, Project Management (5% Of Cost)	0.00	Detail	U.S. Dollar	555,565.60	555,565.60

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
USMARKUP5	5% Markup		11,111,312.00 Each	U.S. Dollar	0.05	555,565.60

1.13.2	1.00 Lump Sum	Contractor OH & Fee (15% Of Cost)	0.00	Detail	U.S. Dollar	1,750,031.55	1,750,031.55

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
USMARKUP	15% Markup		11,666,877.00 Each	U.S. Dollar	0.15	1,750,031.55

1.14	1.00 Lump Sum	ODOE Applied Contingencies	0.00	Detail	U.S. Dollar	2,817,550.89	2,817,550.89
1.14.1	1.00 Lump Sum	1% Performance Bond	0.00	Detail	U.S. Dollar	134,169.09	134,169.09

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
UODOE1	ODOE 1% Markup		13,416,909.00 Each	U.S. Dollar	0.01	134,169.09

1.14.2	1.00 Lump Sum	10% Administrative and Project Management	0.00	Detail	U.S. Dollar	1,341,690.90	1,341,690.90

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
UODOE2	ODOE 10% Markup		13,416,909.00 Each	U.S. Dollar	0.10	1,341,690.90

1.14.3	1.00 Lump Sum	10% Future Development Contingency	0.00	Detail	U.S. Dollar	1,341,690.90	1,341,690.90

Resource Code	Description	Hours	Quantity UM	Currency	Unit Cost	Total Cost
UODOE2	ODOE 10% Markup		13,416,909.00 Each	U.S. Dollar	0.10	1,341,690.90

Report Total:	16,234,459.63

Category	Total
Labor	4,287,260.43
Rented Equipment	3,366,254.17
Supplies	18,952.00
Materials	25,800.00
Subcontract	5,678,042.15
Travel-Risk-Adj	35,000.00
ODCs	2,823,150.89

Copyright ©020 InEight Inc. All Rights Reserved.

Attachment G-1: Draft Construction Wildfire Mitigation Plan

Draft Construction Wildfire Mitigation Plan

Carty Solar Farm at the Carty Generating Station

Prepared for
Portland General Electric Company

Prepared by

October 2026
Prepared for Request for Amendment 4

Amended by Department October 2026

Table of Contents

1.0 Introduction 1
2.0 Final Wildlife Mitigation Plan Checklist Prior to Construction (PRE) 2
2.1 Update Applicable Sections of Construction WMP 2
3.0 Prior to Construction Task List (PRE) 2
3.1 Training 2
3.2 Carty Solar Farm Site Maps Submission 3
4.0 Construction Wildfire Mitigation Plan (CON) 3
4.1 Summary of Carty Solar Farm Design Features and Fire Protection Equipment 3
4.1.1 Construction Phasing and Vegetation Management 3
4.1.2 Facility Access 4
4.1.3 Facility Site Maps 4
4.2 Specifications for Fire Protection Equipment 5
4.3 Carty Solar Farm Contact Information and Emergency Response Procedures 6
4.4 Use of Vehicles and Power-Driven Machinery at Site 7
4.5 Fire Precaution Levels and Restrictions during Fire Season 7
4.5.1 Definitions 7
4.5.2 Fire Watch Service 8
4.5.3 Fire-Prevention Measures and Restrictions 8
4.6 Vegetation Management 10
4.6.1 Vegetation-free, Noncombustible Space, and Vegetation Standards 10
4.7 Construction Trainings 11
4.7.1 Safety Training 11
5.0 Plan Updates: Amendments and Reporting Requirements: 11

List of Tables

Table 1. Fire Prevention Measures during Fire Season 9

List of Figures

Figure 1. Site Plan

List of Attachments

Attachment 1. Residence/Landowner Outreach Letter

Attachment 2. List of Property Owners within 0.5-mile of RFA 4 Boundary

~~Instructions for Applicants and Certificate Holders:~~

- ~~This template includes preventative actions, procedures, and standards commonly proposed to meet the requirements of OAR 345-022-0115(1)(b) and reflects practices the Department and EFSC have identified as appropriate to minimize wildfire risk at solar photovoltaic power generation facilities. **Use of the template is not required**, and provisions in this template may be modified depending on the type of energy facility under review. Use of the template does not guarantee satisfaction with the Council's Wildfire Prevention and Risk Mitigation Standard. Use of the template does not establish a defense for any enforcement action for violation of a site certificate, Council order or rule. Use of the template or a separately-developed Wildfire Mitigation Plan does not relieve a certificate holder from proactively managing wildfire risk and taking steps to protect against wildfire beyond the measures included in the template or a separately-developed Plan.~~
- ~~Areas in yellow highlight to be update based on the applicant/certificate holder facility proposal and should be filled out to the extent known at the time of review of the ASC/RFA. This information will also be updated/finalized based on facility design and the construction plan prior to construction of the facility.~~
- ~~All changes to this template must be made in track changes for the Department to determine the scope of changes made.~~

Applicable EFSC Site Certificate Conditions

Wildfire Prevention and Risk Mitigation Condition 1 (PRE): Prior to facility construction, the certificate holder shall finalize and submit a Construction Wildfire Mitigation Plan (WMP) to the Department for review and approval, consistent with Attachment G-1 to the Final Order on Request for Amendment 4. ~~Prior to solar facility construction, the certificate holder shall finalize and submit a Construction Wildfire Mitigation Plan (WMP), Attachment XX to the Final Order on XX, to the Department for review and approval.~~ [PRE-WF-01, Final Order on ~~XX~~AMD4]

Wildfire Prevention and Risk Mitigation Condition 2 (CON): During facility construction, the certificate holder shall require onsite contractors and employees to adhere to the Construction Wildfire Mitigation Plan (WMP) approved under PRE-WF-01.
~~During solar facility construction, the certificate holder shall require onsite contractors and employees to adhere to the Construction Wildfire Mitigation Plan (WMP) approved under PRE-WF-01~~. [CON-WF-01; Final Order on ~~XX~~AMD4]

1.0 Introduction

The Portland General Electric Company (PGE or Certificate Holder) ~~is submitting a Request for Amendment (RFA) 4 to the Site Certificate for the~~operates the Carty Generating Station (CGS or Facility) located approximately 13 miles southwest of Boardman in Morrow County, Oregon. ~~In RFA 4, the Certificate Holder is proposing~~This WMP addresses construction of a photovoltaic solar energy generation with approximately 200 megawatt (MW) alternating current (AC) of nominal and average generating capacity and battery energy storage system (BESS) with the capability of storing up to 200 MW AC. The ~~overall~~ CGS additions ~~proposed with~~approved in RFA 4 (including the BESS) are referred to as the Carty Solar Farm.

~~This Wildfire Mitigation (WMP or Plan) is intended to satisfy the approval standards under OAR 345-022-0115(1)(b), which requires the WMP to:~~

> ~~*(A) Identify areas within the site boundary that are subject to a heightened risk of wildfire, using current data from reputable sources, and discuss data and methods used in the analysis;*~~
>
> ~~*(B) Describe the procedures, standards, and time frames that the applicant will use to inspect facility components and manage vegetation in the areas identified under subsection (a) of this section;*~~
>
> ~~*(C) Identify preventative actions and programs that the applicant will carry out to minimize the risk of facility components causing wildfire, including procedures that will be used to adjust operations during periods of heightened wildfire risk;*~~
>
> ~~*(D) Identify procedures to minimize risks to public health and safety, the health and safety of responders, and damages to resources protected by Council standards in the event that a wildfire occurs at the facility site, regardless of ignition source; and*~~
>
> ~~*(E) Describe methods the applicant will use to ensure that updates of the plan incorporate best practices and emerging technologies to minimize and mitigate wildfire risk.*~~

~~This plan is prepared in adherence to the proposed Site Certificate Conditions relating to RFA 4:~~

> ~~8.9 Wildfire Prevention and Risk Mitigation Condition 1 (PRE): Prior to solar facility construction, the certificate holder shall finalize and submit a Construction Wildfire Mitigation Plan (WMP), consistent with Attachment XX to the Final Order on AMD4, to the Department for review and approval. [AMD4]~~
>
> ~~8.10 Wildfire Prevention and Risk Mitigation Condition 2 (CON): During solar facility construction, the certificate holder shall require onsite contractors and employees to adhere to the Construction Wildfire Mitigation Plan (WMP) approved under Condition 8.9. [AMD4]~~

2.0 Final Wildlife Mitigation Plan Checklist Prior to Construction (PRE)

2.1 Update Applicable Sections of Construction WMP

To finalize this Construction WMP prior to construction of the Carty Solar Farm, the Certificate Holder will update the following sections and highlighted areas:

- Section 4.0, based on final Carty Solar Farm design, with a summary of construction phasing including vegetation removal and grading based on areas of construction work or facility component.
- Update Section 4.1 and include in this WMP the facility site maps described in Section 4.1.6.
- Update Section 4.3 with contact information and emergency response procedures for the fire department, Certificate Holder, and operational manager. Update Section 4.3 with analysis area residence contact information and confirm analysis area residence contact letter sent to residences within the Amended Site Boundary subject to RFA 4 (analysis area) and 0.5 miles from the analysis area.
- Update Section 4.6 to describe vegetation management and areas that will be managed to be vegetation-free, noncombustible space, or gravel surface.

3.0 Prior to Construction Task List (PRE)

Prior to construction of the facility, the activities in Sections 3.1 and 3.2 will be completed.

3.1 Training

The Certificate Holder will organize and hold an on-site training with the Certificate Holder, contractors and construction personnel, inviting specialty contractors, local fire departments, participating and adjacent landowners, emergency management office personnel, ODOE, and any other emergency management agency that covers:

- Description of construction phasing;
- The type, location, and proper use of fire protection equipment;
- Fire protection equipment usage and maintenance requirements;
- The locations of water sources and proper usage, storing and maintenance for the pump, hose nozzle, and water hose;
- Overview of smoking policy and locations;
- Overview of procedures and restrictions of construction maintenance activities during Fire Season and Red Flag Warnings designated in this Plan;
    - Designation of individual(s) responsible for Fire Watch Service;

- Designation of individual(s) responsible for checking fire danger/designations for the day.
- Rescue, Alarm, Contain and Extinguish (RACE) procedures or similar methods including:
  - Rescue anyone in danger (if safe to do so);
  - Alarm – call the control room, who will then determine if 911 should be alerted;
  - Contain the fire (if safe to do so); and
  - Extinguish the incipient fire stage (if safe to do so).

- Provide information and encourage attendees to sign up for the County's emergency management notification system.
- The location of flagged sensitive environmental resources (e.g., ~~historic, cultural and archeological resources;~~ Category 1 habitat; delineated wetlands and waterways) and noxious weed infestations to alert construction personnel of avoidance areas or management requirements.

The training attendee list and training materials (slide deck, minutes, and/or handouts and attendees list) will be provided to ODOE to demonstrate compliance. The Certificate Holder will fill out and submit to ODOE the template residence outreach letter provided as Attachment 1 of this WMP. Once ODOE confirms the letter to be sufficient, the letter will be mailed to each residence within the 0.5-mile analysis area. The mailing will be confirmed and submitted to ODOE.

3.2 Carty Solar Farm Site Maps Submission

The Certificate Holder will update site maps from Section 4.1.~~6~~ 3 concurrently to local fire departments and ODOE. The site maps will be included in the finalized CON WMP.

4.0 Construction Wildfire Mitigation Plan (CON)

4.1 Summary of Carty Solar Farm Design Features and Fire Protection Equipment

4.1.1 Construction Phasing and Vegetation Management

The Certificate Holder and contractors will maintain vegetation within the Carty Solar Farm and will also maintain a defensible space clearance along Facility features. Defensible space will be free of combustible vegetation or other materials. Roads and parking areas will be maintained to be free of vegetation tall enough to contact the undercarriage of the vehicle.

During construction clearing, grubbing, and grading, the contractor will establish a clear, brush-free area extending a minimum of 10 feet inside the fence line and another minimum 10-foot limits of disturbance buffer outside the fence line for a minimum of 20 feet of buffer around the perimeter of

the site. Vegetation within the area will be managed in accordance with the recommendations of the local fire official.

While hot work permits are not generally anticipated for the construction of the Carty Solar Farm, such permits or formal approval will be required during fire season if any hot work is to be conducted.

Fuel storage and handling protocols include the following:

- Any equipment or vehicles carrying fuel must remain parked at a designated location along the county-right-of way.
- Vehicles leaving the right-of-way must not carry fuel containers, with the exception of a single five-gallon container used to operate the water truck pump.
- Smoking will be restricted to designated areas within the Facility only.

4.1.2 Facility Access

Facility access points will be shown in ~~Figure 1~~the Site Maps. Facility access will primarily come from Tower Road, which is a county road until approximately 1.5 miles before the CGS where it becomes a private road owned by PGE. The perimeter fencing will have lockable vehicle access gates. Additional gates may be included for emergency exits or for removal of wildlife. Each solar array would be enclosed by wire mesh, chain link, or similar perimeter fencing, up to 7-8 feet in height.

4.1.3 Facility Site Maps

This Construction WMP will include facility site maps that identify:

- Wildfire risk at the site.
- The phasing for construction of Carty Solar Farm features and components.
- During construction clearing, grubbing, and grading, the contractor will establish a clear, brush-free area extending a minimum of 10 feet inside the fence line and another minimum 10-foot limit of disturbance buffer outside the fence line, totaling a minimum 20 feet of clear, brush-free area around the perimeter of the site.
- Location of vegetation-free, noncombustible, defensible spaces.
- Location and dimensions of facility roads.
- Solar arrays, BESS, and associated project components will be set back at least 50 feet from all property lines of non-participating landowners.
- The location of facility access points.
- A description and the location of emergency access procedures, including how emergency responders and/or adjacent landowners may access the site for fire protection equipment or to extinguish an on-site fire when personnel will not be onsite.

- The type and location of fire protection equipment on site.
- The locations of water sources that will be on site during construction.
- The above-listed facility requirements will be shown on the Carty Solar Farm Site Plan included in Figure XX~~1~~. Vegetation-free spaces are shown on the figure but may not be visible due to the map scale.
- High-fire consequence areas/resources (includes existing infrastructure, residences, sensitive habitat, or cultural resources)

~~Wildfire risk at the site is described in Exhibit V.~~

4.2 Specifications for Fire Protection Equipment

The following fire suppression equipment will be carried in vehicles conducting maintenance activities and stored on site at the O&M building at all times, unless approved by ODOE:

- Fire Extinguisher: Dry chemical. 2A:10BC (5-pound), properly mounted or secured;
- Pulaski;
- Hand Shovel: Round point. 26 to 28 in "D" Handle, blade - 12 inches long and a minimum of 8 inches wide; and
- Collapsible Pail or Backpack Pump: 5-gallon capacity, during fire season to avoid freezing during winter months.

During fire season (designated Fire Season or June to October each year), water trucks/water source, water buffalo, or tank with minimum 500-gallon capacity must be on site. The water truck or water supply shall include the following, approved by ODOE:

- Pumps should be maintained ready to operate and capable of providing a discharge of not less than 20 gallons per minute at 115 psi at pump level. Note: Volume pumps will not produce the necessary pressure to effectively attack a fire start. Pressure pumps are recommended.
- Provide enough hose (500 feet minimum) not less than ¾-inch inside diameter to reach areas where power driven machinery has worked.
- Water supply, pump, and at least 250 feet of hose with nozzle must be maintained as a connected, operating unit ready for immediate use.

All internal combustion engines must be equipped with exhaust systems, mufflers and screens, or include an appropriate spark arrester, and must be kept in good operating condition. All combustion engines (including but not limited to off road vehicles, chainsaws, and generators) will be equipped with a spark arrester that meets U.S. Forest Service Standard 5100-1.

All power-driven machinery will be kept free of excess flammable material which may create a risk of fire.

4.3 Carty Solar Farm Contact Information and Emergency Response Procedures

Local fire department and county emergency management contact information:

- XXX County Rural Fire Protection District: (541) XXXXXX or 911
- XXXX County Emergency Services: (XXX) XXXX or 911

Fire department response times to the site: To be updated during pre-construction, a new station is expected to be built along Tower Road in 2027 which would impact response times.

Certificate holder primary contact and contact of construction contractor managers:

Certificate Holder Primary Contact Information	
Name	
Company	
Street Address	
City/State/Zip	
Phone	
Email	
Construction Contractor Manager Contact Information	
Name	
Title	
Street Address	
City/State/Zip	
Phone	
Email	

Residence addresses within the Amended Site Boundary subject to RFA 4 (analysis area)and 0.5 miles from the analysis area:

- The residence/landowner outreach letter provided as Attachment 1, will be provided to residences within the analysis area and 0.5 miles from the analysis area.
- Attachment 2 (provided at Plan finalization) will include a list of property owners within the analysis area and a 0.5-mile radius.

Contact 911 in the event of:

- A fire or emergency on-site that cannot be addressed by personnel on-site and requires the assistance of fire or emergency medical personnel;
- A fire ignition on-site that spreads out of the fence line;
- Any fire off-site that does not have emergency responders on site.

- To the extent that construction personnel can safely assist and/or provide equipment to help extinguish off-site fires until emergency responders are on site, it is encouraged to do so to assist in the spread of the fire, loss of life, property and damage to the environment.

4.4 Use of Vehicles and Power-Driven Machinery at Site

The following best management practices (BMPs) to minimize fire risk from vehicle travel, equipment use, and fueling activities, will be implemented at the site during construction:

- The movement of vehicles will be planned and managed to minimize fire risk.
- The contractors will be responsible for identifying and marking paths for all off-road vehicle travel. All off-road vehicle travel will be required to stay on the identified paths. No off-road vehicle travel will be permitted while working alone during fire season. Travel off road or parking in vegetated areas will be restricted during fire season as designated in this Plan.
- Areas with grass that are as tall or taller than the exhaust system of a vehicle must be wetted or mowed before vehicles travel through it.
- Workers will be instructed to shut off the engine of any vehicle that gets stuck and periodically inspect the area adjacent to the exhaust system for evidence of ignition of vegetation. Stuck vehicles will be pulled out rather than "rocked" free and the area will be inspected again after the vehicle has been moved.
- The contractors will designate a location for field fueling operations at the temporary construction yards. Any fueling of generators, pumps, etc., shall take place at this location only.
- Fuel containers, if used, shall remain in a vehicle or equipment trailer, parked at a designated location alongside a county right-of-way. No fuel containers shall be in the vehicles that exit the right-of-way except the five-gallon container that is required for the water truck pump.
- All power-driven machinery will be kept free of excess flammable material which may create a risk of fire.

4.5 Fire ~~Weather Monitoring~~Precaution Levels and Restrictions during Fire Season

4.5.1 Definitions

- **Non-Fire Season –** Approximately October–May
- **Fire Season –** Approximately June–September, formally designated by the Oregon Department of Forestry (ODF). Under ORS 478.960 (4), a Fire Chief can establish Fire Season within a Fire District when ODF, under ORS 477.505, declares Fire Season. This begins a period of seasonal restrictions for public and industry. Additionally, PGE declares fire

season for our areas of operation which may extend beyond the dates established by ODF or fire chiefs.

- **Fire Weather Watch –** A fire weather watch is issued when there is a high potential for the development of a red flag event. A watch is issued 18 to 96 hours in advance of the expected onset of criteria. The intent of a fire weather watch is to alert forecast users at least a day in advance for the purposes of resource allocation and fire fighter safety. A watch means critical fire weather conditions are possible but not imminent or occurring.
- **Red Flag Weather Warning –** A red flag warning is used to warn of impending or occurring red flag conditions. Its issuance denotes a high degree of confidence that weather and fuel conditions consistent with local red flag event criteria will occur in 48 hours or less. Specific Red Flag criteria differ for each situation and district in Oregon. Be extremely careful with open flames and other activities that emit sparks.
- **Hot Work –** Any cutting, grinding, welding, or other activity that creates spark or open flame.

4.5.2 Fire Watch Service

Fire watch shall:

- Be physically capable of and experienced in operating firefighting equipment.
- Have facilities for transportation and communications to summon assistance.
- Observe portions of the facility where equipment activity occurred during the day.

Upon discovery of a fire, fire watch personnel must: First report the fire, summon any necessary firefighting assistance, describe intended fire suppression activities; then, after determining a safety zone and an escape route that will not be cut off if the fire increases or changes direction, immediately proceed to control and extinguish the fire, consistent with firefighting training and safety.

4.5.3 Fire-Prevention Measures and Restrictions

Certificate holder shall maintain a log when construction activities are impacted by Fire Restrictions during Fire Season as designed in this Section. The log will include:

- The date;
- Fire Precaution Level;
- Description of actions taken, including if any measures were taken to reduce wildfire risk that are not identified in this Plan.

4.5.3.1 Non-Fire Season

- All hot work (must be conducted on roads or on non-combustible surfaces.
- Smoking in designated areas only.

4.5.3.2 Fire Season

- All hot work (any cutting, welding, or other activity that creates spark or open flame) must be conducted on roads or on non-combustible surfaces.
- Water source meeting specifications in this Plan will be on site during fire season.
- Following the completion of hot work, the Certificate Holder or contractors must maintain a fire watch for 60 minutes to monitor for potential ignition.
- Fire watch shall be on duty during any breaks and for one hour after all power-driven machinery used by the operator has been shut down for the day.
- Smoking in designated areas only.

4.5.3.3 Fire Weather Watch

- No hot work permitted.
- Driving and parking only permitted on graveled or paved surfaces.
- Fire watch shall be on duty during any breaks and for one hour after all power-driven machinery used by the operator has been shut down for the day.
- No smoking on site.

4.5.3.4 Red Flag Weather Warning

- No hot work permitted.
- On-site personnel must be aware of Red Flag Warning.
- Driving and parking only permitted on graveled or paved surfaces.
- Fire watch shall be on duty during any breaks and for one hour after all power-driven machinery used by the operator has been shut down for the day.
- No smoking on site.

Table 1. Fire Prevention Measures during Fire Season

Requirement	Non-Fire Season	Fire Season	Fire Weather Watch	Red Flag Warning
Fire weather advisory	Not required	Not required	Not required	On-site personnel must be aware of Red Flag Warning and notify on site personnel.
On-site water source	N/A	As specified in Section 4.2	As specified in Sections 4.2 and 4.3.	As specified in Sections 4.2 and 4.3.
Hot work	Only permitted on roads or on non-combustible	Only permitted on roads or on non-combustible	Not Permitted	Not Permitted

Requirement	Non-Fire Season	Fire Season	Fire Weather Watch	Red Flag Warning
	surfaces.	surfaces; fire watch required for 60 minutes after completion		
Fire Watch Service	Not required	During breaks and for 60 minutes after all power-driven machinery has been shut down for the day.	During breaks and for 60 minutes after all power-driven machinery has been shut down for the day.	During breaks and for 60 minutes after all power-driven machinery has been shut down for the day.
Driving and Parking	As described in Section 4.4.	As described in Section 4.4.	Only permitted on roads or on non-combustible surfaces and Section 4.4.	Only permitted on roads or on non-combustible surfaces and Section 4.4.
Smoking	Designated areas only	Designated areas only	Not permitted	Not permitted

4.6 Vegetation Management

4.6.1 Vegetation-free, Noncombustible Space, and Vegetation Standards

Vegetation within the fence line and below the solar arrays will be maintained in accordance with the approved Vegetation and Soil Management Plan for the facility.

- Vegetation will be limited to a height of 10-12 inches, with a minimum clearance of 12 inches from electrical equipment. Vegetation near, at, or taller than the maximum height shall be removed or mowed.
- Mowing must be done in advance of fire season or in accordance with any fire restrictions.
- At no point shall vegetation come in contact with electrical equipment.
- Vegetation buildup in the fence line(s), shall be removed.
- Any vegetation removed from the site will be disposed of and not stored onsite.
- The Certificate Holder and contractors will prevent the accumulation of combustible burn piles on site.

The following areas will be managed to be vegetation-free, noncombustible space, or gravel surface:

- Fenced areas around the collector substation, operations and maintenance structure, and meteorological stations will be graveled, with no vegetation present.
- All newly constructed roads will be graded and graveled to meet load requirements for all equipment.

- Vegetation in these areas will be managed by the following techniques:
    - Mechanical Clearing: mowing, brushing, chipping, tree trimming/felling;
    - Manual Clearing: hand tools (chainsaws, machetes, handsaws); and
    - Chemical Treatment: use of approved herbicides by licensed applicators to control or suppress vegetation growth (broadcast spray, spot treatment, cut-stump/basal bark).

4.7 Construction Trainings

4.7.1 Safety Training

Once per year after construction begins, organize and hold an on-site training with Certificate Holder and construction personnel, inviting equipment manufacturers, specialty contractors, local fire departments, participating and adjacent landowners, emergency management office personnel, ODOE, and any other emergency management agency that covers:

- The location of electrical facility components and the fire safety measures associated with each component that have been constructed;
- Description of remaining construction phasing;
- The type, location, and proper use of fire protection equipment;
- Fire protection equipment usage and maintenance requirements;
- The locations of water sources and proper usage, storing and maintenance for the pump, hose nozzle; and water hose;
- Overview of smoking policy and locations;
- Overview of procedures and restrictions of construction activities during Fire Season, Fire Weather Watches, and Red Flag Warnings designated in this Plan;
- Rescue, Alarm, Contain and Extinguish (RACE) procedures or similar methods including:
    - Rescue anyone in danger (if safe to do so);
    - Alarm – call the control room, who will then determine if 911 should be alerted;
    - Contain the fire (if safe to do so); and
    - Extinguish the incipient fire stage (if safe to do so).
- Provide information about the County's emergency management notification system.

5.0 Plan Updates: Amendments and Reporting Requirements:

The following will be provided to ODOE in the semi-annual construction report required per OAR 345-026-0080:

- Sections 4.1 and 4.2, any ~~changes in wildfire risk at the site or~~ changes in facility components or preventative features.
- Section 4.3, any changes in local fire protection agency personnel and operational managers.
- Section 4.3, any changes in analysis area residence/landowner addresses or contact information.
- A copy of the Fire Season Restriction Log identified in Section 4.5.3.
- Changes in wildfire risk if different from the Site Plan provided prior to construction. Evaluation of wildfire risk will be consistent with the requirements of OAR 345-022--0115(1) using current data from reputable sources.

This information may be used to establish the performance of the Construction WMP. If determined by certificate holder or ODOE, adjustments or improvements must be proposed to ensure the Construction WMP provides wildfire mitigation. Any ODOE-required updates shall be implemented within 14 days, unless otherwise agreed to by ODOE based on a good faith effort to address wildfire hazard.

This Plan may be amended from time to time by agreement of the certificate holder and the Oregon Energy Facility Siting Council (EFSC) or ODOE, acting within its delegated authority of EFSC. Such amendments may be made without amendment of the site certificate. EFSC authorizes ODOE to agree to amendments to this Plan. ODOE will notify EFSC of all amendments, and EFSC retains the authority to approve, reject, or modify any amendment of this Plan agreed to by ODOE.

Figures

(to be provided at finalization)

Attachment 1. Residence/Landowner Outreach Letter

Attachment 2. List of Property Owners within 0.5-mile of Amended Site Boundary subject to RFA 4

(to be provided at finalization)

Attachment G-2: Draft Operational Wildfire Mitigation Plan

Contents

1.0 Finalizing Wildfire Mitigation Plan Prior to Operation (PRO) 3
1.1 Update Applicable Sections of WMP 3
2.0 Prior to Operation Task list (PRO) 4
2.1 Training (PRO) 4
2.2 Facility Site Map(s) Submission (PRO): 5
3.0 Operational Wildfire Mitigation Plan (OPR) 5
3.1 Summary of As-Built Facility Description with Design Features 5
3.2 Facility Site Map(s): 5
3.3 Specifications for Fire Protection Equipment 6
3.4 Facility Contact Information and Emergency Response Procedures 6
3.5 Fire Precaution Levels and Restrictions during Fire Season 8
3.6 Vegetation Management 11
3.6.1 Vegetation-free, Noncombustible Space 11
3.6.2 Vegetation Standards, Surveys and Management 11
3.7 Inspections and Maintenance 12
3.8 Use of Vehicles and Power Driven Machinery at Site 19
3.9 Operational Training(s) 19
3.9.1 Annual or Biannual Safety Training 19
3.9.2 Electrical Safety Program 20
3.10 Facility Monitoring 20
4.0 Plan Updates: Amendments and Reporting Requirements 20

Draft Operational Wildfire Mitigation Plan

ODOE Template

~~Instructions for Applicants and Certificate Holders:~~

- ~~This template includes preventative actions, procedures, and standards commonly proposed to meet the requirements of OAR 345-022-0115(1)(b) and reflects practices the Department and EFSC have identified as appropriate to minimize wildfire risk at solar photovoltaic power generation facilities.~~ **~~Use of the template is not required~~**~~, and provisions in this template may be modified depending on the type of energy facility under review. Use of the template does not guarantee satisfaction with the Council's Wildfire Prevention and Risk Mitigation Standard. Use of the template does not establish a defense for any enforcement action for violation of a site certificate, Council order or rule. Use of the template or a separately-developed Wildfire Mitigation Plan does not relieve a certificate holder from proactively managing wildfire risk and taking steps to protect against wildfire beyond the measures included in the template or a separately-developed Plan.~~
- ~~Areas in yellow highlight to be updated based on the applicant/certificate holder facility proposal and should be filled out to the extent known at the time of review of the ASC/RFA. This information will also be updated/finalized based on final design prior to operation of the facility.~~
- ~~All changes to this template must be made in track changes for the Department to evaluate the scope of changes made.~~

Applicable EFSC Site Certificate Conditions

Wildfire Prevention and Risk Mitigation Condition 3 (PRO): Prior to facility operation, the certificate holder shall finalize and submit to the Department for review and approval, an Operational Wildfire Mitigation Plan (WMP) consistent with Attachment G-2 to the Final Order on Request for Amendment 4 to the Department for review and approval.
[PRO-WF-01; Final Order on AMD4]

Wildfire Prevention and Risk Mitigation Condition 4 (OPR): During facility operation, the certificate holder shall require any onsite contractors and employees to adhere to the Operational Wildfire Mitigation Plan (WMP) approved under PRO-WF-01.
[OPR-WF-01; Final Order on AMD4]

1.0 Finalizing Wildfire Mitigation Plan Prior to Operation (PRO)

The Portland General Electric Company (PGE or Certificate Holder) operates the Carty Generating Station (CGS or Facility) located approximately 13 miles southwest of Boardman in Morrow County, Oregon. This WMP addresses operation of CGS, including Unit 1 and the photovoltaic solar energy generation facility. The CGS additions approved in RFA 4 (including the BESS) are referred to as the Carty Solar Farm.

1.1 Update Applicable Sections of WMP

To finalize this Operational WMP prior to operation of the facility, the certificate holder will update the following sections and highlighted areas~~To finalize this WMP prior to operation of the facility~~:

Update Section 3.1 based on final facility design including a brief description of the facility.

Update Section 3.2 and include in this WMP the facility site maps described in Section 3.2.

Update Section 3.4 with fire department, certificate holder, and operational manager contact information and emergency response procedures. Describe fire detection, fire suppression, and emergency shut off systems that will be activated in the event of a fire. Update Section 3.4 with analysis area residence contact information and confirm analysis area residence contact letter sent to residences within site boundary and 0.5 miles from the facility.

Update section 3.6 to describe vegetation management and areas that will be managed to be vegetation-free, noncombustible space, or gravel surface.

Update Section 3.7 and Table 2: *Operational Electrical Component and Vegetation Inspection and Maintenance Schedule and Results*, based on manufacturer recommendations associated with each type of facility component and vegetation management consistent with this WMP and Vegetation Management Plan; and include an appendix with excerpts of manufacturer recommendations.

Update Section 3.10 with any additional details about facility monitoring.

Update Section 4.0 with any additional standards for future review and plan updates. Note that Table 2: *Operational Electrical Component and Vegetation Inspection and Maintenance Schedule and Results*, will be used as a compliance checklist by the Department to establish the performance of the WMP. If determined by certificate holder or Department, adjustments or improvements must be proposed to ensure the WMP provides wildfire mitigation.

2.0 Prior to Operation Task list (PRO)

Prior to operation of the facility, complete the activities in Sections 2.1 and 2.2.

2.1 Training (PRO)

Before beginning operation, the certificate holder will hold an on-site training for operational personnel, inviting equipment manufacturers, specialty contractors, local fire department(s), participating and adjacent landowners, emergency management office personnel, ODOE, and any other emergency management agency. The training will cover:

- The location of electrical facility components and the fire safety measures associated with each component;
- Battery-specific safety protocols, including how to appropriately address chemical fires, in the event of an emergency;
- The type, location, and proper use of fire protection equipment;
- Fire protection equipment maintenance requirements;
- The location(s) of water source(s) and proper usage, storing and maintenance for the pump, hose nozzle; and water hose;
- Overview of smoking policy and locations;
- Overview of procedures and restrictions of operational maintenance activities during Fire Season and Red Flag Warnings designated in this Plan;
    - Designation of individual(s) responsible for Fire Watch Service;
    - Designation of individual(s) responsible for checking fire danger/designations for the day.

- Overview of procedures for Rescue, Alarm, Contain and Extinguish (RACE) procedures, including:
  - Rescue anyone in danger (if safe to do so);
  - Alarm – call the control room, who will then determine if 911 should be alerted;
  - Contain the fire (if safe to do so); and
  - Extinguish the incipient fire stage (if safe to do so).
- Provide information and encourage attendees to sign up for the County's emergency management notification system.

Training attendee list and training materials must be provided to the Department to demonstrate compliance.

The certificate holder will fill out and submit to the Department the template residence outreach letter provided as Attachment 1 of this WMP. Once Department confirms the letter to be sufficient, the certificate holder will mail to each residence within the 0.5 mile analysis area. Certificate holder will confirm mailing and submit to Department.

2.2 Facility Site Map(s) Submission (PRO):

Submit updated site maps from Section 3.2 concurrently to local fire department(s), County emergency management office, and the Department. The site maps will be included in the finalized OPR WMP

3.0 Operational Wildfire Mitigation Plan (OPR)

3.1 Summary of As-Built Facility Description with Design Features

Include a brief summary of the facility.

3.2 Facility Site Map(s):

This Operational WMP includes facility site maps as Attachment XX that identify:

- Location and dimensions of facility roads. Facility perimeter roads are XX feet wide and service roads are XX feet wide;
- Location of vegetation free, noncombustible, defensible spaces;
- Wildfire risk at the site and date;
- High-fire consequence areas/resources (includes existing infrastructure, residences, sensitive habitat, or cultural resources)
- The location of facility access points. Primary access points are located at XX road at the N/S/E/W portion of the facility;
- A description and the location of emergency access procedures, including how emergency responders and/or adjacent landowners may access site for fire protection equipment or to extinguish an on-site fire when personnel will not be onsite. (e.g. The facility will be gated and accessible by access codes. Local fire departments and emergency officials will receive codes to access the facility in the event of a fire);
- The type and location of fire protection equipment on site;
- The location(s) of water source(s) that will be on-site during operations. (e.g. Water trucks on site during fire season will be staged at the O&M building).

3.3 Specifications for Fire Protection Equipment

The following fire suppression equipment will be carried in vehicles conducting maintenance activities and stored on-site at the O&M building:

- Fire Extinguisher: Dry chemical. 2A:10BC (5 pounds), properly mounted or secured;
- Pulaski;
- Hand Shovel: Round point. 26 to 28 in "D" Handle, blade - 12 inches long and 10 inches wide;
- Collapsible Pail or Backpack Pump: 5-gallon capacity; and
- Drip Can: 5-gallon capacity.

During fire season (as designated in this Plan) water truck(s)/water source, water buffalo, or tank with minimum 500-gallon capacity must be on site. The water truck or water supply shall include the following, unless approved by the Department:

- Pump should be maintained ready to operate and capable of providing a discharge of not less than 20 gallons per minute at 115 psi at pump level. Note: Volume pumps will not produce the necessary pressure to effectively attack a fire start. Pressure pumps are recommended. Provide enough hose (500 feet minimum) not less than 3/4" inside diameter to reach areas where power driven machinery has worked.
- Water supply, pump, and at least 250' of hose with nozzle must be maintained as a connected, operating unit ready for immediate use.

All internal combustion engines must be equipped with exhaust systems, mufflers and screens, or include an appropriate spark arrestor; and must be kept in good operating condition.

All combustion engines (including but not limited to off road vehicles, chainsaws, and generators) will be equipped with a spark arrester that meets U.S. Forest Service Standard 5100-1.

All power driven machinery will be kept free of excess flammable material which may create a risk of fire.

3.4 Facility Contact Information and Emergency Response Procedures

Local fire department and county emergency management contact information:

- XXX County Rural Fire Protection District: (541) XXXXXX or 911
- XXXX County Emergency Services: (XXX) XXXX or 911

Fire department response times to the site: To be updated during pre-construction, a new station is expected to be built along Tower Road in 2027 which would impact response times.

Certificate holder primary contact and contact of construction contractor managers:

Certificate Holder Primary Contact Information	
Name	
Company	
Street Address	
City/State/Zip	

Phone	
Email	
Construction Contractor Manager Contact Information	
Name	
Title	
Street Address	
City/State/Zip	
Phone	
Email	

Residence addresses within the Amended Site Boundary subject to RFA 4 (analysis area) and 0.5 miles from the analysis area:

- The residence/landowner outreach letter provided as Attachment 1, will be provided to residences within the analysis area and 0.5 miles from the analysis area.
- Attachment 2 (provided at Plan finalization) will include a list of property owners within the analysis area and a 0.5-mile radius.

Contact 911 in the event of:

- A fire or emergency on-site that cannot be addressed by personnel on-site and requires the assistance of fire or emergency medical personnel;
- A fire ignition on-site that spreads out of the fence line;
- Any fire off-site that does not have emergency responders on site.
    - To the extent that construction personnel can safely assist and/or provide equipment to help extinguish off-site fires until emergency responders are on site, it is encouraged to do so to assist in the spread of the fire, loss of life, property and damage to the environment.

~~Describe fire detection, fire suppression, and emergency shut off systems that will be activated in the event of a fire.~~

~~Local fire department and county emergency management contact information:~~
- ~~X~~
- ~~X~~

~~Fire department response times to the site:~~
- ~~X~~
- ~~X~~

~~Certificate holder primary contact and contact of operational manager(s):~~
- ~~X~~

- X

Provide list of residence addresses within the site boundary and 0.5 miles from the site boundary.

Residence/landowner outreach letter is provided as Attachment 1 of this WMP. Use this letter to provide to new or updated residences with the analysis area as designated in Section 4.0, Plan Updates and Reporting Requirements.

Contact 911 in the event of:

- A fire or emergency on-site that cannot be addressed by personnel on-site and requires the assistance of fire or emergency medical personnel;
- A fire ignition on-site that spreads out of the fence line;
- Any fire off-site that does not have emergency responders on site.
    - To the extent that operational personnel can safely assist and/or provide equipment to help extinguish off-site fires until emergency responders are on site, it is encouraged to do so to assist in the spread of the fire, loss of life, property and damage to the environment.

3.5 Fire Precaution Levels and Restrictions during Fire Season

Definitions:

Non-Fire Season – Approximately October - May

Fire Season – Approximately June-September, formally designated by the Oregon Department of Forestry (ODF). Under ORS 478.960 (4), a Fire Chief can establish Fire Season within a Fire District when ODF, under ORS 477.505, declares Fire Season. Begins seasonal restrictions for public and industry.

Fire Weather Watch - A fire weather watch is issued when there is a high potential for the development of a red flag event. A watch is issued 18 to 96 hours in advance of the expected onset of criteria. Intent of a fire weather watch is to alert forecast users at least a day in advance for the purposes of resource allocation and fire fighter safety. A watch means critical fire weather conditions are possible but not imminent or occurring. Additionally, PGE declares fire season for our areas of operation which may extend beyond the dates established by ODF or fire chiefs.

Red Flag Weather Warning - A red flag warning is used to warn of impending or occurring red flag conditions. Its issuance denotes a high degree of confidence that weather and fuel conditions consistent with local red flag event criteria will occur in 48 hours or less. Specific Red Flag criteria differ for each situation and district in Oregon. Be extremely careful with open flames and other activities that emit sparks.

Hot Work - Any cutting, grinding, welding, or other activity that creates spark or open flame.

Fire Watch Service:

Fire watch shall:

- Be physically capable and experienced to operate firefighting equipment.

- Have facilities for transportation and communications to summon assistance.
- Observe portions of the operation on which activity occurred during the day.

Upon discovery of a fire, Firewatch personnel must: First report the fire, summon any necessary firefighting assistance, describe intended fire suppression activities; then, after determining a safety zone and an escape route that will not be cut off if the fire increases or changes direction, immediately proceed to control and extinguish the fire, consistent with firefighting training and safety.

Fire-Prevention Measures and Restrictions Associated with Fire Season:

Certificate holder shall maintain a log when operational activities are impacted by Fire Restrictions during Fire Season as designed in this Section. The log will include:

- The date;
- Fire Precaution Level;
- Description of actions taken, including if any measures were taken to reduce wildfire risk that are not identified in this Plan.

Non-Fire Season

- All hot work must be conducted on roads or on non-combustible surfaces.
- Smoking in designated areas only.

Fire Season

- ~~Before the start of each daily shift, at approximately 07:00 a.m. local time, a designated individual will check the fire danger posting by the National Weather Service for any Red Flag Warnings for that day.~~
- All hot work (any cutting, welding, or other activity that creates spark or open flame) must be conducted on roads or on non-combustible surfaces.
- Water source meeting specifications in this Plan will be on site during fire season.
- Following the completion of hot work, the Certificate Holder or contractor(s) must maintain a fire watch for 60 minutes to monitor for potential ignition.
- Fire watch shall be on duty during any breaks and for one hour after all power driven machinery used by the operator has been shut down for the day.
- Smoking in designated areas only.

Fire Weather Watch

- No hot work permitted.
- Driving and parking only permitted on graveled surfaces.
- Fire watch shall be on duty during any breaks and for one hour after all power driven machinery used by the operator has been shut down for the day.
- No smoking on site.

Red Flag Weather Warning

- No hot work permitted.
- On-site personnel must be aware of Red Flag Warning.
- Driving and parking only permitted on graveled surfaces.

- Fire watch shall be on duty during any breaks and for one hour after all power driven machinery used by the operator has been shut down for the day.
- No smoking on site.

Table 1: Fire Prevention Measures During Fire Season Summary

Requirement	Non-Fire Season	Fire Season	Fire Weather Watch	Red Flag Warning
Fire weather advisory	Not required	Not required~~Check for fire weather advisory daily before work begins.~~	Not required~~Check for fire weather advisory daily before work begins.~~	Check for fire weather advisory daily before work begins. On-site personnel must be aware of Red Flag Warning.
On-site water source	N/A	As specified in Section 3.2	As specified in Section 3.2 and 3.3.	As specified in Section 3.2 and 3.3.
Hot work	Only permitted on roads or on non-combustible surfaces.	Only permitted on roads or on non-combustible surfaces; fire watch required for 60 minutes after completion	Not Permitted	Not Permitted
Fire Watch Service	Not required	During breaks and for 60 minutes after all power-driven machinery has been shut down for the day.	During breaks and for 60 minutes after all power-driven machinery has been shut down for the day.	During breaks and for 60 minutes after all power-driven machinery has been shut down for the day.
Driving and Parking	As described in Section 3.9.	As described in Section 3.9.	Only permitted on roads or on non-combustible surfaces and Section 3.9.	Only permitted on roads or on non-combustible surfaces and Section 3.9.

Table 1: Fire Prevention Measures During Fire Season Summary

Requirement	Non-Fire Season	Fire Season	Fire Weather Watch	Red Flag Warning
Smoking	Designated areas only	Designated areas only	Not permitted	Not permitted

3.6 Vegetation Management

3.6.1 Vegetation-free, Noncombustible Space

The following areas will be managed to be vegetation-free, noncombustible space, or gravel surface:

- Fenced areas around the collector substation, operations and maintenance structure, and meteorological stations will be graveled, with no vegetation present.
- All newly constructed roads will be graded and graveled to meet load requirements for all equipment.
- Vegetation in these areas will be managed by the following techniques:
  - Mechanical Clearing: mowing, brushing, chipping, tree trimming/felling;
  - Manual Clearing: hand tools (chainsaws, machetes, handsaws); and
  - Chemical Treatment: use of approved herbicides by licensed applicators to control or suppress vegetation growth (broadcast spray, spot treatment, cut-stump/basal bark).

~~The following areas will be managed to be vegetation-free, noncombustible space, or gravel surface:~~

- ~~XX foot wide service roads within solar fence line – graveled~~
- ~~XX wide perimeter roads – graveled~~
- ~~10- foot noncombustible, defensible space clearance along the fenced perimeter of the site boundary – vegetation free~~
- ~~Within and a 10-foot perimeter of the inverter/transformer pads, collector substation and battery energy storage system (BESS) – graveled, similar noncombustible base, or vegetation free~~
- ~~Parking and O&M building perimeter - graveled~~
- ~~Vegetation along service roads will be managed by mowing or other vegetation removal~~

~~Vegetation in these areas will be managed by the following techniques:~~

- ~~XX~~
- ~~XX~~
-

3.6.2 Vegetation Standards, Surveys and Management

Vegetation within the fence line and below the solar arrays will be maintained in accordance with the approved ~~Revegetation Plan, Soil Reclamation Plan and Noxious Weed Plan~~Vegetation and Soil Management Plan (VSMP) for the facility.

- Vegetation will be limited to a height of 10-12 inches.
- At no point shall vegetation come in contact with electrical equipment.
- Vegetation near, at, or taller than the maximum height shall be removed or mowed.
- Mowing must be done in advance of fire season or accordance to any fire restrictions.
- At no point shall vegetation come in contact with electrical equipment.
- Vegetation buildup in the fence line(s), shall be removed.
- Any vegetation removed from the site will be disposed of and not stored onsite. Certificate holder and contractors will prevent the accumulation of combustible "burn piles" on site.

A vegetation assessment survey of the fenced area will be completed at least twice a year to monitor for vegetation clearances and maintenance of fire breaks, and wildfire hazards. One survey will occur before the fire season begins, in May or June. The second survey will occur in October or November. Additional vegetation surveys and management may be required throughout the year based on seasonally heightened fire risk, vegetation growth, or observations from operational maintenance staff.

The survey will be conducted by the a vegetation specialist and will be used to assess the frequency of upcoming vegetation maintenance and will assess and document the following:

- Location;
- Species;
- Height;
- Proximity to facility components;
- Estimated growth rate;
- Abundance;
- Clearance/setbacks; and
- Risk of fire hazard.

Results of surveys shall be provided in the annual updates to this WMP, designated in Section 4.0.

Vegetation control includes: (to be consistent with this WMP and Vegetation Management Plan)

- XXX
- XXX

3.7 Inspections and Maintenance

Facility components will be inspected and maintained as designated in Table 2: *Operational Electrical Component and Vegetation Inspection and Maintenance Schedule and Results* below. Update Table 2 based on manufacturer recommendations associated with each type of facility component and vegetation management consistent with this WMP and Vegetation and Soil Management Plan.

Table 2 includes an operational check list that will be filled out designating which personnel conducted inspections and maintenance, the dates of inspections and maintenance, and results. As designated in Section 4.0, of this WMP, this table checklist will be submitted to demonstrate compliance with the WMP and used to determine if changes to the WMP are necessary. Other

checklist may be provided prior to operation and in the annual review of the WMP, as approved by the Department.

Manufacturers' recommendations, or excerpts for inspections and maintenance are included as Appendix XX to plan.

Lock Out/Tag Out Program:
During maintenance activities, electrical equipment is de-energized and physically locked or tagged in the de-energized positions to avoid inadvertent events that could result in arc flash.

- Ensure equipment is maintained to prevent and control sources of ignition.

Table 2: Operational Electrical Component and Vegetation Inspection and Maintenance Schedule and Results

Facility Component(s)	Inspection Procedure	Inspection Frequency	Standard[1]	Maintenance Schedule	Date and Personnel Completing Inspection(s); Inspection Results	Date and Personnel Completing Maintenance; Maintenance Results
System Protection	Protection Relays • Verify calibration and check functionality. Breaker Trip Testing • Verify the ability to trip breakers via coil.	X	Manufacturer's maintenance recommendations	Repair or replace once every 5 years	Date: Personnel: Results: Notes:	Date: Personnel: Results: Notes:
System Protection	System Protection Potential Transducers ("PTs") and Current Transducers ("CTs") • Verify calibration and check functionality.	X	Manufacturer's maintenance recommendations	Repair or replace once every 11 years	Date: Personnel: Results: Notes:	Date: Personnel: Results: Notes:
Solar Inverter	• Visual inspection of inverter and surrounding area. • Verify torque specifications. • For alternating current (AC)/direct current (DC), perform inspection of communication and control power terminations. • Cycle AC/DC disconnects, inspect AC/DC contactors and cooling fans. • Perform infrared scan. Inverter Testing and Preventative Parts Replacement • Preventative maintenance replacement of inverter parts (e.g.: cooling system and power supplies that are operating effectively but scheduled for replacement per manufacturer's recommendations).		Spill Prevention, Control, and Countermeasures (SPCC) Plan[3] Manufacturer's maintenance recommendations	• Monthly SPCC Plan • Bi-annual Preventative Maintenance • Per manufacturer's recommendations	Date: Personnel: Results: Notes:	Date: Personnel: Results: Notes:
	Vegetation: Visual inspection during component inspections and visual inspections during vegetation surveys twice a year.	Vegetation: Twice a year during vegetation surveys and additional visual inspections during routine inspections of components.	Vegetation: Herbicide application on gravel pad around inverter to prevent vegetation growth. IEEE 80 NEC 70	Vegetation: Yearly, depending on vegetation condition. Or more frequent based on vegetation survey results or upon visual inspections listed above.	Date: Personnel: Results: Notes:	Date: Personnel: Results: Notes:
Tracker System	• Perform visual inspection of tracking components; sync data with the Applicant's Operations Center. • Perform visual inspection of module clamps and rail fasteners for integrity. • Perform visual inspection of gear drives and shaft assemblies for alignment. • Grease gear boxes and/or drive shaft. • Verify wind stow functionality and lubricate slew ring.		Manufacturer's maintenance recommendations	• Per manufacturer's recommendations	Date: Personnel: Results: Notes:	Date: Personnel: Results: Notes:
Solar Array Structures	• Perform visual inspection of mounting structures,		Manufacturer's	Repair or replace annually	Date:	Date:

Table 2: Operational Electrical Component and Vegetation Inspection and Maintenance Schedule and Results

Facility Component(s)	Inspection Procedure	Inspection Frequency	Standard[1]	Maintenance Schedule	Date and Personnel Completing Inspection(s); Inspection Results	Date and Personnel Completing Maintenance; Maintenance Results
	grounding, and cabling.		maintenance recommendations		Personnel: Results: Notes:	Personnel: Results: Notes:
Solar Array Panels, Harnesses, and Combiner Boxes	At Applicant's sole discretion, to perform one of the following options: • Infra-red ("IR") Flyover a. IR scan of Site providing DC health of the Facility down to string level reporting; or • Physical DC Health Inspection a. Perform visual inspection of whips and wires connectors for damage or exposed conductors in gutters of harness combiner boxes. b. Measure and record current of each whip using clamp-on meter and identify low performing whips.		Applicant's discretion Manufacturer's maintenance recommendations	Repair or replace annually	Date: Personnel: Results: Notes:	Date: Personnel: Results: Notes:
	Vegetation: Visual inspection during component inspections and visual inspections during vegetation surveys twice a year.	Vegetation: Twice a year during vegetation surveys and additional visual inspections during routine inspections of components	Vegetation: Vegetation under solar arrays will be maintained to a height of 10-12 inches, with a minimum clearance of 12 inches from electrical equipment. Methods include manual removal, mowing, or as designate din this Plan.	Vegetation: Twice a year, or more often, as designate din this Plan.	Date: Personnel: Results: Notes:	Date: Personnel: Results: Notes:
Collector Substation	• Perform visual inspection of the grounding system. • Perform thermographic and visual inspection. • Perform uninterrupted power supply (UPS) inspection and maintenance.		Manufacturer's maintenance recommendations North American Electric Reliability Corporation (NERC)	Repair or replace annually	Date: Personnel:	Date: Personnel:
	Vegetation: Visual inspection during component inspections and visual inspections during vegetation surveys twice a year.	Vegetation: Twice a year during vegetation surveys and additional visual inspections during routine inspections of components.	Vegetation: Herbicide application on substation gravel pad. IEEE 80 NEC 70	Vegetation: Yearly, depending on vegetation condition. Or more frequent based on vegetation survey results or upon routine visual inspections.	Results: Notes:	Results: Notes:

Table 2: Operational Electrical Component and Vegetation Inspection and Maintenance Schedule and Results

Facility Component(s)	Inspection Procedure	Inspection Frequency	Standard[1]	Maintenance Schedule	Date and Personnel Completing Inspection(s); Inspection Results	Date and Personnel Completing Maintenance; Maintenance Results
BESS	• Set battery maintenance (system check, cell balancing). • Battery cable, appearance, grounding, dust removal. • Inspect battery management system alarms. • Visual inspection of electrical terminations using thermal imager.		Manufacturer's maintenance recommendations	Repair or replace annually	Date: Personnel:	Date: Personnel:
	Vegetation: Visual inspection during component inspections and visual inspections during vegetation surveys twice a year.	Vegetation: Twice a year during vegetation surveys and additional visual inspections during routine inspections of components.	Vegetation: Herbicide application on substation gravel pad. IEEE 80 NEC 70	Vegetation: Yearly, depending on vegetation condition. Or more frequent based on vegetation survey results or upon routine visual inspections.	Results: Notes:	Results: Notes:
Unit Control Enclosure Battery	• Check for correct operations of battery monitoring system and battery charging system. • Perform visual inspection of the battery room, mounting rack, batteries, and connections.		Manufacturer's maintenance recommendations	Repair or replace monthly	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
Unit Control Enclosure Battery	• Perform individual cell float charge and specific gravity checks.		Manufacturer's maintenance recommendations	Repair or replace quarterly	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
Unit Control Enclosure Battery	• Measure float cell voltage, pilot cell voltage, and electrolyte temperature of pilot cell.		Manufacturer's maintenance recommendations	Repair or replace annually	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
Supervisory, Control and Data Acquisition (SCADA) & Network Equipment	• Plant equipment will be evaluated every 5 years to determine state of health and provide recommendations to Savion.		Manufacturer's maintenance recommendations	Upgrade, repair, or replace every 5 years	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
BESS Junction Box/ Auxiliary System/Miscellaneous	• Auxiliary equipment maintenance and inspection. • Enclosure dust removal. • Inspect cable entry, grounding, sealing, dust removal.		Manufacturer's maintenance recommendations	Repair or replace annually	Date: Personnel:	Date: Personnel:

Table 2: Operational Electrical Component and Vegetation Inspection and Maintenance Schedule and Results

Facility Component(s)	Inspection Procedure	Inspection Frequency	Standard[1]	Maintenance Schedule	Date and Personnel Completing Inspection(s); Inspection Results	Date and Personnel Completing Maintenance; Maintenance Results
	• Critical sensor calibration check. • Maintenance report.				Results: Notes:	Results: Notes:
BESS Fire Safety System	• Fire alarm and detection system inspection. • Fire alarm and detection system maintenance. • Fire suppression System Inspection.		Manufacturer's maintenance recommendations	Repair or replace annually	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
BESS Thermal Management System	• Thermal management system inspection. • Thermal management system maintenance. • Motor Lubrication. • Clean Filters by rinsing with water. • Electric Heater - Dust accumulation on the coil, signs of overheating on the heater frame, traces of water or rust on the electric heater control box.		Manufacturer's maintenance recommendations	Repair or replace semi-annually	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
BESS Thermal Management System	• Coolant tester visual inspection.		Manufacturer's maintenance recommendations	Repair or replace annually	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
BESS General	• System configuration check.		Manufacturer's maintenance recommendations	Repair or replace annually	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
Medium Voltage (MV) and High Voltage (HV) Breaker	• Clean out dirt and debris. • Perform a manual operation test. • Perform an electrical test. • Perform a gas leakage test.		Manufacturer's maintenance recommendations NERC	Repair or replace per manufacturer's recommendations	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
Generator Step-Up (GSU) Transformer	• Perform a visual inspection and check for proper operation of fan motor, oil pump motor, and breather. • Inspect and maintain substation transformer bushings		SPCC Plan[3]	Repair, overhaul, refurbish, or replace per manufacturer's recommendations	Date: Personnel:	Date: Personnel:

Table 2: Operational Electrical Component and Vegetation Inspection and Maintenance Schedule and Results

Facility Component(s)	Inspection Procedure	Inspection Frequency	Standard[1]	Maintenance Schedule	Date and Personnel Completing Inspection(s); Inspection Results	Date and Personnel Completing Maintenance; Maintenance Results
	and control panel. • Perform visual inspection of bushings for indications of local heating, oil leaks, proper oil level and indication of contaminants.		Manufacturer's maintenance recommendations		Results: Notes:	Results: Notes:
Inverter Step-up Transformer	• Perform infrared scans on low side of transformer when power is >80%. • Verify temperature and pressure sync with the contractor's Operations Center. • Perform visual inspection of the physical integrity of the enclosure and check for oil leakage. • Perform visual inspection for damage or discoloration of bushings. • Perform oil sample analysis on MV transformer(s). • Collect MV transformer oil sample(s) for 3rd party analysis. • Perform electrical test of transformer. • Verify integrity of surge arresters and check for proper tap position.		SPCC Plan[3] Manufacturer's maintenance recommendations	Replace or repair per manufacturer's recommendation	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
	Vegetation: Visual inspection during component inspections and visual inspections during vegetation surveys twice a year.	Vegetation: Twice a year during vegetation surveys and additional visual inspections during routine inspections of components.	Vegetation: Herbicide application on gravel pad around inverter to prevent vegetation growth. IEEE 80 NEC 70	Vegetation: Yearly, depending on vegetation condition. Or more frequent based on vegetation survey results or upon visual inspections listed above.	Date: Personnel:	Date: Personnel:
					Results: Notes:	Results: Notes:
Overhead electrical lines	Visual inspection of components, grounding and APLIC measures.		APLIC		Date: Personnel:	Date: Personnel:
	Vegetation: Visual inspection of vertical clearance distance between conductor and vegetation.		Vegetation: National Energy Reliability Corporation (NERC) - Vegetation maintenance standard FAC-003-0. Mow vegetation to achieve clearance requirements between conductor and ground.	Vegetation: Yearly, depending on vegetation condition.	Results: Notes:	Results: Notes:

1. The Operational SPCC Plan for the Facility will require these components to be inspected monthly for spills. During these inspections, Operational Staff will also visually inspect the component and surrounding area.

3.8 Use of Vehicles and Power Driven Machinery at Site

The following best management practices (BMPs) to minimize fire risk from vehicle travel, equipment use, and fueling activities will be implemented at the site during operational activities:

- The movement of vehicles will be planned and managed to minimize fire risk.
- As necessary, contractor(s) or operational personnel will be responsible for identifying and marking paths for all off-road vehicle travel. All off-road vehicle travel will be required to stay on the identified paths. No off-road vehicle travel will be permitted while working alone during fire season. Travel off road or parking in vegetated areas will be restricted during fire season as designate din this Plan.
- Areas with grass that are as tall or taller than the exhaust system of a vehicle must be wetted before vehicles travel through it.
- Workers will be instructed to shut off the engine of any vehicle that gets stuck, and periodically inspect the area adjacent to the exhaust system for evidence of ignition of vegetation. Stuck vehicles will be pulled out rather than "rocked" free and the area will be inspected again after the vehicle has been moved.
- Fuel containers, if used, shall remain in a vehicle or equipment trailer, parked at a designated location alongside a county right-of-way. No fuel containers shall be in the vehicles that exit the right-of-way except the five-gallon container that is required for the water truck pump.
- All power driven machinery will be kept free of excess flammable material which may create a risk of fire.

3.9 Operational Training(s)

3.9.1 Annual or Biannual Safety Training

Organize and hold an on-site training with operational personnel, inviting equipment manufacturers, specialty contractors, local fire department(s), participating and adjacent landowners, emergency management office personnel, ODOE, and any other emergency management agency, that covers:

- The location of electrical facility components and the fire safety measures associated with each component;
- Battery-specific safety protocols, including how to appropriately address chemical fires, in the event of an emergency;
- The type, location, and proper use of fire protection equipment;
- Fire protection equipment maintenance requirements;
- The location(s) of water source(s) and proper usage, storing and maintenance for the pump, hose nozzle; and water hose;
- Overview of smoking policy and locations;
- Overview of procedures and restrictions of operational maintenance activities during Fire Season and Red Flag Warnings designated in this Plan; Rescue, Alarm, Contain and Extinguish (RACE) procedures, or similar, including:
    - Rescue anyone in danger (if safe to do so);
    - Alarm – call the control room, who will then determine if 911 should be alerted;

  - Contain the fire (if safe to do so); and
  - Extinguish the incipient fire stage (if safe to do so).
- Provide information and encourage attendees to sign up for the County's emergency management notification system.

Training attendee list and training materials must be provided to the Department to demonstrate compliance.

3.9.2 Electrical Safety Program

All operational workers will be trained in electrical safety and the specific hazards of the facility. This training will address:

- Minimum experience requirements to work on different types of electrical components;
- Lockout/tagout procedures
- Electrical equipment testing and troubleshooting;
- Switching system;
- Provisions for entering high voltage areas (e.g., substation);
- Minimum approach distances; and
- Required personal protective equipment.

3.10 Facility Monitoring

Facility components that are monitored via the supervisory, control, and data acquisition (SCADA) system are the solar inverters, collector substation, battery energy storage system (BESS), and overhead electrical lines associated with the alternate gen-tie line.

Facility components will be monitored remotely with the SCADA system 24 hours a day, 7 days a week.

Smoke and fire detectors are placed throughout the facility, will be connected to the SCADA system, and will contact local firefighting services if needed. The BESS will also have integrated fire safety and monitoring systems to detect and alarm if a fire condition is detected.

Facility has remote shutdown capabilities that involve XXX.

4.0 Plan Updates: Amendments and Reporting Requirements

The following information must be provided to the Department in the annual report required per OAR 345-026-0080~~:~~:

- Section 3.1 and 3.2, any changes in wildfire risk at the site or changes in facility components or preventative features.
- Section 3.4, any changes in local fire protection agency personnel and operational managers.
- Section 3.4, any changes in analysis area residence/landowner addresses or contact information.
- Fill out Table 2: *Operational Electrical Component and Vegetation Inspection and Maintenance Schedule and Results*, with the dates, personnel, and results of inspections and maintenance performed. A different form or checklist of operational inspection, vegetation

management, and maintenance may be used if approved by the Department.
- A copy of the Fire Season Restriction Log identified in Section 3.5.

The certificate holder must review this WMP annually to determine if updates to the WMP are necessary. In its annual review, the certificate holder will evaluate changes in standards, policies, future technologies or best practices that could be implemented at the facility to address wildfire prevention or protection, including but not limited to those identified in Table 3, below.

Information from the annual reporting and from the certificate holder or Department review of sources in Table 3 may be used to establish the performance of the WMP. If determined by certificate holder or Department, adjustments or improvements must be proposed to ensure the WMP provides wildfire mitigation. Any Department required updates shall be implemented within 14 days, unless otherwise agreed to by the Department based on a good faith effort to address wildfire hazard.

This Plan may be amended from time to time by agreement of the certificate holder and the Oregon Energy Facility Siting Council (EFSC) or ODOE, acting within its delegated authority of EFSC. Such amendments may be made without amendment of the site certificate. EFSC authorizes ODOE to agree to amendments to this Plan. ODOE will notify EFSC of all amendments, and EFSC retains the authority to approve, reject, or modify any amendment of this Plan agreed to by ODOE.

Table 3: Standards for Future Review

Reference	Description	Method
American Clean Power	Industry ground that establishes best practices for renewable energy projects.	The applicant is a member of ACP and participates in best practice development[1].
National Electric Reliability	National Energy Reliability Corporation develops electrical standards for large energy facilities.	The applicant will follow NERC Standard FAC-003-0 for its vegetation management program of transmission lines[2], or updates to this standard as approved by NERC.
Oregon Specialty Building Codes	Building codes applicable to inhabitable spaces, including the O&M building and the substation enclosure.	Remodeling to the O&M and enclosure structure that requires permits will follow any updates to the OSPC at that time.
Oregon Fire Code	The Oregon State Fire Marshal adopts the Oregon Fire Code, establishing minimum fire prevention and protection systems requirements applicable to certain structures, including but not limited to, energy systems.	The certificate holder will adhere to any applicable standards of the Oregon Fire Code and will incorporate features necessary to meet those standards into the design of the facility. Certificate holder will annually review and apply applicable standards that may apply to

Table 3: Standards for Future Review

Reference	Description	Method
NFPA Codes and Standards	The National Fire Protection Association publishes codes and standards intended to minimize the possibility and effects of fire and other risks/	The certificate holder will identify and adhere to any applicable codes and standards and will incorporate features necessary to meet those standards into the design of the facility. Certificate holder will annually review and apply applicable standards that may apply to an operational facility.
APLIC	Avian protection methods for electrical facility reduce fires related to bird/mammal nests on electrical equipment.	The certificate holder is a member of APLIC[3]. An operational wildlife monitoring program will inspect for wildlife nesting on facilities that could cause fire, and take actions following applicable laws (e.g., MBTA).
ORS chapter 477, OAR chapter 629-043	Standards and rules for fire prevention in forest and range land administered by Oregon Department of Forestry	The certificate holder will be familiar with and operate consistently with the applicable standards, including any updates to rules or standards and will provide a summary of standards that are updated and implemented at the facility.
OAR chapter 860, division 024	Safety standards for transmission lines adopted by Oregon PUC	The certificate holder will maintain consistency with any applicable vegetation clearance requirements, pruning standards, and high fire risk zone safety standards and will provide a summary of standards that are updated and implemented at the facility.

1. Link to ACP Standards & Practices: https://cleanpower.org/resources/types/standards-and-practices/.
2. NERC FAC-003-0: https://www.nerc.com/pa/Stand/Reliability%20Standards/FAC-003-0.pdf.
3. Link to APLIC member organization: https://www.aplic.org/member_websites.php.

Attachment 1: Residence/Landowner Outreach Letter