Request for Amendment No. 2
to the Site Certificate
and
Type B Amendment Determination Request
for the
Obsidian Solar Center

Submitted to:

Oregon Department of Energy

November 2024

Revised April 2025

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1.0 Introduction

1.1 Project Summary and Request

Obsidian Solar Center LLC (Certificate Holder), an Oregon limited liability company owned by Obsidian Renewables, LLC and Lindgren Development Inc. obtained a Site Certificate for the approved but not yet constructed Obsidian Solar Center project (Facility) from the Oregon Energy Facility Siting Council (Council) on February 25, 2022, approving construction of the Facility in Lake County, Oregon, approximately eight miles northwest of Christmas Valley.

The Certificate Holder is submitting this Second Request for Amendment (RFA2) to the Facility Site Certificate to extend the deadline to begin construction contained in Condition GEN-GS-01. Specifically, Certificate Holder seeks to amend Condition GEN-GS-01(a) to begin construction by February 25, 2028 (currently February 25, 2025) and thereby extending the deadline to complete construction to February 25, 2031 (currently February 25, 2028, in accordance with Condition GEN-GS-01(b)). RFA2 does not propose any new areas of Site Boundary, nor does it propose new components or changes to the approved Facility components. The proposed change is administrative and needed to allow for delays in confirming interconnection and transmission with the Bonneville Power Authority (BPA), which faces a backlog of requests.

Obsidian received a Feasibility Study from BPA in November 2020, and the System Impact Study was published in September 2021. Obsidian signed an Environmental Study Agreement with BPA in September 2022. This initiated Phase I of the Secondary Capacity Model (SCM) process, which results in a 20% design, cost estimates, and a schedule for the construction of the required interconnection infrastructure. In November 2023, Obsidian received the 20% design from the SCM process and was granted Bypass status in the BPA interconnection queue reform process. This designation is representative of the advanced maturity and commercial readiness of the project. The SCM process is a new program that BPA introduced to address its internal resource constraints (by entering into third party contracts for progressive design work (PDB) and for an owner's (BPA's) consultant for project oversight). At this time, BPA and Obsidian are working collaboratively to advance substation design and value engineering work in connection with transmission infrastructure upgrades. Obsidian continues to diligently pursue resolution of issues related to interconnection but is not able, at this time, to provide an estimated date for execution of a final interconnection agreement.

1.2 Procedural History

The Certificate Holder provided a Notice of Intent in January 2018 to the Oregon Department of Energy (ODOE) prior to the development of the ASC. The Site Certificate for the Facility was issued and effective February 25, 2022, following the ASC that was submitted in October 2019. Certificate Holder was issued a First Amended Site Certificate (RFA1) for the Facility effective November 17, 2023.

2.0. Amendment Required under OAR 345-0027-0350

Except for changes allowed under OAR 345-027-0353 of this rule, an amendment to a Site Certificate is required to:

(1) Transfer ownership of the facility or the certificate holder as described in OAR 345-027-0400;

(2) Apply later-adopted law(s) as described in OAR 345-027-0390;

(3) Extend the construction beginning or completion deadline as described in OAR 345-027-0385;

(4) Design, construct or operate a facility in a manner different from the description in the Site Certificate, if the proposed change:

(a) 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;

(b) Could impair the certificate holder's ability to comply with a Site Certificate condition; or

(c) Could require a new condition or a change to a condition in the Site Certificate.

Response: The Certificate Holder is seeking to extend the construction beginning deadline as described in OAR 345-027-0385. Therefore, an amendment is required under subsection (3) of OAR 345-027-0353.

3.0 Need for Amendment – OAR 345-027-0385

OAR 345-027-0385 Request for Amendment to Extend Construction Deadlines

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

Response: The Certificate Holder is requesting an amendment to the Site Certificate to extend the deadline for completing construction of the Facility. The Certificate Holder's explanation of the need for the extension is provided below. The Certificate Holder is submitting this RFA2 in accordance with OAR 345-027-0360 before the applicable construction deadline of (February 25, 2025) and no earlier than 12 months before the applicable construction deadline. The extensions of the construction start and completion deadlines are needed because interconnection and transmission discussions with Bonneville Power Authority will not be completed early enough to start construction by February 25, 2025.

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

the applicable construction deadline, the site certificate is deemed expired as of the applicable construction deadline specified in the site certificate or amended site certificate.

Response: The Certificate Holder understands and acknowledges this rule.

(3) *If the Council grants an amendment under this rule, the Council must specify new deadlines for beginning or completing construction that are the later of: (a) Three years from the deadlines in effect before the Council grants the amendment; or (b) Following a contested case proceeding conducted pursuant to OAR 345-027-0371, two years from the date the Council grants the amendment.*

Response: The Certificate Holder requests that the new deadline for the start of construction be February 25, 2028, and the new deadline for completing construction be February 25, 2031. These dates are three years from the deadlines currently in effect under the Site Certificate for the Facility. The Certificate Holder recognizes, however, that if there is a contested case on this RFA2, the Council must select the latter of the two dates under OAR 345-027-0385(3).

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

Response: This is the first request to extend the deadline for beginning construction of the Facility.

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

Response: The construction deadlines in effect for the Facility under the Site Certificate were originally approved in February 2022, after October 24, 2017. Therefore, OAR 345-027-0385(5) does not apply.

4.0 Review Process under OAR 345-027-0351 and Amendment Determination Request for Type B Review under OAR 345-027-0357(4)

The proposed changes are administrative to the Site Certificate versus proposing new areas of Site Boundary or new changes to the Facility's permitted and approved infrastructure. The record for the Facility, the findings of fact, reasoning, and conclusions of law were reviewed prior to issuance of the Site Certificate (as amended) with corresponding terms and conditions. There will be no substantive changes to Site Certificate conditions (as amended) other than necessary to facilitate the extension of the construction deadlines or account for the impact of rule changes and updates adopted after the issuance of the first amended Site Certificate. For this reason, the Type B review process is the appropriate amendment review process for this request. Therefore, RFA2 also serves as an Amendment Determination Request pursuant to OAR 345-027-0357(3) to provide the justification documentation that the Type B review process is the appropriate process for the proposed changes. Accordingly, the following analysis of OAR 345-027-0357(8) addresses the evaluation criteria for the Type B process, further substantiated by the information provided in the

entirety of RFA2, which also provides the required information for an Amendment Determination Request pursuant to OAR 345-027-0357(4):

> *OAR 345-027-0357(4) A request described in section (1), (2), or (3) of this rule must be submitted in writing to the Department and must include:*
>
> *(a) A narrative description of the proposed change;*

Response: See narrative description of the proposed change below.

> *(b) Maps and/or geospatial data layers representing the effects and/or location of the proposed change;*

Response: Figure 1 depicting the approved site boundary (as amended by RFA 1) and area to subject to RFA2 is provided at the end of this application. The Certificate Holder has submitted related geospatial data layers to the Oregon Department of Energy (ODEO or Department) concurrently with this amendment request.

> *(c) The certificate holder's evaluation of the determinations it is requesting under sections (1), (2), or (3) of this rule; and*

Response: A request for a Type B review process is provided below, along with an analysis of why this process is appropriate for this amendment request.

> *(d) Any additional information the certificate holder believes will assist the Department's evaluation.*

No new areas of Site Boundary are being proposed and the physical facility will be the same as previously permitted and approved. Moreover, the Certificate Holder's ability to comply with all the Site Certificate conditions will not be impaired. However, RFA2 will result in administrative changes to Condition GEN-HS-01 in the Site Certificate due to the extension of the deadline to commence construction. In addition, Applicant is recommending that the Council adopt revised condition GEN-FW-02 to the ASC related to certificate holder's avoidance, minimization, and mitigation of potential impacts to sage grouse, and a new subcondition to ensure compliance with revised rules adopted by the State Historic Preservation Office, in each case as further described below, Certificate holder has also updated its Draft Wildlife Mitigation Plan, Draft Wildfire Construction Mitigation Plan, and Draft Operational Wildfire Mitigation Plan. Therefore, an amendment is required under OAR 345-027-0353(3).

> *OAR 345-027-0357(8) In determining whether a request for amendment justifies review under the type B review process described in 345-027-0351(3), the Department and the Council may consider factors including but not limited to:*
>
> *OAR 345-027-0357(8)(a) The complexity of the proposed change;*

Generally, the proposed changes lack complexity and are administrative in nature and merely address the timing of construction. Ultimately, the Facility will be constructed and operated essentially in the same manner as approved by the Council, which imposed conditions, as applicable. There will be no new areas of in the Site Boundary and this request does not seek to change the physical components of the previously permitted and approved Facility. Therefore, the Council need only consider resources that may be impacted by the approved Facility are either newly protected or

that are new to the Site and for which there is not already an adequate finding or condition. As discussed more fully below, updated Sage Grouse habitat maps completed by the ODFW in December 2024 reflect an overlap of mapped low-density Sage Grouse habitat with the project site. ODFW has clear procedures and tools that it follows to determine potential adverse impacts from development on low density Sage Grouse habitat and the resulting mitigation requirements, meaning that additional work needs to be done to understand the potential impact and mitigation obligation, but it is not a particularly complex problem. Satisfaction of this requirement can be adequately handled with a revised condition to the ASC and the attached revisions to the draft Habitat Mitigation Plan (**Attachment 2**) to include sage grouse mitigation as part of its preconstruction compliance work and implement that Plan during and after construction. See Section 9.1.7 for additional discussion on this topic.

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OAR 345-027-0357(8)(b) The anticipated level of public interest in the proposed change;

The Council has already imposed conditions in response to past public comments during the siting process and ASC. The proposed extension of the construction deadlines will not result in any changes to the Facility that will affect the public. Certificate Holder's RFA1 received just one public comment and it was not made with specificity related to any EFSC standard, the Facility, or the amendment request. (See page 14, Final Order on Request for Amendment 1, November 17, 2023).

OAR 345-027-0357(8)(c) The anticipated level of interest by reviewing agencies;

There will be no new areas of Site Boundary, and no changes to the approved facilities or the Site Certificate conditions other than changes that pertain to the timing of starting construction. Reviewing agencies commented on the ASC, the Project Order, and RFA1, all of which informed the development of the Site Certificate conditions. The Certificate Holder understands that ODOE's review includes outreach to respective agencies as a matter of process, but it is anticipated that, with the exception of the ODFW, their interest will be low in comparison to other energy project reviews because there will be no physical changes to the Facility nor Certificate Holder Owner. As described more completely in Section 9.1.7, ODFW and Certificate Holder are currently evaluating the consequence of the updated Sage Grouse habitat maps finalized in December 2024, which show that a small portion of the approved Site Boundary is now within Low-Density Sage Grouse Habitat.

OAR 345-027-0357(8)(d) The likelihood of significant adverse impact;

The Council has already evaluated the potential adverse impacts from the Facility and provided conditions and mitigation requirements to avoid, minimize, and mitigate those impacts. The requested amendment does not change the facility location, design, components, operation or retirement. Certificate holder does not expect significant adverse impacts from the Facility on any newly identified resources or protected interests as a result of the change to the construction timeline. Further, Certificate holder does not anticipate significant adverse impacts to resources newly evaluated by the Council in connection with RFA2, specifically Sage Grouse, because potential adverse impacts will be mitigated in connection with revised condition GEN-FW-02 and the amended Habitat Mitigation Plan (See Section 9.1.7).

OAR 345-027-0357(8)(e) The type and amount of mitigation, if any.

Based on the updates completed by Applicant in connection with this RFA2, it appears that Certificate holder may be required to development and implement a Sage Grouse Habitat Mitigation Plan as a result of updated Sage Grouse habitat maps finalized by ODFW in December 2024 which include a fraction of the project site in the mapped area characterized as low-density sage grouse habitat. See Section 9.1.7 for discussion. Certificate holder and ODFW are working together to quantify the potential direct and indirect impacts of the Facility on Low Density Sage Grouse Habitat and determine any necessary mitigation. **Attachment 2** reflects changes to the draft Habitat Mitigation Plan to incorporate this potential sage grouse mitigation obligation.

5.0 Preliminary Request for Amendment Requirements – OAR 345-027-0360

To request an amendment to the site certificate required by OAR 345-027-350 (Changes Requiring an Amendment) (3) or (4), the certificate holder must submit a written preliminary request for amendment to the Department that includes the following:

5.1 Certificate Holder Information – OAR 345-027-360(1)(a)

OAR 345-027-0360(1) To request an amendment to the Site Certificate required by OAR 345-0270350(3) and (4), the certificate holder shall submit a written preliminary request for amendment to the Department of Energy that includes the following:

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

5.1.1 Name of the Facility

Obsidian Solar Center

5.1.2 Name and Mailing Address of Certificate Holder

Obsidian Solar Center, LLC
5 Centerpointe Drive, Suite 255
Lake Oswego, Oregon 97035

5.1.3 Name and Address of Individual Responsible for Submitting Request

Michelle Slater
Obsidian Solar Center, LLC
c/o Obsidian Renewables, LLC
5 Centerpointe Drive, Suite 255
Lake Owego, Oregon 97035
(503) 577-1446
mslater@obsidianrenewables.com

6.0 Description of Proposed Change – OAR 345-027-0360(1)(b)

OAR 345-027-0360 Preliminary Request for Amendment

(1) To request an amendment to the Site Certificate required by OAR 345-027-0350(3) and (4), the certificate holder shall submit a written preliminary request for amendment to the Department of Energy that includes the following:

(b) A detailed description of the proposed change, including:

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

(A) A description of how the proposed change affects the Facility,

Certificate Holder proposes extending the date by which the construction of the Facility must begin by three years, to February 25, 2028. Incorporation of this change would result in only minor modifications to Standard Condition GEN-HS-01 and related Amended Site Certificate language, as reflected in Section 6.

This RFA2 does not change the maximum solar PV energy components, design, operation or retirement of the Facility as presented and approved in the Amended Site Certificate. This RFA2 only includes changes to the deadline for commencement of construction of the Facility (and, by reference, to the deadline for completing construction).

The proposed change has no impact on the Facility Site Boundary, which remains as approved in the Amended Site Certificate.

6.2 How Proposed Change Affects Protected Resources and Interests – OAR 345-027-0360(1)(b)(B)

(B) A description of how the proposed change affects those resources or interests protected by applicable laws and Council standards, and

The proposed changes do not affect the resources or interests protected by applicable laws and Council standards in a substantially different way than what has already been approved by the Council, except to the extent new resources or interests have become protected since Applicant obtained the (Amended) Site Certificate. Compliance with applicable laws is integrated into the Site Certificate conditions, including conditions related to pre-construction surveys, noise analysis, the National Pollutant Discharge Elimination System 2300-C permit, consultation with the Oregon Department of Fish and Wildlife, the Oregon Department of Geology and Mineral Industries, among others. The physical components of the Facility and site boundary will not be changed. The Facility will be constructed and operated in essentially the same manner as already permitted and approved by the Council.

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

(C) The specific location of the proposed change, and any updated maps and/or geospatial data layers relevant to the proposed change.

This request does not seek to expand or change the permitted and approved site boundary.

7.0 Applicable Division 21 Requirements – OAR 345- 027-0360(1)(c)

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

Response: Given the limited nature of the proposed changes, the Certificate Holder maintains that a complete set of new Division 21 exhibits is not necessary for this RFA2. The Certificate Holder incorporates by reference the Division 21 exhibits provided in the Obsidian Solar Center ASC and First Amended Site Certificate and provides supplemental analysis in Section 7. Except for OAR 345-022-0115 (Wildfire Prevention and Risk Mitigation), the Council standards have not changed since the Council issued the Site Certificate. The Council's Wildfire Prevention and Risk Mitigation standard was in place at the time of Certificate Holder's first amendment request, and the Council evaluate the Facility with respect to that new standard in connection with approving Certificate Holders First Amended Site Certificate for the Facility issued November 17, 2023.

The Council reviewed Therefore, Council may rely on the same findings of fact and conclusions of law that served as the basis for approving the Site Certificate and Amended Site Certificate. References to specific Division 21 information are included in this RFA2 narrative to address the applicable Division 22 standards and other laws as shown in Section 7.

8.0 Site Certificate Revisions – OAR 345-027-0360(1)(d)

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

8.1 Change to condition GEN -GS-01(a), page 8 of First Amended Site Certificate:

"The certificate holder shall begin and complete construction of the facility by the dates specified in the site certificate: a. Construction of the facility shall commence within three years after the date of the Council action [February 25, ~~2025~~ **2028**] * * * ."

8.2 Change to Section 4.0. Facility Development, subsection 4.1. Construction: First Amended Site Certificate Section 4, Page 5:

"Construction of the facility is authorized to commence from February 25, ~~2022~~ **2025** through February 25, ~~2025~~ **2028**."

8.3 Change to Condition GEN-HC-02(b), First Amended Site Certificate, page 17:

"Administratively renew or extend SHPO Archeological Permits with SHPO for any work governed by the permits to be consistent with the construction commencement date (Feb 25, ~~2025~~ **2028**) and construction completion date * * * ."

8.4 Change to Condition GEN-FW-02, First Amended Site Certificate, page 31-14:

"The certificate holder shall:

a. Prior to construction of the facility, the certificate holder shall finalize and submit a Habitat Mitigation Plan, based upon ~~**Option 3 of**~~ the draft plan provided in Attachment P-1 of the Final Order on the ~~ASC~~AMD2, for review and approval by the Department, in consultation with ODFW. **The plan shall include a Working Lands Improvement Program, substantially as presented in Appendix 1 of the draft plan.**

~~**HMP Option 3 is the only mitigation that may be utilized without amendment of the HMP due to insufficient evidence available to demonstrate that Options 1 and 2 meet the requirements of OAR 345-022-0060.**~~

In the finalization of the plan, the Department may request reporting requirements including specific information, frequency and format. ~~**Components of the plan to be finalized**~~ **The final plan** shall include at a minimum:

a: **1.** A final assessment of permanent habitat impacts (in acres) **to Big Game Winter Range that is not in sage-grouse habitat,** based on habitat quality of habitat subtype, and final facility design, presented in tabular format**, and demonstration that the certificate holder will provide in-kind, in-proximity mitigation through the Working Lands Improvement Program in a ratio of 1.2 mitigation acres for each impacted acre; and**

2. A final assessment of direct and indirect impacts (in functional acres) to mapped sage-grouse habitat, based on final facility design, presented in tabular format, and demonstration that the certificate holder will generate an equivalent number of functional acre credits through the Working Lands Improvement Program. If the certificate holder is not able to enroll adequate land in the program to mitigate the impacts of the facility on sage-grouse habitat, the certificate holder may mitigate any remaining impacts by working with an entity approved by ODFW to participate in an "in-lieu fee" project.

b. During construction and operation of the facility, the certificate holder shall implement the requirements of the plan as approved under sub(a) of this condition."8.5. Addition to Historic, Cultural and Archaeological Condition 1:

c. **If any human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during excavation, certificate holder will report the discovery to the appropriate Native American Tribe(s), the Legislative Commission on Indian Services (LCIS), and the State Historic Preservation Office (SHPO) to arrange for their return to the appropriate Tribe(s) as per state laws (ORS 97.740-.760 and ORS 358.940).**

9.0 Council Standards and Other Laws

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

The Council standards that are relevant to the changes proposed in this RFA2 are presented in Sections 6 and 7 together with a response from the Certificate Holder that provides analysis of compliance with those standards. Where applicable, supporting information from the original ASC, RFA1, and the Final Orders is provided or incorporated by reference.

The Facility will be constructed and operated essentially in the same manner as previously permitted and approved by the Council, which imposed conditions as necessary to take into consideration the public and reviewing agency comments. RFA2 does not add any new geographical or physical components to the Facility. Similarly, there are no new standards applicable to the Facility that the Council has not considered and evaluated as part of the Site Certificate or in connection with RFA1. Therefore, the Council may rely on its prior evaluation of the applicable Standards to approve RFA2.

Table 1: Standards and Conditions Relevant to Proposed Amendment

Standard	**Related Site Certificate Condition (from First Amended Site Certificate)**
OAR 345-022-000 General Standard of Review	GEN-GS-01 Commencement and completion of construction GEN-GS-02 Compliance during all phases GEN-GS-03 Notification of environmental changes GEN-GS-04 Notification of new owners GEN-GS-05 Compliance with National Electrical Safety Code GEN-GS-06 Construction within transmission corridor PRE-GS-01 Obtaining construction rights PRE-GS-02 Pre-Construction Compliance Plan OPR-GS-01 Legal description of site to Department OPR-GS-02 Restoration of vegetation and removal of debris and temporary structures
OAR 345-022-0010 Organizational Expertise	GEN-OE-01 Report on change in corporate structure GEN-OE-02 Compliance by contractors and subcontractors GEN-OE-03 Responsibility for noncompliance GEN-OE-04 Notification of Site Certificate violations PRE-OE-01 Identification and qualifications of on-site construction manager CON-OE-01 Oversight of ground disturbing activities by on-site construction manager or representative OPR-OE-01 Qualified facility/asset manager
OAR 345-022-0020 Structural Standard	GEN-SS-01 Avoidance of dangers from seismic events GEN-SS-02 Reporting to geologic investigations GEN-SS-03 Notification of shear zones, aquifers and dikes PRE-SS-01 Pre-Construction site specific geotechnical investigation
OAR 345-022-022 Soil Protection	GEN-SP-01 Preparation of NPDES plan GEN-SP-02 Preparation of Spill Management Plan

OAR 345-022-0030 Land Use	GEN-LU-01 Obtain all state and federal permits PRE-LU-01 Local Permits PRE-LU-02 Verification of set-backs PRE-LU-03 Pre-construction map PRE-LU-04 Required county deed PRE-LU-05 Transfer of water rights from GSU site OPR-LU-01 Annual report
OAR 345-022-0040 Protected Areas	N/A
OAR 345-022-0050 Retirement and Financial Assurance	GEN-RF-01 Prevention of non-restorable site PRE-RF-01 Provision of bond or letter of credit PRE-RF-02 Amount of bond or letter of credit RET-RF-01 Site restoration and facility retirement RET-RF-02 Retirement plan
OAR 345-022-0060 Fish and Wildlife Habitat	GEN-FW-01 Implementation of Revegetation and Noxious Weed Control Plan GEN-FW-02 Implementation of Habitat Mitigation Plan GEN-FW-03 Environmental awareness training GEN-FW-04 Implementation of speed limits GEN-FW-05 Implementation of wildlife safety measures GEN-FW-06 Implementation of non-raptor nest surveys GEN-FW-07 Implementation of raptor nest surveys GEN-FW-08 Safety measures for above ground electrical system GEN-FW-09 Pygmy rabbit survey and safety measures GEN-FW-10 Implementation of seasonal vegetation clearing limits OPR-FW-01 Post-construction monitoring
OAR 345-022-0070 Threatened and Endangered Species	N/A
OAR 345-022-0080 Scenic Resources	GEN-SR-01 Reduction of facility impacts by color and lighting
OAR 345-022-0090 Historic, Cultural and Archaeological Resources	GEN-HC-01 Implementation of Archeological Testing and Excavation Methodologies Plan, Inadvertent Discoveries Plan, and Cultural mitigation and Monitoring Plan GEN-HC-02 Compliance with Archeological Permits
OAR 345-022-0100 Recreation	N/A
OAR 345-022-0110 Public Services	GEN-PS-01 Coordination with Lake County Planning and Road Department and implementation of a Construction Traffic Management Plan PRE-PS-01 Dust control plan and road signs CON-PS-01 Implementation of dust control plan
OAR 345-022-0115 Wildfire Prevention and Risk Mitigation	PRE-WP-01 Final construction wildfire mitigation plan CON-WP-01 Implementation of wildfire mitigation plan during construction PRO-WP-01 Operational wildfire mitigation plan OPR-WP-01 Adherence to operational wildfire mitigation plan

OAR 345-022-0120 Waste Minimization	GEN-WM-01 Implementation of a Solid Waste Management Plan
OAR 345-024-0090 Transmission Lines	PRO-TL-01 Notification to landowners
OAR 345-035-0035 Noise	GEN-NC-01 Noise Complaint Response Plan PRE-NC-01 Noise summary report and analysis
Removal Fill Law	
Water Rights	GEN-WR-01 Requirements for Use of On-Site Water Well PRE-WR-01 Information on water service provider

9.1 Applicable Division 22 Standards

9.1.1 Organizational Expertise – OAR 345-022-0010

The Certificate Holder's information, including contact information, is included in Section 5. The Certificate Holder is a subsidiary of Obsidian Renewables and Lindgren Development, Inc. Third party permits will be obtained by the construction firm selected to build the Facility. The Certificate Holder anticipates that these third-party permits could include permits for transporting materials to the site, obtaining aggregate and other construction materials, and other building related permits that are typically obtained immediately prior to construction activities. The Council previously found that the Certificate Holder will satisfy this standard subject to Site Certificate General Organizational Expertise General Conditions 1 through 4, Pre-Construction Condition PRE-OE-01, and Operational Condition OPR-OE-1. RFA2 does not affect the Certificate Holder's organizational expertise. The Certificate Holder remains subject to the requirements of the Site Certificate conditions applicable to the Organizational Expertise Standard (see Table 1). Based upon compliance with these existing conditions, the Council can find that the Certificate Holder has the ability to access resources or services provided by the third-party permit. Therefore, Council may rely on its previous findings that the Certificate Holder continues to have the organizational expertise to construct, operate, and retire the facilities in compliance with Council standards and Site Certificate conditions.

9.1.2 Structural Standard – OAR 345-022-0020

The Council previously found that the Facility complies with the Structural Standard. The Structural Standard typically requires the Council to evaluate whether the Certificate Holder has adequately characterized the potential seismic, geological, and soil hazards within the Site Boundary, and that the Certificate Holder can design, engineer, and construct the Facility to avoid dangers to human safety from these hazards. The Certificate Holder provided said information regarding the seismic characteristics within the Site Boundary, as well as an assessment of seismic and geologic hazards and other requirements of the Structural Standard in Exhibit H of the ASC. Exhibit H of the ASC included the Preliminary Geological and Geotechnical Summary Report dated August 2, 2018. In connection with RFA1, Certificate Holder obtained a supplemental memorandum specific to the additional 165 acres being added to the Site Boundary. This memorandum supplemented the

Preliminary Geological and Geotechnical Summary Report and was dated January 31, 2023 (both the original Report and the Supplemental Report were prepared by Cornforth Consultants).

Condition PRE-SS-01 of the Site Certificate requires Certificate Holder to conduct a site-specific geotechnical investigation, submit the report to DOGAMI and the Department for review. The site-specific geotechnical investigation was completed in the May 2022 and resulted in a Geotechnical Engineering Report dated September 23, 2022 (produced by Terracon Consultants). DOGAMI and the Department submitted comments and questions on the Terracon report, to which Certificate Holder responded, filing a revised and completed Report in December 2023.

Site-specific geotechnical investigations on the additional 165 acres included in RFA1 cannot be completed until the specific locations of the step-up and interconnection substations have been determined by Certificate Holder and Bonneville Power Authority. Condition PRE-SS-01 requires this additional investigation be completed prior to construction (see Obsidian Solar Center First Amended Site Certificate, page 20).

RFA2 does not seek to expand the existing Site Boundary or physical components of the Facility, and there is no change to the previously approved facilities from what was originally authorized for the Facility. RFA2 seeks to extend the dates for beginning and completing construction of the Facility. Therefore, RFA2 would not result in the placement of Facility components within geologic areas that have not been addressed by the Council. RFA2 does not affect the Certificate Holder's ability to design, engineer, and construct the Facility to avoid dangers to human safety and the environment that are presented by seismic hazards affecting the Site Boundary. Best management practices will continue to be implemented for the Facility. The Council previously adopted four Site Certificate conditions to address the potential for seismic and non-seismic geologic hazards at the Facility; all conditions remain applicable to the Facility as proposed (as listed in Table 1). The proposed extension of construction deadlines for the Facility does not change the Facility's compliance with OAR 345-022-0020 or any structural conditions (see Table 1) in the Site Certificate. Therefore, the Council may rely on its previous findings that this amendment request also complies with OAR 345-022-0020.

9.1.3 Soil Protection – OAR 345-022-0022

The Council previously found that the Facility complies with the Soil Protection Standard. The Soil Protection Standard requires the Council to find that, after taking mitigation into account, the design, construction, and operation of a facility will not likely result in a significant adverse impact to soils. RFA2 makes no changes that alter the basis for the Council's earlier findings. RFA2 does not seek to expand the existing Site Boundary or physical components of the Facility, and there is no change to the previously approved facilities from what was previously approved for the Facility. The Certificate Holder will implement erosion control measures and an operational Spill Management Plan, as presented in Exhibit I of the ASC. The Certificate Holder will comply with applicable existing conditions for soil protection, as identified in Table 1. The Council can find that the design, construction, and operation of the facilities, as proposed, would not likely result in significant adverse impacts to soils, taking into account the mitigation required by the Site Certificate conditions. Therefore, the Council may rely on its prior findings and conclude that RFA2 also complies with OAR 345-022-0022.

9.1.4 Land Use – OAR 345-022-0030

The Council previously concluded that the Facility complies with the Land Use Standard. RFA2 does not seek to expand the existing Site Boundary, extend construction deadlines, or change physical components of the Facility, and there is no change to the previously approved facilities (amount of solar arrays and infrastructure, generating capacity, etc.) from what was authorized in the ASC and RFA1. There have been no changes to the applicable provisions of the Lake County Zoning Ordinance since the ASC and RFA1.[1] On December 19, 2024, LCDC amended OAR 660-033-0130(5) to describe a certain criterion that must be met to satisfy the farm impacts test required by ORS 215.296. The new rules became effective January 1, 2025. Certificate holder's evaluation of the criterion and has demonstrated that the existing information on the record show the facility satisfies OAR 660-044.0130(5) and ORS 215.296:

OAR 660-033-0130(5), Significant Farm Impact Test Rule

(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.

Response: OAR 660-033-0130(5) implements ORS 215.296 and Stop the Dump methodology for performing the farm impacts test. The Final Order on Application for Site Certificate for the Obsidian Solar Center issued on February 25, 2022 (Final Order) examined the applicable substantive criteria from the Lake County Zoning Ordinance (LCZO) implementing ORS 215.296, specifically LCZO 24.19(B). EFSC found that under LCZO 24.19(B) nonfarm uses in the A-1 or A-2 zone (EFU zones) must "demonstrate serious interference with or significant increases in the cost of accepted framing practices, as defined in ORS 215.203(2)(c), on adjacent lands devoted to farm use would not occur." Final Order at 69. EFSC explained that while LCZO 24.19(B) was not "exactly the same as ORS 215.296(1) and OAR 660-033-0130(5)," it considered it "to mirror the intent and purpose [because] ORS 215.296(1) and OAR 660-033- 27 0130(5) require a demonstration that conditionally permitted uses within EFU zoned land would not significantly increase the cost of, or significantly impact, accepted farm practices." Id. EFSC concluded that as conditioned, the proposed facility would comply with LCZO 24.19(B). Specifically, EFSC found:

"Based on the facts, reasoning and analysis presented above and in the Proposed Contested Case Order for Issue 2 (Attachment D of this order) and compliance with conditions presented in this order and mitigation plans attached to this order, the Council finds that the proposed facility would not result in serious interference with accepted farming practices on adjacent lands devoted to farm use and would therefore comply with LCZO Section 24.19(B)."

[1] The Certificate Holder received a confirmation of no change to applicable land use ordinance from the Lake County Planning Director letter on September 30, 2024 stating "there have been no substantive criteria or applicable updates to our Zoning Ordinance, Comprehensive Plan or any of the documents listed below, since original application was filed" and "Lake County does not believe that any changes in criteria since the approval of the original application should apply now or have to be reviewed and approved." See Attachment 1.

As EFSC notes in its findings, whether the facility complied with the farm impacts test, was the subject of a contested case (Issue 2). It was fully adjudicated and reflects certificate holder's proper application of the Stop the Dump methodology consistent with the new requirements in OAR 660-033-0130(5). While certificate holder maintains that EFSC may rely on its prior findings in the Final Order, as supported by the Order on the Contested Case, certificate holder addresses each of the rule subsections in turn below.

(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;

Response: Certificate holder previously defined "surrounding lands" for purposes of the farm impact test as lands within 0.5 miles of the site boundary, which also equates to the 0.5 mile analysis area for the EFSC Land Use Standard. As described in the Final Order, lands within the 0.5 mile radius are exclusively A-2 zoned lands. Final Order at 79. And as provided in ASC Exhibit K and adopted in the Final Order, the inventoried accepted farming practices on the inventoried farm operations were cultivated crop production using center pivot irrigation, including alfalfa production, and grazing/ranching activities. Final Order at 69; see also Exhibit K at K-17.

(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

Response: Certificate holder identified potential impacts to farm operations on surrounding land and these impacts were further defined and evaluated in the Order on the Contested Case. The Final Order found that the types of potential impacts from construction and operation of the proposed facility included: (1) availability of irrigation water; (2) increased traffic; (3) increased dust; and (4) spread of invasive weed species. Final Order at 69. The proposed facility may influence or effect the existing farm practices as follows: (1) the availability of irrigation water may affect farmers' established water rights; (2) the increased traffic during construction may temporarily affect harvest equipment and farm delivery patterns; (3) the dust from construction may temporarily affect quality of cultivated alfalfa and affect grazing animals' health; and (4) the an increase in invasive weeds during construction and operation would increase costs of weed control on adjacent lands and decrease value of alfalfa and grazing forage. This prior analysis satisfies the assessment required by OAR 660-033-0130(5)(c)(B).

(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.

Response: The Hearings Officer and EFSC already performed this assessment to conclude that with conditions, the proposed facility would not result in a significant impact to any farm operation in the surrounding area. The key findings to support the assessment and a determination no significant impact or important influence include the following:

- The proposed facility is not expected to interfere with existing irrigation water rights in the surrounding area and will not result in a significant impact on any farm or forest operations in the surrounding area. Final Order at 69.

- The potential for traffic impacts would be limited to the duration of construction, which will be minimized through Applicant's implementation of best management practices. Applicant will also consult with Lake County Planning and Road Department to, among other things establish a primary and secondary delivery routes based on the Conty's knowledge of road conditions, a road use agreement or funding agreement with the Lake County Road Department to ensure damage or wear to state or county roads cause by facility construction related trips and road use is repaired by the certificate holder, and fund or install permanent new traffic signs consistent with LCZO specifications at specified intersections to define stopping locations and establish clear right-of-way and turning movement priority, and locate and place signs for low-speeds zones near access points, route intersections and pull-outs to reduce the risk of accidents. See Final Order, Attachment U-2 - Draft Construction Traffic Management Plan at 3.

- To minimize and mitigate any potential impacts from increased dust, Applicant will implement dust abatement through watering via water trucks and implementation of a Dust Abatement and Management Control Plan (DAMP). The control measures in DAMP include employing a designated fugitive dust control coordinator to manage the requirements of the plan and monitor dust conditions. DAMP also includes speed limits and requirements for earth moving activities and hauling for dust abatement and management purposes. Additionally, DAMP establishes a hotline program, that will be advertised on facility signage located on the perimeter fence that asks people to call the number if they see dust coming from the project. Final Order at 69; see also Obsidian Solar Center Site Certificate at 26; DAMP, Exhibit A – Dust Control Hotline.

- To control the potential for the spread invasive weed species, Applicant will implement the Revegetation and Noxious Weed Control Plan, which includes: (1) revegetation methods, i.e., soil management, revegetation process, seed mixture and seed planting methods and scheduling; (2) prevention and control measures and treatment methods for noxious weeds; and (3) monitoring and success criteria and reporting requirements.

In the Order on Issues for Contested Case, the ALJ determined the record supports that both Applicant and the Department considered the limited parties' concerns throughout this process and have continued to refine draft mitigation proposals designed to minimize or even eliminate the potential impacts from dust and sediment erosion, invasive and noxious weeds, and construction traffic on nearby agricultural lands. In addition, the evidence revealed Applicant has a complex set of BMPs woven into the draft mitigation plans that are designed to work in concert, allowing Applicant to adjust its approach to each concern and minimize potential adverse impacts in real-time. Moreover, the overwhelming weight of the evidence demonstrates that Applicant has constructed multiple solar projects in the area and, in each instance, has proven itself a conscientious community partner ready, willing, and able to meet its obligations under those approvals.

Order on Issues for Contested Case at 89. The ALJ explained that the "[n]othing in the limited parties' evidence sufficiently challenges the adequacy of the proposed mitigation measures, if implemented, or Applicant's past practices of compliance." Id. And because of this showing, "the limited parties failed to show that the proposed facility, as conditioned in the Department's Proposed Order and further conditioned herein, will seriously interfere with accepted farming practices in the area." Id.

Based on the analysis in the Final Order and the Order on Issues for Contested Case, the potential impacts of the proposed use, described above, when considered together will not 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 because each potential impact is either avoided (availability of irrigation water), or minimized through mitigations measures (increased traffic and dust and spread of invasive weed species). In the case of the potential for the spread invasive weed species, certificate holder will be required to prepare an annual monitoring report until the success criteria are achieved, which address the potential for impacts in the future. EFSC may rely on these findings to conclude that the assessment required by OAR 660-033-0130(5)(c)(C) was adequately performed and that there would be no significant impacts to inventoried farm practices within the surrounding area that raise to having an important influence or effect on such practices. EFSC may also rely on the prior record, which contains substantial evidence to address the assessment required by OAR 660-033-0130(5)(c)(C).

(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.

Response: The prior analysis considered the type of impacts identified in OAR 660-033-0130(5)(c)(D). The inventoried potential impacts, described above, were previously identified and adjudicated, and found to encompass all potential impacts neighboring farmers raised and the Hearings Officer concluded were within EFSC's jurisdiction.

(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).

Response: The record previously considered potential impacts related to construction and installation of the proposed facility. OAR 660-033-0130(5)(c)(E) has been adequately addressed.

(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).

Response: The Site Certificate does not impose conditions on the owners of accepted farm practices on surrounding lands. All Site Certificate conditions burden certificate holder to ensure that avoidance, minimization, and mitigation measures are implemented during construction and operation of the proposed facility to ensure that identified impacts will not rise to the level of significant to farm practices on the surrounding lands. No additional conditions are necessary.

The Facility must still comply with Land Use Conditions previously imposed on the Facility, as listed in Table 1. There will be no substantive changes to the conditions. As such, the proposed amendment makes no changes that would alter the basis for the Council's earlier findings under OAR 345-022-0030. Therefore, the Council may conclude that the proposed changes in RFA2 comply with the Council's Land Use Standard.

9.1.5 Protected Areas – OAR 345-022-0040

The Council previously concluded that the Facility complies with the Protected Areas Standard. The Protected Areas Standard requires the Council to find that, taking into account mitigation, the design, construction, and operation of a facility are not likely to result in significant adverse impacts to any protected area as defined by OAR 345-022-0040. There are a total of 11 protected areas within the analysis area. No other new protected areas have been added within the analysis area since the Site Certificate approval (BLM 2024, BLM 2023b, BLM 2023c, ODFW 2023, OPRD 2023a, OPRD 2020, USGS 2022). The BLM recently updated the Lakeview District Resource Management Plan (RMP). The updated RMP expands the boundaries of several Wilderness Areas and designates 42,547 acres across 24 while units and portions of two units as new Section 202 Wilderness Study Areas (WSAs). Based on the location of the new WSAs, five previously identified WSAs increased in acreage since RFA1. Four of these expanded WSA areas are within the 20-mile analysis area: Devil's Garden Lava Bed ACED/WSA, OR-1-3-WSA, Four Craters Lava Bed WSA, and Diablo Mountain WSA. Maps showing the original and new designations are attached as **Attachment 5, Figure 2**. The distance between the facility site and Devil's Garden Lava Bed ACED/WSA decreased from 3.96 miles in RFA1 to 3.9 miles and the and the distance to OR-1-3 WSA decreased from 5.5 miles in RFA1 to 5.4 miles. These changes do not result in any new significant adverse impacts to the Protected and Scenic Resources. No changes in distance occurred between Four Craters Lava Bed WSA and Diablo Mountain WSA. The Council previously found that while Facility components will result in a change to the existing viewshed of the protected areas, the visual impacts of construction and operation of the Facility will not likely result in a significant adverse impact to any protected area due to the low impact to users, distance from the Facility, topographic obstructions, and the presence of similar structures within the existing viewshed. RFA2 does not seek to expand the existing Site Boundary, and there are no proposed changes to the previously approved Facility or resources used during construction, such as water or construction resources. RFA2 makes no changes that alter the basis for the Council's earlier findings. Therefore, the Facility, as proposed, does not alter the basis for the Council's prior findings that the Facility complies with the Protected Areas Standard.

9.1.6 Retirement and Financial Assurance – OAR 345-022-0050

The Council previously found that the Certificate Holder is able to restore the site to a useful, nonhazardous condition following permanent cessation of construction or operation of the Facility. The Council previously imposed two conditions to ensure the Certificate Holder could meet its financial assurance obligations and ensure the adequacy of the bond or letter once design has been finalized prior to construction. To comply with Condition PRE-RT-01 and PRE-RT-02, prior to construction, the Certificate Holder is required to submit a bond or letter of credit sufficient to ensure restoration of the site to a useful, nonhazardous condition. In RFA1, the Certificate Holder provided a letter from Heffernan Insurance Brokers dated June 28, 2023, stating that the insurer had reviewed the proposal and was "confident that [certificate holder] will be able to obtain" a bond assuring up to $40 million. Included as **Attachment 3** is an updated with the same assurance. In addition, during pre-construction, as required by Condition PRE-RT-02, the Certificate Holder will provide an updated financial retirement analysis as part of pre-construction compliance for the Facility. Accordingly, and due to the Certificate Holder Owner remaining the same, RF2 makes no changes that alter the basis for the Council's earlier findings; therefore, the Council may find that OAR 345-022-0050 is met.

9.1.7 Fish and Wildlife Habitat – OAR 345-022-0060

As noted in the Final Order on the ASC, the Council's Fish and Wildlife Habitat Standard requires the Council to find that the design, construction, and operation of a facility is consistent with ODFW's habitat mitigation goals and standards, as set forth in OAR 635-415-0025. This rule establishes 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. The Council previously found that the Facility complies with the Fish and Wildlife Habitat Standard.

In connection with the Application for Site Certificate, surveys were previously completed in March 2018, and in connection with the First Amended Site Certificate on August 30 and September 6, 2022, in each case extending 0.5 miles from the Site Boundary. These surveys included a habitat assessment, raptor nest survey, pygmy rabbit survey, noxious weed survey, and incidental wildlife observations. Four habitats were categorized within the study area; playa, non-sagebrush shrubland, mixed grass/forb, and agricultural lands/ developed.

Applicant's consultant, ERM, performed a desktop review of current (2024) data (including ODFW Compass, which references ORBIC data and Oregon Explorer Biodiversity Map data) within the project area and a 5-mile buffer surrounding the site boundary. The biological assessment was performed in accordance with the ODFW Solar Siting Guidance (March 2024). ERM reviewed the following data sources for information on historical habitat and potential or known protected species and habitats in the analysis area:

- Current and historical aerial photographs
- The United States Fish and Wildlife (USFWS) – National Wetlands Inventory (NWI) Mappe
- The Oregon Department of Fish and Wildlife (ODFW) Compass – Oregon Conservation Strategy Reporting Tool (ODFW 2024)
- Oregon Explorer Biodiversity Map (Oregon Explorer 2021)

ERM found that no state or federal threatened or endangered species have been added since submission of the ASC that would potentially be located on the project site. See **Attachment 4**. ERM identified three state sensitive passerine species (loggerhead shrike, brewer's sparrow, chippering sparrow) and one federal species of concern (greater sage grouse) that are likely to occur in the analysis area based on the habitat characteristics.

Relative to state sensitive raptors and passerines, these potential species will be included in the pre-construction nesting surveys to confirm absence of nests within the site boundary. Existing Condition GEN-FW-06(a) requires that, "prior to construction or any subsequent year of construction of the facility, the certificate holder shall hire a qualified biologist to conduct a ground survey for non-raptor migratory bird nets, based on a protocol to be submitted to the Department for review and approval in consultation with ODFW." Certificate holder is further required to ensure that construction activities adhere to 30-foot disturbance buffers around any detected active migratory bird nests "until the nest has been abandoned/depredated or the eggs hatch and young have fledged." Final Order on AAC, Fish and Wildlife Condition 6. Existing Condition GEN-FW-07 has similar requirements (with species-appropriate buffers) for raptor species, including the Western burrowing owl, Ferruginous hawk, Swainsons hawk, Red-tailed hawk, and the Golden eagle. These conditions are adequate to ensure that the facility will not have adverse impacts on state sensitive species.

The greater sage grouse is not a newly designated sensitive species, but the Council has not evaluated potential impacts of the Facility on the sage grouse previously because the project site did not overlap with designated, mapped sage grouse habitat. In 2023 the Fish and Wildlife Commission approved revised sage grouse habitat maps that, as updated, show an overlap of mapped low-density sage grouse habitat within the project site. See **Figure 3**. Certificate holder is in consultation with ODFW and is currently waiting on ODFW to complete its analysis using the Habitat Quantification Tool to determine whether any "functional acres" of sage grouse habitat could potentially be adversely impacted by the project and, if so, the extent of the required mitigation action.

Although the ODFW requires time to undergo its analysis, the ultimate outcome is relatively predictable: the certificate holder in consultation with ODFW will determine the "functional acres" of low-density Sage Grouse habitat that has the potential to suffer adverse impacts from the Facility and certificate holder will development and implement the appropriate Sage Grouse Mitigation Plan in accordance with that analysis. First, certificate holder will determine whether any of the low-density habitat within the site boundary can be avoided to minimize impacts.

To mitigate impacts to wildlife habitat, the Certificate Holder is required to implement a Wildlife Habitat and Mitigation Plan (WHMP). The final WHMP will include confirmations of habitat categories in consultation with ODFW (and subject to approval by ODOE), and final calculations of impact acreages to determine the habitat mitigation acreages based upon an approved calculation methodology (see Table 1 for associated conditions) for the Facility. Further, the Site Certificate as approved requires the Revegetation and Weed Control Plan as a condition of approval. The Certificate Holder provided drafts of each of these plans, appended to Exhibit P of the ASC, and these plans were included in the Final Order on the ASC and/or RFA1. All previously imposed Council conditions for fish and wildlife habitat apply to RFA2 (Table 1). Certificate holder proposes that if the following revisions to existing condition GEN-FW-02 are included in the Second Amended Site Certificate, the Council can find that the facilities, as proposed, comply with the Council's Fish and Wildlife Standard:9.1.8 Threatened and Endangered Species – OAR 345-022-0070

The Council previously found that the Certificate Holder has the ability to construct, operate, and retire the Facility in compliance with Council standards and conditions of the Site Certificate, including the Threatened and Endangered Species Standard (OAR 345-022-0070). The Certificate Holder's assessment of the Facility's compliance with the Threatened and Endangered Species Standard was included as Exhibit Q of the ASC and included surveys for threatened and endangered species within the Site Boundary. As described in Exhibit Q, no state listed or candidate species are expected to occur within the previously approved Site Boundary, therefore the Certificate Holder did not propose avoidance and mitigation measures for threatened and endangered species.

In May 2024, OAR 603-073-0070 (Oregon State List of Endangered and Threatened Plants) was updated and now includes additional plant species, but the Oregon Department of Agricultural has confirmed that it is not aware of any of those newly identified plants species being reported with the Site Boundary.

ERM also performed a desktop review to confirm whether there is suitable habitat for Columbia yellowcress (Rorippa columbiae) in the site boundary. There is no mapped habitat within the current site boundary. According to biodiversity occurrence data published by SEINet Portal Network, the closest occurrence is 9.67 miles from the site boundary. As such, no impacts to this habitat are

anticipated in relation to the construction and operation of the proposed facility. See **Figure 4** attached.

Because there are no new threatened or endangered species that are likely to occur on the facility site and no impacts to such species are expected, and the facilities as proposed are subject to compliance with the applicable Site Certificate conditions as identified in Table 1, the Council can find that extending the construction deadlines for the Facility complies with the Council's Threatened and Endangered Species Standard.

9.1.9 Scenic Resources – OAR 345-022-0080

OAR 345-022-0080 requires the Council to determine that the design, construction, and operation of the proposed Facility will not have a "significant adverse impact" to any significant or important scenic resources and values in the analysis area. The Council previously concluded that the Facility complies with the Scenic Resources Standard. RFA2 does not seek to expand the existing Site Boundary, or request changes to the physical components of the Facility. All previously imposed Council conditions for scenic resources apply to RFA2. After a review of applicable land use plans, there are no new significant or important scenic resources within the analysis area (BLM 2024, BLM 2023c, BLM 2023d, BLM 2003, BLM 1993, National Wild and Scenic Rivers System 2023, ODOT 1999, ODOT 2023, OPRD 2023, OPRD 2020, USGS 2022). Because RFA2 does not seek to change the existing Site Boundary, physical components, or any previously approved facilities, this same finding can be applied. Taking into account the previously imposed Site Certificate conditions, the Council can find that the proposed changes, will not likely to result in significant, adverse impacts to scenic and aesthetic values identified as significant or important in applicable management plans or in local land use plans in the analysis area.

9.1.10 Historical, Cultural and Archaeological Resources – OAR 345-022-0090

RFA2 seeks to extend the dates by which Certificate Holder must begin and complete construction within the approved Site Boundary and would not result in placement of Facility components within areas that were not previously addressed by the Council. The requested amendment seeks no change that would affect the Council's previous findings and conditions imposed on the Facility in regard to historical, cultural and archaeological resources. Certificate holder has agreed with the State Historic Preservation Office to treat the majority of the Facility site as one district and to adhere to the requirements of the Archeological Testing and Excavation Methodologies Plan (Attachment S-1 to the Final Order on ASC), the Inadvertent Discovery Plan (Attachment S-2 to the Final Order on ASC), and the Cultural Mitigation and Monitoring Plan (Attachment S-3 to the Final Order on ASC). This agreement is reflected in Conditions GEN-HC-01 and -02.

The Archeological Testing and Excavation Methodologies Plan describes treatment and handling of any discovered artifacts or historic items. In connection with this RFA2, Applicant reviewed the 2018 cultural reports prepared by Heritage Research Associates in 2018, in which a 50-year cut-off (the federal threshold) was implemented for identification of historic-period artifacts and structures. Therefore, HRA would have identified historic resources predating approximately 1968 (for example, a pull-tab can from the 1960s). The state threshold of 75 years now equates to materials predating 1950, so the previous HRA surveys are still adequate for purposes of identifying historic items and will be for another 18 years regarding the state threshold.

Subsequent cultural surveys were conducted by AINW in connection with RFA1. In these surveys of the interconnection area (fieldwork in 2022, report in 2023), AINW identified resources dating to the 1960s (Transmission Lines) as historic-period resources. AINW did not find any temporally diagnostic historic-period artifacts, only modern materials (less than 50 years old) which were not recorded. See **Attachment 6**. Therefore, the same applies to the AINW survey in that it meets the state threshold for some time to come.

Effective July 1, 2023, the Oregon State Historic Preservation Office began implanting revised rules governing the issuance of archaeological permits (Oregon Administrative Rule [OAR] 736-051-0000 to 0090. The revised rules address four primary areas relevant to this RFA2.

1. Who can apply for an archeological permit ("Qualified Archaeologist")

The revision to OAR 736-051-0070 [23] created necessary definitions for terms used in the ORS 390.235 Oregon Qualified Archaeologist criteria. The Oregon Qualified Archaeologist criteria in statute are included below, with bold text and brackets added to separate terms that have been defined in the rule revision, specifically in OAR 736-051-0070. (6) (b) "Qualified archaeologist" means a person who has the following qualifications: (A) [A post-graduate degree in archaeology], anthropology, history, classics or other germane discipline with a [specialization in archaeology], or a [documented equivalency] of such a degree; (B) [Twelve weeks] of [supervised] experience in basic [archaeological field research], including both survey and excavation and [four weeks] of laboratory analysis or curating; and (C) Has designed and executed an archaeological study, as evidenced by a [Master of Arts or Master of Science thesis, or report equivalent in scope and quality, dealing with archaeological field research].

In connection with its Application for Site Certificate, certificate holder engaged a qualified archeologist from Archaeological Investigations Northwest, Inc. (AINW), as defined in ORS 390.235 as the applicant for the permits. (Final Order, p. 145). The permit applicant from AINW continues to qualify as a "qualified archeologist" under the revised Administrative Rule described above.

2. What is needed in Application (for permit on either private or public lands)

With the rule revisions the permit application form was revised. All permit applications received by SHPO on or after July 1, 2023 must use the new form and follow updated guidance. Certificate holder applied for its archeological permits prior to July 1, 2023, using the then-approved of permit applications forms. Because certificate holder is not applying for any new archaeological permits with this RFA2, certificate holder is not required to prepare a permit application on the updated permit application form. Albeit on a different form, certificate holder's applications for archaeological permits for the Facility contained all components required under current rule: research design, map, inadvertent discovery plan (IDP), landowner letters, etc. Certificate holder also consulted with all Appropriate Tribes and with SHPO, ultimately agreeing on a research design that is described in the Archeological testing and Excavation Methods Plan, a memorandum of agreement with the SHPO, as well as the Cultural Mitigation and Monitoring Plan (CMMP), Attachment S-3 to the Final Order. The research design plan, IDP and CMMP are substantially consistent with current statues and rules. It does appear, however, that the revised application requires that certain notice obligations be stated in the permit in the event of certain discoveries during excavation. For consistency, certificate holder recommends adding a new subcondition to the Site Certificate as follows:

Historic, Cultural and Archaeological Condition 1:

c. If any human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during excavation, certificate holder will report the discovery to the appropriate Native American Tribe(s), the Legislative Commission on Indian Services (LCIS), and the State Historic Preservation Office (SHPO) to arrange for their return to the appropriate Tribe(s) as per state laws (ORS 97.740-.760 and ORS 358.940).

3. Review process for expedited permits

Certificate holder is not seeking an expedited permit or expedited review of an application. Therefore, this section of the revised rule is not pertinent and does not create any impediment to the Council's ability to extend certificate holder's exiting archaeological permits for consistency with the amended Site Certificate.

4. Dispute resolution process

Certificate holder acknowledges that this section of the rule may govern a future dispute regarding adherence to the permits, but notes that primary jurisdiction stays with the Energy Facility Siting Council under the Site Certificate.

According to permit guidance issued by SHPO (July 1, 2023), applicant has 1 year and 1 day to complete any and all fieldwork proposed under the permit and 2 years and 1 day to complete reporting and curation stipulation and "complete" the permit. As set forth in the Final Order, the effective date of the permits is a date after on EFSC final affirmative decision and issuance of the site certificate and that SHPO would issue the permits "stipulating the timeframe extensions as discussed below. Final Order, page 145. The Final Order explains on page 146: "The Department notes that these permits are under EFSC jurisdiction and are subject o EFSC approval. The duration of the permit governance would be consistent with the timeframe identified in the General Standard of Review Condition 1, expiring at the end of the construction completion deadline unless the construction completion deadline is amended through a site certificate amendment process. SHPO indicated that are administrative pathways for EFSC energy facilities and Archaeological Permits under EFSC jurisdiction to extend the permit to align with the deadlines in General Standard of Review Condition 1, to cover activities protected under the permits for the proposed facility."

The effective date for Obsidian Solar Center's four SHPO permits, AP2816, AP2817, AP 2818, and AP 2819, is February 25, 2022. As described in the attached Memorandum from ODOE to SHPO dated May 4, 2022, "because these SHPO Archeological Permits are incorporated into the EFSC-issued site certificate, the effective dates of the two permits must be consistent." Therefore, notwithstanding SHPO's standard permit lengths, these permits were given a duration of six years (until February 25, 2028). Certificate holder remains in compliance with the SHPO permits and, with the conditions provided in the site certificate, the Council can find that the construction and operation of the Facility, taking into account mitigation, are not likely to result in significant adverse impacts as described in OAR 345-022-0090. Accordingly, the Department should direct SHPO to reissue the permits with new dates that align with the amended certificate dates.[2]

[2] Reference attached letter from the Department to SHPO dated May 4, 2022, **Attachment 6a**, pertaining to the length of SHPO permits for EFSC-approved projects: "Because these SHPO Archeological Permits are incorporated into the EFSC-issued site certificate*** the permits are effective for the duration that het certificate holder is approved to begin and complete construction***".

The facilities, as proposed, will comply with the conditions imposed by Council and, other than the subcondition described above, no additional conditions are necessary for compliance with this standard. Therefore, the proposed extension of the construction timeline proposed in RFA2 does not alter the basis for the Council's prior finding that the standard for historic, cultural, and archaeological resources has been met.

9.1.11 Recreation – OAR 345-022-0100

The Recreation Standard requires the Council to find that the design, construction, and operation of a facility will not likely result in significant, adverse impacts to important recreational opportunities. Therefore, the Council's Recreation Standard applies to only those recreation areas that the Council deems important. The Council previously found that the Facility will not result in direct or indirect loss of any of the recreational opportunities identified as important. No new recreational sites have been added within the analysis area since the Site Certificate and RFA1 approvals (BLM 2023b, BLM 2023c, OPRD 2020, USGS 2022). RFA2 does not seek to expand the existing Site Boundary or physical components of the Facility and there is no change to the previously approved facilities or phasing from what was authorized in the ASC as amended by RFA1. Therefore, the changes proposed in RFA2 do not alter the basis of the previous finding for recreation areas.

9.1.12 Public Services – OAR 345-022-0110

The Council's Public Services Standard requires the identification of likely, significant, adverse impacts caused by the Facility on the ability of public and private service providers to supply sewer and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care, and schools.[3] All of the previously imposed Council conditions for public services apply to the Facility notwithstanding RFA2. The proposed changes do not affect any aspect of the analysis conducted to support issuance of the Site Certificate.

As described in the ASC, during construction, it is likely that construction personnel will use temporary or short-term housing options, such as a motels, hotels, and travel trailer/RV parks. A few workers may opt to rent apartments or houses. Of the 150 workers expected during peak construction periods, approximately 50 percent (or 75 workers) are expected to stay in travel trailer/RV parks. Applicant expects approximately one-third (50) of workers to reside within the 15-mile analysis area in travel trailer/RV parks, motels, hotels, or short-term rentals in nearby communities, such as Christmas Valley, Fort Rock, and Silver Lake. The remaining two-thirds (100) of workers will likely stay in similar accommodations in areas farther way, including La Pine and Bend, and commute to the Facility site daily.

Applicant has reviewed available lodging opportunities and updated its analysis original located in Exhibit U (see **Attachment 7** to this RFA). In summary, there are at least nine non-luxury, traveler hotel/motel options with approximately 150 rooms available within a 1-hour drive of the Facility site (Expedia.com 2025; TripAdvisor 2025). In addition, there are at least 24 traveler hotel/motel options with approximately over 500 rooms available within 10 miles of the Bend area, which is about a 1.5-hour drive from the Facility site. There are also at least 15 travel trailer/RV parks with approximately 250 trailer sites within a 1-hour driving distance of the Facility site, according to popular internet search websites (RV Life Campgrounds 2025). Within the 15-mile analysis area, there are approximately 26 hotel rooms (in the town of Christmas Valley), and approximately 93 travel

[3] Certificate holder obtained an updated letter from the Lake County Sherriff's Office demonstrating its willingness and ability to support public safety and coordinate with the Certificate holder during development. **Attachment 7a**.

trailer/RV park sites (in the towns of Christmas Valley and Silver Lake).

The previously evaluated peak number of workers needed during construction will continue to represent a worst-case scenario related to impacts to public services. RFA2 makes no changes to the Facility structures or configuration, and there are no other circumstances that would alter the basis for the Council's earlier determination. In addition, Applicant has demonstrated that there are adequate housing options available. Therefore, the proposed change does not affect the Council's previous findings on public services. The Council adopted Site Certificate conditions to address Public Services and the Certificate Holder can comply with all Site Certificate conditions previously adopted by the Council for the Facility. Based upon the findings above, the Council can conclude that extending the construction deadlines complies with the Council's Public Services Standard.

9.1.13 Wildfire Prevention and Risk Mitigation – OAR 345-0220-0115

The Wildfire Prevention and Risk Mitigation Standard requires the Council to find that the Certificate Holder has adequately characterized wildfire risk. This Standard was adopted after Certificate Holder received its Site Certificate but was evaluated and addressed by Council in connection with Certificate Holder's first amendment, RFA1. In connection with RFA1 the Council determined that Certificate Holder's Fire Protection and Emergency Response plan required by General Condition GEN-PS-02 of the Site Certificate did not satisfy all the requirements of the new Wildfire Prevention and Risk Mitigation standard. Therefore, the Council amended the condition and added new conditions PRE-WP-01, CON-WP-01 and OPR-WP-01.

In connection with this RFA2, Applicant performed an updated wildfire risk analysis using the U.S. Forest Service's 2023 Wildfire Hazard Potential (WHP) dataset. The wildfire hazard potential in the site boundary area has increased from low to very low to **low to moderate.** See **Figure 5.** As agreed under the existing Site Certificate Condition PRE-WP-01, the Applicant will submit a Final Construction Wildfire Mitigation Plan to the Department prior to construction.

Certificate holder has confirmed that the project site remains outside the boundary of the Christmas Valley Rural Fire Production District and obtained an updated letter from the District (See **Attachment 8**). Certificate holder is still a member of the High Desert Rural Fire Protection District.

Based on Certificate Holder's Fire Protection and Emergency Response Plan and its Vegetation Management and Fire Prevent Plan, together with the Council's analysis and adoption of these conditions, the Council found that the facility would be designed, constructed and operated in compliance with the Wildfire Prevention standard. RFA2 does not introduce any change to the design, construction or operation of the facility that would cause it to no longer satisfy this standard and all previously adopted conditions by the Council related to this standard will continue to apply. The Department has released templates for Draft Construction and Operation Wildfire Mitigation Plans. Certificate holder has updated its Wildfire Plans based on those templates. **See Attachments 9 and 10**. Therefore, the Council can conclude that extending the construction deadlines complies with the Council's Wildfire Prevention standard.

9.1.14 Waste Minimization – OAR 345-022-0120

The Council adopted Site Certificate conditions to address the Waste Minimization Standard. All previously imposed Council conditions for waste minimization apply to RFA2. There will be no changes to the conditions due to the extension of construction deadlines for the Facility. The Certificate Holder will implement a Solid Waste Management Plan that includes conditions for proper

waste disposal and transport. There are no new types of solid waste that will be generated from the operation of the Facility that were not previously reviewed by the Council for the Facility. RFA2 does not seek to expand the existing Site Boundary or physical components of the Facility, and there is no change to the previously approved facilities or phasing from what is authorized in the Site Certificate. Therefore, the Facility division proposed in RFA2 does not alter the basis for the Council's prior finding that the Waste Management Standard has been met.

9.2 Applicable Division 24 Standards

9.2.1 Siting Standards for Transmission Lines – OAR 345-024-0090

The Council adopted a Site Certificate condition to address the Siting Standards for Transmission Lines, which still applies to RFA2. RFA2 does not seek to expand the existing Site Boundary or physical components of the Facility (including the 138-kV generation tie transmission line) and there is no change to the previously approved facilities from what was authorized in the Site Certificate and RFA1. Therefore, the Facility division proposed in RFA2 does not alter the basis for the Council's prior finding that the Siting Standards for Transmission Lines has been met.

9.3 Other Standards and Laws

9.3.1 Noise Control Regulations – OAR 340-035-0035

The Certificate Holder addressed compliance with the Oregon Department of Environmental Quality noise regulations in Exhibit X of the ASC. The Council previously imposed Site Certificate Condition PRE-NC-01, which requires that the final design locations, sound power levels, and noise analysis be provided to the ODOE to demonstrate that the Facility complies with the Oregon Department of Environmental Quality's noise control standards in OAR 340-035-0035. Certificate holder engaged Michael Minor & Associates Inc., to update the prior noise studies attached to the ASC as Exhibit X-1 and updated in April 2023 in connection with certificate holder's first request for amendment. **Attachment 11** presents a cumulative redline of changes to the original report, now amended to include three new or not previously assessed noise receptors. As described in the report, adding these additional noise receptors (18, 19 and 20) did not result in predicted noise levels at any noise sensitive property to exceed the allowable dBA and that the range of predicted noise levels from the Facility equipment at these three newly identified properties are below the most stringent criteria under OAR 340-035-0035. For the reasons discussed above and subject to the applicable conditions in the Site Certificate, the Council can find that the Facility continues to comply with the applicable noise control regulations.

9.3.2 Removal-Fill Law

The Oregon Removal-Fill Law (Oregon Revised Statues [ORS] 196.795 through ORS 196.990) and Oregon Department of State Lands regulations (OAR 141-085- 0500 through OAR 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." A removal-fill permit will not be needed for the Facility because the Facility, including with the proposed change, will not temporarily or permanently impact waters of the state such that a removal-fill permit is required. There are no previously imposed Council conditions that are applicable to the removal-fill law because the Facility has been designed to avoid impacts to "water of the state". The proposed amendment does not seek to expand the existing Site Boundary or physical components of the Facility. There is no change to the previously approved facilities from

what is authorized in the Site Certificate. Therefore, the proposed change in RFA2 does not alter the prior analysis and the Council can find that RFA2 would not affect any "waters of the state."

9.3.3 Water Rights

Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources Department administers the appropriation of water rights and regulates the use of the water resources of the state. The proposed extension to the construction timeline does not change construction or operation water usage or sources approved for use at the Facility. The Council can conclude that extending the construction deadlines complies with the applicable regulations pertaining to water rights.

10.0 Property Owners Located within or Adjacent to the Site of the Facility -OAR 345-027-0360(1(f)

> *(f) A list of the names and mailing addresses of property owners, as described in this rule:*
>
> > *A) The list must include all owners of record, as shown on the most recent property tax assessment roll, of property located:*
> >
> > > *(iii) Within 500 feet of property which is the subject of the request for amendment, where the subject property is within a farm or forest zone; and*
> >
> > *(B) In addition to incorporating the list in the request for amendment, the applicant must submit the list to the Department in an electronic format acceptable to the Department.*

A list of the names and mailing addresses of property owners located within 500 feet of the property underlying the area subject to RFA2 is provided in **Attachment 12**. The Certificate Holder requested the most recent property tax assessment roll from the Lake County Assessor on October 31, 2024, and the property owner information provided in Attachment 12 reflects information received on November 1, 2024. The Certificate holder confirmed on April 9, 2025 that there have been no changes to the property owner information received on November 1 2024.

11.0 Conclusion

This amendment request demonstrates that the proposed extensions to the construction start and completion deadlines comply with all applicable laws and Council standards. For the reasons state above, the Certificate Holder respectfully requests approval of RFA2.

12.0 References

BLM. 2024. Lakeview Resources Management Plan Amendment and Final Environmental Impact Statement. Available online at: https://eplanning.blm.gov/public_projects/114300/200274501/20122098/251022078/Volume%203%20Appendix12%20through%2014_LRMPA.pdf

BLM. 2023a. Wilderness and Wilderness Study Areas. Available online at: https://www.blm.gov/programs/national-conservation-lands/wilderness

BLM. 2023b. Oregon and Washington National Conservation Lands. Available online at: https://www.blm.gov/programs/national-conservation-lands/oregon-washington

BLM. 2023c. Areas of Critical Environmental Concern. Available online at https://www.blm.gov/programs/planning-and-nepa/planning-101/special-planning-designations

BLM. 2023d. Visit Us Search Results, Byway. Available online at: https://www.blm.gov/visit/search?field_location=All&field_activities=All&search_api_fullte%20%20%20xt=byway

BLM. 2003. Lakeview Resources Management Plan and Record of Decision. Available online at: https://eplanning.blm.gov/public_projects/lup/36322/81205/94717/Lakeview_RMP_Text_Appendices.pdf

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National Wild and Scenic Rivers System. 2023. Oregon Available online at: https://www.rivers.gov/oregon

ODOT. 2023. Scenic Byways Program. Available online at: https://www.oregon.gov/odot/programs/pages/scenic-byways.aspx

ODOT (Oregon Department of Transportation). 1999. 1999 Oregon Highway Plan – Including Amendments November 1999 through January 2023. Available online at: https://www.oregon.gov/ODOT/Planning/Documents/OHP.pdf

OPRD. 2023a. Fort Rock Cave. Available online at: Fort Rock Cave - Oregon State Parks https://stateparks.oregon.gov/index.cfm?do=park.profile&parkId=170

OPRD. 2023b. List of Scenic Waterways. Available online at: https://www.oregon.gov/oprd/bwt/pages/ssw-list.aspx

OPRD (Oregon Parks and Recreation Department). 2020. Oregon Natural Areas Plan. Available online at: https://inr.oregonstate.edu/natural-areas/natural-areas-plans

USGS. 2022. Protected Areas Database of the United States. Available online at: https://maps.usgs.gov/padusdataexplorer/

ODFW. 2023. Visit ODFW Wildlife Areas. Available online at: https://myodfw.com/visit-odfw-wildlife-areas

The United States Fish and Wildlife (USFWS) – National Wetlands Inventory (NWI) Mapper

The Oregon Department of Fish and Wildlife (ODFW) Compass – Oregon Conservation Strategy Reporting Tool (ODFW 2024)

Oregon Explorer Biodiversity Map (Oregon Explorer 2021)

Obsidian Solar Center

Figure 1
Approved Site Boundary

LAKE COUNTY, OR

East Lava Field Wilderness Study Area

Devils Garden Lava Bed WSA

Fort Rock

31

5/10

Area D

Area E

Area A

Four Craters Lava Bed WSA

Four Craters Lava Bed WSA

5/10

31

5 14

Christmas Valley

5 14F

5 14F

4-10

Silver Lake

- Approved Site Boundary (RFA1)
- Waterbody
- State/County Highway

1:175,000

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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Obsidian Solar Center

LAKE COUNTY, OR

Devil's Garden Lava Bed Wilderness Study Area/Area of Critical Environmental Concern

OR-1-3 WSA

Lost Forest/Sand Dunes/Fossil Lake Area of Critical Environmental Concern

Fort Rock Cave National Heritage Site

Fort Rock State Natural Area

Peters Creek Sink

Sucker Flat

Four Craters Lava Bed WSA

Sand Dunes Wilderness Study Area

Connley Hills Area of Critical Environmental Concern/Research Natural Area

Table Rock Area of Critical Environmental Concern

Black Hills Area of Critical Environmental Concern/Research Natural Area

Christmas Lake Valley

Diablo Mountain WSA

Summer LakeWildlife Area

676

7391 ft

6083

- Approved Site Boundary
- Amended Site Boundary
- 20-Mile Analysis Area
- Protected Area
- Expanded WSA Boundaries
- Bonneville Power Administration Transmission Line (500kV)
- PGE Transmission Line (500kV)
- Oregon Outback National Scenic Byway
- Christmas Valley National Backcountry Byway

Wilderness Character Inventory

- Present
- Not Present

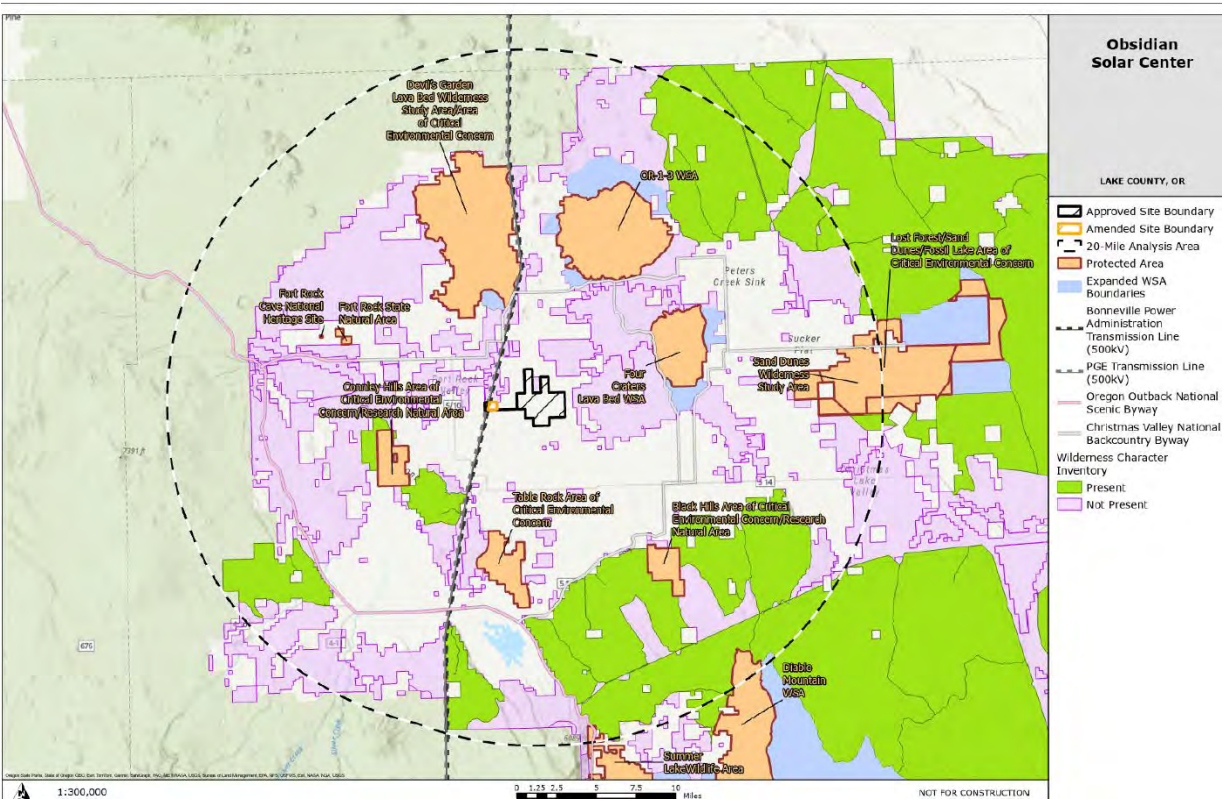
1:300,000

0 1.25 2.5 5 7.5 10 Miles

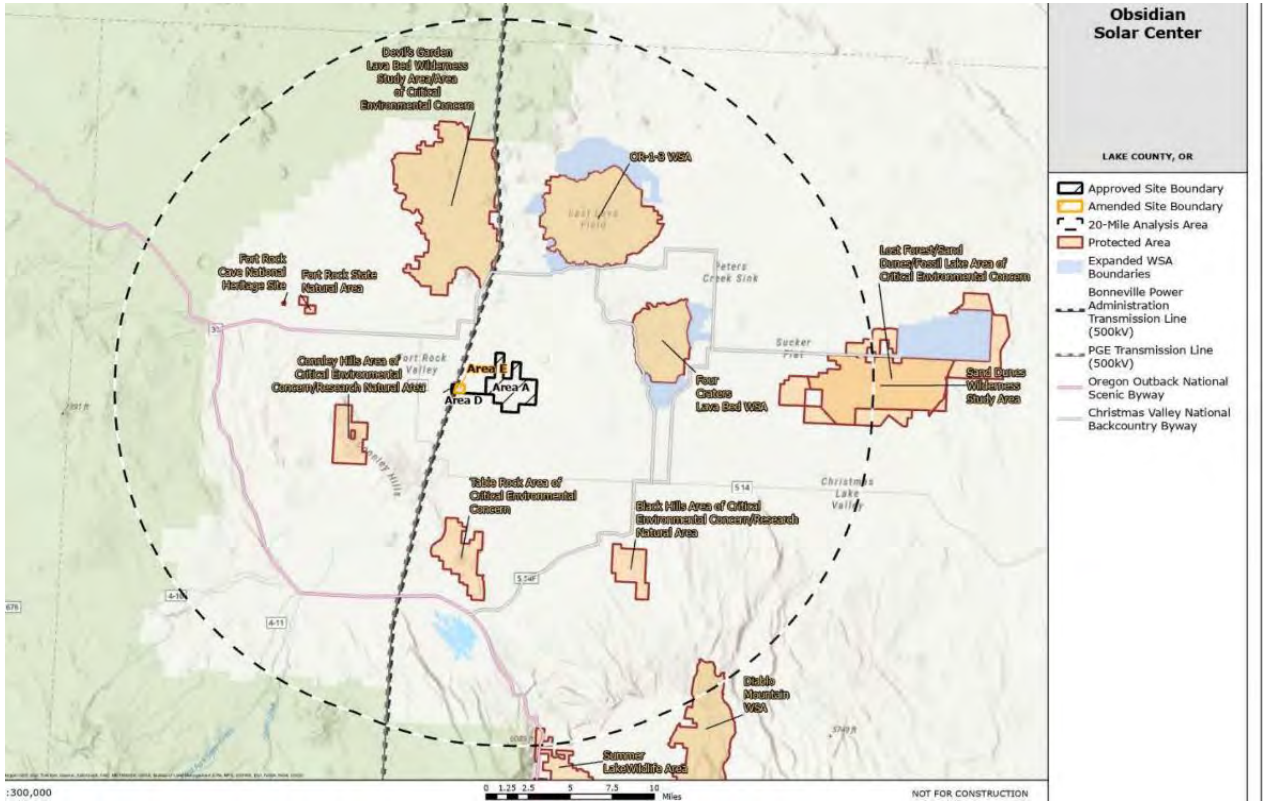
NOT FOR CONSTRUCTION

RAI Request 17 – Updated Wilderness Study Areas (published by BLM on January 16, 2025)

Protected Areas Map_March 2025



Protected Areas Map_Nov 2024



Recent update to the BLM Lakeview District Resource Management Plan (RMP) - The distance between the site and Devil's Garden Lava Bed ACED/WSA decreased from 3.96 miles in RFA1 to 3.9 miles

Obsidian Solar Center

LAKE COUNTY, OR

East Lava Field Wilderness Study Area

Devils Garden Lava Bed WSA

Fort Rock

Four Craters Lava Bed WSA

Four Craters Lava Bed WSA

Christmas Valley

5/10

5/10

31

5 14

5 14F

- County Highway
- Approved Site Boundary
- Amended Site Boundary

ODFW Greater Sage Grouse Habitat

- Core
- Low-Density

Greater Sage Grouse Habitat data published by: Oregon Department of Fish and Wildlife (accessed through the SageCon Landscape Planning Tool https://oregon-explorer.apps.geocortex.com/webviewer/?app=28b0e1fdba6d430e9c4d1ef41c7dc610 2025-01-07)

1:151,453

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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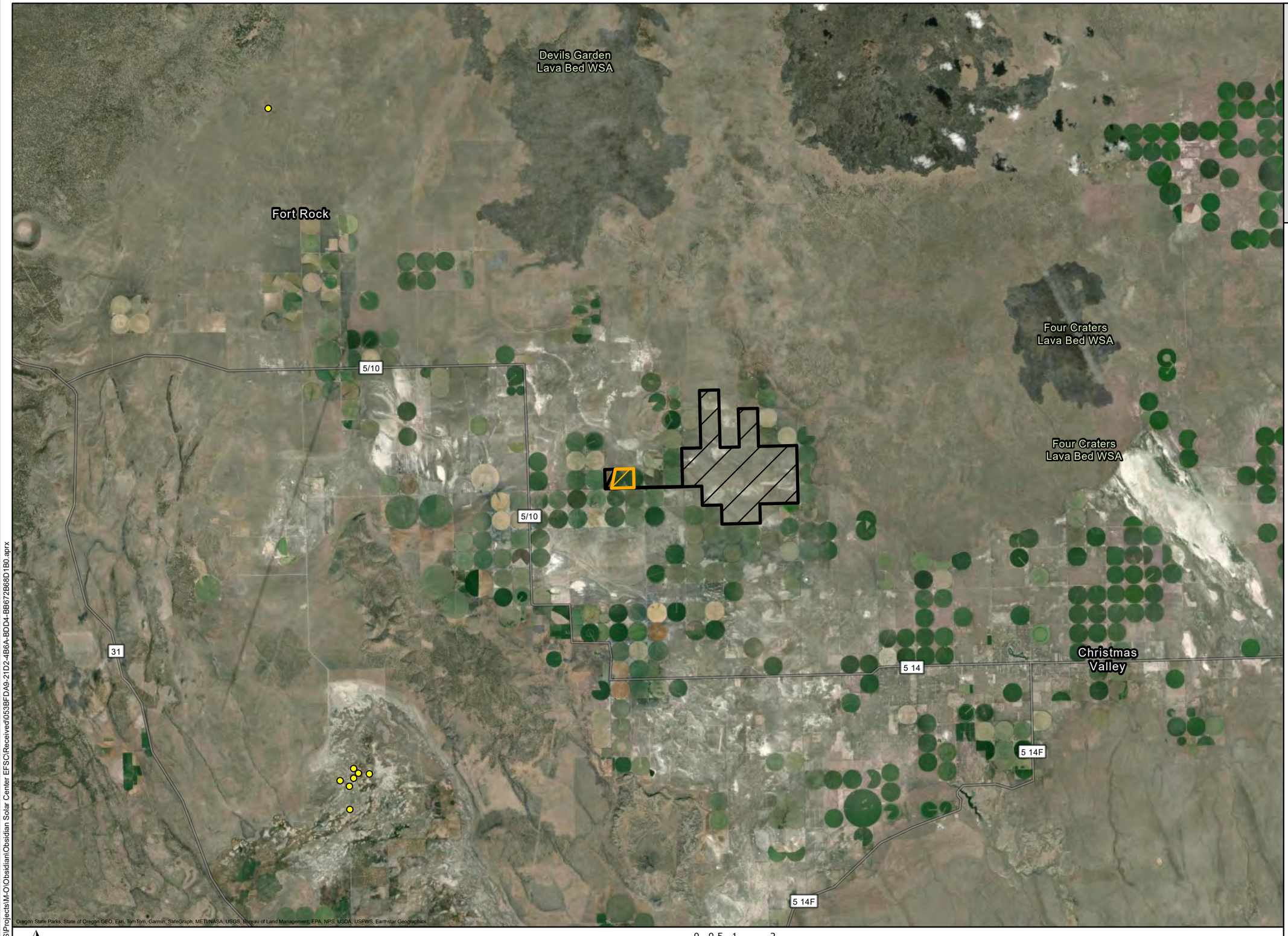
Obsidian Solar Center

LAKE COUNTY, OR



- Columbia yellowcress Occurrences
- County Highway
- Approved Site Boundary
- Amended Site Boundary

Biodiversity occurrence data published by: SEINet Portal Network (accessed through the SEINet Portal Network Portal, https://swbiodiversity.org/seinet, 2025-01-07)

1:151,453

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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Obsidian Solar Center

LAKE COUNTY, OR

- County Highway
- Approved Site Boundary
- Amended Site Boundary

Wildfire Hazard Potential

- 1: Very Low
- 2: Low
- 3: Moderate
- 4: High
- 6: Non-burnable

Wildfire Class
prepared by using data from Dillon,G; Gilberson-Day, J. 2023.
Wildfire Hazard Potential for the United States, version 2023. 4th Edition.
Fort Collins, CO: Forest Service Research Data Archive (accessed through https://doi.org/10.2737/RDS-2015-0047-4 2025-01-07)

Fort Rock Rd

5/10

5 10

Oregon State Parks, State of Oregon GEO, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS

1:48,000

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

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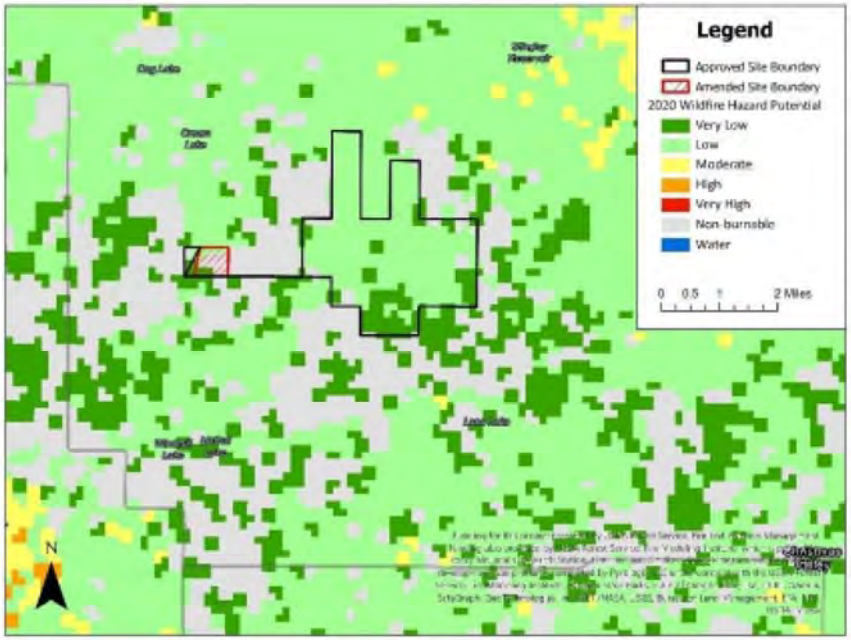
Figure 9: 2020 Wildfire Hazard Potential[117]



Michelle Slater

From: Darwin Johnson <djohnson@co.lake.or.us>
Sent: Monday, September 30, 2024 11:11 AM
To: Michelle Slater
Cc: Darwin Johnson
Subject: RE: Obsidian Solar Center -Request for Amendment No. 2

LAKE COUNTY
Planning Department
Darwin Johnson Jr., *Planning Director*
513 Center Street, Lakeview, OR 97630
O: (541) 947-6036
F: (541) 947-2144
Email: djohnson@co.lake.or.us
Website: www.lakecountyor.org

As Lake County SAG representative for the Board, Lake County now confirms that (1.) below is correct, there have been no substantive criteria or applicable updates to our Zoning Ordinance, Comprehensive Plan or any of the documents listed below, since original application was filed. Lake County supports the statement below in (2.) and feels that extending the deadline is appropriate as this project moves forward and nears construction. Lake County agrees with (3.) below all other conditions of approval would continue to apply and are adequate. And, Lake County does not believe that any changes in criteria since the approval of the original application should apply now or have to be reviewed and approved. Lake County continues to supports this project and anticipates with eagerness its completion.

~Darwin

From: Michelle Slater <mslater@obsidianrenewables.com>
Sent: Monday, September 23, 2024 2:34 PM
To: Darwin Johnson <djohnson@co.lake.or.us>
Subject: Obsidian Solar Center -Request for Amendment No. 2

[EXTERNAL]

Hi Darwin,

Obsidian Solar Center is preparing to file a second Request to Amend its Site Certificate (RFA2) in order to extend the deadline for beginning (and completing) construction. As it currently stands, we are required to begin construction by February 25, 2025, but due in part to congestion at Bonneville Power Authority processing interconnection and transmission requests we require additional time. We are not requesting any other changes to the site certificate beyond moving these two dates out three years each, which is the extension length provided by Administrative Rule.

As part of our RFA2 submission, I would like to include communication from you confirming that we have consulted and documenting the Lake County Board of Commissioners' position as a Special Advisory Group. Specifically, it would be help if you could confirm the following, or provide different information if the following statements are not accurate:

1. There have been no changes in the applicable substantive criteria or applicable updates to the September 2018 Lake County Zoning Ordinance (LCZO) or the 2015 the Lake County Comprehensive Plan (LCCP)

since the County's prior review of the Site Certificate prior to its issuance in February 2022, nor since the County's review of certificate holder's first request to amend the Site Certificate in 2023. No other county planning documents have been updated since the EFSC prior review, including the Lake County Atlas (1983 -); 10-yr Flood Damage Prevention Ordinance (1989); C.V. Airport Improvement Plan (1984); Habitat Protection Plan (1979); 10CC-95 Zoning Ordinance Amendment Big Game (1995); Renewable Energy Plan (1984); Solid Waste Management Plan (2005); Transportation System Plan (2016).

2. The County supports recommending that the construction deadlines in the Site Certificate be amended to extend the date to begin and complete construction in each case by three years (so that the beginning date is February 25, 2028 and the ending date is February 25, 2031).

3. The County concurs that previously imposed land use and public service-related conditions would continue to apply and be adequate to ensure that any impacts from the changes proposed in RFA2 would comply with the applicable LCZO requirements and minimize impacts to public service providers (emergency services and traffic safety) as contained in the current Amended Site Certificate.

4. Lake County Planning Department confirms there has been change in applicable substantive criteria since EFSC's prior review that would apply to this facility.

I suspect that Oregon Department of Energy will want to communicate with you directly on this as well after we file the request, but I figure getting the foundational information in the record from the start might be helpful.

If you would like me to give a verbal report or explanation of this amendment request to the Commissioners at an upcoming work session or meeting I am happy to do so. There really isn't much substance to it, however. We remain as eager as ever to get this project underway and are applying as much pressure to BPA to expedite its processes as we are able.

Please contact me if you have any questions.

Thank you very much,
Michelle

Michelle Slater (she/her)
Obsidian Renewables, LLC
5 Centerpointe Drive, Suite 255
Lake Oswego, OR 97035
mslater@obsidianrenewables.com
Work: 503-245-8800
Cell: 503-577-1446

Obsidian Solar Center LLC

Obsidian Solar Center

Habitat Mitigation Plan

July 2020

Revised February 2025

Obsidian Solar Center LLC

5 Centerpointe Drive, Suite 255
Lake Oswego, Oregon 97035

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LIST OF TABLES

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LIST OF FIGURES

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ATTACHMENTS

Acronyms and Abbreviations

Applicant	Obsidian Solar Center LLC
ASC	Application for Site Certificate
CWMA	Cooperative Weed Management Area
EFSC or the Council	Energy Facility Siting Council
Facility	Obsidian Solar Center
gen-tie	generation tie
HMP	Habitat Management Plan
HQT	Habitat Quantification Tool
MW	megawatts
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
OHW	ordinary high water
WLIP	Working Lands Improvement Program

1.0 INTRODUCTION

This draft Habitat Mitigation Plan ("HMP") describes how Obsidian Solar Center LLC ("Applicant") will mitigate unavoidable habitat impacts from the Obsidian Solar Center ("Facility") located in Lake County, Oregon. The purpose of the Facility is to generate renewable, clean energy that will replace, in part, energy currently generated by Northwest coal plants scheduled for closure. The Facility will operate about 30 percent of the time on a full-time equivalency basis. Applicant expects the Facility to produce about 900,000-megawatt (MW) hours per year of clean, renewable energy, which would reduce the carbon dioxide emissions equivalent to burning almost 3,500 railcars filled with coal each year (EPA 2018; Figure 1). Clean energy improvements of this kind are crucial for countering climate change, which in turn help conserve wildlife and their habitats on a landscape scale.

Figure 1. Greenhouse Gas and Carbon Dioxide Emissions Reduced Annually by the Proposed Facility

Source: EPA 2018

Habitat loss and degradation are among the greatest threats to many wildlife species around the world. Climate change also is an increasing threat to wildlife and their habitats, including to species of interest for the Facility. Research has indicated that elk (*Cervus canadensis*) (Wang et al. 2002; Sala 2006) and sagebrush habitat (Poore et al. 2009; Bradley 2010; Schrag et al. 2011) are negatively affected by climate change. Exhibit P, Section P.7.2, of the Application for Site Certificate (ASC) identifies several State Sensitive bird species in the

Facility's analysis area that are Climate Threatened or Climate Endangered, according to the National Audubon Society (2015). The Facility is a renewable energy project that will contribute to stemming climate change by reducing carbon dioxide emissions. Although the reduction in carbon emissions that will result from Facility operations may not completely counteract the loss or modification of habitat with the site boundary, it does provide a benefit to wildlife and their habitats.

This draft HMP outlines specific measures Applicant will undertake to satisfy the Oregon Energy Facility Siting Council (EFSC) Fish and Wildlife Habitat standard (Oregon Administrative Rule (OAR) 345-022-0060), which requires that the Facility, with mitigation, demonstrate consistency with the Oregon Department of Fish and Wildlife (ODFW) Habitat Mitigation Policy (OAR 635-415-0025). Applicant proposes three mitigation pathways including (1) ODFW Payment-to-Provide (Option 1), (2) a Third Party Fee-in-Lieu Program (Option 2), and (3) Working Lands Improvement Program (in-kind, in-proximity mitigation) (Option 3). Applicant opts to implement Option 3 as mitigation for the Facility. If Applicant sought to implement Option 1 or Option 2, or an alternative mitigation pathways in the future, Applicant would seek an amendment to this HMP, as provided under Section 6.0 below.

2.0 DESCRIPTION OF THE IMPACTS ADDRESSED BY THE HMP

The Facility is located entirely within the more than 1 million acre-area mapped by ODFW staff as elk winter range and a portion of the Facility is located within the area mapped by ODFW staff as mule deer (*Odocoileus hemionus*) winter range, which overlaps in its entirety with elk winter range (together, referred as "Big Game Winter Range"). ODFW staff has designated acres within Big Game Winter Range as Category 2 (essential and limited) habitat under ODFW's Fish and Wildlife Habitat Mitigation Policy (ODFW 2014, 2016a) ("ODFW Habitat Mitigation Policy"). The area within the site boundary consists primarily of sagebrush shrubland, with a mosaic of stand cover, plant heights, and levels of disturbance.

A portion of the Facility is also located within low-density sage grouse habitat as depicted on the Oregon Sage-Grouse Core and Low-Density Habitat Map (2023). Proposed development projects in sage-grouse habitat that require a county or state permit and are identified as a conflicting use, as outlined in OAR 660-023-0115(7), must coordinate with the Mitigation Program to ensure the Mitigation Hierarchy outlined in both OAR 660-023-0115 and OAR 635-140-0025 has been achieved.

Pursuant to OAR 635-140-0025 and consistent with the Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (201) adverse impacts in sage-grouse core, low density, and general habitat from development actions must be mitigated by certificate holder for both direct and indirect adverse impacts to sage-grouse and their habitats.

2.1. Big Game Winter Range.

Permanent habitat impacts will be associated primarily with the installation of permanent Facility structures. The solar array areas and related or supporting facilities will be fenced as required by electrical code and safety needs, and ODFW considers all areas inside the fence to be permanently disturbed. Temporary impacts are anticipated from the construction of the

gen-tie transmission line (about 1.2 acres). Otherwise, all construction-related activities will occur within the area designated for the Facility's permanent footprint (or the area located within the perimeter fence). Temporary impacts will be fully mitigated through successful implementation of the Revegetation Plan (ASC, Appendix P-3).

The Facility will not have impacts on Category 1 habitat. The Facility will have some temporary and permanent impacts on Category 6 habitat, which do not require compensatory mitigation.[1] For the remaining habitat types, permanent impacts must be mitigated at Category 2 under the ODFW Habitat Mitigation Policy because the impacts area is mapped Big Game Winter Range. Habitat values for Big Game Winter Range can include thermal cover, security from predation and harassment, quality forage, and limited disturbance. The area in the Facility site boundary is primarily sagebrush shrubland, and given the habitat characteristics, its primary habitat value for big game is forage and limited thermal cover.

Table 1: Acres of Temporary and Permanent Impact to Habitat within the Site Boundary

Habitat Category	Habitat Type	Temporary Impact	Permanent Impact	Total
ODFW Designated Category 2 Habitat				
2	Sagebrush Shrubland	0.00	3,419.21	**3,419.21**
2	Playa OHW – Not Wetlands	0.00	16.91	**16.91**
2	Sand Dune	0.03	108.78	**108.81**
2	Non-sagebrush Shrubland	0.15	0.00	**0.15**
2	Non-native Forb	0.05	42.77	**42.82**
Total Category 2 Habitat Impacts to be Mitigated		**0.23**	**3,587.67**	**3,587.90**
6	Agricultural Lands	0.56	1.00	**1.56**
6	Developed	0.21	0.00	**0.21**
	Total Impacts	**1.20**	**3,588.47**	**3,589.67**

Key:
ODFW = Oregon Department of Fish and Wildlife; OHW = Ordinary High Water

The impact analysis presented in the ASC and mitigation outlined in this HMP represents the fully built-out scenario of 400 MW. The Facility will be built as directed by market demands

[1] Under the ODFW Habitat Mitigation Policy, no compensatory mitigation is required for Category 6 impacts; only minimization of impacts (OAR 635-415-0025(6)).

and power sales. For example, if Applicant enters into two separate power purchase agreements, each for 200 MW, Applicant may construct the first 200 MW and then the second 200 MW. In that case, mitigation would follow a corresponding scope and timeline.

Table 2 summarizes the habitat characteristics within the Site Boundary, as detailed in the 2018 Habitat Assessment and Biological Resources Field Report (ASC Exhibit P, Appendix P-1). Photo documentation of Area A habitat quality is also provided in photos 1-23b and 53-54 of ASC Exhibit P Appendix P-1, Attachment 1.

Table 2: Habitat Characteristics within Site Boundary

Habitat Category	Habitat Type	Native Shrub Stratum and Ground Cover	Native Herbaceous Stratum and Ground Cover	Bare Ground Cover
ODFW Designated Category 2 Habitat				
2	Sagebrush Shrubland	Big Sagebrush (*Artemisia tridentate)* (*15-30%),* Green rabbitbrush (*Chrysothamnus viscidiflorus*) and Rubber rabbitbrush (*Ericameria nauseosa*) (*10-25%)*	Saltgrass (*Distichlis spicata*), Clasping pepperweed (*Lepidium perfoliatum*), and cheatgrass (*Bromus tectorum*) (≤ 25%)	40 – 60%
2	Playa	Inclusions with Big Sagebrush (≤2*%),* Green rabbitbrush (≤8%), and shadscale saltbrush (*Atriplex confertifolia*) (≤15%)	Usually devoid; or small areas of Saltgrass (*Distichlis spicata*) (≤25%)	≥90%
2	Sand Dune	Big sagebrush and green rabbitbrush (<5%)	Saltgrass (*Distichlis spicata*) (<5%)	

2.2 Sage-Grouse Habitat

Development impacts on sage-grouse habitat are determined using the Habitat Quantification Tool (HQT). The HQT was primarily developed to measure projected outcomes of both new development and habitat restoration projects and to help target siting of credit and debit projects in the most beneficial locations for sage-grouse.[2] Using this tool, certificate holder in coordination with ODFW will determine the potential direct and indirect impacts of the Facility in terms of functional acres of habitat to establish the debits created by the development and will then determine the corresponding number of functional acres of credits that may be required as mitigation.

[2] https://www.dfw.state.or.us/wildlife/sagegrouse/mitigation.asp

3.0 MITIGATION OPTIONS

Applicant has identified three options for addressing the mitigation obligation where habitat protection and enhancement and/or commensurate funding are feasible and consistent with the EFSC Fish and Wildlife Standard. Based on the information provided on the record of the ASC, Applicant currently may only utilize Option 3 for mitigation of impacts to Big Game Winter Range, unless ODFW adopts appropriate regulations to support Option 1 and Applicant proposes an HMP amendment to utilize Option 1 or Option 2 that EFSC approves. If other mitigation options become available or are identified, Applicant reserves the right to pursue alternative mitigation pathways by pursuing an amendment to this HMP, as provided under Section 6.0 below. To mitigate for impacts on functional acres of sage grouse habitat, certificate holder expects to utilize Option 3. Certificate holder will prepare a final assessment of direct and indirect impacts (in functional acres) to mapped sage-grouse habitat, based on final facility design, presented in tabular format, and demonstrate that the certificate holder will generate an equivalent number of functional acre credits through the Working Lands Improvement Program described below. If the certificate holder is not able to enroll adequate land in the program to mitigate the impacts of the facility on sage-grouse habitat, the certificate holder may mitigate any remaining impacts by working with an entity approved by ODFW to participate in an "in-lieu fee" project.

3.1 Option 1: ODFW Payment-to-Provide

Applicant understands that ODFW is considering a payment-to-provide program that could be used to mitigate habitat impacts related to energy facilities. Applicant recognizes that Option 1 is not available at the time of ASC review but Applicant reserves the right to use Option 1 through an HMP Amendment should it be an available ODFW program in the future. Applicant, along with other certificate holders and applicants have encouraged ODFW to adopt such a program that could be used to mitigate habitat impacts related to renewable energy projects. Such a program would help further landscape-scale mitigation projects and create greater benefits for rangeland habitat, including Big Game Winter Range habitat.

3.2 Option 2: Third Party Fee-in-Lieu Program

Under this option, Applicant would partner with EFM, Inc., an affiliate of EcoTrust. Applicant and EFM would present to Oregon Department of Energy (ODOE) and ODFW a mitigation plan designed to protect and restore habitat within the Big Game Winter Range on a portion of the about 22,000 contiguous acres west of Fort Rock currently owned and being managed by EFM, including for the benefit of mule deer. The mitigation measures that would be employed on this land are different from those outlined under Option 3 given the enhancement opportunities. Applicant presents Option 2 for discussion. Applicant may not implement Option 2 without an HMP amendment as discussed above.

3.3 Option 3: Working Lands Improvement Program (in-kind, in-proximity)

Option 3 involves habitat protection and enhancement measures on lands proximate to the Facility. Specifically, Applicant would secure land in proximity to the Facility and implement a Working Lands Improvement Program (WLIP). The WLIP is twofold: it ensures that (1)

there is no net loss in quantity or quality of habitat for the life of the Facility, and (2) there is a net benefit of habitat quality for the life of the Facility. Applicant will carry out the WLIP on suitable land located two to 20 miles from the Facility and within the ODFW-mapped Big Game Winter Range. These sites are considered "in-proximity" to the Facility because the identified acres are within the home range of elk and mule deer that may also use the land within the Facility site boundary.

The WLIP is a habitat protection program and a western juniper (*Juniperus occidentalis)* treatment and management program on working rangeland. The juniper program includes juniper removal and thinning, which is consistent with the Oregon Conservation Strategy's recommended approaches for conservation of sagebrush habitats. The treatment includes controlling encroaching junipers by chipping or cutting for firewood, while maintaining pre-settlement juniper stands and juniper trees with old-age characteristics, which are important nesting habitat for birds and other wildlife (ODFW 2016b). Removal of juniper can, over time, result in redistribution of water budget components in the rangeland due to lack of tree canopy interception, in turn influencing soil moisture and vegetation. In the ODFW-mapped Big Game Winter Range, juniper removal can improve the quality and quantity of sagebrush shrubland forage while preserving effective cover habitat (such as large sagebrush and old age juniper).

In connection with finalizing this Mitigation Plan, certificate holder will, in coordination with ODFW, evaluate the function of land included in the WLIP for both sage grouse and big game and determine to what extent activities under the WLIP may benefit both species. Mitigation can overlap, assuming the acres proposed at the mitigation site function for both species.

Working Lands Improvement Program Agreement

Applicant will enter into enforceable and recordable Working Lands Improvement Program (WLIP) Agreements with the underlying property owners for land enrolled in Applicant's WLIP. A copy of the WLIP Agreement is included as Attachment 1. The WLIP Agreement is a legally binding agreement, authorizing Applicant to implement the WLIP consistent with this HMP and obligating the property owner to manage and operate the land consistent with the goals of the WLIP. The term of the WLIP Agreement is for the life of the Facility.[3] The

[3] "For the life of the Facility" is defined at the point when EFSC terminates the site certificate pursuant to OAR 345-027-0010. Before EFSC terminates a site certificate, the certificate holder must apply to EFSC to terminate the site certificate and provide EFSC with a proposed retirement plan consistent with OAR 345-027-0110(5), which requires, among other things, the information about how certificate holder will address impacts to wildlife and the environment during retirement. Before certificate holder may take action, EFSC must review the proposed final retirement plan, considered comments from the public and reviewing agencies, approved the proposed final requirement plan, and issued an order authorizing the retirement according to the approved final retirement plan, as provided for in OAR 345-027-

terms of the WLIP Agreements provide for mitigation to achieve a no net loss of habitat quality or quantity. The implementation of the juniper treatment and management program on lands subject to WLIP Agreements achieve mitigation results in a net benefit of habitat quality. Applicant will provide copies of the executed WLIP Agreements to ODOE prior to construction of the Facility.

WLIP Sites

Applicant performed a juniper phase desktop analysis of about 22,722 acres of land in Big Game Winter Range near the Facility site. The desktop analysis identified juniper woodland succession phases (Phase 1, Phase 2, Phase 3) and provided mapping of the phases as well as areas unsuitable for mitigation (*e.g.*, lava beds or quarries).[4] See Attachment 2. From this information, Applicant identified two property owners with large tracts of land for participation in the WLIP: the Morrison Ranch at about 1,870 acres and the Nine Peaks Ranch at about 4,500 acres, totaling about 6,370 acres.[5] Applicant conducted a preliminary desktop assessment of habitat types and categories on the about 6,370 acres to confirm that the habitat is of similar structure and function as the habitat within the Facility site boundary. See Attachment 3 for the desktop habitat mapping.

The Morrison Ranch mitigation area is located, at its closest point, about 2 miles north of the Facility site boundary. This mitigation area is within the ODFW-mapped Big Game Winter Range and has about 970 acres of sagebrush shrubland and 960 acres of juniper woodland. The sagebrush shrubland within this mitigation area has similar habitat structure and function to the sagebrush shrubland within the Facility site boundary. Roughly, half of the juniper woodlands in the Morrison Ranch mitigation area are Phase 2 succession and likely support an understory with levels of sagebrush and perennial bunchgrasses that are suitable for restoration or conversion to sagebrush shrubland. The Phase 3 succession areas, which is also about half of the juniper woodland habitat in this mitigation area, may also exhibit restoration potential. The Morrison Ranch mitigation area also provides primary habitat values for big

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0010. The approved final retirement plan will require certificate holder to restore the site and ODFW may comment on the retirement plan to ensure that the Facility continues to meet the ODFW Mitigation Policy "for the life of the Facility." EFSC may not terminate the site certificate until EFSC finds that certificate holder has completed retirement according to EFSC order authorizing retirement. See OAR 345-027-0110(8).

[4] The desktop analysis was conducted according to the protocols in the *Western Juniper Field Guide: Asking the Right Questions to Select Appropriate Management Actions: U.S. Geological Circular 1321*, Miller et al. (2007).

[5] The GIS data show the Morrison Ranch and Nine Peaks Ranch mitigation area acreage as slightly larger than the tax lot acres. The GIS data show the Nine Acres Ranch mitigation area at about 4,595 acres and the Morrison Ranch mitigation area at about 1,939 acres, rather than 4,500 and 1,870 acres, respectively.

game, such as forage and thermal cover. Therefore, this land represents in-kind habitat for purposes of meeting Applicant's Category 2 habitat mitigation obligations.

The Nine Peaks Ranch mitigation area is located, at its closest point, about 7 miles north of the Facility site boundary. This mitigation area is within the ODFW-mapped Big Game Winter Range and has about 4,225 of sagebrush shrubland and 330 acres of juniper woodland. Sagebrush shrubland at Nine Peaks Ranch would be similar in structure and function as the sagebrush shrubland within the Facility site boundary; however, almost 85 percent of sagebrush shrubland in this mitigation area exhibits Phase 1 juniper encroachment. Phase 1 encroachment areas are in danger, long term, of further juniper succession, and would be great candidates for juniper restoration. The Nine Peaks Ranch mitigation area also provides primary habitat values for big game, such as forage and thermal cover. Therefore, this land represents in-kind habitat for purposes of meeting Applicant's Category 2 habitat mitigation obligations.

In addition, Applicant conducted field-based habitat mapping of the WLIP sites, based on a protocol approved by ODOE, in consultation with ODFW (consistent with the field-based habitat mapping performed for the field surveys conducted as a part of Exhibit P). The resulting written report of a survey and mapping attached as Attachment 4 and provided to ODFW on or about May 22, 2020, demonstrate that selected mitigation acres within the Morrison Ranch and the Nine Peaks Ranch are "in-kind" habitat to meet the Facility's mitigation obligations under this HMP.

Once ODOE, in consultation with ODFW, concurs with Applicant's field verifications, Applicant will execute WLIP Agreements substantially in the form attached as Attachment 1 with the Morrison Ranch and/or the Nine Peaks Ranch. Land under control will total 1.2 acres for every 1 acre of habitat impacted by the Facility components.

Implementation of the WLIP for Habitat Enhancement

Applicant will implement the WLIP across acreage totaling 1.2 acres for every 1 acre of habitat permanently impacted by the Facility components based on final Facility design. For example, if the final Facility footprint is 3,588 acres, Applicant will protect 4,306 acres of habitat from development and conduct the habitat enhancement measures across the 4,306 acres, as described below.

Step 1: Pre-Treatment Juniper Survey

Applicant conducted a pre-treatment survey to determine the appropriate juniper treatment areas and record pre-treatment conditions (the "Pre-Treatment Survey"). The Pre-Treatment survey informed the Juniper Treatment Plans. The Pre-Treatment Survey was conducted in accordance with a protocol, submitted and approved by ODFW, based on the methods included in the *Western Juniper Field Guide: Asking the Right Questions to Select Appropriate Management Actions: U.S. Geological Survey Circular 1321* (Miller et al, 2007).

Step 2: Develop Juniper Treatment Plan

Applicant has developed and submitted for review and approval to ODOE, in consultation with ODFW, juniper treatment plans for treatment within the WLIP sites. The plans include the following components:

- Habitat maps identifying the boundary of proposed treatment areas.
- A description and figures identifying approximate acres of treatment areas by treatment type.
- Best management practices to minimize the risk of noxious weed introduction into juniper treatment areas including equipment wash out station, reseeding of burned slash treatment piles with a grass/legume mix (within 30 days of the fire), and monitoring burned areas for noxious weeds (annually for three years following reseeding).
- A protocol establishing methods for documentation of pre- and post-treatment conditions such as through photo documentation; and, field based methods including walking a representative sample of 100-meter random transects to assess soil disturbance and vegetation conditions (plant cover, native herbaceous cover, non-native cover).
- Recommendations for post-treatment monitoring, weed treatment, and juniper re-treatment.

Step 3: Juniper Treatment

Certificate holder will hire one or more contractors (locally, to the extent possible) to implement the Juniper Treatment Plan(s) across the WLIP sites. Depending on the local site conditions and the capabilities of the contractor(s), felled juniper may be burned on site or hauled away. If slash burning is to occur, contractor will obtain necessary burn permits and will coordinate with landowners, as applicable. Juniper may also be sorted and decked, delimbed, and any commercial product taken off site. . In implementing the Juniper Treatment Plans, Certificate holder will direct the cutting contractor to minimize impacts to sagebrush in the understory.

Step 4: Weed Monitoring and Treatment

Applicant will engage the Lake County Cooperative Weed Management Area (Lake County CWMA) to monitor the WLIP sites for noxious weeds. Lake County CWMA will monitor noxious weeds within a treated area annually for two years after initial juniper treatment and will treat weeds as needed during the monitoring. In addition, Lake County CMWA will monitor burned slash treatment pile areas annually for 3 years following reseeding and will treat weeds as needed during the monitoring. Applicant will provide copies of the annual

weed monitoring and treatment reports to ODOE and ODFW. Thereafter, Lake County CWMA will monitor and treat noxious weeds in the WLIP sites as described below.

Step 5: Monitoring and Reporting

Applicant will hire a qualified contractor to conduct monitoring in the treated areas and provides reports to ODOE, ODFW, and Lake County as provided for in the applicable Juniper Treatment Plans. The monitoring program will consist of monitoring for noxious weeds as well as monitoring for mitigation success.

Generally, the first post-treatment monitoring for mitigation success will occur within one year after the initial juniper treatment is completed and continue every ten years thereafter for the life of the Facility. Polygons where no treatment is planned will be monitored when neighboring polygons with a common boundary are scheduled for treatment or monitoring. For those areas that have been seeded following disturbance, monitoring will include collection of the following information:

- Confirmation that all disturbance areas requiring active re-vegetation have been re-seeded;

- Visual estimates of:
    - Percental of total vegetative ground dover of individual plant species in two categories (grasses/forbs and shrubs), and

    - Percentage bare soil

- Presence of noxious weeds species (including density and geographical extent of populations); and

- Presence of windblow or water erosion problems that require additional measures.

More generally, monitoring measures to be documented include:

- Confirm ongoing compliance with WLIP agreements;

- Assess changes in vegetation cover (species, structural stage, health);

- Document environmental factors such as average rainfall, average snowfall, occurrence of wildfire, etc.; and

- Assess juniper encroachment to evaluate whether retreatment may be needed, using the location points identified during the initial Juniper Treatment.

Prior to construction of the Facility, Applicant shall provide a draft report template for review and comment by ODOE, in consultation with ODFW. Based on the agency-reviewed report

template, Applicant will provide ODOE and ODFW a report following each monitoring period detailing the observations and results, including the details of any noxious weed treatment and juniper retreatment.

The monitoring reports will document remedial actions take to date, additional remedial actions planned for areas that are not apparently trending toward success, and the anticipated dates of completion of each of these actions. Remedial actions may include additional juniper treatments (as described below in Section 4.0; Juniper Encroachment), weed treatment, and re-seeding, to correct deficiencies or shortcomings. Remedial actions will be implemented as needed. The nature of the remedial action will depend on the specific issues that arise.

4.0 SUCCESS CRITERIA

Given the Facility's location in ODFW-mapped Big Game Winter Range, Applicant must meet Category 2 mitigation goal of "no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality." The mitigation measures presented in this draft HMP ensure that the Facility's permanent and temporary impacts will not result in a net loss of habitat quantity or quality and result in a net benefit of habitat quality. Applicant will measure success during its monitoring periods and success will be based on the following indicators:

- Juniper Encroachment. Because juniper will be left in most of the polygons, some amount of juniper encroachment will occur in the forage polygons within the life of the Facility. A juniper treatment will be considered successful if encroachment does not exceed 10 stems per acre over a majority of the treatment area as determined by the monitoring described in the Juniper Treatment Plan. When the results of monitoring indicate that juniper encroachment has exceeded 10 stems/acre over a majority of a polygon then encroaching juniper will be cut using treatment 1 as described in the Juniper Treatment Plan.

- Successful weed control (weed monitoring and treatment) within the WLIP sites for the life of the Facility. The success criteria for noxious weed control will be based on qualitative observations to attempt to comply with Lake County and ODA recommended actions in each category of noxious weed. Consistent with Applicant's Revegetation and Noxious Weed Control Plan (Appendix P-3), unless otherwise instructed to use other criteria by ODA or Lake County, Applicant will consider weed control successful when State- or County-listed noxious weeds are absent or constitute less than 1 percent of vegetation otherwise dominated by native or desirable non-native species, unless the noxious weeds present are similar to pre-disturbance conditions or adjacent undisturbed areas.

5.0 PRE-CONSTRUCTION COMPLIANCE

The final HMP applies to the entirety of permanent and temporary Category 2 habitat impacts.[6] This draft HMP contains pre-construction requirements to which Applicant must comply. As described throughout this plan, prior to construction of the Facility, Applicant shall:

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- Identify the total number of permanent and temporary ~~habitat~~ acres of Big Game Winter Range to be impacted, based on permanent facility components within the perimeter fence line and temporary impacts outside of the fence line, including any important assumptions or calculations;

- Identify to the total number of functional acres of sage-grouse low-density habitat to be impacted based on the output of the HQT, habitat analysis and field surveys conducted by ODFW, and final Facility design, and the number of resulting functional acre credits required to satisfy the mitigation obligation.

- Identify the number of acres included in the WLIP Agreements that are appropriate habitat for (a) Big Game Winter Range mitigation only, (b) generating sage grouse mitigation credits, and (c) both big game and sage grouse such that mitigation activities under this Plan would produce both sage grouse mitigation credits as well as satisfy the Category 2 habitat mitigation obligation to achieve a no net loss of habitat quality or quantity for Big Game Winter Range.

- Executed WLIP Agreements, with an opportunity for review and concurrence by ODOE if agreements contain termination or amendment clauses;

- Finalize Juniper Treatment Plan(s) including maps of treatment areas; treatment plans and methods, pre- and post-documentation protocols, monitoring and reporting protocols.

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[6] Applicant began construction in 2019 on two solar projects located on land within the Facility site boundary under Lake County Permit No. 19-027-CUP and Lake County Permit No. 19-028-CUP. Applicant is implementing mitigation measures for each project under the respective CUP approvals. Applicant will terminate Lake County Permit No. 19-027-CUP and Lake County Permit No. 19-028-CUP once Applicant has demonstrated compliance with the Facility site certificate's pre-construction conditions of approval, at which point the solar development previously approved under the County CUPs will become subject to EFSC jurisdiction. Applicant proposes a condition of approval requiring an HMP status report to ODOE prior to construction confirming that mitigation conducted under the two county permits meets and will continue to meet the mitigation requirements under this HMP.

6.0 AMEMDMENTS TO THE HMP

The HMP may be amended from time to time upon approval by EFSC, who may delegate its authority to review and authorize amendments to ODOE. ODOE must notify EFSC of all amendments and EFSC retains the authority to approve, reject, or modify any amendments to this HMP agreed to by ODOE.

7.0 REFERENCES

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HEFFERNAN INSURANCE BROKERS

Because You're Different

December 18, 2024

RE: Obsidian Solar Center

Oregon Department of Energy
625 Marion Street NE
Salem, OR 97301-3737

Dear Sir or Ma'am:
Our client, Obsidian Solar Center LLC (OSC) has asked us to write to you about their surety credit for the solar project, Obsidian Solar Center, proposed in North Lake County. Our understanding is that in connection with this project, the State of Oregon (together with its agencies and instrumentalities at any level), may elect to require a decommissioning bond. It is proposed that this bond will have a maximum face amount of $40,000,000 and serve to meet the required financial security instrument.
We have reviewed OSC's proposal for the project and are confident that they will be able to obtain said decommissioning bond. These bonds have a term of one year with annual renewals.
Should a bond be required from OSC, their surety will give favorable consideration after reviewing the contract terms, plans and specifications, proposed bond forms and other pertinent factors at that time. A final decision on the bond is not made until it is time to issue the bond.
OSC is a valued client of Heffernan Insurance Brokers and carries our highest recommendation. Should you have additional questions, please do not hesitate to contact me.
Sincerely,

Susan G. Brodahl
Senior Vice President

ERM-West, Inc.
1050 SW 6th Avenue
Suite 1650
Portland, OR 97204

T +1 503 488 5282

erm.com

MEMO

TO	Obsidian Solar Center LLC
FROM	ERM
DATE	21 January 2025
REFERENCE	0759821
SUBJECT	Desktop Review – Response Comment to Request Number 6 from ODEQ

EXECUTIVE SUMMARY

On behalf of Obsidian Renewables, LLC, ERM performed an initial biological assessment that includes a list of potential or known threatened, endangered, or sensitive species or habitat within the project area and a 5-mile buffer surrounding the site boundary (analysis area). The initial biological assessment was performed in accordance with the Oregon Department of Fish and Wildlife (ODFW) Solar Siting Guidance (March 2024).

METHODOLOGY

1.1 DESKTOP METHODS

ERM reviewed the following data sources for information on historical habitat and potential or known protected species and habitats in the analysis area:

- Current and historical aerial photographs
- The United States Fish and Wildlife (USFWS) – National Wetlands Inventory (NWI) Mapper
- The Oregon Department of Fish and Wildlife (ODFW) Compass – Oregon Conservation Strategy Reporting Tool (ODFW 2024)
- Oregon Explorer Biodiversity Map (Oregon Explorer 2021)

RESULTS

1.2 DESKTOP RESULTS

The desktop review confirmed that there are no state or federal listed endangered or threatened species potentially occur within the analysis area. A total of 26 state sensitive species and 3 federal species of concern have the potential to occur in the analysis area (ODFW 2024), of which five were not previously evaluated and are likely to occur in the analysis area based on the habitat characteristics. A list of these state sensitive species is included in the Oregon COMPASS Report

attached and listed in Table 1, below, with highlighting for newly added species that are both (a) likely to occur in the analysis area and (b) not previously evaluated.

TABLE 1: FEDERAL AND STATE LISTED SPECIES

Species	Status	Habitat Requirements	Potential to Occur at the Project Site
Amphibians			
Western toad (*Anaxyrus boreas*)	SS	Occur in a range of terrestrial habitats, including forests, mountain meadows, desert flats, prairies, and canyon grasslands. Western toads breed in wetlands, ponds, lakes, reservoir coves, and the still-water off-channel habitats of rivers, as well as river edges.	**Likely** – Limited to aquatic resources within the site boundary
Birds			
Olive-sided flycatcher (*Contopus cooperi*)	SS	Open forests, often near water and with tall, prominent trees and/or snags. May use open, mature coniferous forest, forested riparian areas, forest openings, and forest edges. Prefer hemlocks or true firs for nesting and require abundant insects for prey.	Unlikely
Burrowing owl (*Athene cunicularia hypugaea*)	FSOC, SS	Burrowing Owls depend heavily upon burrows created by other species, especially badgers, for nesting. They prefer burrow sites with a high proportion of bare ground.	**Likely**
Bald eagle (Haliaeetus leucocephalus)	BGEPA	Nest in large trees, usually near marine shorelines, large lakes, or rivers. Well-distributed within Oregon.	Unlikely
Black-necked stilt (*Himantopus mexicanus*)	SS	Black-necked Stilts are generally found in alkali wetlands and freshwater ponds and lakes. They prefer foraging sites with extensive shallows and those that are free of human disturbance.	Unlikely
Caspian tern (*Hydroprogne caspia*)	SS	Caspian terns breed in open, flat areas with little vegetation, such as sandy, pebbly, or muddy shores. They often nest on islands, beaches, or other areas where they can spot predators from a distance.	Unlikely
Ferruginous Hawk (*Buteo regalis)*	SS	Occur in open, arid landscapes. They typically use grassy areas and shrub-steppe with scattered shrubs or trees for perching and nesting.	**Likely**
Swainson's hawk (*Buteo swainsoni*)	SS	Swainson's Hawks require expansive grassland habitat with	**Likely**

		scattered nest trees and small mammals for prey.	
Peregrine falcon (*Falco peregrinus anatum*)	SS	Peregrine Falcons typically nest on rocky cliffs or manmade structures. In the Coast Range, they may use offshore rocks and islands as nest sites.	Unlikely
Pileated woodpecker (*Dryocopus pileatus*)	SS	In forested habitats that contain large trees, snags, and decaying wood. They specifically prefer mesic habitats with large, mature hardwood trees, often being found in large tracts of forest.	Unlikely
Franklin's gull (*Leucophaeus pipixcan)*	SS	Franklin's Gulls depend upon extensive marshes for breeding, where they nest over water on floating vegetation and in colonies.	Unlikely
Long-billed curlew (*Numenius americanus)*	SS	Occur in sparse, short grasses, including shortgrass and mixed-grass prairies as well as agricultural fields.	**Likely**
Loggerhead shrike (*Lanius ludovicianus*)	SS	Occur in open habitats with short grass, shrubs, and low trees.	**Likely**
Lewis's woodpecker (*Melanerpes lewis*)	SS	Occur in open ponderosa pine forests and burned forests with a high density of standing dead trees (snags).	Unlikely
Brewer's sparrow (*Spizella breweri*)	SS	Occur in sagebrush steppe, shrublands, and weedy fields.	**Likely**
Trumpeter swan (*Cygnus buccinator*)	SS	Require high-quality marshes, ponds, or other water bodies with submerged aquatic plants for foraging and emergent vegetation for nesting.	Unlikely
Chipping sparrow (*Spizella passerine*)	SS	Chipping Sparrows are typically found in open forests and drier woodland edges. They prefer areas with sparse, herbaceous understories for foraging.	**Likely**
Greater sage grouse (*Centrocercus urophasianus)*	FSOC, SS	Occur in expansive sagebrush habitat that encompasses a mosaic of conditions. They use wet meadows and playas during brood-rearing, especially areas with native forbs.	**Likely**
Willow flycatcher (*Empidonax traillii*)	SS	They require a dense, continuous or near-continuous shrub layer, especially of willows.	Unlikely
Mammals			
Pallid bat (*Antrozous pallidus*)	SS	They use crevices in cliffs, caves, mines, or bridges (and sometimes, buildings) as roosting habitat and in some areas, they use snags as day roosts. Pallid bats prefer grassland, shrub-	Unlikely

		steppe, and dry forest ecotones for foraging.	
Silver-haired bat (*Lasionycteris noctivagans*)	SS	Silver-haired bats inhabit late-successional conifer forests. They use large snags and hollow trees for day, night, and maternity roosts. For foraging habitat, they prefer a variety of forested areas with layered canopies, riparian areas, and disturbed areas such as roadsides or treetops.	Unlikely
Hoary bat (*Lasiurus cinereus*)	SS	Hoary bats are generally associated with forest habitat. They use late-successional conifer forests for roosting. For foraging they require abundant insect prey that is found in open areas such as grasslands.	Unlikely
Townsend's big-eared bat (*Corynorhinus townsendii)*	SS	Townsend's big-eared bats are dependent on the proximity of their roosting and foraging sites. They use caves, mines, old buildings, lava tubes, bridges, and concrete bunkers as day roosts.	Unlikely
California myotis (*Myotis californicus*)	SS	This species is generally associated with forests. California myotis use large snags for day roosts. They are occasionally found night-roosting under bridges.	Unlikely
Long-legged myotis (*Myotis volans*)	SS	Long-legged myotis bats inhabit late-successional conifer forests. They use large snags and hollow trees for day, night, and maternity roosts. For foraging habitat, they prefer a variety of forested areas with layered canopies, riparian areas, and disturbed areas such as roadsides or treetops.	Unlikely
Pygmy rabbit (*Brachylagus idahoensis*)	FSOC, SS	Pygmy rabbits use tall, dense clumps of basin big sagebrush. They need deep, loose soils for digging burrows and native grasses for summer forage.	**Likely**

FSOC = Federal Species of Concern; SS = State Sensitive; BGEPA: Bald and Golden Eagle Protection Act (1940)

Additionally, ERM reviewed Oregon Conservation Strategy Species with the potential to occur in the analysis area. The Oregon Conservation Strategy (OCS) is an overarching plan to conserve Oregon's fish and wildlife, and their habitats. The OCS does not impose new regulations on land use or other activities within Conservation Opportunity Areas (COAs). However, the OCS does provide a shared set of priorities for conservation, and the OCS recommends voluntary actions and tools that can be used by individuals, communities, and landowners. Oregon Conservation Strategy Species are listed in the Conservation Strategy Report attached**.**

PREVIOUSLY COMPLETED SURVEYS

Surveys were previously completed on the original site boundary described in the ASC between March 18 and 22, 2018. Additional surveys were completed on August 30 and September 6, 2022, for acres added by RFA1. In each case, surveys included habitats within the site boundary and extending for a 0.5 mile buffer (except to the extent access of prohibited). These surveys included a habitat assessment, raptor nest survey, pygmy rabbit survey, noxious weed survey, and incidental wildlife observations.

Four habitats were categorized within the study area; playa, non-sagebrush shrubland, mixed grass/forb, and agricultural lands/ developed. During the initial surveys in 2018, the Swainsons hawk, the Ferruginous Hawk, and three pygmy rabbit burrows were observed. The pygmy rabbit surveys conducted in connection with the first amendment to the site certificate recorded no evidence of burrows or white-tailed jackrabbit (on the newly added acres). Raptor nest surveys recorded one Swainson's hawk nest greater than 1-mile of the site boundary (Obsidian Solar Center – Final Order and Final Order on Request for Amendment 1, 2023).

CONCLUSION

No state or federal listed endangered or threatened species potentially occur within the analysis area.

ERM's desktop review initially identified a total of 26 state sensitive species and 3 federal species of concern that have the potential to occur in the analysis area (ODFW 2024). Based on habitat requirements and the list of potentially occurring state sensitive species previously identified in Table 1 in Appendix P, three new state sensitive species and one federal species of concern have potential to be present on-site.

- Three (3) state-sensitive passerines (*loggerhead shrike, brewer's sparrow, chippering sparrow)* are likely to occur. A pre-construction nesting bird survey is recommended to confirm absence of nests within the site boundary.
- One (1) federal species of concern: greater sage grouse (*Centrocercus urophasianus*)

From: Terry Ozbun <Terry@ainw.com>
Sent: Friday, January 10, 2025 11:30 AM
To: Michelle Slater <mslater@obsidianrenewables.com>
Subject: RE: Obsidian Solar Center request

Hi Michelle,

I just checked both of the 2018 HRA reports and they used a 50-year cut-off (federal threshold) for identification of historic-period artifacts and structures. Therefore, they would have identified historic resources predating approximately 1968 (for example, a pull-tab can from the 1960s). The state threshold of 75 years now equates to materials predating 1950, so the previous HRA surveys are still okay and will be for another 18 years regarding the state threshold.

In our survey of the interconnection area (fieldwork in 2022, report in 2023), we identified resources dating to the 1960s (Transmission Lines) as historic-period resources. We did not find any temporally diagnostic historic-period artifacts, only modern materials (less than 50 years old) which we did not record. So, the same applies to our survey in that it meets the state threshold for some time to come.

Let me know if this makes sense to you. I am happy to jump on a call with you if you would like to discuss.

Best,

Terry

Terry Ozbun, M.A., R.P.A. | **AINW** PI/PM/Senior Archaeologist

(he/him)

terry@ainw.com | C 971.409.6944

Archaeological Investigations Northwest, Inc.

3510 NE 122nd Ave | Portland, OR 97230

O 503.761.6605 | from Vanc. 360.696.7473 | ainw.com

Oregon
Kate Brown, Governor

OREGON DEPARTMENT OF ENERGY

550 Capitol St. NE
Salem, OR 97301
Phone: 503-378-4040
Toll Free: 1-800-221-8035
FAX: 503-373-7806
www.oregon.gov/energy

MEMORANDUM

To: SHPO Archaeological Permit Reviewers

From: Kellen Tardaewether, Senior Siting Analyst
Mobile: (503)-586-6551
Fax: (503) 373-7806
Email: Kellen.TARDAEWETHER@energy.oregon.gov

Date: May 4, 2022

Re: Issuance of SHPO Archaeological Permits for the Obsidian Solar Center

Summary:
The siting process for utility scale energy facilities is governed by the Oregon Energy Facility Siting Council (EFSC). As part of the siting process, an applicant for an EFSC-issued site certificate identifies whether there are permits issued by other state and local governments that are required for the construction and operation of the energy facility and whether that permit should be governed or incorporated into the EFSC-issued site certificate. In most instances, a SHPO Archeological Permit is required or anticipated to be required for an energy facility and is obtained by the developer directly from SHPO. In February 2022, EFSC approved a site certificate for the Obsidian Solar Center where four SHPO Archeological Permits were requested by the developer to be included in the site certificate.

The four SHPO Archaeological Permits are: AP2816, AP2817, AP2818, AP2819 for the Obsidian Solar Center. The effective date for the permits is that of the EFSC final decision on the application for site certificate (ASC), February 25, 2022. Because these SHPO Archeological Permits are incorporated into the EFSC-issued site certificate, the effective dates of the two permits must be consistent.

Background:
The Obsidian Solar Center is a solar photovoltaic (PV) energy generation facility with a nominal generating capacity of 400 megawatts, located within a site boundary of approximately 3,921 acres in north Lake County that is under the jurisdiction of EFSC. On February 25, 2022, EFSC approved the ASC for the Obsidian Solar Center and issued a site certificate which contains conditions of approval to construct, operate, and retire the facility.

The certificate holder, Obsidian Renewables LLC., requested that the SHPO Archaeological Permits be included within the site certificate, if approved by EFSC. In January 2020, a qualified archaeologist representing the applicant for the Obsidian Solar Center submitted applications for four Archaeological Permits. On January 17, 2020, the Oregon State Historic Preservation Office (SHPO) circulated Archaeological Permits: AP2816, AP2817, AP2818, AP2819 for comments to:
Landowners
Lake County
Klamath Tribes
Burns Paiute Tribe
Confederated Tribes of the Warm Springs Reservation
UO Museum of Natural & Cultural History

These permits and conditions provided by reviewing parties were included as an attachment to the Department's draft proposed order, which also was circulated for comments. The permits were attached and included in the Council's Final Order on the ASC, approved on February 25, 2022. Under ORS 469.401(3) … *After issuance of the site certificate*, any affected *state agency*, county, city and political subdivision shall, upon submission by the applicant of the proper applications and payment of the proper fees, but *without hearings or other proceedings, promptly issue the permits*, licenses and certificates addressed in the site certificate, subject only to conditions set forth in the site certificate….[*emphasis added*]. Therefore, under this statute, SHPO must issue the Archaeological Permits for this facility, effective on the date of final EFSC decision, February 25, 2022. The permits are effective for the duration that the certificate holder is approved to begin and complete construction for a maximum duration of six years (February 25, 2028).

If you have questions about EFSC jurisdiction, the EFSC decision, final order or site certificate conditions, please contact Kellen Tardaewether, Senior Siting Analyst:

Mobile: (503)-586-6551
Email: Kellen.TARDAEWETHER@energy.oregon.gov

OSC RFA2 Attachment 11

Update to ASC Exhibit U, Section U.4.5.

4.5 HOUSING

During construction, it is likely that construction personnel will use temporary or short-term housing options, such as a motels, hotels, and travel trailer/RV parks. A few workers may opt to rent apartments or houses. Of the 150 workers expected during peak construction periods, approximately 50 percent (or 75 workers) are expected to stay in travel trailer/RV parks. Applicant expects approximately one-third (50) of workers to reside within the 15-mile analysis area in travel trailer/RV parks, motels, hotels, or short-term rentals in nearby communities, such as Christmas Valley, Fort Rock, and Silver Lake. The remaining two-thirds (100) of workers will likely stay in similar accommodations in areas farther way, including La Pine and Bend, and commute to the Facility site daily.

As stated in Section U.2.5, Applicant expects approximately 50 percent of workers to stay in travel trailers at RV parks. If workers are local, it is expected that they may commute daily from as far away as Bend. ~~In Lake County, Oregon Housing and Community Services (2017) reports that vacancy rates between 2011 and 2015 were 7.1 percent for rental units in Lake County.~~ The United States Census Bureau notes that there were a total of ~~4,519~~ 801 vacant housing units in Lake County in 2023, with 516 of those units listed for seasonal, recreational, or occasional use~~17~~ (United States Census Bureau 2023~~18~~).

Commented [AJ1]: Could not find updated statistics for this, so I added more information from USCB

In addition to houses and apartments for rent, there are hotels/motels and travel trailer/RV parks available in the analysis area and in areas within a 1-hour (50 to 60 miles) commute of the Facility. Based on searches conducted on two popular internet hotel search websites, there are at least nine non-luxury, traveler hotel/motel options with approximately 150 rooms available within a 1-hour drive of the Facility site (Expedia.com 2025~~18~~; TripAdvisor 2025~~18~~). In addition, there are at least 2~~5~~4 traveler hotel/motel options with approximately over 500 rooms available within 10 miles of the Bend area, which is about a 1.5-hour drive from the Facility site. There are also at least 1~~5~~3 travel trailer/RV parks with approximately ~~385~~ 250 trailer sites within a 1-hour driving distance of the Facility site, according to popular internet search websites (~~RVparkfinder.com 2018; Rvparkreviews.com 2018).~~RV Life Campgrounds 2025). Within the 15-mile analysis area, there are approximately ~~34~~ 26 hotel rooms (in the town of Christmas Valley ~~and Silver Lake~~), and approximately 93~~64~~ travel trailer/RV park sites (in the towns of Christmas Valley and~~,~~ Silver Lake~~, and Fort Rock~~).

Hotels/Motels

Hotels/motels within a 1-hour driving distance of the Facility site are listed below, sorted by location and approximate distance (road miles) to the Facility.

Christmas Valley, Oregon:

- Christmas Valley Desert Inn (16 rooms): 13 miles southeast.
- Christmas Valley Lakeside ~~Terrace~~ Motel & RV Park (10 rooms, two 6-person cabins): 13 miles southeast.

Silver Lake, Oregon:

- Silver Lake ~~Mercantile and~~ Motel (6 rooms): 25 miles southwest.

Summer Lake, Oregon:

- ~~The~~ Lodge at Summer Lake (7 rooms, 5 cabins): 30 miles south
- Summer Lake Hot Springs Resort (7 cabins): 52 miles south.

La Pine, Oregon:

- Highlander Motel and RV Park (9 rooms, 1 cabin): 52 miles northwest.
- Best Western Newberry Station (60 rooms): 53 miles northwest.
- Timbercrest Inn (25 rooms): 55 miles northwest.

Paisley, Oregon:

- Paisley Sage Rooms (4 rooms): 58 miles south.

Travel Trailer/RV Parks

Travel trailer/RV parks within a 1-hour driving distance of the Facility site are listed below, sorted by location and approximate distance (road miles) to the Facility.

Christmas Valley, Oregon:

- Christmas Valley Lakeside Terrace (20 sites): 13 miles east.
- R&R Mobile Home Park (10+ sites): 13 miles east.

Fort Rock, Oregon:

- The Waterin' Hole Tavern and RV Park (4+ sites): 15 miles northwest.
- Rockhorse Park at Horse Ranch (17 sites): 22 miles west.

Silver Lake, Oregon:

- Elaine's RV Park (13 sites): 26 miles southwest,
- Silver Lake RV & Mobile Home Park (74 sites): 26 miles southwest.~~-~~

Summer Lake, Oregon:

- Ana Reservoir RV Park (24 sites): 27 miles south.
- Summer Lake Hot Springs (30 sites): 52 miles southeast.

La Pine, Oregon:

- Roundup Travel Trailer Park (20+ sites): 52 miles northwest.

- Highlander Motel and RV Park (30+ sites): 52 miles northwest.
- Whispering Pines RV Park (25+ sites): 52 northwest.
- Hidden Pines RV Park (19 sites): 52 miles northwest.
- Newberry RV Park (50 sites): 56 miles northwest.
- Rivery ~~V~~view RV~~Trailer~~ Park (20 sites): 58 miles northwest.
- Cascade Meadows RV Park (110 sites): 58 miles northwest.

Applicant expects the available lodging in the Christmas Valley area and other areas within a 1- hour commute to be sufficient for Facility needs. Applicant expects up to 50 construction workers (one-third of the 150 workers during peak construction) to stay within the 15-mile analysis area, which includes the areas near the towns of Christmas Valley, Silver Lake, and Fort Rock. Based on the available lodging within the analysis area (i.e., approximately 26~~34~~ hotel/motel rooms and 93~~64~~ travel trailer/RV sites), no substantial adverse impacts on temporary housing in the analysis area are expected. During operation, 6 to 10 maintenance personnel will require permanent housing in the analysis area or within a 1-hour commute. Based on the available housing options in the Christmas Valley area and in the La Pine area, no substantial adverse impacts on housing in the analysis area are expected.

References

Expedia.com. 2025. Hotels: Christmas Valley, Oregon. https://www.expedia.com/Hotel-Search?destination=Christmas%20Valley%2C%20Oregon%2C%20United%20States%20of%20America&regionId=3000454059&latLong=43.237823%2C-120.69828&d1=2025-02-25&d2=2025-02-26&adults=2&rooms=1&isInvalidatedDate=false&theme=&userIntent=&semdtl=&useRewards=false&sort=RECOMMENDED&children=&mapBounds=&pwaDialog=&startDate=2025-01-23&endDate=2025-01-24. Accessed January 2025.

RV Life Campgrounds. 2025. Oregon RV Parks & Campgrounds. https://campgrounds.rvlife.com/regions/oregon. Accessed January 2025.

TripAdvisor. 2025. Christmas Valley Hotels. https://www.tripadvisor.com/Tourism-g51805-Christmas_Valley_Oregon-Vacations.html. Accessed January 2025.

United States Census Bureau. 2025. American Community Survey 5-Year Estimates Table B25004: Vacancy Status. https://data.census.gov/table/ACSDT5Y2023.B25004?q=b25004&g=050XX00US41013,41017,41025,41035,41037. Accessed January 2025.

	Total Vacant Units	For rent	Rented, not occupied	For sale only	For seasonal, recreational, or occasional use	For migrant workers	Other vacant
Crook County	877	88	0	31	423	32	303
Block Group 1; Census Tract 9504.02; Crook County; Oregon	200	0	0	0	168	32	0
Deschutes County	13,867	823	322	359	10,783	0	1,104
Block Group 1; Census Tract 1; Deschutes County; Oregon	106	0	0	13	66	0	27
Block Group 1; Census Tract 2.01; Deschutes County; Oregon	147	0	0	0	42	0	105
Block Group 2; Census Tract 2.01; Deschutes County; Oregon	63	0	0	0	29	0	17
Block Group 1; Census Tract 2.02; Deschutes County; Oregon	158	0	0	0	135	0	23
Block Group 2; Census Tract 2.02; Deschutes County; Oregon	191	0	0	0	163	0	28
Block Group 3; Census Tract 2.02; Deschutes County; Oregon	69	0	0	0	69	0	0
Block Group 1; Census Tract 3.01; Deschutes County; Oregon	124	25	0	0	99	0	0
Block Group 2; Census Tract 3.01; Deschutes County; Oregon	280	0	0	60	206	0	14
Block Group 3; Census Tract 3.01; Deschutes County; Oregon	6	0	0	0	6	0	0
Block Group 4; Census Tract 3.01; Deschutes County; Oregon	556	0	0	0	556	0	0
Block Group 1; Census Tract 3.02; Deschutes County; Oregon	293	0	0	50	243	0	0
Block Group 2; Census Tract 3.02; Deschutes County; Oregon	59	0	0	0	59	0	0
Block Group 3; Census Tract 3.02; Deschutes County; Oregon	177	0	0	0	177	0	0

Block Group 3; Census Tract 4.01; Deschutes County; Oregon	0	0	0	0	0	0	0
Block Group 1; Census Tract 4.03; Deschutes County; Oregon	3,593	0	119	0	3,438	0	0
Block Group 1; Census Tract 4.04; Deschutes County; Oregon	385	0	0	0	368	0	17
Harney County	577	38	11	0	176	7	341
Block Group 2; Census Tract 9602; Harney County; Oregon	171	7	0	0	98	0	66
Klamath County	4,164	139	58	320	2,220	35	1,246
Block Group 1; Census Tract 9701; Klamath County; Oregon	205	0	0	0	98	0	107
Block Group 2; Census Tract 9701; Klamath County; Oregon	0	0	0	0	0	0	0
Block Group 3; Census Tract 9701; Klamath County; Oregon	139	0	0	0	111	0	0
Block Group 4; Census Tract 9701; Klamath County; Oregon	791	0	0	0	791	0	0
Block Group 1; Census Tract 9702.01; Klamath County; Oregon	215	0	26	18	132	0	39
Block Group 2; Census Tract 9705; Klamath County; Oregon	8	0	0	0	0	0	8
Lake County	801	25	0	15	516	0	195
Block Group 1; Census Tract 9601; Lake County; Oregon	221	9	0	0	160	0	40
Block Group 2; Census Tract 9601; Lake County; Oregon	93	0	0	0	54	0	39
Block Group 3; Census Tract 9601; Lake County; Oregon	233	16	0	0	197	0	20

Lake County Sheriff's Office

Lake County Sheriff's Office
Lake County Courthouse
513 Center Street
Lakeview, OR 97630
(541) 947-6027
Daniel Tague, Sheriff

March 24, 2025

Michelle Slater
Project Manager
Obsidian Solar Center, LLC
5 Centerpointe Drive, Suite 210
Lake Oswego, Oregon 97035

Proposed Solar Facility Site: Obsidian Solar Center

The Lake County Sheriffs Office is the primary criminal law enforcement agency for Lake County, working with other law enforcement agencies based in Lake County including the Oregon State Police, Bureau of Land Management and Forest Service Law Enforcement. The Lake County Sheriff's Office provides full law enforcement services in the vicinity of the proposed solar power facility. You may forward a copy of this letter to the Oregon Department of Energy to verify that the Lake County Sheriffs Office does in fact provide primary law enforcement services in Fort Rock near the proposed solar site, which is (generally) between Fort Rock Road (to the west), Oil Dri Road N. (to the east), Derricks Cave Road (to the north), and Salt Flat Lane (to the south).

As your project moves forward, the Sheriffs Office would very much be interested in determining the size, location, personnel and possible service needs you might expect from the Sheriffs Office should your permit be issued and the facility built.

Sincerely,

Daniel Tague

Lake County Sheriff

RE: Obsidian Solar Center - Christmas V...

Christmas Valley Rural Fire Protection District
PO Box 75
Christmas Valley, OR 97641 01/14/2025
Obsidian Renewables

To: Fire Protection for Proposed Solar Facility Site: Obsidian Solar Center

RE:

We have reviewed the information provided by Obsidian Solar Center LLC regarding its proposed solar Facility in North Lake County (Fort Rock) and I am writing to confirm that the current boundaries of the Christmas Valley Rural Fire Protection District (CVRFPD) do not include the Facility site. Because it does not have jurisdiction over the area that includes the Facility location, the CVRFPD will suffer no significantimpact from development and operation of the Facility.

That said, were there a structural fire at the Facility location the CVRFPD may respond on a voluntary basis because it is the closest fire district in the vicinity. To ensure response, Obsidian would need to request that the Facility location be annexed into the CVRFPD.

In the event of a brush or wildland fire, the Bureau of Land Management and the North Lake County Rangeland Fire Protection Association would be the most likely to respond, with CVRFPD,

The CVRFPD has scheduled a department wide training for fighting solar panel fires, which should b helpful in the event you decide on annexation.

Chris Wade, Fire Chief

From: Chris Frankenfurter <ccwonly@yahoo.com>
Sent: Thursday, January 16, 2025 5:02 PM
To: Kirk Moore <kmoore@obsidianrenewables.com>
Subject: RE: Emailing Screenshot_20250114-144059.pdf

Yes sir class took place, however that was a couple years ago and we have all new firefighters now. We will still do a solar panel fire training, any help or suggestions for that training would be helpful.

Yahoo Mail: Search, Organize, Conquer

On Wed, Jan 15, 2025 at 1:25 PM, Kirk Moore

<kmoore@obsidianrenewables.com> wrote:

Thanks Chris,

One clarifying question. The last sentence of the letter states that your department had scheduled a training for fighting solar panel fires, did that training take place or is it scheduled for the future?

Best,

Kirk

Contents

Draft Construction Wildfire Mitigation Plan

ODOE Template

1.0 Finalizing Wildfire Mitigation Plan Prior to Construction (PRE)

1.1 Update Applicable Sections of WMP

To finalize this WMP prior to construction of the facility:

Update Section 3.1 based on final facility design including a brief description of areas within the site that are subject to high wildfire risk, fire prevention features at the site, such as roads dimensions, setbacks, fire breaks, entry/exit locations, location of water truck(s) and fire protection equipment locations.

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. 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 3.7 to describe vegetation management and areas that will be managed to be vegetation-free, noncombustible space, or gravel surface.

2.0 Prior to Construction Task List (PRE)

Prior to construction of the facility, complete the activities in Sections 2.1 and 2.2.

2.1 Secure access to fire protection and emergency services (PRE):

To ensure there is adequate capacity to respond to emergencies at the site, the certificate holder, prior to beginning construction of the facility, shall provide evidence to the Department demonstrating that:

- The facility has been annexed to CVRFPD's service territory, or that certificate holder has executed a contract with CVRFPD to provide structural fire-response services at the site; and

- The certificate holder has enrolled as a member of the High Desert Rangeland Fire Protection Association (RFPA) and coordinated with the RFPA to provide fire protection and response to the site as described Section 3.1.

- The certificate holder has notified the Lake County Sheriff's Office of the facility location, including access roads used, the facility size, estimated staffing on-site daily, and any potential service needs from the Sheriff's Office.

- The certificate holder has retained emergency medical technicians to be on site to arrange for any necessary medical transport during construction.

- The certificate holder has consulted with local fire officials regarding design criteria for all fire access roads to ensure compliance with Oregon Fire Code Chapter 503.

2.2 Training (PRE):

Before beginning construction, the certificate holder will hold an on-site training for on-site contractors and construction personnel. The certificate holder will invite specialty contractors, local fire departments, the Lake County Sheriff's Office, participating and adjacent landowners, emergency management office personnel, ODOE, and any other emergency management agency. The training will cover:

- Description of construction phasing;
- The type, location, and proper use of fire protection equipment;
- Fire protection equipment usage and maintenance requirements;
- The location(s) of water source(s) and proper usage, storing and maintenance for fire suppression equipment;
- 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;
- 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) or, alternatively, monitor and contain the fire until it burns itself out, as appropriate.

During the training the certificate holder will provide information about 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 the Department confirms the letter to be sufficient, the certificate holder will mail it to each residence within the 0.5 mile analysis area. The certificate holder will confirm mailing and submit to Department.

2.3 Facility Site Map(s) Submission (PRE):

Submit updated site maps from Section 3.2 concurrently to local fire departments and the Department.

3.0 Construction Wildfire Mitigation Plan (CON)

3.1 Summary of Facility Description with Design Features and Location of Fire Protection Equipment

Through its participation in the High Desert RFPA, the certificate holder and other RFPA members have access to wildland fire suppression equipment. The following equipment will be stored [at the

eastern site access gate just off Oil Dri Road and/or off Connley Lane near the site of the GSU:] [location(s) TBD]

- XX
- XX
- XX

To reduce the risk of fire from and to the facility during construction, the facility will be designed as follows:

- Perimeter fire break within the fence line will have a 30-foot wide vegetation-free zone to act as fire breaks and internal access roads will be 12-feet wide and maintained to act as fire breaks and allow for access by emergency vehicles. Access roads will be designed and surfaced to allow all-season access by fire-trucks and other emergency vehicles in compliance with Oregon Fire Code Chapter 503, or as otherwise authorized by the fire code official pursuant to Oregon Fire Code 503.1.1(2) pertaining to solar photovoltaic power generation facilities.
- The Facility will have signage that includes safety information at all entrances to the Facility for emergency responders to identify the location of water supplies and other fire protection equipment.

3.2 Facility Site Map(s):

This Construction WMP includes facility site maps that identify:

- The phasing for construction of facility features and components;
- Location and dimensions of facility roads;
- Location of vegetation free, noncombustible, defensible spaces;
- Wildfire risk at the site;
- High-fire consequence areas/resources (includes existing infrastructure, residences, sensitive habitat, or cultural resources)
- 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 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 location(s) of water source(s) that will be on-site during construction.

3.3 Specifications for Fire Protection Equipment

The following fire suppression equipment will be carried in vehicles conducting work at the site and stored on-site at the O&M building at all times:

- 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 10 inches wide;
- Collapsible Pail or Backpack Pump: 5-gallon capacity; and
- Drip Can: 5-gallon capacity.

During fire season (designated Fire Season or June to October each year) 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 to provide 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

Call 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.

In the event of an emergency at the site, the certificate holder's primary contact and contact of construction contractor manager(s) is:

- X
- X

Contacts for fire, police protection, and emergency service providers are provided in the table below. Workers with minor injuries will be treated on site or transported by vehicle to La Pine Community Health Center in the community of Christmas Valley. Patients with moderate injuries will be transported by vehicle to St. Charles Medical Center in Bend. For severe injuries, the certificate holder may use the services of the Air Ambulance to transport patients to Bend

Service Provider (w Notes)	Location/Distance from Facility	Contact Info
Law Enforcement		
Lake County Sheriff – Main Office	513 Center Street Lakeview, Oregon 97630	Main Phone: (541) 947-6027 Lake County Dispatch: (541) 273-6955 General Information: heversole@co.lake.or.us Daniel Tague, Sheriff: dtague@co.lake.or.us
Lake County Sherrif – Christmas Valley Substation	87127 Christmas Valley Hwy, Christmas Valley, OR 97641	Phone: (541) 576-2781
Oregon State Police – Southern Command Center		**Dial *OSP or *677 from mobile or call (800) 442-2068** **General Information:** ask.osp@osp.oregon.gov
Fire Protection		
Christmas Valley Rural Fire Protection District	58733 Holly Lane Christmas Valley, OR 97641	Phone: (541) 977-0627
High Desert Rangeland Fire Protection Association (RFPA)	High Desert RFPA PO Box 34 Summer Lake Oregon 97640	Kevin Leehmann, Chair Phone: 541-408-0919 Email: k_leehmann@hotmail.com Doug White, Communications and Dispatch Phone: 541-517-4926 Email: white.dougw.doug@gmail.com
Medical Providers		
North Lake County Emergency Medical Services	87391 Holly Lane Christmas Valley, OR 97641	Phone: (541) 576-2759
REACH Air Ambulance	Lands at Christmas Valley Airport	Phone **800.338.4045**
La Pine Community Health Center – No urgent care available at this facility	87520 Bay Rd, Christmas Valley, OR 97641	Phone: (541) 576-2343
St. Charles Health System Hospital – Level II Trauma Center	2500 NE Neff Rd, Bend, OR 97701	Phone: (541) 382-432

Maintain a list of residence addresses within the site boundary and 0.5 miles from the site boundary (the analysis area).

Residence/landowner outreach letter is provided as Attachment 1 of this WMP. Provide this letter to new or updated residences with the analysis area as designated in Section 4.0, Plan Updates and Reporting Requirements.

3.5 Use of Vehicles and Power Driven Machinery at Site

Best management practices (BMPs) to minimize fire risk from vehicle travel, equipment use, and fueling activities will be implemented at the site during construction. BMPs may include the following:

- The movement of vehicles will be planned and managed to minimize fire risk.
- The contractor(s) 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. 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.
- The contractor(s) 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.

3.6 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.

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, including use of power mowers with metal blades and similar vegetation management activities.

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 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 (or contain and monitor during burn out), consistent with firefighting training and safety.

Fire-Prevention Measures and Restrictions Associated with Fire Season:

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.

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, the Technician in charge 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 non-combustible 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 non-combustible 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	Check for fire weather advisory daily before work begins.	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	Not Permitted	Not Permitted

Table 1: Fire Prevention Measures During Fire Season Summary

Requirement	Non-Fire Season	Fire Season	Fire Weather Watch	Red Flag Warning
		for 60 minutes after completion		
Vegetation Management	Follow SOLV Vegetation Management and Fire Prevention Plan	Follow SOLV Vegetation Management and Fire Prevention Plan	Follow SOLV Vegetation Management and Fire Prevention Plan	Follow SOLV Vegetation Management and Fire Prevention Plan
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 3.5.	As described in Section 3.5.	Only permitted on roads or on non-combustible surfaces and Section 3.5.	Only permitted on roads or on non-combustible surfaces and Section 3.5.
Smoking	Designated areas only	Designated areas only	Not permitted	Not permitted

3.7 Vegetation Management

3.7.1 Vegetation-free, Noncombustible Space, and Vegetation Standards

Certificate holder and contractor(s) will maintain vegetation within the Site Boundary in accordance with the approved Revegetation and Reclamation Plan for the facility. Certificate holder will also maintain a defensible space clearance along Facility features. Vegetation in work areas, if not removed, 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. 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.

During construction clearing, grubbing and grading, the Contractor will create a vegetation-free, noncombustible space, or gravel surface for at least 30 feet around perimeter of facility. In addition, vegetation on the 12-foot wide access roads within solar arrays and around other facility features will be managed by mechanical and/or chemical control of vegetation and other combustible material.

3.7.2 Safety Training

Once a year after construction begins, organize and hold an on-site training with certificate holder and construction 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 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 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 construction activities during Fire Season, Fire Weather Watches, and Red Flag Warnings designated in this Plan;
- 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) or, alternatively, monitor and contain the fire until it burns itself out, as appropriate.
- Provide information and encourage attendees County's emergency management notification system.

4.0 Plan Updates: Amendments and Reporting Requirements:

The following will be provided to the Department in the semi-annual construction 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.
- A copy of the Fire Season Restriction Log identified in Section 3.6.
- 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 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.

Attachment 1: Residence/Landowner Outreach Letter

Contents

Draft Operational Wildfire Mitigation Plan

ODOE Template

1.0 Finalizing Wildfire Mitigation Plan Prior to Operation (PRO)

1.1 Update Applicable Sections of WMP

To finalize this WMP prior to operation of the facility:

Update Section 3.1 based on final facility design including a brief description of areas within the site that are subject to high wildfire risk, fire prevention features at the site, such as road dimensions, setbacks, fire breaks, entry/exit locations, water truck(s) and fire protection equipment locations. Describe fire detection, fire suppression, and emergency shut off systems that will be activated in the event of a fire.

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. 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 Revegetation 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 the facility begins commercial operations, the certificate holder will hold an on-site training with operational personnel, inviting equipment manufacturers, specialty contractors, local fire department(s), the Lake County Sheriff's Office. 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; 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).
    - Monitoring a fire through burn out (where and when appropriate)
- 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 it to each residence within the 0.5 mile analysis area. The 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 departments and the Department.

3.0 Operational Wildfire Mitigation Plan (OPR)

3.1 Summary of As-Built Facility Description with Design Features and Location of Fire Protection Equipment

Include summary and description of areas within the site that are subject to high wildfire risk, fire prevention features at the site, such as road dimensions, setbacks, fire breaks, entry/exit locations, and water truck(s) and fire protection equipment locations. Describe fire detection, fire suppression, and emergency shut off systems that will be activated in the event of a fire.

Through its participation in the High Desert RFPA, the certificate holder and other RFPA members have access to wildland fire engines and fire suppression equipment. The following equipment will be stored[at the eastern site access gate just off Oil Dri Road and/or off Connley Lane near the site of the GSU]:

- XX
- XX
- XX

The facility was designed with the following features to reduce the risk of fire from and to the facility:

- A 30-foot vegetation-free buffer zone around the Facility perimeter to act as fire breaks.
- Internal access roads that are 12-feet wide and maintained to act as fire breaks and allow for access by emergency vehicles. Access roads to collector substation sites are designed and surfaced to allow all-season access by fire-trucks and other emergency vehicles in compliance with Oregon Fire Code Chapter 503.
- Signs are posted at all facility entrances with information to assist emergency responders to identify the location of water supplies, other fire protection equipment, system disconnects, electrical conduits, and to identify how to isolate and shutdown electrical power coming from the PV array.

- All facility electrical equipment meets all applicable National Electric Code and Institute of Electrical and Electronics Engineers standards.
- The facility is electronically monitored through a supervisory and data acquisition (SCADA) system. The SCADA system is programmed with various multi-level priority alarms for electrical hazards, fire, and other operational issues. The SCADA notifies persons of alarms based on the priority. For a high priority alarm, for example, the SCADA provides notice via email or SMS to all operators, operational managers, and asset managers. The facility operator is immediately notified of all alerts.

3.2 Facility Site Map(s):

This Operational WMP includes facility site maps that identify:

- Location and dimensions of facility roads;
- 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;
- 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;
- The type and location of fire protection equipment on site;
- The location(s) of water source(s) that will be on-site during operations.

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 (designated Fire Season or June to October each year) 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

Call 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.

In the event of an emergency at the site, the certificate holder's primary contact and contact of operational manager(s) is:

- X
- X

Contacts for fire, police protection, and emergency service providers are provided in the table below. Workers with minor injuries will be treated on site or transported by vehicle to La Pine Community Health Center in the community of Christmas Valley. Patients with moderate injuries will be transported by vehicle to St. Charles Medical Center in Bend. For severe injuries, the certificate holder may use the services of the Air Ambulance to transport patients to Bend.

Service Provider (w Notes)	Location/Distance from Facility	Contact Info
Law Enforcement		
Lake County Sheriff – Main Office	513 Center Street Lakeview, Oregon 97630	Main Phone: (541) 947-6027 Lake County Dispatch: (541) 273-6955 General Information: heversole@co.lake.or.us Daniel Tague, Sheriff: dtague@co.lake.or.us
Lake County Sherrif – Christmas Valley Substation	87127 Christmas Valley Hwy, Christmas Valley, OR 97641	Phone: (541) 576-2781

Service Provider (w Notes)	Location/Distance from Facility	Contact Info
Oregon State Police – Southern Command Center		**Dial *OSP or *677 from mobile or call (800) 442-2068** **General Information:** ask.osp@osp.oregon.gov
Fire Protection		
Christmas Valley Rural Fire Protection District	58733 Holly Lane Christmas Valley, OR 97641	Phone: (541) 977-0627
High Desert Rangeland Fire Protection Association (RFPA)	High Desert RFPA PO Box 34 Summer Lake Oregon 97640	Kevin Leehmann, Chair Phone: 541-408-0919 Email: k_leehmann@hotmail.com Doug White, Comunications and Dispatch Phone: 541-517-4926 Email: white.dougw.doug@gmail.com
Medical Providers		
North Lake County Emergency Medical Services	87391 Holly Lane Christmas Valley, OR 97641	Phone: (541) 576-2759
Air Ambulance	Lands at Christmas Valley Airport	
La Pine Community Health Center – No urgent care available at this facility	87520 Bay Rd, Christmas Valley, OR 97641	Phone: (541) 576-2343
St. Charles Health System Hospital – Level II Trauma Center	2500 NE Neff Rd, Bend, OR 97701	Phone: (541) 382-432

Residence/landowner outreach letter is provided as Attachment 1 of this WMP. The certificate holder will 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.

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.

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, including use of power mowers with metal blades and similar vegetation management activities.

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, the Technician in charge 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	Check for fire weather advisory daily before work begins.	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.

Table 1: Fire Prevention Measures During Fire Season Summary

Requirement	Non-Fire Season	Fire Season	Fire Weather Watch	Red Flag Warning
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
Vegetation Management	Follow SOLV Vegetation Management and Fire Prevention Plan	Follow SOLV Vegetation Management and Fire Prevention Plan	Follow SOLV Vegetation Management and Fire Prevention Plan	Follow SOLV Vegetation Management and Fire Prevention Plan
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.
Smoking	Designated areas only	Designated areas only	Not permitted	Not permitted

3.6 Vegetation Management

3.6.1 Vegetation-free, Noncombustible Space

Certificate holder and contractor(s) will maintain vegetation within the Site Boundary in accordance with the approved Revegetation and Reclamation Plan for the facility. Certificate holder will also maintain a defensible space clearance along Facility features. Vegetation in work areas, if not removed, 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. 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.

During construction clearing, grubbing and grading, the Contractor will create a vegetation-free, noncombustible space, or gravel surface for at least 30 feet around perimeter of facility. In addition, vegetation on the 12-foot wide access roads within solar arrays and around other facility features will be managed by mechanical and/or chemical control of vegetation and other combustible material.

Design features to reduce the risk of fire from and to the facility:

- A 30-foot vegetation-free buffer zone around the Facility perimeter to act as fire breaks.
- Internal access roads that are 12-feet wide and maintained to act as fire breaks and allow for access by emergency vehicles. Access roads to collector substation sites are designed and surfaced to allow all-season access by fire-trucks and other emergency vehicles in compliance with Oregon Fire Code Chapter 503.
- Signs are posted at all facility entrances with information to assist emergency responders to identify the location of water supplies, other fire protection equipment, system disconnects, electrical conduits, and to identify how to isolate and shutdown electrical power coming from the PV array.
- All facility electrical equipment meets all applicable National Electric Code and Institute of Electrical and Electronics Engineers standards.
- The facility is electronically monitored through a supervisory and data acquisition (SCADA) system. The SCADA system is programmed with various multi-level priority alarms for electrical hazards, fire, and other operational issues. The SCADA notifies persons of alarms based on the priority. For a high priority alarm, for example, the SCADA provides notice via email or SMS to all operators, operational managers, and asset managers. The facility operator is immediately notified of all alerts.

3.6.2 Vegetation Standards, Surveys and Management

Certificate holder and contractor(s) will maintain vegetation within the Site Boundary in accordance with the approved Revegetation and Reclamation Plan for the facility. Certificate holder will also maintain a defensible space clearance along Facility features. Vegetation in work areas, if not removed, 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. 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, Revegetation Plan, Soil Reclamation Plan and Noxious Weed 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 Revegetation 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 checklists 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 or per manufacturer's recommendations	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 or per manufacturer's recommendations	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		Manufacturer's maintenance recommendations	• 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
	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.				Results: Notes:	Results: Notes:
Solar Array Structures	• Perform visual inspection of mounting structures, grounding, and cabling.		Manufacturer's maintenance recommendations	Per manufacturer's recommendations	Date: Personnel:	Date: Personnel:
					Results: Notes:	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	Per manufacturer's recommendations	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: 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:	Date: Personnel:
					Results: Notes:	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)	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
	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:
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	Per manufacturer's recommendations	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	• Plant equipment will be evaluated every 5 years to		Manufacturer's	Upgrade, repair, or replace every	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
and Data Acquisition (SCADA) & Network Equipment	determine state of health and provide recommendations to Savion.		maintenance recommendations	5 years or per manufacturer's recommendations	Personnel: Results: Notes:	Personnel: Results: Notes:
BESS Junction Box/ Auxiliary System/Miscellaneous	• Auxiliary equipment maintenance and inspection. • Enclosure dust removal. • Inspect cable entry, grounding, sealing, dust removal. • Critical sensor calibration check. • Maintenance report.		Manufacturer's maintenance recommendations	Per manufacturer's recommendations	Date: Personnel: Results: Notes:	Date: Personnel: 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	Per manufacturer's recommendations	Date: Personnel: Results: Notes:	Date: Personnel: 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	Per manufacturer's recommendations	Date: Personnel: Results: Notes:	Date: Personnel: Results: Notes:
BESS Thermal Management System	• Coolant tester visual inspection.		Manufacturer's maintenance recommendations	Per manufacturer's recommendations	Date: Personnel: Results: Notes:	Date: Personnel: Results: Notes:
BESS General	• System configuration check.		Manufacturer's maintenance recommendations	Per manufacturer's recommendations	Date: Personnel: Results:	Date: Personnel: Results:

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
					Notes:	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 and control panel. • Perform visual inspection of bushings for indications of local heating, oil leaks, proper oil level and indication of contaminants.		SPCC Plan[3] Manufacturer's maintenance recommendations	Repair, overhaul, refurbish, or replace per manufacturer's recommendations	Date: Personnel:	Date: Personnel:
					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:

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
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. 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

Each year, the certificate holder will 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, 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).

    - Monitor and control fire to burn out (when and as appropriate)
- 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

This WMP will be updated annually and results will be provided to the Department in the annual report required per OAR 345-026-0080. Updates to this WMP will include:

- 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.Changes in wildfire risk if different from the Site Plan provided prior to operations. Evaluation of wildfire risk will be consistent with the requirements of OAR 345-022-0115(1) using current data from reputable sources.

Identify 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.

This information 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.

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 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	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
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	The applicant 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
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 applicant 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
APLIC	Avian protection methods for electrical facility reduce fires related to bird/mammal nests on electrical equipment.	The applicant is a member of APLIC[3]. An operational wildlife monitoring program will inspect for wildlife nesting on facilities that could cause

Table 3: Standards for Future Review

Reference	Description	Method
		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 applicant 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 applicant will maintain
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:		

Attachment 1: Residence/Landowner Outreach Letter

Noise Analysis

Obsidian Solar Center

January 2025

Prepared by:

Michael Minor & Associates
Portland, Oregon

Contents

Tables

Figures

Attachments

1. Introduction

This noise analysis was prepared at the request of Obsidian Solar Center LLC and its environmental consultant, Ecology and Environment, Inc. Obsidian Solar Center LLC proposes to construct the Obsidian Solar Center (the facility) in Lake County, Oregon. This report was prepared to demonstrate compliance with the Oregon Department of Environmental Quality (DEQ) noise regulations in OAR 340-035-0035. This report provides an analysis of noise emissions from the proposed facility during operation and compares them to the allowable limits in OAR 340-035-0035 to demonstrate compliance with DEQ regulations and the Oregon Energy Facility Siting Council (EFSC) requirements related to noise in OAR 345-021-0010(1).

1.1. Project Description

Obsidian Solar Center LLC proposes a photovoltaic (PV) solar power generation facility and related or supporting facilities located in Lake County, Oregon. The facility will consist of up to approximately 4,000 acres and provide a nominal alternating current generating capacity of up to 400 megawatts. This analysis is for the proposed full build-out of the PV modules and battery storage layout option (with battery enclosures dispersed across the facility).

Figure 1 provides a facility location overview. More information on facility construction and operations, locations of noise producing equipment, and locations of noise sensitive properties are provided in the following sections.

1.2. Introduction to Noise

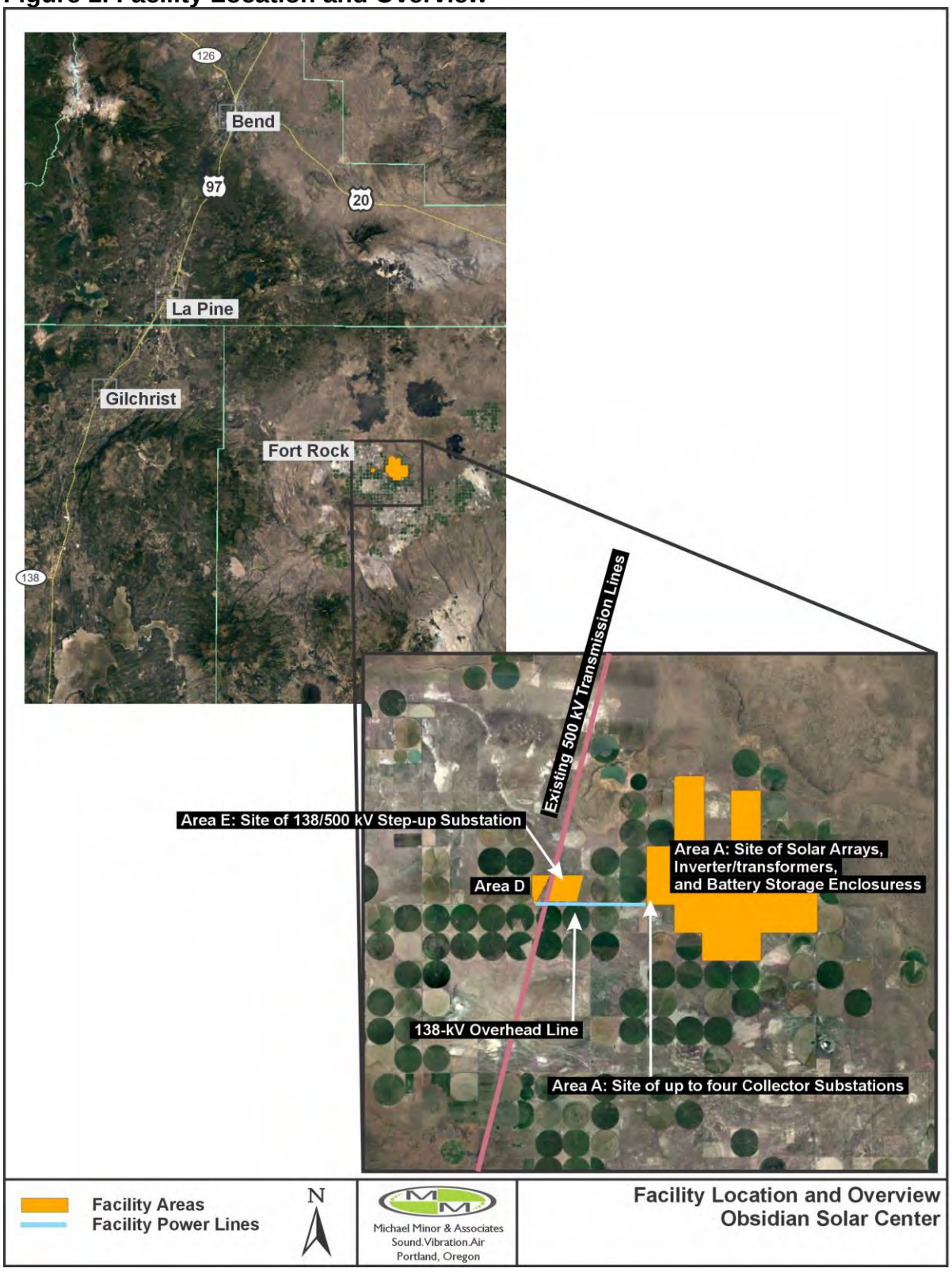
The human response to sound is subjective and can vary greatly from person to person. Factors that can influence individual response include the loudness, frequency, amount of background noise present, and nature of the work or activity (e.g., sleeping) and time. When sounds become unpleasant, or are unwanted, we tend to classify them as noise.

Noise is measured in terms of sound pressure level. It is expressed in decibels (dB), which are defined as 10 log P^2/P^2ref, where P is the root-mean-square (RMS) sound pressure and P_{ref} is the reference RMS sound pressure of 2 x 10^{-5} Newton per square meter. In general, the dB scale is a logarithmic conversion of absolute air pressure to units that are more convenient and easier to understand.

To better approximate the sensitivity of the human ear to sounds of different frequencies, the A-weighted decibel scale was developed. Because the human ear is less sensitive to higher and lower frequencies, the A-weighted scale reduces the sound level contributions of these frequencies. When the A-weighted scale is used, the decibel levels are denoted as dBA.

All noise levels referred to in this report are stated as sound pressure levels in terms of decibels on the A-scale (dBA). The A-scale is used in most ordinances and standards, including the applicable standards for this facility.

Figure 1. Facility Location and Overview



A 10-dBA increase in noise levels is judged by most people as a doubling of sound level. The smallest change in noise level that a human ear can perceive is about 3 dBA and increases of 5 dBA or more are clearly noticeable. Normal conversation ranges between 44 and 65 dBA when speakers are 3 to 6 feet apart. Noise levels in a quiet rural area at night are typically between 30 and 35 dBA. Quiet urban nighttime noise levels range from 40 to 50 dBA. Noise levels during the day in a noisy urban area are frequently as high as 70 to 80 dBA. Noise levels above 110 dBA become intolerable and then painful, while levels higher than 80 dBA over continuous periods can result in hearing loss. Table 1 provides a scale of common noise sources and typical public responses.

Table 1. Sound Levels and Relative Loudness of Typical Noise Sources

Noise Source or Activity	Sound Level (dBA)	Subjective Impression	Relative Loudness (human judgment of different sound levels)
Jet aircraft takeoff from carrier (50 feet)	140	Threshold of pain	64 times as loud
50-hp siren (100 feet)	130		32 times as loud
Loud rock concert near stage, Jet takeoff (200 feet)	120	Uncomfortably loud	16 times as loud
Float plane takeoff (100 feet)	110		8 times as loud
Jet takeoff (2,000 feet)	100	Very loud	4 times as loud
Heavy truck or motorcycle (25 feet)	90		2 times as loud
Garbage disposal, food blender (2 feet), Pneumatic drill (50 feet)	**80**	**Moderately loud**	**Reference loudness**
Vacuum cleaner (10 feet), Passenger car at 65 mph (25 feet)	70		1/2 as loud
Large store air-conditioning unit (20 feet)	60		1/4 as loud
Light auto traffic (100 feet)	50	Quiet	1/8 as loud
Bedroom or quiet living room, Bird calls	40		1/16 as loud
Quiet library, soft whisper (15 feet)	30	Very quiet	
High quality recording studio	20		
Acoustic Test Chamber	10	Just audible	
	0	Threshold of hearing	

Sources: Beranek (1988) and EPA (1971)

1.3. Noise Level Descriptors

To account for the time-varying nature of noise, several noise metrics are useful. Commonly used noise descriptors include the Lmax, Lmin, Leq, and Lxx. The Lmax and Lmin are the greatest and smallest RMS (root-mean-square) sound levels, in dBA, measured during a specified measurement period. The equivalent sound pressure level (Leq) is defined as the average noise level, on an energy basis, for a stated time period (for example, hourly).

The sound level descriptor Lxx is defined as the sound level exceeded "XX" percent of the time. This description is one of the main noise level descriptors applicable to this facility, and is used in the DEQ noise regulations.

Three common examples of the Lxx include:

- L01: The sound level exceeded 1 percent of the time. This is a measure of the loudest sound levels during the measurement period. Example: During a 1-hour measurement, an L1 of 75 dBA means the sound level was 75 dBA or louder for 0.6 minutes, or 36 seconds.
- L10: The sound level exceeded 10 percent of the time. This is a measure of the louder sound levels during the measurement period. Example: During a 1-hour measurement, an L10 of 60 dBA means the sound level was 60 dBA or louder for 6 minutes.
- L50: The sound level exceeded 50 percent of the time. Example: During a 1-hour measurement, an L50 of 55 dBA means the sound level was 55 dBA or louder for 30 minutes.

1.4. Decibel Mathematics

An important factor to recognize is that noise is measured on a decibel scale, and combining two noises is not achieved by simple addition. For example, combining two 60 dB noises does not give 120 dB (which is near the pain threshold), but yields 63 dB, which is lower than the volume at which most people listen to their televisions. For reference, if two noise sources are 10 dB apart, for example, 50 dB and 60 dB, the sum of the two noise levels will simply be the louder of the two, in this case 60 dB. This is to say that for similar noise sources that are 10 dB apart in magnitude, a person would only be able to hear the louder of the two sources.

Examples of simplified decibel addition, based on the difference between the two levels, are provided below for reference, as they will aid in the understanding of the facility noise impact analysis.

Difference between the two noise sources	Amount added to the higher of the two noise levels
0 to 1 dB	3 dB
2 to 3 dB	2 dB
4 to 9 dB	1 dB
10 dB or more	0 dB

2. Regulations

Regulations applicable to the operation of the proposed facility are taken from the DEQ Noise Control Regulations in OAR 340-35-0035, and EFSC requirements related to noise in OAR 345-021-0010(1).

2.1. Oregon DEQ Noise Control Regulations

DEQ Noise Control Regulations are applicable at noise sensitive properties. OAR 340-35-0015(38) defines a noise-sensitive property as property normally used for sleeping (e.g., residences) and also includes properties used for schools, churches, hospitals, or public libraries. Industrial or agricultural property use is not considered noise sensitive unless it includes one or more of the noise sensitive buildings described above.

The regulations are applicable at appropriate measurement locations. The appropriate measurements location on a noise sensitive property is defined in OAR 340-35-0035(3)(b), and is the farthest of the following two points:

1. Twenty-five feet toward the noise source from that point on the noise sensitive building that is nearest to the noise source; or
2. The point on the noise sensitive property line that is nearest the noise source.

The primary applicable noise regulation used for this analysis are taken from OAR 340-035-0035(1)(b)(B)(i*)*, which states: *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 below in Table 8, as measured at an appropriate measurement point, as specified in subsection (3)(b) of this rule* . The appropriate measuring points are defined above. Table 2 provides the levels specified in "Table 8" from the DEQ regulations.

Table 2. DEQ New Industrial and Commercial Noise Source Standards

Statistical Descriptor	New Noise Source (dBA)	
	7 am – 10 pm	10 pm – 7 am
L1	75	60
L10	60	55
L50	55	50

Source: OAR 340-035-0035, Table 8.

OAR 340-035-0035 further limits existing industrial noise sources that can be described as impact or impulse noise (e.g., blasting) as well as audible discrete tones or tonal noise. Impulse sounds are limited to 100 dB, peak response, between the hours of 7 am and 10 pm and 80 dB, peak response, between the hours of 10 pm and 7 am Tonal noise limits are

established based on allowable octave band sound pressure levels in the range of frequencies between 31.5 and 8,000 hertz (Hz) as shown in Table 3.

Table 3. DEQ Median Octave Band Standards for Industrial and Commercial Noise Sources

Octave Band Center Frequency, Hertz (Hz)	Allowable Octave Band Sound Pressure Levels (dB)	
	7 am – 10 pm	10 pm – 7 am
31.5	68	65
63	65	62
125	61	56
250	55	50
500	52	46
1000	49	43
2000	46	40
4000	43	37
8000	40	34

Source: OAR 340-035-0035, Table 10.

Warning devices are exempt from OAR 340-035-0035 if not continuously operated for more than 5 minutes. Noise from construction sites and sounds created during construction or maintenance of capital equipment are also exempt from the OAR noise regulations.

2.2. EFSC Regulations Related to Noise

EFSC regulations related to noise in OAR 345-021-0010(1)(l) and (t) pertain to impacts on areas that meet EFSC criteria for protected areas and important recreational opportunities, respectively. OAR 345-021-0010(1)(l) requires information about the proposed facility's impact on nearby protected areas, providing evidence to support a finding by the Council as required by OAR 345-022-0040, including a description of significant potential impacts from noise resulting from facility construction or operation of the proposed facility, if any. OAR 345-021-0010(1)(t) requires information about the proposed facility's impact on nearby important recreational opportunities, providing evidence to support a finding by the Council as required by OAR 345-022-0100. Under both standards, EFSC 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 on protected areas and important recreational opportunities. Unlike DEQ's standard, which does not apply to construction phase activities, EFSC's standards apply to both construction and operation.

3. Existing Conditions

The land use in the area is mainly undeveloped and farmlands. The facility area was investigated using aerial photos and on-site inspections, and 20 residential structures were identified within approximately 1 mile of the facility. Additionally, Lake County was contacted to determine if any permits for noise sensitive properties were issued or in the process of being issued, and none were identified. There are three new or previously unidentified properties that are included in this noise study that were not in the previous 2019 version. Some residences identified are located on farmlands and are associated with farm operations. Per OAR 340-035-0015(38), these are evaluated as noise sensitive properties.

There are few existing noise sources in this area. Some of the major noise sources include farming activities, including tractors, irrigation and general maintenance, infrequent traffic along the area roadways, wildlife, and wind. Due to the close proximity of some noise sensitive properties to the proposed facility, existing ambient noise monitoring was conducted to establish the existing noise environment, with the purpose of demonstrating compliance with the allowable increase criteria provided in OAR 340-035-0035(1)(b)(B)(i).

3.1. Existing Ambient Noise Levels

Monitoring was conducted to establish the existing ambient noise levels in the study area to assure compliance with the allowable 10 dB increase in the L10 and L50 criteria. Previous studies for similar solar facilities have rarely identified non-compliances with the DEQ standards due to the inherently low noise levels from typical solar PV system operation. For this analysis, a study area of approximately 1 mile from the facility boundary was used and all noise sensitive properties within the 1 mile study area were analyzed. One additional noise sensitive property southwest of the site boundary, approximately 1.1 miles away, was also included in the study.

Two sites were selected for ambient noise monitoring: sites M-1 and M-2. Site M-1 is near a cluster of residences located just east of the solar array and west of the existing 500-kilovolt (kV) transmission line. Due to the limited number of residences, and very low volumes of traffic, site M-1 is representative of all residences in this immediate area. Site M-2 is to the north of the solar array, in an area with even fewer residences and lower traffic volumes than the area of M-1. This monitoring site was used to represent residences in the north and east sections of the study area.

Equipment used for the noise measurements were Bruel & Kjaer Type 2238 sound level meters. The sound level meters meet or exceed American National Standards Institute (ANSI) S1.4-1983 for Type 1 Sound Measurement Devices. All measurement procedures complied with those procedures adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1) from the DEQ, and more recent methods from the ANSI procedures for community noise measurements. System calibration was performed before and after each measurement session with a Bruel & Kjaer Type 4231 sound level calibrator. The meters are calibrated by an accredited laboratory on an annual basis.

The noise monitoring was performed on July 5 through July 7, 2018, using two systems, and performing monitoring at both sites simultaneously. Weather was clear, and there was no precipitation during the measurement period.

Figure 2 provides an overview of the facility showing the locations of facility related equipment, noise sensitive properties (residences), and the two noise monitoring sites. Figures 3 and 4 provide photos of the monitoring equipment placement.

Figure 2. Facility Layout, Residences and Noise Monitoring Locations

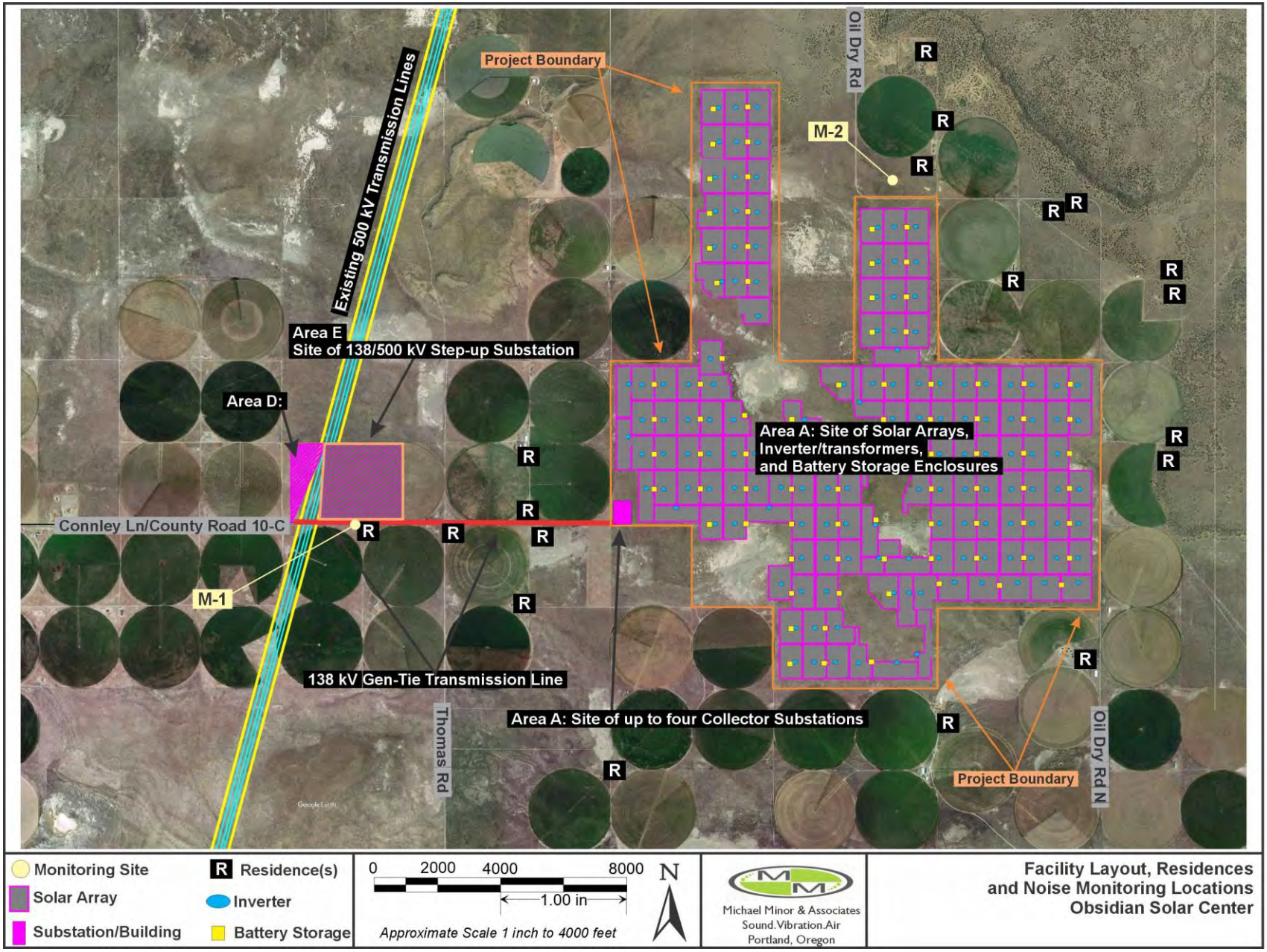


Figure 3. Photos of Monitoring Site M-1

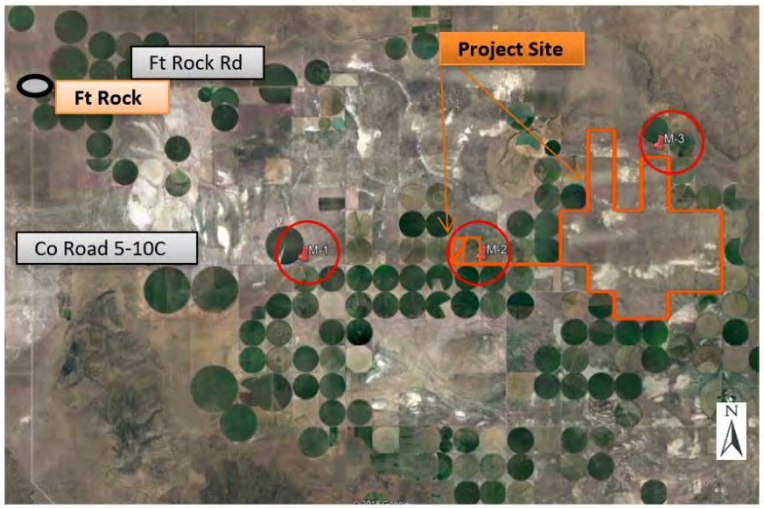


Photo 1: Aerial View

Photo 2: Looking East

Photo 3: Looking West

Photo 4: Looking South East

Monitoring Location M-1
County Road 5-10C;
1300 feet from County Rd 5-10 Intersection

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Obsidian Solar Noise Study
Noise Monitoring Site Photos

Figure 4. Photos of Monitoring Site M-2

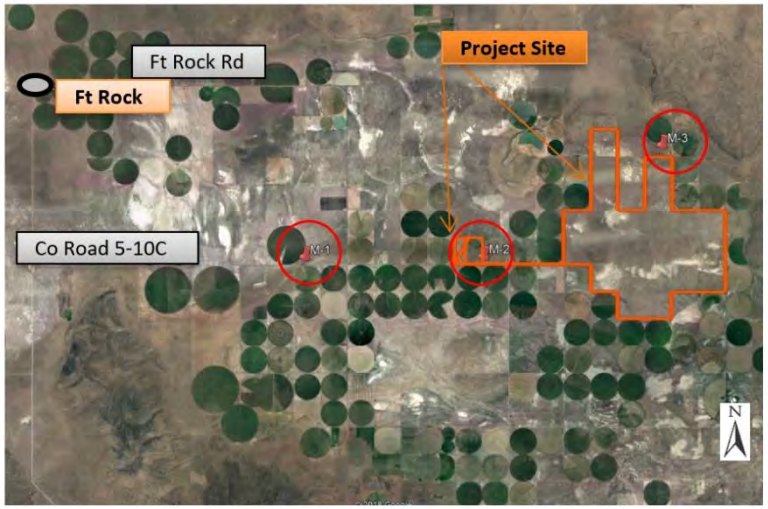

Photo 1: Aerial View

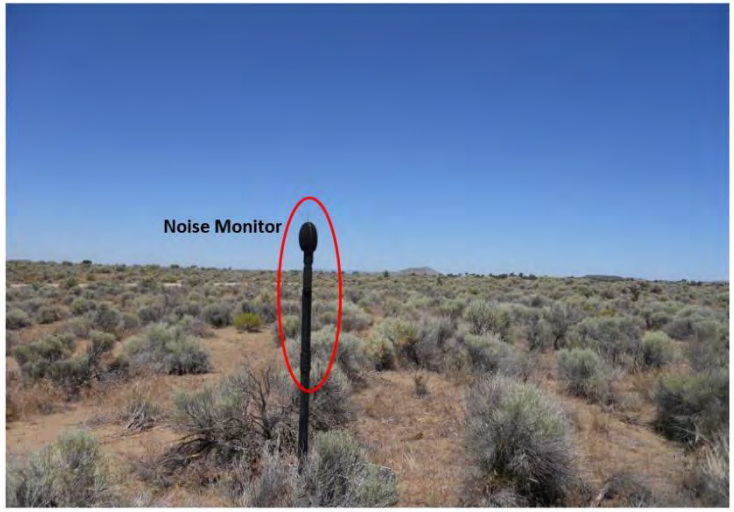

Photo 2: Looking North West

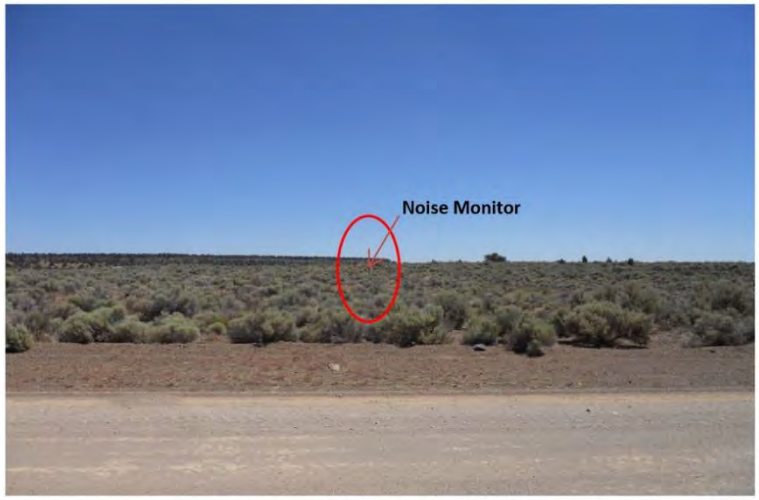

Photo 3: Looking North (from roadway)

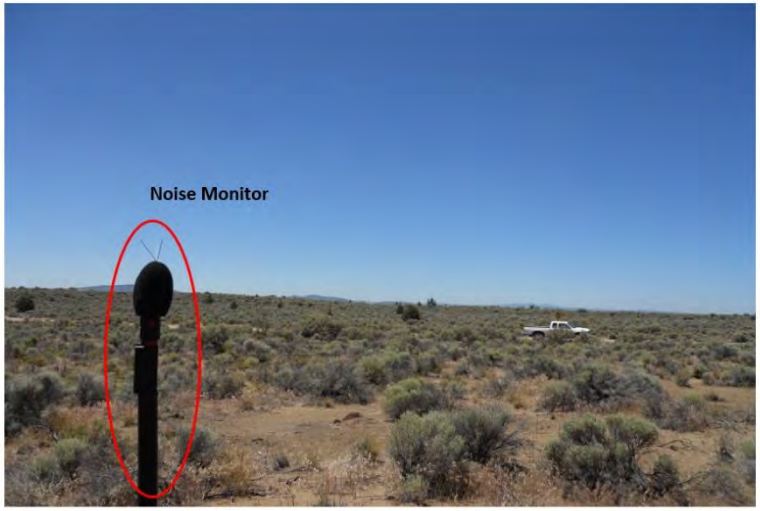

Photo 4: Looking South

Monitoring Location M-2
Oil Dry Rn N at County Road 5-12

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Obsidian Solar Noise Study
Noise Monitoring Site Photos

The overall measured L10 from both sites ranged 20 to 54 dBA, while the L50 ranged from 20 to 47 dBA. The average measured L10 was 38 dBA and the average L50 was 32 dBA. These are very low ambient noise levels and are typically only found in very rural areas far away from any arterial roadways, highways, or other main transportation noise source, commercial or industrial land use.

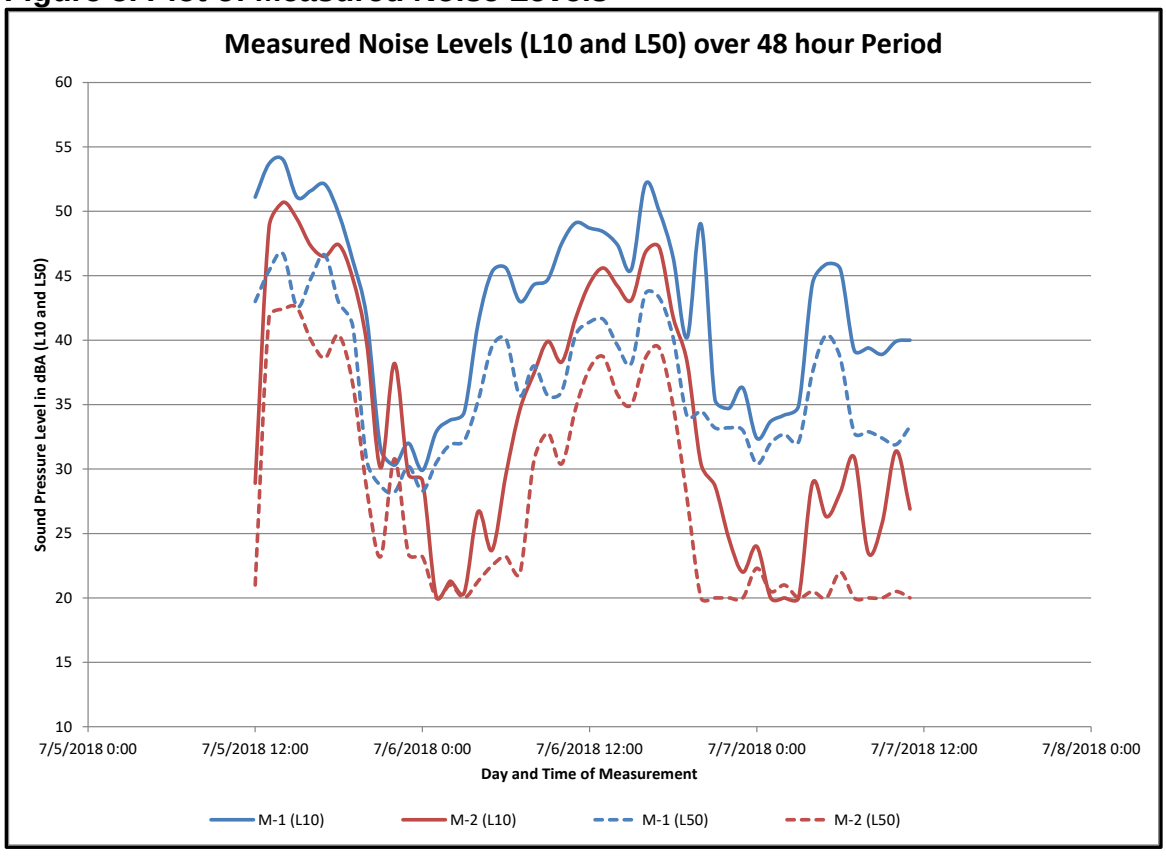
Noise levels measured at site M-1 ranged from 30 to 54 dBA L10, with an average L10 of 42 dBA. The L50 at M-1 ranged from 28 to 47 dBA, with an average of 37 dBA. Noise levels measured at site M-2 ranged from 20 to 51 dBA L10, with an average L10 of 34 dBA. The L50 at M-1 ranged from 20 to 43 dBA, with an average of 28 dBA. Table 4 provides the minimum (lowest) L10 and L50 values taken over the measurement period. Figure 5 is a plot of the L10 and L50 as measured over the 48 hours period. Tables with the complete L10, L50 and Leq measurements are provided in Attachment C for reference.

Table 4. Summary of Measured Minimum Background Noise Levels

Monitoring Site	L10 (dBA)	L50 (dBA)
M-1	30	28
M-2	22	20

Note: Measured noise levels are provided in Attachment C.

Figure 5. Plot of Measured Noise Levels



4. Facility Operation Equipment and Analysis Methods

There are several different pieces of equipment required for the operation of this type of facility. Much of the equipment will not produce any noise; however, some equipment, including inverters, transformers, battery/energy storage units, and transmissions lines have the potential to produce noise that could be noticeable over short distances off-site. Table 5 lists the sound power levels representing the standard performance of each of these components. The sound power levels are assigned based either on data supplied by manufacturers, or field measurements of similar equipment made at other existing facilities and data from other similar reports, including Boardman Solar Energy Facility (2017) and Carty Generating Station (2011 and 2018). Finally, the reference noise levels were reviewed against product design information found in the technical literature provided by the National Electrical Manufacturers Association ([NEMA]; 2013): *TR-1 2013, Transformers, Step Voltage Regulators and Reactors*. These sound power levels are used as a basis for the noise modeling as described in Section 5.

Table 5. Operation Noise Sources and Reference Noise Levels

Equipment	Number of Units[a]	Sound Power Level (dBA)
Solar Array Invertor/Transformer[b]	159	87
Battery/Energy Storage Unit[c]	64	88
Collector Substation (34.5-kV to 138-kV)[d]	4	97
138 kV Transmission Line[e]	1	46
Step-up Substation (138-kV to 500-kV)[f]	1	105

Note:

a. Number of each type of noise-producing unit included in SoundPlan modeling.

b. Based on Power Electronics FS3000M Specification of < 79 dBA at 3 feet (see Attachment B Representative Equipment Specifications).

c. Based on General Electric Battery/Energy Storage Unit Specifications of <60 dBA at 3 meters (see Attachment B Representative Equipment Specifications).

d. Based on sound power level for a typical solar collector 35.5-kV to 138-kV power transformer of 97 dBA.(Boardman Solar Energy Facility 2017, Carty Generating Station 2018).

e. Based on typical corona noise levels provided in Appendix AA-1 of Exhibit AA of this Application for Site Certificate of: < 15 dBA for wet conditions at 50 feet and 0 dBA for dry conditions at 50 feet; for this analysis, the sound power of 46 dBA is based on the worst case level of 15 dBA at 50 feet.

f. Based on sound power level for a typical 138-kV to 500-kV step-up transformer of 97 to 105 dBA; the higher 105 dBA level was used to assure a conservative analysis (Carty Generating Station 2011)

4.1. Noise Emitting Facility Equipment

The sections below provide more detailed descriptions of the types of equipment that would produce noise during normal facility operations. Manufacturer specifications for the proposed equipment or equipment of similar specifications, where available, are provided in Attachment B

4.1.1. Inverter/Transformer Units in the Solar Array

The facility will use Power Electronics FS3000M or similar solar inverter units with integrated transformers to convert from direct current to alternating current and then step it

up to 34.5-kV within the solar array for transmission to the collector substations. The FS3000M units will also provide a two way connection with the battery storage units, charging the units with excess power and providing power back to the grid as needed. Manufacturer specifications for a solar inverter and integrated transformer with the required capacity, the Power Electronics FS3000M, reports 79 dBA at 3 feet from the unit, which is equivalent to a sound power level of 87 dBA. These units would be located throughout Area A, as shown in Figure 2. Manufacturer specifications for the Power Electronics FS3000M are provided in Attachment B.

4.1.2. Battery/Energy Storage Units

The battery/energy storage units, similar to the RSU-4000 series produced by General Electric, will be used to store unused energy during daytime hours for power production during nighttime hours and other hours when power supply may be desired. The units consist of a set of batteries connected to a solar inverter/transformer unit described above and have cooling systems and transformers that produce some audible noise. Manufacturer specifications for a representative General Electric RSU-4000 Energy Storage Unit list the typical sound level of > 60 dBA at 3 meters (approximately 10 feet), resulting in a probable maximum sound power level of 88 dBA. These units would be located throughout Area A, as shown in Figure 2. Specification for a General Electric RSU-4000 Energy Storage Unit and battery storage systems are provided in Attachment B.

4.1.3. Collector Substation Transformers (34.5-kV to 138-kV)

Four collector substations with transformers that would be located in the southwestern portion of Area A (see Figure 2), will be used to combine the energy from the solar arrays and step-up the voltage from 34.5-kV to 138-kV. Typical sound power levels from these types of collector transformer systems range from 94 to 97 dBA (Boardman Solar Energy Facility 2017, Carty Generating Station 2018). For this analysis, a sound power level of 97 dBA was used for each of the four collector substation transformers.

4.1.4. 138-kV Gen-tie Transmission Line

A 138-kV above ground generation tie (gen-tie) transmission line will transmit power from the four collector substations west to the 138-kV to 500-kV step-up substation. The 138-kV gen-tie transmission line can, under the right conditions, produce corona noise. Corona noise can occur from electronic ionization of the air surrounding transmission lines. The level of corona noise produced is dependent on many factors, and for most small lines, like the 138-kV lines proposed, noise only occurs when there is a high level of moisture in the air. For a transmission line of this configuration and voltage, the corona noise under dry conditions is typically not measurable, and under the wet conditions is typically less than 15 dBA. To be conservative, the 138-kV line was included in this analysis assuming a potential line noise source generation of 15 dBA at 50 feet.

4.1.5. Step-Up Substation Transformer (138-kV to 500-kV)

The voltage will be increased from 138-kV to 500-kV using a transformer at the step-up substation near the western end of the gen-tie transmission line. Based on measured levels and published data, the typical sound power level from these types of step-up transformer

systems range from 97 to 105 dBA (Carty Generating Station 2011). For this analysis, a potential sound power level of 105 dBA was used for the step-up substation transformer.

4.1.6. Variance of Operation Equipment

Noise levels that will be generated by this facility during operation—and by solar PV generating facilities in general—are inherently low. As described, the primary noise producing equipment includes inverters, transformers, equipment used to operate and cool batteries, and in rare cases, the gen-tie transmission lines. The equipment sound power levels used in this analysis are all the maximum levels provided in the manufacture's specifications or found in other similar studies. Due to this, the analysis results are likely slightly higher than would actually be measured at a facility like the Obsidian Solar Center during normal operation. The resulting overall potential variance in the noise predictions is +0 dB and -2 dB or more (i.e., the levels will be no higher, but could be up to 2 dB or lower). Therefore, this study provides a conservative analysis of operational noise levels for the Obsidian Solar Center.

4.2. Other Noise Sources

In addition to the noise sources above, facility personnel will visit the site to perform routine maintenance and service the systems. Sources of noise will include service vehicles on public roadways and small hand tools used for equipment and service. Noise from these visits would occur infrequently and is not predicted to result in any measurable increase in the overall noise emitted from the site.

The 500-kV transmission lines that cross the facility (see Figure 2), as well as an existing 115-kV transmission line that is adjacent to and parallels Connley Lane, are existing noise sources. The level of energy provided by the solar facility to the 500-kV transmission lines would not be predicted to result in any increase in corona noise from the existing 500-kV lines or have any effect on the 115-kV lines; therefore, these lines were not included as noise sources in the analysis. However, noise from the existing 500-kV and 115-kV lines along with any other existing transmission line or energy related noise sources would be included in the background noise level measurements taken near the site and provided in Section 3.

5. Noise Modeling

This section provides a summary of the methods and software used to predict the operational noise levels from the Obsidian Solar Facility.

5.1. Modeling Methods

Noise modeling was performed using SoundPlan Noise Modeling Software (Essential Version 5.0). The calculations conducted by SoundPlan to model noise levels are based on and are compliant with the International Standards Organization (ISO) 9613-2 methods for outdoor propagation of noise sources, like those from solar facilities, wind farms, and other industrial sources. The software allows the input of geographical and topographical information and provides a true 3-D acoustical model for noise propagation. Input to the model included topographical information from Google Earth, computer-aided drafting (CAD) information for the locations of facility equipment (transformers, inverters, and battery/energy storage units from Table 5), and locations of noise sensitive properties within 1.1-miles of the facility, which were identified using aerial images and from site visits.

Operational noise levels were predicted at 20 representative noise sensitive properties, including all that are within 1 mile of the site boundary, and one that is 1.1 miles from the site boundary. Noise sensitive property R-7, located 1.1 miles from the facility, was included because it is the nearest residence on the southwest side of the proposed area of the facility with solar modules (i.e., Area A). All noise sensitive properties are residences that appear to be occupied.

The locations of these noise sensitive properties are depicted in Figure 6. The figure also depicts representative locations of the solar array inverters (with integrated transformers), battery/energy storage units, the 138-kV gen-tie transmission line, the four collector substations, the 500-kV step-up transformer and existing 500 kV transmission lines.

Additional noise modeling was performed for the closest “protected area” (as defined by OAR-345-021-0010(1)(l) and “important recreational opportunity” (as defined by OAR-345-021-0010(1)(t). The closest area to the facility meeting these definitions is the Devil’s Garden Lava Bed, a natural area located approximately 4 miles north of the facility that is managed by the Bureau of Land Management. The additional modeling site was placed on the border of the Devil’s Garden Lava Bed that is nearest to the Obsidian Solar Center facility.

Finally, the modeling software produced noise contour maps that cover an area large enough to include all areas where noise levels from facility operation equipment are equal to or lower than the lowest measured ambient noise levels of 20 dBA.

The combination of the predicted noise levels at all individual noise sensitive properties (residences) within 1.1 miles, noise level predictions at the Devil’s Garden lava Bed, and production of noise contour maps provide a comprehensive analysis of potential operational noise from the facility.

This analysis also assumes the facility will be in constant operation, with power transmission during nighttime hours from the battery storage. This assumption was made because the

lowest L50 noise levels were measured during nighttime and very early morning hours, during which time the solar panels will not produce any energy (see Attachment C). By assuming the batteries will discharge during these quiet periods, compliance can be confirmed during those periods with the lowest measured L50 noise levels. Also, because the analysis assumes constant facility operations, the L10 and L50 noise levels generated from the site will be virtually identical. This method also supports a "worst-case" analysis, as it is unlikely that all systems would be operating at capacity during nighttime hours.

5.2. Modeling Results

Table 6 summarizes the predicted noise levels of facility equipment during operation at each of the noise sensitive properties. Modeled noise levels for residences located to the west of the solar array, represented by noise sensitive properties R-1 through R-7, ranged from 22 to 36 dBA. The average noise level among these seven noise sensitive properties was 30 dBA. Noise sensitive properties R-1 (36 dBA), R-4, and R-5 (31 dBA) have the highest predicted noise levels in this part of the study area due to the close proximity to the 138-kV to 500-kV step-up substation transformer for (R-1) and the set of four 34.5-kV to 138-kV collector substations (for R-4 and R-5). Receiver R-7 has the lowest predicted noise level (22 dBA) in this part of the study area and is also located farthest overall from the solar array, inverter/transformer units, batteries/storage, substations, and gen-tie transmission line.

Modeled noise levels for residences located to the east of the solar array, represented by noise sensitive properties R-8 through R-20, ranged from 21 to 28 dBA. The average noise level among these ten noise sensitive properties was 25 dBA. For the noise sensitive properties in this part of the study area, R-11, R-16, and R-17 have the highest predicted noise levels (28 dBA) due to the close proximity to the nearby solar array invertor/transformer units and battery storage units. The lowest noise levels in this area were at receiver R-8 and R-14 (21 dBA), which are farthest from the solar arrays in this part of the study area.

Figure 6. Noise Modeling Locations

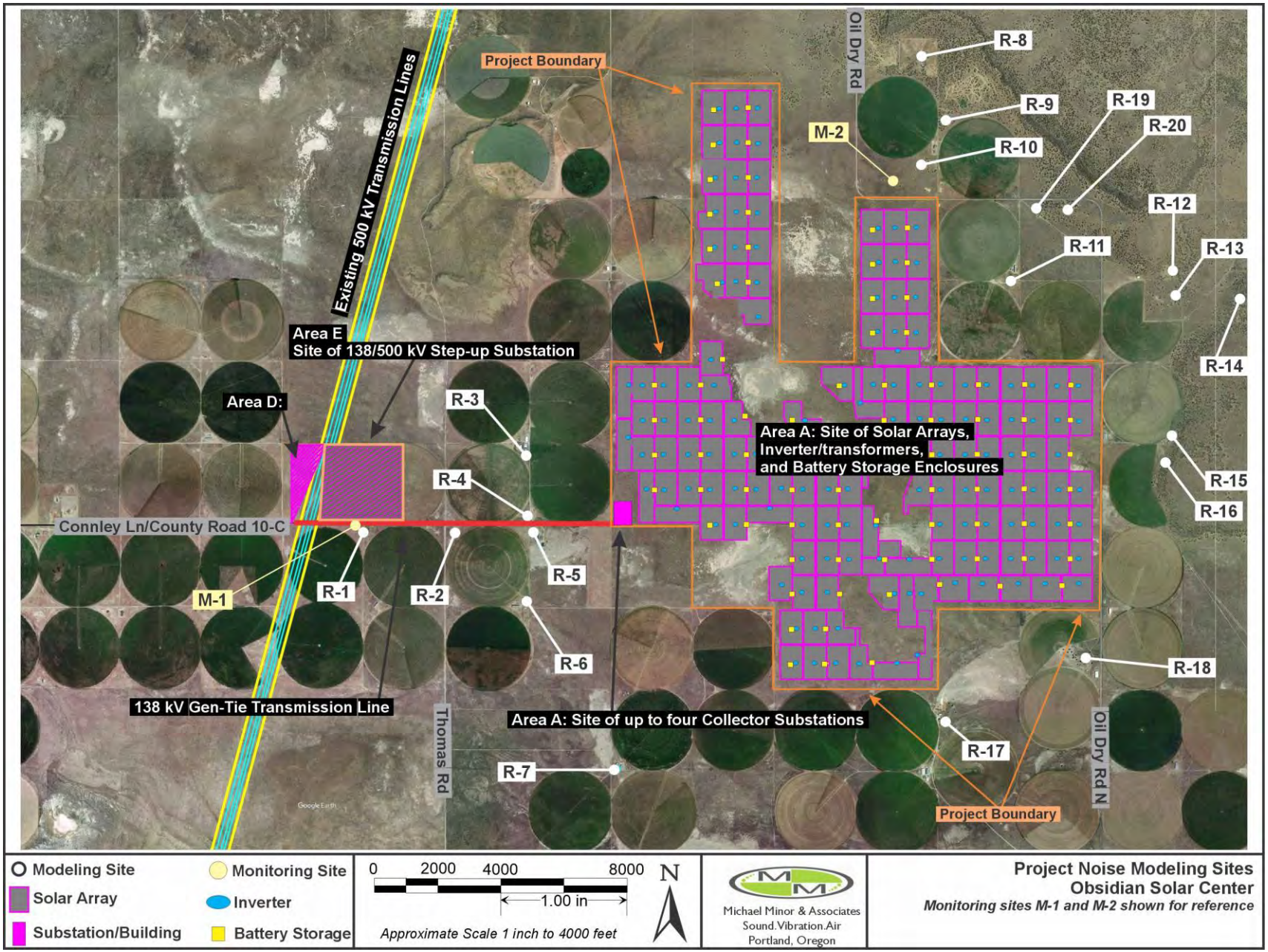


Table 6. Predicted Facility Operational Noise Levels at Noise Sensitive Properties

Noise Sensitive Properties[a]	Total Noise of Facility Equipment (dBA)[b]
R-1	36
R-2	30
R-3	30
R-4	31
R-5	31
R-6	28
R-7	22
R-8	21
R-9	23
R-10	27
R-11	28
R-12	22
R-13	23
R-14	21
R-15	27
R-16	28
R-17	28
R-18	28
R-19	25
R-20	24

Note:
a. As depicted in Figure 6.
b. Total noise from all noise sources calculated using SoundPlan. Per OAR 340-35-0035(3)(b), prediction site is 25 feet from the building toward the noise source, or at a point on the noise sensitive property line that is nearest the noise source, whichever is greater. SoundPlan outputs provided in Attachment D

It is important to note that the overall noise levels predicted at the 20 noise sensitive properties of 21 dBA to 36 dBA is rather low, and comparable to the lowest background noise levels found in very quiet rural areas. For comparison, noise levels of 30 to 35 dBA are typical for the interior of a very quiet library, and noise levels of 20 to 30 dBA would typically only be found in a high-quality recording studio.

Computer outputs of the SoundPlan model are provided in Attachment D. Included in this attachment are sound levels at each of the 20 individual noise sensitive property locations (Figure D-1) and a plot of noise level contours from 20 dBA (background ambient) to 50 dBA in 5 dB increments plotted on an aerial background of the proposed facility and surrounding area (Figure D-2).

6. Compliance Analysis

To determine facility compliance with the OAR 340-035-0035 standards, two analyses are required. First, the noise levels from normal facility operation as reported in Table 6 need to be compared to the maximum allowable limits for a new industrial and commercial land use, as reported in Table 2. Therefore, the noise levels from the facility must be below 55 dBA during daytime hours and below 50 dBA during nighttime hours.

Second, the overall combined future noise levels, which are the existing noise levels plus the noise from facility operations, must be calculated to determine compliance with the maximum allowable increase of 10 dB over the existing L10 and L50 ambient noise levels.

Descriptions of these analyses are provided in Sections 6.1 for the facility noise levels and 6.2 for the overall future noise levels.

6.1. Maximum Allowable Noise Level Criteria

The predicted total noise levels of facility operations equipment at the noise sensitive properties range from 21 to 36 dBA (see Table 6). The most stringent criterion provided in the OAR standard is an L50 of 50 dBA during nighttime hours (Table 2). Because the most conservative combined predicted noise level at a noise sensitive property is 36 dBA (at R-1, see Table 6), the proposed facility will be in compliance with this portion of the OAR standard.

6.2. Maximum Allowable Noise Increase Criteria

In basic terms, to determine compliance with the 10 dBA maximum increase above ambient noise criterion, the predicted noise level data were “logarithmically summed” with the appropriate measured background noise level data to arrive at the combined noise level for each residential property (decibel mathematics is discussed in Section 1.4 for reference). To determine compliance with OAR 340-035-0035, the measured existing ambient noise levels were subtracted from the combined noise levels to determine the increase above the existing ambient noise level. To be in compliance, the increase in noise levels must be 10 dBA, or less, above the measured ambient noise levels. Table 7 provides the results of these calculations and OAR compliance verification.

Table 7 was produced using the L50 ambient measured noise levels reported in Table 4. The measured noise levels in Table 7 are for the hour with the lowest measured L50 (see Attachment C). Because the measured L50 levels are lower than the L10 levels at both monitoring sites, using the L50 levels is the most conservative method of analysis. Noise sensitive properties R-1 through R-7 used background data from M-2, and noise sensitive properties R-8 through R-20 use background data from M-2. The facility operational noise levels used for these calculations are taken from Table 6.

Table 7. Noise Level Compliance Summary					
Noise Sensitive Property[a]	**Existing Background L50 (dBA)[b]**	**Total Noise of Facility Equipment (dBA)[c]**	**Combined Noise (Background + Total Noise of Facility Equipment, dBA)[d]**	**Total Change in L50 Noise (dBA)[e]**	**Compliance with OAR 340-035-0035 Standard**
R-1	28	36	37	+9	Yes
R-2	28	30	32	+4	Yes
R-3	28	30	32	+4	Yes
R-4	28	31	33	+5	Yes
R-5	28	31	33	+5	Yes
R-6	28	28	31	+3	Yes
R-7	28	22	29	+1	Yes
R-8	20	21	24	+4	Yes
R-9	20	23	25	+5	Yes
R-10	20	27	28	+8	Yes
R-11	20	28	29	+9	Yes
R-12	20	22	24	+4	Yes
R-13	20	23	25	+5	Yes
R-14	20	21	24	+4	Yes
R-15	20	27	28	+8	Yes
R-16	20	28	29	+9	Yes
R-17	20	28	29	+9	Yes
R-18	20	28	29	+9	Yes
R-19	20	25	26	+6	Yes
R-20	20	24	25	+5	Yes

Note:
a. As depicted in Figure 6.
b. Background measured noise level: L50, using minimum M-1 for R-1 through R-7 and M-3 for R-8 through R-20, see Attachment C for details.
c. Total noise from Facility operation at noise sensitive properties, as reported in Table 6.
d. Total noise, background and Facility operations, predicted by logarithmically summing the background noise and operational noise.
e. Change in total noise at noise sensitive properties, (existing levels to Facility operation).

As shown in Table 7, predicted noise levels at all noise sensitive properties have L50 increases of 9 dBA or less; therefore, the future, combined noise levels are within the allowable 10 dBA increase from OAR 345-035-0035. the results show that facility operations will also comply with the allowable increase critiera of the OAR standard.

It is important to note that the noise levels projections were performed using the most conservative available reference noise levels for each of the noise sources and also include corona noise from the 138-kV transmission lines under wet conditions. Furthermore, the background noise levels used are the lowest measured noise levels, and actual noise levels would likely be higher than the levels used for this analysis. This results in an estimated potential noise variance of these predictions of +0 dB and -2 dB (or more) for the modeled predictions (i.e., the levels will be no higher, but could be 2 dB, or more, lower), which further demonstrates compliance with OAR 345-035-0035.

6.3. Properties Farther than 1.1 Miles from the Facility Site Boundary

Operational noise levels at the nearest portion of Devil's Garden Lava Bed—the closest area meeting OAR-345-021-0010(1) criteria for protected areas and important recreational opportunities—from the Obsidian Solar Center site boundary are predicted to be 0 dBA. This low noise level is due to the relatively large distance of the facility to the lava bed, of over 4 miles. Operational noise levels at areas more than 4 miles away will also be 0 dBA. The low noise produced from the facility and the large distance from the facility to the protected area/recreational opportunity are sufficient that the noise from operations would not be audible at the Devil's Garden Lave Bed or any other nearby protected areas/recreational opportunities.

To further aid in the understanding of the noise from facility operations, Attachment D provides three plots from the SoundPlan Software that are very useful. Included in this attachment are sound levels at each of the 20 individual noise sensitive properties (Figure D-1) and a plot of noise level contours from 20 dBA to 50 dBA in 5 dB increments (Figure D-2). Finally, Figure D-3 includes a plot of the noise level contours and a blue line depicting a 500 foot buffer from the facility site boundary.

7. Noise Mitigation Analysis

The predicted noise levels from facility equipment at the nearest noise sensitive properties range from 21 to 36 dBA. These levels are below the most stringent criteria under OAR 340-035-0035 maximum allowable noise level for new industrial and commercial uses (see Table 3). In addition, the total noise at the nearest noise sensitive properties, background + facility noise levels, are not predicted to increase by more than 9 dB, which is also in compliance with the OAR 340-035-0035 allowable increase criteria. Therefore, no noise mitigation measures—beyond those included in the facility design, including a 500-foot setback for inverters/transformer units and battery/energy storage units from the facility site boundary, as feasible—are required or recommended.

It is important to note that noise levels of this magnitude are extremely low, and operational noise levels of this magnitude are typically only found in very rural areas with little or no traffic, or in quiet libraries or recording studios (see Table 1).

Furthermore, as previously stated, the noise analysis was performed using worst case noise levels for all facility noise sources and the lowest measured background for all receiver locations. Therefore, this analysis is conservative in presentation and the noise levels presented are most likely slightly higher (by 2 dB or more) than what will be expected from the actual installation during normal operations.

8. Construction Noise Analysis

Facility construction will take approximately two years to complete, and during this time construction noise may, at times, be noticeable at nearby residences. This section provides an analysis of the potential construction noise levels. Construction noise is exempt from the DEQ's noise regulations in OAR 340-035-0035. However, facility construction and operation must also demonstrate compliance with EFSC's noise requirements in OAR-345-021-0010(1). Specifically, Obsidian Solar Center must analyze potential impacts on protected areas and important recreational opportunities during construction and operation to demonstrate compliance with the standards.

8.1. Method of Analysis

Construction noise levels were estimated using the methods described in the Federal Highway Administration Highway Construction Noise: Measurement, Prediction and Mitigation, USDOT, 1997. The FHWA Roadway Construction Noise Model (FHWA RCNM) Version 1.1 was used for this analysis. Although this program was designed for highway noise, the type of equipment and equipment noise levels are generally the same as will be used for construction of this facility.

8.2. Construction Methods and Equipment

Equipment required to complete the facility includes common construction equipment that is used for typical roadway and infrastructure type activities. Table 8 provides a typical list of the types of equipment expected for this facility, the activities they would be used for, and the corresponding maximum noise level measured at 50 feet under normal use. Normally, these maximum noise levels only occur sporadically during construction while equipment is in heavy use. During periods of idle and light use, the noise levels produced would be much lower than those presented.

The loudest pieces of equipment that will be used for construction of the facility are the impact drivers to install the support posts that hold the solar panels. These are pneumatic pile drivers that are tracked or installed on the back of a truck or backhoe, and are smaller than the pile drivers typically used for structural supports of buildings and bridges. Even so, these units typically produce 94 to 101 dBA during the installation of the piles. Due to the unique noise from these sources, they are not normally included in the overall noise levels prediction and analysis but are analyzed separately. The equipment listed was derived from typical construction activities required for a solar system installation and information found in the FHWA RCNM.

Table 8: Construction Equipment List, Use, and Maximum Noise Levels			
Equipment	**Impact[a]**	**Typical Expected Project Use[b]**	**Lmax[c, d]**
Air Compressors	No	Used for pneumatic tools and general maintenance	70 – 78
Backhoe	No	Excavation, support holes, and general construction	78 – 82
Concrete Pumps	No	Pump concrete for structure bases	82
Cranes	No	Removal and installation of solar panels, overhead line and equipment placement	81
Dozer	No	Major earthwork and leveling	88
Grader	No	Level ground and earthwork	86
Haul Trucks	No	Materials handling, general hauling to and from site	86
Impact Pile Driver	Yes	Pneumatic pile driver used to install solar stand supports	94 – 101
Loader	No	Excavation, support holes, and general construction	80
Power Plants	No	General construction for temporary power	78
Pumps	No	General construction use, water removal	77 – 81
Pneumatic Tools	No	Miscellaneous construction and system assembly	85
Service & Utility Trucks	No	Repair and maintenance of equipment	78
Tractor Trailers	No	Materials delivery and movement	84
Welders	No	General construction, materials modification and repair	74

Notes:

a. Impact Equipment is equipment that generates impulsive noise. Impulse noise is defined as noise produced by the periodic impact of a mass on a surface, of short duration (generally less than one second), high intensity, abrupt onset and rapid decay, and often rapidly changing spectral composition.

b. Typical equipment use for construction projects.

c. Typical maximum noise level under normal operation measured at 50 feet from the noise source.

d. Equipment noise levels are taken from the FHWA Construction Noise Model.

8.3. Construction Noise Levels

Construction noise would be generated by heavy equipment used during major construction periods. Construction activities could occur as close as 50 feet from some noise sensitive properties along County Road 10-C (see Figure 6). Other noise sensitive properties are approximately 1,000 feet or more from the nearest expected construction activity. Estimates of maximum hourly noise levels at 50 feet for various stages of construction are provided in Table 9. These are the "worst case" noise levels and the average hourly noise levels would be substantially lower, with typical hourly L50 noise levels of 72 to 75 dBA. Maximum levels would occur during the installation of the support posts using a pneumatic pile driver, with maximum levels of 101 dBA at 50 feet.

Table 9: Estimated Peak Hour Construction Noise Levels		
Construction Phase	**Loudest Equipment**	**Maximum Noise Level at 50 feet (dBA L_{max})**
Clearing, grubbing and earthwork	Bulldozer, Grader, Backhoe, Haul Trucks	88
Foundation and Base preparation for systems	Backhoe, Loader, Tractor Trailers, Crane	84
Support installation	Pneumatic impact pile drivers	94 – 101
Solar Array and Transmission Line Installation	Backhoe, Loader, Tractor Trailers, Crane	84
Source: U.S. Department of Transportation. Highway Construction Noise: Measurement, Prediction, and Mitigation. 1977.		

The noise levels in Table 9 are similar to noise produced by a typical infrastructure project. These noise levels are also similar to the noise produced by some farming equipment already in use in this area. The measured noise levels at monitoring sites M-1 and M-2 included maximum (highest) short term noise levels of 86 dBA and 81 dBA, respectively, and frequently had measured levels above 70 dBA throughout the daytime and some nighttime hours.

Although the noise levels reported in Table 9 are relatively high, the construction phase will be temporary. In addition, the levels reported in Table 9 can be expected only when the equipment is within 50 feet of a receiver. These noise levels will decrease substantially at larger distances (i.e., 1,000 feet or more) that will occur between most noise sensitive properties and construction activities. Furthermore, as previously stated, the L50 levels will be substantially lower than the maximum levels in Table 9.

To provide a better understanding of how construction noise will decrease with distance from the facility site, two figures were prepared to illustrate predicted maximum noise levels and typical L50 noise levels to distances of 3,000 feet and 25,000 feet. Figures 7 and 8 illustrate how the pile driver maximum noise levels of 101 dBA at 50 feet, general construction equipment maximum noise level of 88 dBA at 50 feet, and the typical L50 construction noise level of 75 dBA at 50 feet reduce with distance from a noise source. Figure 7 illustrates the area from 50 feet to 3,000 feet from a noise source, and Figure 8 illustrates the area from 2,500 feet to 25,000 feet (4.7 miles). These figures also include the noise sensitive properties (R-1 through R-17) at the approximate distance from the nearest work site. Note that these plots do not include any topographical shielding and do not account for any ground effects, and both of these factors would provide additional attenuation of construction noise.

For the protected areas, which are all located greater than 4 miles from the nearest facility construction work area, worst case short-term noise levels of 48 dBA from intermittent pile driver use. For general construction equipment, worst case noise levels of 35 dBA or less may occur during the heaviest construction activities, which are expected to be short-term. Typical general construction noise levels are expected to be near or below the ambient noise level of 20 dBA at distances of 4 miles or greater. Overall constructing noise levels at these distances would typically be below 20 dBA, and are not likely to be audible or result in any construction-related noise impacts to these areas.

Figure 7. Expected Construction Noise Levels versus Distance 50 to 3,000 feet

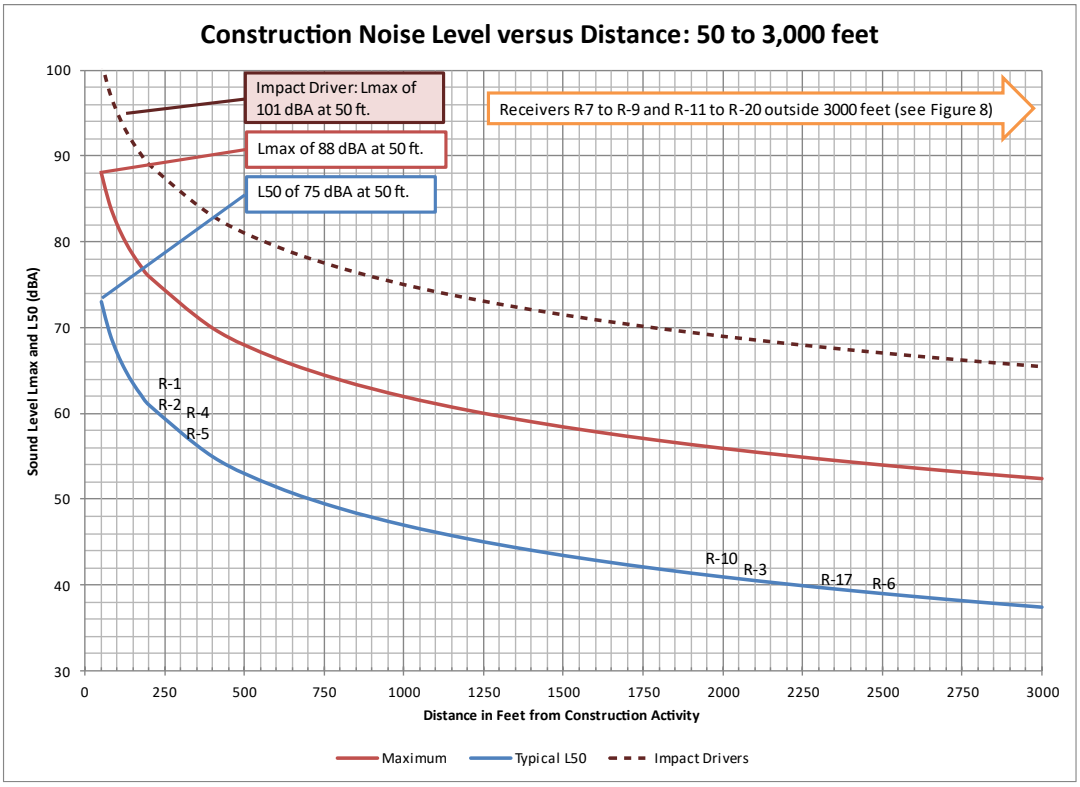
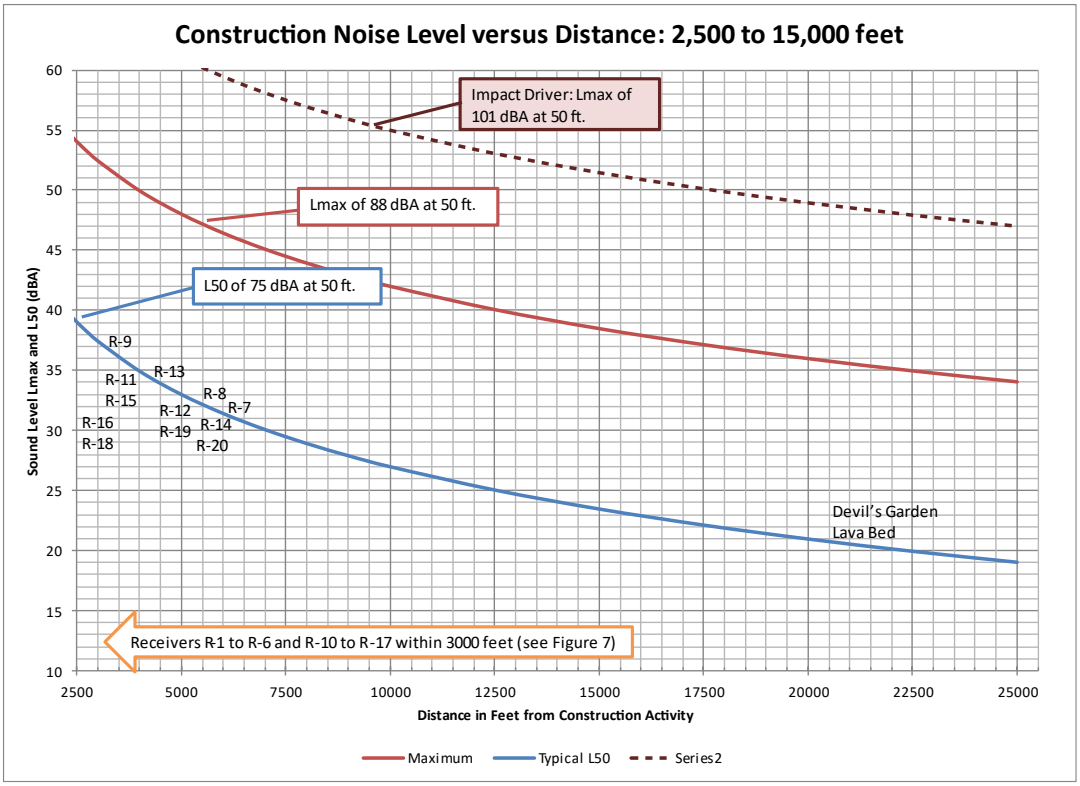


Figure 8. Expected Construction Noise Levels versus Distance past 3,000 feet



8.4. Construction Mitigation Measures

Several construction noise abatement methods can be implemented to limit potential impacts from noise. The contractor shall ensure that all engine-powered equipment have mufflers installed according to the manufacturer's specifications, and that all equipment complies with pertinent equipment noise standards of the U.S. Environmental Protection Agency.

If specific noise complaints are received during construction, one or more of the following noise mitigation measures, as directed by the project manager, could be considered and implemented:

- Locate stationary engine-powered construction equipment as far from nearby noise sensitive properties as possible.
- Shut off idling equipment.
- Reschedule construction activities to avoid periods of noise annoyance identified in the complaint.
- Notify nearby residents before extremely noisy work occurs.
- Restrict the installation of solar module support posts using the pneumatic pile driver to weekdays and Saturdays, during daytime hours of 8:00 am to 6:00 pm, and notify the residences near the site prior to performing the work.

Attachment A:
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SoundPlan (SoundPLAN Noise Modeling Software, ISO Certified. Essential Version 4.1). SoundPLAN International LLC, Shelton, WA 98584, USA. 2019

Attachment B:
Representative Equipment Specifications

Power Electronics FS3000M Specifications

HEM

TECHNICAL CHARACTERISTICS

		MV CENTRAL STRING INVERTER
REFERENCE		FS3000M
OUTPUT	AC Output Power(kVA/kW) @50°C[1]	3000
	AC Output Power(kVA/kW) @25°C[1]	3300
	Operating Grid Voltage(VAC)[2]	34.5kV / 27.6kV / 24.94kV / 13.8kV / 12.47kV
	Operating Grid Frequency(Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi)[3]	0.5 leading ... 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC)	849V-1310V
	Maximum DC voltage	1500V
	Number of inputs	4 per MPPt
	Number of MPPts	Up to 6
EFFICIENCY & AUXILIARY SUPPLY	Max. Efficiency PAC, nom (η)	98% (preliminary)
	Max. Power Consumption (KVA)	30
CABINET	Dimensions [WxDxH] [ft]	20 x 6.5 x 7
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection [4]	IP54 / NEMA3R
	Permissible Ambient Temperature	-35°C[5] to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level)	1000m; >1000m power derating (Max. 4000m)
	Noise level [5]	< 79 dBA
CONTROL INTERFACE	Interface	Graphic Display
	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	MV Switchgear
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL1741, CSA 22.2 No.107.1-01, UL62109-1, IEC62109-1, IEC62109-2
	Compliance	NEC 2017
	Utility interconnect	UL 1741SA-Sept. 2016 / IEEE 1547.1-2005

NOTES
[1] Values at 1.00•Vac nom and cos Φ=1. Consult Power Electronics for derating curves.
[2] Consult Power Electronics for other configurations.
[3] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[4] IP65 available. Consult Power Electronics.
[4] Heating resistors kit option below -20°C.
[5] Readings taken 1 meter from the back of the unit.

General Electric Power Battery/Energy Storage Units



Overview	Energy RSU-4000	Mid-Power	High-Power
Nameplate Energy Capacity (KWh.dc, usable)	4184	3700	2500
Individual Battery Racks	20	54	40
Maximum Power - Factory Installed (KW.dc)	1200	960	720
Maximum DC Current - Factory Installed (A)	1600	1280	960
Key Features			
Battery Management System	GE Blade Protection Unit (BPU)	Battery Supplier	
Compatible Inverters	GE RIU-2750MV	GE RIU-2750MV	
Inverter Connections	1	1 or 2	1 to 3
Solar DC Coupling	Yes (DC:AC Ratio <2.8)	-	-
Integrated PV Combiner	Optional	-	-
String Level Lockable Disconnect	Module & Rack Level	-	-
Augmentation Options for Lifecyle Management	Yes	-	-
DC Bus Control	DC-IQ Intelligent Bus	Inverter Controlled	
Battery LifeCycle Management	Digital Twin Life Optimization - Optional	Digital Twin Life Optimization - Optional	
Unit Validation	Factory Built and Tested	Project Commisioning	
Design life (years)	25	20	
Battery Information			
Battery Chemistry	Lithium-Ion, NCM	Lithium-Ion, NCM	Lithium-Ion, NCM
Battery Module Design	Energy	Mid-Power	High Power
Continuous C-Rate	<C/3	<1C	<2C
Pulse C-Rate	<C/3	<1.5C	<3C
Voltage Class	1500V	1000V	
Nominal DC Voltage (V)	1300	814	
Minimum DC Voltage (V)	770	612	
Mechanical Information			
Package Format	20' ISO w/Exterior Acces	40' ISO w/Ext. Access	
Dimensions (mm) (L X W X H)	6058 x 2438 x 2890 mm	12,200 x 2438 x 2890 mm	
Fully Integrated HVAC	Dual Self-Contained High Efficiency Units		
- Hot Climate Upgrade	+30% Cooling Capacity		
- Cold Climate Upgrade	+ Electric Heating Package		
Fire Suppression - Aerosol	Optional		
Installation	Pad/Pier		
Cable Entry	Bottom	Top	
Weatherization	NEMA 3R, IP 54		
Design Conditions			
Min Operating Temperature (C)	-40°C	-25°C	-25°C
Max operating Temperature (C)	50°C (55°C w/ hot climate upgrade)		
Maximum Altitude (m)	2000		
Maximum Relative Humidity (%)	95%, non-condensing		
Seismic Zone	UBC Zone-4		
Audible Noise	<60 db at 3m		
Certifications & Compliance			
Certifications	UN38.3, UL 1973, UL 508C, CE		
Compliance	UL1642, NFPA 70E		

Attachment C:
Table of Field Measurements

DEQ Day/Night	Date/Time	L10		L50		Leq	
		M-1	M-2	M-1	M-2	M-1	M-2
Daytime Hours	7/5/2018 12:00	51.1	28.9	43	21	52.1	30.9
	7/5/2018 13:00	53.7	48.8	45.4	41.8	53.5	44.9
	7/5/2018 14:00	54	50.7	46.7	42.4	53.7	46.5
	7/5/2018 15:00	51.1	49.4	42.6	42.5	52.4	46.2
	7/5/2018 16:00	51.6	47.3	44.8	40	49.8	43.4
	7/5/2018 17:00	52.1	46.5	46.6	38.6	51.4	43.8
	7/5/2018 18:00	49.8	47.4	42.9	40.4	51	43.6
	7/5/2018 19:00	46.2	44.8	41.1	36.6	50.3	47.3
	7/5/2018 20:00	41.8	39.8	30.7	28.5	49	36.8
	7/5/2018 21:00	31.6	30.1	28.7	23.2	46	30.3
Nighttime Hours	7/5/2018 22:00	30.3	38.2	28.2	30.8	28.6	34.4
	7/5/2018 23:00	32	29.6	30.2	23.4	30.4	26.2
	7/6/2018 0:00	29.9	29.1	28.3	23.2	28.5	26.4
	7/6/2018 1:00	32.9	20.1	30.5	20	31.9	20.5
	7/6/2018 2:00	33.8	21.3	31.9	21	32.2	20.5
	7/6/2018 3:00	34.4	20.4	32.2	20	32.4	20.6
	7/6/2018 4:00	41.3	26.7	35.3	21.3	37.6	25.7
	7/6/2018 5:00	45.3	23.7	39.5	22.5	41.8	25.7
	7/6/2018 6:00	45.6	29.6	40.1	23.2	48.2	30.7
Daytime Hours	7/6/2018 7:00	43	34.6	35.7	21.9	44.5	39.8
	7/6/2018 8:00	44.3	37.4	38	30.6	51.2	36.2
	7/6/2018 9:00	44.7	39.9	35.7	32.8	54.9	39.9
	7/6/2018 10:00	47.5	38.3	36	30.4	51.7	36.5
	7/6/2018 11:00	49.1	41.7	40.4	34.7	54.2	39.4
	7/6/2018 12:00	48.7	44.4	41.4	37.8	52.2	40.9
	7/6/2018 13:00	48.4	45.6	41.6	38.7	51.4	42
	7/6/2018 14:00	47.4	44.2	39.6	35.8	45.7	43.9
	7/6/2018 15:00	45.5	43.1	38.2	35	48.4	41.5
	7/6/2018 16:00	52.1	46.8	43.6	38.6	52.6	43.7
	7/6/2018 17:00	50	47.2	43.3	39.4	49.2	44.3
	7/6/2018 18:00	46.4	41.8	40.2	34.9	49.8	38.2
	7/6/2018 19:00	40.2	38.3	34.1	27.7	46.8	37.5
	7/6/2018 20:00	49	30.4	34.5	20	50.2	32.9
	7/6/2018 21:00	35.4	28.7	33.2	20	43.2	35.4
Nighttime	7/6/2018 22:00	34.7	24.6	33.2	20	42.9	28.6

DEQ Day/Night	Date/Time	L10			L50			Leq	
		M-1	M-2		M-1	M-2		M-1	M-2
	7/6/2018 23:00	36.3	22		33	20		33.8	21.9
	7/7/2018 0:00	32.4	24		30.4	22.3		30.7	31.7
	7/7/2018 1:00	33.7	20		32	20.5		33	20
	7/7/2018 2:00	34.2	20		32.7	21		32.9	20
	7/7/2018 3:00	34.9	20		32.1	20		32.8	20.8
	7/7/2018 4:00	44.4	28.9		37.5	20.5		40.3	44.8
	7/7/2018 5:00	45.9	26.3		40.4	20		51.1	23.4
	7/7/2018 6:00	45.5	28.2		38.6	22		42.6	34.7
Daytime Hours	7/7/2018 7:00	39.2	30.9		32.8	20		53.4	33.1
	7/7/2018 8:00	39.4	23.5		32.9	20		48.9	25.9
	7/7/2018 9:00	38.9	25.8		32.4	20		51.2	30.3
	7/7/2018 10:00	39.9	31.4		31.9	20.5		51.8	35.3
	7/7/2018 11:00	40	26.9		33.3	20		52.8	31.2
	Min	**30**	**20**		**28**	**20**		**29**	**20**
	Max	**54**	**51**		**47**	**43**		**55**	**47**
	Average	**42**	**34**		**37**	**28**		**45**	**34**

Attachment D:
SoundPlan Output Graphics

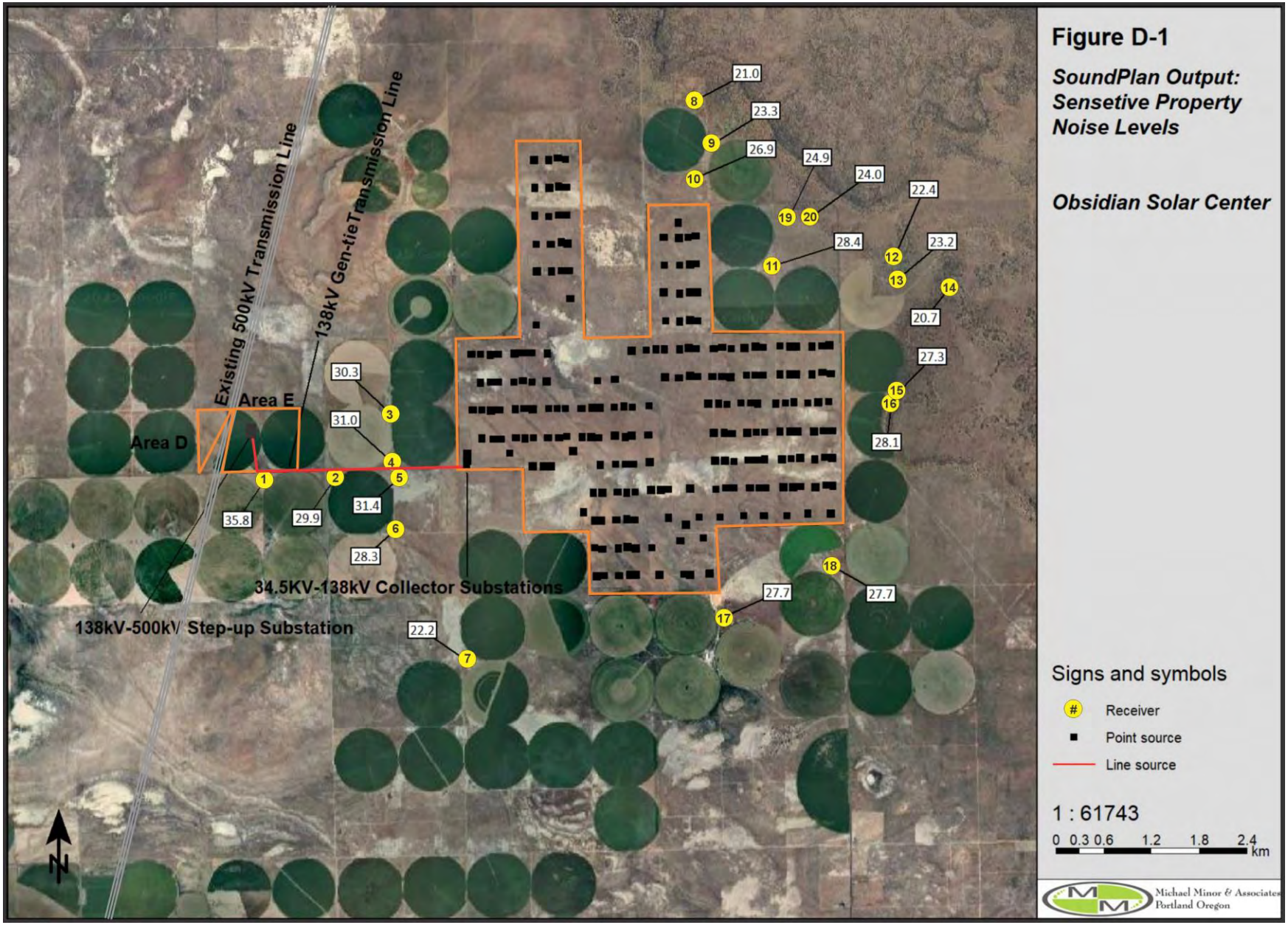
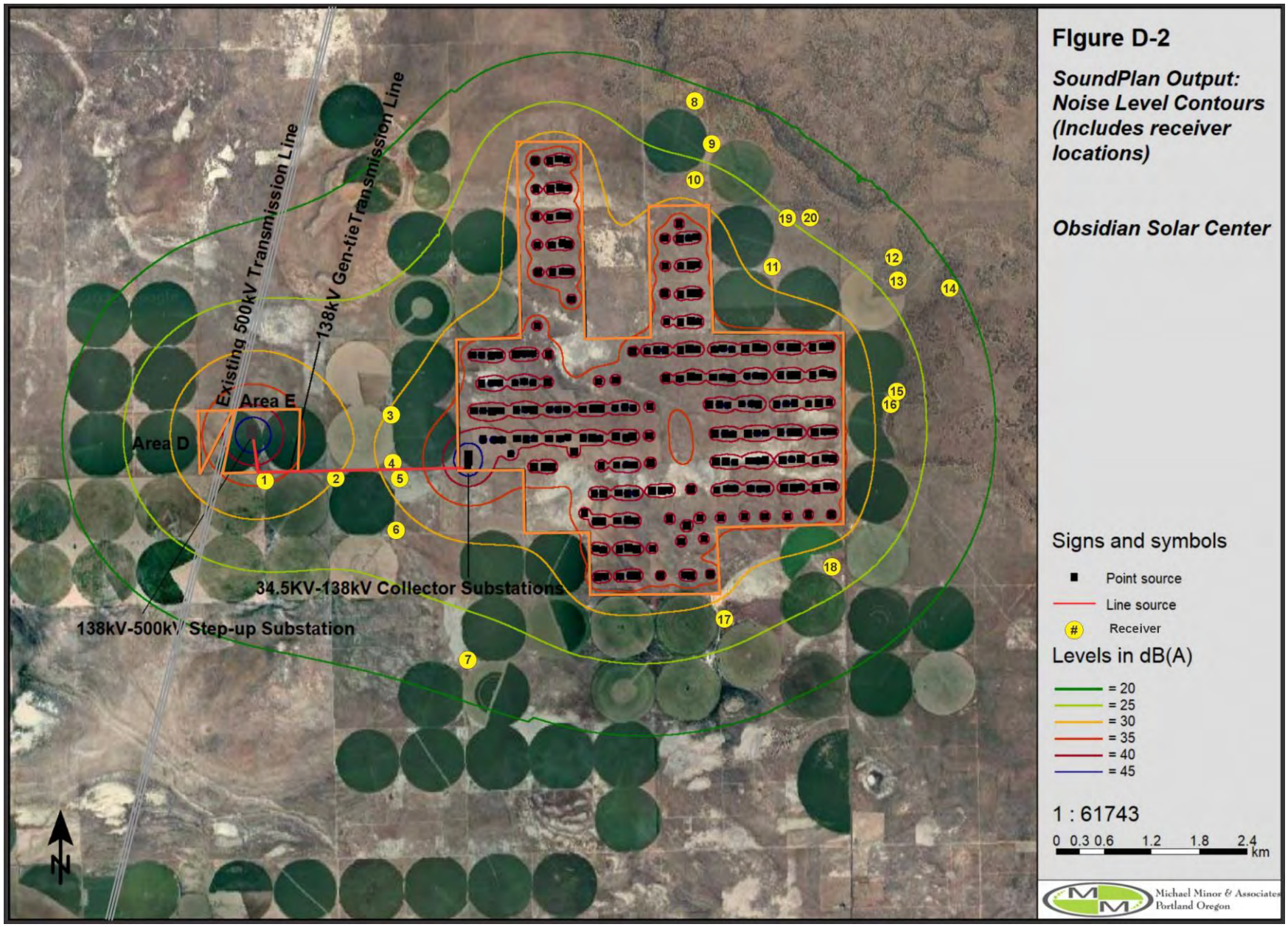
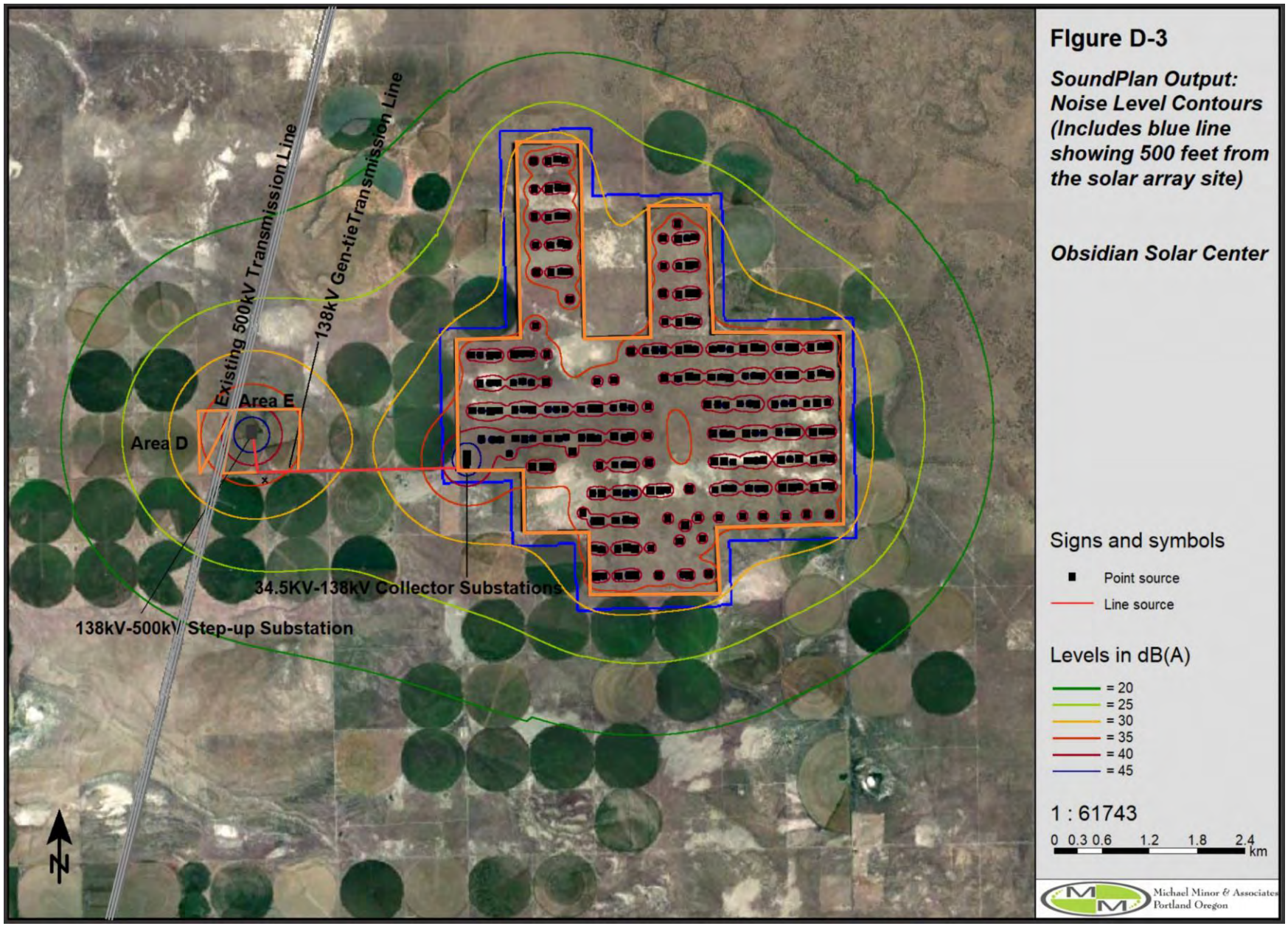


Figure D-1
SoundPlan Output:
Sensetive Property
Noise Levels
Obsidian Solar Center
Existing 500kV Transmission Line
138kV Gen-tie Transmission Line
Area E
Area D
34.5KV-138kV Collector Substations
138kV-500kV Step-up Substation
21.0
23.3
26.9
24.9
24.0
22.4
28.4
23.2
20.7
27.3
28.1
30.3
31.0
35.8
29.9
31.4
28.3
22.2
27.7
27.7
Signs and symbols
Receiver
Point source
Line source
1 : 61743
0 0.3 0.6 1.2 1.8 2.4 km
Michael Minor & Associates
Portland Oregon


Existing 500kV Transmission Line
138kV Gen-tie Transmission Line
Area E
Area D
34.5KV-138kV Collector Substations
138kV-500kV Step-up Substation
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
N
Figure D-2
SoundPlan Output: Noise Level Contours (Includes receiver locations)
Obsidian Solar Center
Signs and symbols
Point source
Line source
Receiver
Levels in dB(A)
= 20
= 25
= 30
= 35
= 40
= 45
1 : 61743
0 0.3 0.6 1.2 1.8 2.4 km
Michael Minor & Associates
Portland Oregon


Existing 500kV Transmission Line
138kV Gen-tieTransmission Line
Area E
Area D
34.5KV-138kV Collector Substations
138kV-500kV Step-up Substation
N
Figure D-3
SoundPlan Output: Noise Level Contours (Includes blue line showing 500 feet from the solar array site)
Obsidian Solar Center
Signs and symbols
Point source
Line source
Levels in dB(A)
= 20
= 25
= 30
= 35
= 40
= 45
1 : 61743
0 0.3 0.6 1.2 1.8 2.4 km
Michael Minor & Associates
Portland Oregon

Request for Amendment No. 2 to the Site Certificate for Obsidian Solar Center

Property Owner List and Tax Lot Map from Lake County Assessor Data November 1, 2024 confirmed April 9, 2025

Map and Tax Lot	Owner	Address	City	State	Zip Code
26S16E000002900	BARKER PATRICK H & TAMMIE M	PO BOX 71	CHRISTMAS VALLEY	OR	97641-9999
26S16E000003100	BINNS ONA MAE & GILL GARY MICHAEL	373 NORTH LOOP DRIVE	CAMARILLO	CA	93010
26S15E25AA00200	DEARDORFF BRUCE V	PO BOX 749	MOLALLA	OR	97038-0749
26S15E000000502	DINSDALE FAMILY TRUST ET AL	57673 FORT ROCK ROAD	SILVER LAKE	OR	97638
26S15E000001700	DINSDALE FAMILY TRUST ET AL	57673 FORT ROCK ROAD	SILVER LAKE	OR	97638
26S15E000001800	DINSDALE FAMILY TRUST ET AL	57673 FORT ROCK ROAD	SILVER LAKE	OR	97638
26S16E000005000	FINE HAROLD L & JUDY	83391 CONNLEY LN	SILVER LAKE	OR	97638
26S16E000005300	FINE HAROLD L & JUDY	83391 CONNLEY LN	SILVER LAKE	OR	97638
26S16E000005400	FINE HAROLD L & JUDY E	83391 CONNLEY LN	SILVER LAKE	OR	97638
26S16E000004700	FINE TROY & ROBERTA	83394 CONNLEY LANE	SILVER LAKE	OR	97638
26S16E000004800	FINE TROY & ROBERTA	83394 CONNLEY LANE	SILVER LAKE	OR	97638
26S16E000004900	FINE TROY & ROBERTA	83394 CONNLEY LANE	SILVER LAKE	OR	97638
26S16E000005100	FINE TROY & ROBERTA	83394 CONNLEY LANE	SILVER LAKE	OR	97638
26S16E000005200	FINE TROY & ROBERTA	83394 CONNLEY LANE	SILVER LAKE	OR	97638
26S15E000003200	FINE TROY D & ROBERTA K	83394 CONNLEY LANE	SILVER LAKE	OR	97638
26S16E000005700	FINE TROY D & ROBERTA K	83394 CONNLEY LANE	SILVER LAKE	OR	97638
26S16E000002902	FIVECOAT PRESTON & KAYLEIGH	PO BOX 135	FORT ROCK	OR	97735
26S16E000002400	FIVECOAT RYAN	80322 LABRADOR LANE	SILVER LAKE	OR	97638
26S16E000005701	FORMAN FAMILY TRUST	83386 CONNLEY LN	SILVER LAKE	OR	97638
26S16E000005500	FORMAN SHANE & JACEY	83136 CONNLEY LN	SILVER LAKE	OR	97638
26S16E000005600	FORMAN SHANE & JACEY	83136 CONNLEY LANE	SILVER LAKE	OR	97638
26S16E000005601	FORMAN SHANE & JACEY	83136 CONNLEY LANE	SILVER LAKE	OR	97638
26S16E000005900	FORMAN SHANE & JACEY	83136 CONNLEY LANE	SILVER LAKE	OR	97638
26S15E000003100	FORT ROCK DEVELOPMENT COMPANY, LLC	59234 FOR ROCK ROAD	SILVER LAKE	OR	97638
26S16E000002600	FORT ROCK HAY RANCH, LLC	5801 SE BANSEN LANE	DAYTON	OR	97114
26S16E000005800	G & J HANSON FARMS LLC	PO BOX 69	FORT ROCK	OR	97735
26S15E25AA00400	HAYES CHRISTEN C	946 N RIPON RD	RIPON	CA	95366-9215
26S16E000003000	HILL JEFFERY & AMI	2527 PIONEER PIKE	EUGENE	OR	97401
26S16E000004200	HOGAN DAVID L & RITA F	2614 1ST STR	TILLAMOOK	OR	97141
26S16E000004400	HOGAN DAVID L & RITA F	2614 1ST STR	TILLAMOOK	OR	97141
26S16E000004500	HOGAN DAVID L & RITA F	2614 1ST STR	TILLAMOOK	OR	97141
26S16E000006200	HOGAN DAVID L & RITA F	2614 FIRST STREET	TILLAMOOK	OR	97141
26S16E000006300	HOGAN DAVID L & RITA F	2614 FIRST STREET	TILLAMOOK	OR	97141
26S16E000006400	HOGAN DAVID L & RITA F	2614 FIRST STREET	TILLAMOOK	OR	97141

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Map and Tax Lot	Owner	Address	City	State	Zip Code
26S16E000006000	HORTON FAMILY TRUST 1/25/2002	PO BOX 784	CHRISTMAS VALLEY	OR	97641
26S16E000002701	HORTON LEE ROY & NANCY B	PO BOX 784	CHRISTMAS VALLEY	OR	97641
26S16E000006100	HORTON LEE ROY & NANCY B	PO BOX 784	CHRISTMAS VALLEY	OR	97641
26S16E000002705	HORTON TRUST	PO BOX 784	CHRISTMAS VALLEY	OR	97641
26S16E000004401	HORTON TRUST	PO BOX 784	CHRISTMAS VALLEY	OR	97641
26S16E000001800	KITTREDGE DORIS H	GENERAL DELIVERY	FORT ROCK	OR	97735
26S16E000004400	KRABILL LUCAS ALAN & KATHERINE ELIZABETH	PO BOX 792	CHRISTMAS VALLEY	OR	97641
26S15E000001900	LA FRANCHI RON	580 N CENTRAL	COQUILLE	OR	97423
26S15E000001902	LA FRANCHI RON	580 N CENTRAL	COQUILLE	OR	97423
26S15E000002900	LA FRANCHI RON	580 NORTH CENTRAL	COQUILLE	OR	97423
26S15E000003000	LA FRANCHI RON	580 N CENTRAL	COQUILLE	OR	97423
26S15E000003101	LA FRANCHI RON	580 NORTH CENTRAL	COQUILLE	OR	97423
26S15E000001902	LAFRANCHI KELLY RENI	PO BOX 395	MYRTLE POINT	OR	97458
26S16E000003400	MAUNEY DENNIS & PAMELA	PO BOX 1031	FERNDALE	CA	95536
26S16E000002702	MOREHOUSE RICHARD	80429 CONNLEY LN	SILVER LAKE	OR	97638
26S16E000002708	MOREHOUSE RICHARD	80429 CONNLEY LN	SILVER LAKE	OR	97638
26S16E000001900	OBSIDIAN SOLAR CENTER LLC	5 CENTERPOINTE DR #SUITE 255	LAKE OSWEGO	OR	97035
26S16E000002709	OBSIDIAN SOLAR CENTER, LLC	5 CENTERPOINTE DR STE 255	LAKE OSWEGO	OR	97035
26S16E000002710	OBSIDIAN SOLAR CENTER, LLC	5 CENTERPOINTE DR STE 255	LAKE OSWEGO	OR	97035
26S16E000002500	O'LEARY JOHN K	PO BOX 7232	BEND	OR	97708
26S16E000001100	RUNELS SCOTT L & MARGIE B	PO BOX 39	FORT ROCK	OR	97735
26S16E000002707	RUNELS SCOTT L & MARGIE B	PO BOX 39	FORT ROCK	OR	97735
26S16E000003200	RUNELS SCOTT L & MARGIE B	PO BOX 39	FORT ROCK	OR	97735
26S16E000003300	RUNELS SCOTT L & MARGIE B	PO BOX 39	FORT ROCK	OR	97735
26S16E000002700	SCHMIEDERER FAMILY FARMS, LLC	3450 SACRAMENTO STREET ##435	SAN FRANCISCO	CA	94118
26S16E000002901	SILVEUS JAMES A	PO BOX 236	CHRISTMAS VALLEY	OR	97641
26S16E300000205	SING TRUST ET AL	533 SANTA ROSA STREET	VISALIA	CA	93292
26S16E000004600	STATE OF OREGON DEPT OF STATE LANDS	775 SUMMER ST NE STE 100	SALEM	OR	97301
26S16E000001801	STEVENSON JOHN B & JOYCE	P O BOX 437	CHRISTMAS VALLEY	OR	97641
26S15E000001900	TIAHRT THEODORE R & JOYCE M	580 NORTH CENTRAL	COQUILLE	OR	97423
26S15E000000503	U S A	700 W MINERAL AVENUE	LITTLETON	CO	80120
26S16E000002300	U S A	700 W MINERAL AVENUE	LITTLETON	CO	80120
26S16E000002800	U S A	700 W MINERAL AVENUE	LITTLETON	CO	80120