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TARDAEWETHER Kellen * ODOE

From: POULEY John * OPRD
Sent: Friday, May 15, 2020 3:58 PM
To: TARDAEWETHER Kellen * ODOE; ESTERSON Sarah * ODOE
Subject: RE: Questions per DPO for the Obsidian Solar Center
Attachments: OSCAPP ASC Draft Proposed Order_Applicant comments_SHPO comments.docx; OSCAPP Attachment S-3 Draft Cultural Mitigation and Monitoring Plan_Applicant Comments_SHPO comments.docx

I may have you beat on the long email. Below, I address your questions from your email. In the attached, I provided some track changes comments for clarification, as Sarah requested. I did not see any "deal breakers", other than SHPO does not want to have to develop archaeology plans for applicants in the future. We are happy to work with their contractors, however, as necessary. If either of you want to discuss next week, I can make myself available. Sarah, I will also accept your invitation to the meeting in just a moment.

In its comments on the DPO, the applicant seems to represent that archeological testing and excavation methods defined in the Plan serve as mitigation for impacts to archeological sites. Is this how you would describe the Plan?

Completing the archaeological testing and excavation methods, in part, serves as a sort of de facto mitigation. Much of the intent is also to gather information, which is not necessarily mitigation. We are combining what should have been done, with our best guess approach for mitigation, assuming the archaeological sites and objects (isolates) would be eligible under Criterion A as a district (pattern of events) and D (ability to address important research questions). Much of this is in my comments in the documents you provided (attached), in tracked changes. I also indicate that the agreement with the Klamath tribes is not mitigation. The SHPO must be part of any mitigation (along with appropriate tribes), which is supposed to target the characteristics of a site or district that qualify it for the National Register of Historic Places (NRHP). We were not part of that agreement.

Further, they represent that the Plan be implemented during construction, which I believe we all agree on, but the Plan states that investigations need to be conducted to evaluate project-related effects. So, is it SHPO's intent that the investigations would be conducted during construction, recorded, and submitted to SHPO later? Or are investigations supposed to occur, be recorded, and submitted to SHPO prior to construction?

The short answer is the former, especially in terms of a report on the investigations, and any updated site forms. However, It also depends on what is found during archaeological investigations. Either through the Inadvertent Discovery Plan (IDP), or just finding something unexpected, consultation with SHPO may need to happen prior to clearing some areas. That being said, the entire plan, if followed, is meant to guide the project now, with site recordings, updates, and reports submitted to us later, as mentioned above. The archaeologist has even added language to one of the documents indicating that the archaeological work in the plan will occur "prior to and during construction." The plan involves a phased approach.

To reiterate a comment from above, it is important that this approach (with SHPO writing a plan after a different approach was used that we could not agree upon) does not happen again. Any contractor hired to do any type of historic property assessment, whether archaeology, buildings, etc. should consult with our office prior to assuming that their methods would be accepted. Our guidelines (for archaeology) provide a roadmap. Follow that, and there will likely be no issues. Not following it can be problematic if the contractor doesn't contact us to explain their methods and the reason they were chosen. In addition, while an applicant can enter into any type of agreement with a Tribe, or other party, if SHPO is not a participant in that agreement, we still must be involved with eligibility and mitigation discussions. As an example, in the Federal Section 106 process, SHPO must be signatory to an MOA and as you know, we have a role in concurring or not with eligibility recommendations/determinations as well as findings of effect. We want input from tribes, or any community that is an expert on properties from their respective history to help with our role. That does not mean we defer to tribes or any community on eligibility, but their input is important. The Klamath were never asked about eligibility, and since the contractor recommended most of the archaeological sites as not eligible, there would be no reason for mitigation had we concurred with that finding. For what it's worth, even if the Klamath agreed the archaeological sites were not eligible to the NRHP, I would have disagreed, for the same reasons I did before. Those being that there is a clear, significant pattern of the sites (Criterion A), and a clear ability to address important to contribute to our understanding of prehistory (Criterion D). For the record, I also am aware that the Klamath believe all their ancestral archaeological sites are significant, so that again shows that their agreement was never about eligibility (and why, in part, it is not mitigation).

I told you this one a long one. Please let me know if you have any questions.

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From: TARDAEWETHER Kellen * ODOE
Sent: Wednesday, May 6, 2020 2:36 PM
To: POULEY John * OPRD <John.Pouley@oregon.gov>
Subject: Questions per DPO for the Obsidian Solar Center

Hey John,

Thanks for chatting with me for a bit and glad you're doing well. Turns out I'm including some of my specific questions in this email that we discussed to help you narrow your review. Here is a link to the Obsidian DPO combined with attachments. Section IV.K. has info about Historic, Cultural, and Archaeological Resources. I've included Attachments S-1 through S-4 relating to this section and permits.

My primary questions relate to the intent of when and to what resources the Archaeological Testing and Excavation Methodologies Plan applies to? I've attached the Plan for your convenience.

In its comments on the DPO, the applicant seems to represent that archeological testing and excavation methods defined in the Plan serve as mitigation for impacts to archeological sites. Is this how you would describe the Plan?

Further, they represent that the Plan be implemented during construction, which I believe we all agree on, but the Plan states that investigations need to be conducted to evaluate project-related effects. So, is it SHPO's intent that the investigations would be conducted during construction, recorded, and submitted to SHPO later? Or are investigations supposed to occur, be recorded, and submitted to SHPO prior to construction?

No such thing as a short email from me 😊 We can chat about this further. But if SHPO wants to submit a comment letter on the DPO, that would be helpful for ODOE to clarify this section. Do you think you could provide feedback on these question and any other comments by next Wednesday May 13? Thanks again,

Kellen

OREGON DEPARTMENT OF ENERGY

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Portions of applicant comment redlines of the DPO that SHPO did not comment on have been removed to shorten the length of the agency comment.

IV.K. Historic, Cultural, and Archaeological Resources: OAR 345-022-0090

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

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

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

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

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

Findings of Fact

Section (1) of the Historic, Cultural and Archaeological Resources standard generally requires the Council to find that a proposed facility is not likely to result in significant adverse impacts to identified historic, cultural, or archaeological resources. [1] Under Section (2), the Council may issue a site certificate for a solar power facility without making findings of compliance with this section. However, the Council may impose site certificate conditions based on the requirements of this standard.

The analysis area for the Historic, Cultural and Archaeological Resources standard includes the area within the proposed site boundary; however, the applicant's literature review, as further described below, extended 1-mile beyond the proposed site boundary. The Legislative Commission on Indian Services identified the Confederated Tribes of the Warm Springs Indian Reservation of Oregon (CTWSRO), the Klamath Tribes and the Burns Paiute Tribe as potentially affected by the proposed facility pursuant to OAR 345-001-0010(51)(o).

[1] The site boundary includes public and private lands.

Pursuant to ORS 358.920(1)(a), a person may not excavate, injure, destroy or alter an archaeological site or object or remove an archaeological object located on public or private lands in Oregon unless that activity is authorized by a permit issued under ORS 390.235 (SHPO archaeological permit). Because the applicant intends to conduct work within an area of known archaeological objects and sites, the applicant must comply with ORS 390.235, OAR 736-051 0000 through 736-051-0090, and requested that the SHPO archaeological permits be included and governed by the site certificate under the EFSC review process. Under ORS 469.401(3), for permits under EFSC jurisdiction, after issuance of the site certificate, agencies 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.

Development of Archeological Testing and Excavation Methodologies Plan

In preparation of ASC Exhibit S, containing information on historic cultural and archaeological resources, the applicant engaged one of its consultants, Heritage Research Associates (Heritage), who conducted a literature review and pedestrian surveys in Area A and Area D of the site boundary, which resulted in two confidential technical reports submitted to the Department and reviewing agencies. Confidential materials were submitted under a separate cover and under ORS 192.345(11) they are exempt from public disclosure. Subsurface testing was not conducted to inform the resulting technical reports. ~~; however, T~~the applicant ~~did~~ coordinated and shared the results of the preliminary pedestrian surveys with the CTWSRO, the Burns Paiute Tribe, and the Klamath Tribes. After the applicant submitted the preliminary application for site certificate (pASC) to the Department, the Department requested comments from reviewing agencies including the tribal governments and the Oregon State Historic Preservation Office (SHPO).

Due to the size and scope of the applicant's proposal for archaeological resources, the Department engaged its consultant, Golder Associates and its subcontractor, Historical Research Associates (HRA), Inc. to assist SHPO with the completeness review of the pASC and associated technical reports. The letter provided from HRA to SHPO and the Department indicated that the methods by which the isolates and sites were identified and delineated by the applicant were inconsistent and generally did not meet SHPO standards because subsurface probing was not conducted to gather information for the eligibility evaluation for the National Register of Historic Places (NRHP).[2] In SHPO's letter provided to the Department dated June 17, 2019, they reiterate this concern stating; "Oregon SHPO concurs that the process for determining NRHP eligibility is inadequate. No attempt was made to assess the vertical (subsurface) boundary (depth of cultural materials) which are critical to NRHP evaluations…. for an archaeological site to be considered not eligible to the NRHP, they must be evaluated under all four criteria."[3] The applicant engaged SHPO, the Department, and the affected tribal governments with addressing the concerns identified by SHPO and the Department's

[2] OSCAPPDoc26 pASC Draft to SHPO Completeness Review Memo_HRA_Perrin 2019-05-30.
[3] OSCAPPDoc29 pASC Reviewing Agency Comment Letter SHPO Case No._ 18-0246_Pouley 2019-06-17.

consultant, HRA. The applicant coordinated with SHPO, the Department, the Klamath Tribes, and the Burns Paiute Tribe to resolve the issues identified by SHPO. The result of the ongoing coordination was a memorandum of agreement between ~~proposal drafted by~~ SHPO and ~~reviewed with~~ the applicant, which is codified in the Archeological Testing and Excavation Methods Plan (Plan) included as Attachment S-1 to this order. The Plan defines ~~defined~~ archeological testing and excavation methods to gather information and serve as mitigation based on the available information for impacts to archeological sites. The Plan ~~Archeological Testing and Excavation Methods Plan (Plan) is included in this order as Attachment S-1 and~~ includes:[4]

- Delineating Archaeological Site Boundaries
- Definitions
- Archaeological Testing at Isolates
- Trenching within a Recorded Archaeological Site
- Testing at Project Related (non-archaeological) Excavation
- Historical and Multicomponent Archaeological Sites
- Artifact Analysis
- Reporting
- Archaeological Permits

Results from Preliminary Pedestrian Surveys

The Department points to the language of the EFSC standard, specifically, "…resources that have been listed on, or would likely be listed on…" the common term used by SHPO and throughout the profession, is eligible or likely/potentially eligible for listing on the NRHP. Therefore, the terms eligible or likely/potentially eligible meet the meaning of likely to be listed on the NRHP in the EFSC standard.

The applicant explains in ASC Exhibit S that prehistoric sites were evaluated as eligible, potentially eligible, or not eligible for nomination to the NRHP, assessed under NRHP Criterion D. Based on the pedestrian survey and site visits with Klamath Tribal representatives, the applicant identified seven prehistoric sites treated as eligible, 22 prehistoric sites treated as potentially eligible, and 69 prehistoric sites treated as not eligible for listing on the NRHP.

Historic-period~~al (above-ground)~~ archaeological resources identified include five possible homestead locations with structural remains, and six small refuse scatters. The homestead sites likely relate to a short homesteading period in the early twentieth century:

- The applicant recommends that the homestead sites and one well/corral site are considered potentially NRHP-eligible as some information can be learned about the homestead era in Fort Rock by further documenting and researching the homestead sites.

[4] Information concerning the potential location of archaeological sites or objects as those terms are defined in ORS 358.905 has been redacted from this and other documents associated with this section. The Department also redacted resource descriptions that may be associated with archaeological locations.

Commented [JP1]: This statement is incorrect. The lead-in (likely unintentionally) suggests that the Klamath Tribal representatives agree that these sites are not eligible. The archaeological contractor recommended them as not eligible, without addressing the four NRHP criteria, without input on eligibility from the Klamath Tribes (or any others), and without concurrence from SHPO.

Commented [JP2]: As we have discussed with the applicant, and ODOE, these archaeological sites are the manifestation of a pattern of events related to people exploiting resources along the margins of a pluvial lake (created during the last ice age from glacial melt). The record of people exploiting resources along these lake margins likely goes back over 10,000 years. Such patterns along lake margins are rare, and provide a significant pattern in human land use history. As the climate warmed, the lakes receded, and people kept returning to the shoreline. Over time, this repeated pattern has left an incredible archaeological record of their activities. Collectively, they would be eligible under Criterion A of the National Historic Preservation Act, and under Criterion D for their ability to contribute important information regarding our understanding of human prehistory. This pattern exists throughout the Klamath Basin, as well as other eastern Oregon basins (e.g., Harney).

Commented [WU3]: ODOE: As they are "in-ruin" the possible homestead locations are not "above ground" resources despite the ruins being primarily on the surface of the ground.

- The applicant recommends that the six isolated refuse scatters, including limited debris from what may have been a small corral site, are recommended not eligible for the NRHP as those locations do not appear to be associated with larger homestead features, nor do they contain previously undocumented or potentially significant information.

Five sites contained both prehistoric and historical components:

- The applicant recommends that two of the sites appear to contain NRHP-eligible components, and another two sites appear to be potentially NRHP-eligible.
- The applicant recommends that one site contains limited artifacts for both prehistoric and historical components and is likely to be found not eligible for the NRHP due to the likelihood that it does not contain potentially significant information that would contribute to our understanding of either history or prehistory.[5]

Of the prehistoric ~~archaeological~~ and historic-period archaeological resources, the applicant recommends nine sites as eligible. Seven are prehistoric sites, and two are multicomponent sites. Twenty-nine ~~potentially eligible~~ sites are recommended as potentially eligible, 22 are prehistoric sites, five are historic sites, and two are multicomponent sites. Seventy-six ~~potential~~ sites are recommended as not eligible including 69 prehistoric, six are historic, and one is multicomponent.[6] Further, the applicant identified 241 isolated finds.[7] ~~Aside from the above ground historic resources, the archaeological resources identified are all appears to be Tribal resources.~~

~~As discussed in the aforementioned section, because the applicant did not adhere to recommended SHPO guidelines, National Register Bulletins, and did not provide evaluations under all four NRHP criteria, SHPO was not able to concur with the proposed eligibility recommendations.~~

Evaluation, Avoidance, and Mitigation for Impacts to Historic, Cultural, and Archeological Resources

OAR 345-022-0090(1)(a)

The Council's standard, OAR 345-022-0090(1)(a) addresses historic, cultural or archaeological resources that have been listed on, or would likely be listed on the National Register of Historic Places. As noted, the applicant coordinated with SHPO, the Department, the Klamath Tribes, and the Burns Paiute Tribe to resolve the issues of NRHP criteria evaluation and survey protocols identified by SHPO and HRA, and agreed upon the Archeological Testing and Excavation Methods Plan (Attachment S-1 to this order) and further addressed below in

[5] OSCAPPDoc4 ASC 19 OSC ASC Exhibit S 2019-10-17, S.5.2.
[6] OSCAPPDoc4 ASC 19 OSC ASC Exhibit S 2019-10-17, S.5.2.
[7] In ASC Exhibit S, the applicant states that finds of cultural materials that were not classified as sites were recorded and mapped as isolated finds. OSCAPPDoc4 ASC 19 OSC ASC Exhibit S 2019-10-17, S.5.1.2.

Commented [WU4]: ODOE: This sentence is grammatically incorrect and uses the terms "above ground" resources which is also incorrect and "Tribal resources" which in unusual and not recommended usage by AINW. Suggest deleting as shown in track changes.

Commented [JP5]: For clarification, the SHPO has a concurring role on eligibility to the NRHP. The EFSC process gives SHPO the ability to make actual determinations on eligibility. Other than the SHPO, the Keeper of the National Register of Historic Places has the final say on whether a site (or any other property type) is eligible, regardless of what SHPO concurs with or determines through EFSC. The applicant's contractor makes recommendations, that must be concurred with by SHPO, or if they choose, the Keeper of the NRHP.

Commented [ERA6]: ODOE: This is unnecessary and addressed by the MOA codified in the Plan. That was the whole purpose of negotiating the MOA.

Recommended Historic, Cultural and Archeological Condition 1. SHPO and t~~T~~he applicant have ~~has~~ agreed to adhere to the methodologies defined in the Plan when conducting archaeological testing ~~during~~ prior to and during ground disturbing activities associated with ~~any necessary pre-construction surveys and~~ construction of the proposed facility in order to mitigate for impacts to archeological sites that are not avoided. ~~SHPO highlighted in its letter to the Department that it is unprecedented that SHPO itself would draft methodologies that adhere to its guidelines and bulletins for a specific project.~~[8] To address resources potentially protected under OAR 345-022-0090, as defined in the Plan, methodologies treat the recorded archaeological sites and isolates as a district and focus on Project-related impacts, this approach is also consistent with the governance of the SHPO Archaeological Permits included and governed by the site certificate as discussed below. This is reiterated in the comment letter on the ASC from SHPO, which states; "…it was agreed that the known archaeological sites and isolates would be treated as an eligible district under Criterion A of the NRHP and the Archaeological Testing and Excavation Methods Plan addresses procedures for addressing Criterion D through targeted archaeological testing in areas of ground disturbance, and through the IDP [incidental discovery plan]." [9] The applicant agrees to treat the area as eligible for listing on the NRHP, and therefore protected under the Council's standard. This approach may overestimate the actual impacts from construction and operation of the proposed facility because many of the sites may indeed be not eligible for listing on the NRHP.

The site boundary is located within the ceded lands of the Klamath Tribes, Confederated Tribes of Warm Springs, and Burns Paiute Tribe. Predominantly the resources identified in the preliminary pedestrian surveys, in coordination with the Klamath Tribes, are prehistoric archaeological sites representing the ancestors of modern Tribes~~considered Tribal resources~~. The applicant contacted, met in-person on site, presented to the Klamath Tribal Council, and maintained communication with the Klamath Tribes and Burns Paiute Tribe. As part of its supplemental application submittal for ASC Exhibit S, the applicant provided a letter from the Klamath Tribes Tribal Council.[10] The letter from the Tribal Council stated that the Tribes have reached an agreement with the applicant to avoid, minimize, and mitigate impacts to ~~Tribal~~prehistoric archaeological resources identified by the applicant. The applicant states it will avoid approximately 156 acres within the site boundary ~~identified as~~ containing likely eligible or eligible resources identified by the Tribes. These areas were identified as avoidance areas and the applicant ~~avoidance will involve by~~ modif~~y~~ied~~ing~~ the design of the facility to avoid these sensitive areas. The letter continues by stating that the areas that may be impacted will be subject to a Monitoring Agreement and Inadvertent Discovery Plan. At the request of the Burns Paiute Tribe, ~~the Tribes have agreed to include~~ a representative of the Burns Paiute Tribe will also be a monitor during ground disturbing activities, as further discussed in the Cultural Mitigation and Monitoring Plan (CMMP) included as Attachment S-3 to this order~~for monitoring~~. Finally, the letter addresses the Council's standard stating that it views that construction and operation of the proposed facility, taking into account mitigation, is not likely

Commented [ERA7]: ODOE: This is not a finding – the comment letter stands on its own and if anything undermines ODOE's findings of compliance. Whether another project seeks to use this same approach/compliance pathway is a discussion for another day.

Commented [JP8]: As indicated above, this is not an overestimate on eligibility. However, it may be an overestimate on the finding of effects, which is why an understanding of the property boundaries (vertical and horizontal) is critical.

Commented [WU9]: ODOE: From AINW – "The term "Tribal resources" is a curious one that implies ownership of archaeological sites by Native American Tribes. While prehistoric or pre-contact archaeological sites were surely created by the ancestors of modern Tribes, ownership of the artifacts is by the current landowners according to state law. It may be politically efficient to leave this "as is" here, but I wanted to point to this as irregular usage in CRM."

Commented [JP10]: However, the original contractor recommended all of these sites in this area as Not Eligible to the NRHP. If SHPO concurred (per our role) they would have no protections. Properties of any type that are not eligible to the NRHP, could not be adversely affected. Adverse effects are defined as impacts to the characteristics that make the property eligible. If it is not eligible there is no adverse effect, and consequently no need for mitigation.

[8] ~~OSCAPPDoc17 ASC Reviewing Agency Comment Letter SHPO Case No._ 18-0246_Pouley 2020-02-26.~~
[9] OSCAPPDoc17 ASC Reviewing Agency Comment Letter SHPO Case No._ 18-0246_Pouley 2020-02-26.
[10] On June 18, 2019, Donald Gentry, the Klamath Tribes Chairman, submitted the same letter to the Department.

to result in significant adverse impacts to eligible and likely eligible resources identified in the application or by the Tribes.

To address the Tribes comments, and as part of the applicant proposal in ASC Exhibit S, the applicant proposes avoidance, minimization, and mitigation measures codified in the ~~and areas as well as a proposed draft~~ Cultural Mitigation and Monitoring Plan (CMMP) included as ~~which the Department has compiled into~~ Attachment S-3 of this order. The CMMP is comprised of (a) a description of applicant's avoidance and mitigation agreement with the Klamath Tribes, (b) a description of the monitoring agreements with the Burns Paiute and Klamath Tribes, (c) the Inadvertent Discovery Plan (also included as Attachment S-2 to this order), and (d) comments submitted by ~~applicant-represented measures to avoid, reduce, mitigate and monitor construction activities and to include Tribes with the construction and survey activities. T~~the Klamath Tribes and Burns Paiute Tribe ~~also provided comments~~ as conditions to be included with the SHPO Archaeological Permits discussed below. ~~Their comments relate to monitoring, reviewing materials, and receiving reports generated. The Department includes these conditions within the draft CMMP to be finalized prior to construction of the proposed facility. The Department recommends review and approval of the final CMMP by the Department in coordination with SHPO and the Tribes. As such, the Department recommends this as a component of the below condition. As part of ASC Exhibit S, the applicant also provided an Inadvertent Discovery Plan (IDP) and maintains it will conduct all work within compliance with the IDP.~~

~~To verify that any surveys that may be conducted prior to and during construction are conducted consistent with that Archeological Testing and Excavation Methodologies Plan and that the resulting information is shared with SHPO, the Tribes, and the Department, as well as the applicant's finalization of the provisions in the Cultural Mitigation and Monitoring Plan and compliance with the Inadvertent Discovery Plan, T~~the Department recommends the following site certificate condition:

Recommended Historic, Cultural and Archeological Condition 1: The certificate holder shall:

a. Prior to and during construction implement ~~conduct any necessary surveys or archaeological testing and construction activities in compliance with~~ the Archeological Testing and Excavation Methodologies Plan (Attachment S-1 to Final Order on ASC) and the Cultural Mitigation and Monitoring Plan (Attachment S-2 to the Final Order on ASC).
   ~~i. The certificate holder shall submit results of any survey or testing data and technical reports to SHPO in accordance with SHPO's Go Digital requirements and affected Tribal Governments.~~
   ~~ii. Under separate confidential cover, at the completion of construction of the facility, the certificate holder shall submit the final report, including SHPO NRHP eligibility recommendations, to the Department.~~

~~b. Prior to construction of the facility finalize the Draft Cultural Mitigation and Monitoring Plan, as provided in Attachment S-3 of the Final Order on ASC, and submit to the Department for review and approval, in coordination with SHPO and the affected Tribal~~

Commented [JP11]: There does not seem to be any indication that the Tribes were notified that the contractor was recommending all of the archaeological sites in the "allowed" impacts area as not eligible. Again, there would be no need for mitigation if SHPO concurred with that finding.

Commented [ERA12]: ODOE – this is a really long confusing sentence. The recommended conditions stand for themselves based on the analysis and findings above.

Commented [WU13]: ODOE: Plan does not require eligibility recommendations and even if it became necessary due to new finds, it does not need to be stipulated here.

~~Governments. The certificate holder may coordinate with Tribal Governments prior to submitting the finalized Plan~~CMMP ~~to the Department. The Plan~~CMMP ~~shall identify any modifications based on results of any surveys or testing completed following the Archeological Testing and Excavation Methodologies Plan (Attachment S-1 to Final Order on ASC) identified in sub (a) of this condition, or any modifications derived from Tribal or SHPO coordination.~~

~~c.~~b. During construction and operation of the facility, the certificate holder shall implement and adhere to the requirements of the Inadvertent Discovery Plan, as provided in Attachment S-2 of the Final Order on ASC and the Cultural Mitigation and Monitoring Plan, as provided in Attachment S-3 of the Final Order on ASC.

~~d. During construction and operation of the facility, the certificate holder shall implement and adhere to the requirements of the Cultural Mitigation and Monitoring Plan, as finalized per sub(b) of this condition.~~

[GEN-HC-01]

OAR 345-022-0090(1)(b) and (c)

The evaluation above applies to resources potentially protected under OAR 345-022-0090(1)(a). Under OAR 345-022-0090(1)(b), for a proposed facility located on private land, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impacts to archaeological objects, as defined in ORS 358.905(1)(a)[11], or archaeological sites, as defined in 358.905(1)(c). OAR 345-022-0090(1)(c), the Council's Historic, Cultural and Archaeological Resources standard addresses and protects archaeological sites on public lands under OAR 345-022-0090(1)(c) as defined in ORS 358.905(1)(c).[12] Predominantly lands within the site boundary are privately owned lands, however there is a parcel of land owned by the Oregon Department of State Lands (DSL). Therefore, both of the provisions of (b) and (c) of the Council standard apply. The Department notes that resources identified as eligible and likely eligible, as discussed in the preceding section, based from the ~~preliminary~~ pedestrian surveys conducted with Tribal review, ~~are likely to meet the definitions of~~include archaeological objects ~~or~~and archaeological ~~objects~~sites. ~~Further~~However, the SHPO Archeological Testing and Excavation Methodologies Plan ~~applicant's assumption to~~ treats the site boundary as an NRHP-eligible district, and mitigates foreseeable adverse impacts to the archaeological objects and sites within the district~~considers the area as an archaeological site~~. The Department points to the ~~agree upon~~ mitigation

Commented [ERA14]: ODOE: the CMMP is the final plan, as attached to the final order. Nothing further needs to be negotiated – follow the Testing Plan, the IDP, and the CMMP.

Commented [JP15]: The tribes do not appear to have been informed of the Not Eligible site recommendations.

[11] 358.905(1)(a) states ""Archaeological object" means an object that: (A) Is at least 75 years old; (B) Is part of the physical record of an indigenous or other culture found in the state or waters of the state; and (C) Is material remains of past human life or activity that are of archaeological significance including, but not limited to, monuments, symbols, tools, facilities, technological by-products and dietary by-products."

[12] ORS 358.905(1)(c) states, (A) "Archaeological site" means a geographic locality in Oregon, including but not limited to submerged and submersible lands and the bed of the sea within the state's jurisdiction, that contains archaeological objects and the contextual associations of the archaeological objects with: (i) Each other; or (ii) Biotic or geological remains or deposits. (B) Examples of archaeological sites described in subparagraph (A) of this paragraph include but are not limited to shipwrecks, lithic quarries, house pit villages, camps, burials, lithic scatters, homesteads and townsites.

B2HAPPDoc3-36 ASC 19_Exhibit S_Cultural_ASC_Public 2018-09-28. Section 3.4.2.

agreement between the applicant and the Tribe and recommends the Council find that construction and operation of the proposed facility ~~the facility~~, taking into account mitigation, are not likely to result in significant adverse impacts on private lands, archaeological objects, as defined in ORS 358.905(1)(a), or archaeological sites, as defined in 358.905(1)(c); and on public land, archaeological sites, as defined in ORS 358.905(1)(c).

SHPO Archaeological Permits

Pursuant to ORS 358.920(1)(a) A person may not excavate, injure, destroy or alter an archaeological site or object or remove an archaeological object located on public or private lands in Oregon unless that activity is authorized by a permit issued under ORS 390.235 (SHPO archaeological permit). Because the applicant intends to conduct work within an area of known archaeological objects and sites, the applicant must comply with ORS 390.235, OAR 736-051 0000 through 736-051-0090, and requested that the SHPO archaeological permits be included and governed by the site certificate under the EFSC review process.

Under ORS 469.401(3), for permits under EFSC jurisdiction, after issuance of the site certificate~~.~~, agencies 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. The effective date of the permits will be a date after the EFSC final affirmative decision and issuance of the site certificate. After a Council final affirmative decision, SHPO would promptly issue and date the permits stipulating the timeframe extensions as discussed below.

The applicant engaged a qualified archaeologist from Archaeological Investigations Northwest, Inc., as defined ORS 390.235 as the applicant for the permits. The SHPO Archaeological Permits apply to each separate landowner, so four applications were submitted. The ~~agreed up~~ Archeological Testing and Excavation Methodologies Plan was included with the permits. SHPO circulated the permit applications for 30-days to commenting parties to receive requests for draft conditions to be included in the permits as part of the site certificate. The ~~draft~~ Archeological Permits and permit applications are included as Attachment S-4 to this order. The Department has redacted partial information concerning the location and descriptions of archaeological sites or objects as those terms are defined in ORS 358.905, as public records conditionally exempt from disclosure under ORS 192.345.

For the parcel of land owned by DSL, DSL made requests to receive GIS information about resources. For the entire site, ~~T~~the Klamath Tribes requested ~~specific diagnostic steps to occur when resources are found,~~ that a Tribal monitor be onsite during trenching and excavation activities, a 24-hour notification ~~must~~ be given to the Klamath Tribes'~~,~~ Culture and Heritage Department or Tribe's Archaeologist prior to ~~intiation~~initiation of trenching or excavations, and to receive a copy of the report of findings from the testing phase of the project. The Klamath Tribes also requested a specific procedure for sampling artifacts for hydration analysis and that diagnostic artifacts found on private lands during Tribal monitoring be turned over by the

private landowner to the Klamath Tribes for curation (as agreed by the private landowners). The Burns Paiute Tribe requested an on-site monitor and, consistent with its~~'~~ previous comments, the ability to review and comment on the draft report generated as a result of the archaeological excavations and request an executed copy of the IDP prior to initiation of ground disturbing activities. Other conditions requested by the Tribes are included in the Cultural Mitigation and Monitoring Plan (Attachment S-3) and the Archeological Permits (Attachment S-4)~~.~~ ~~tThe Department also included the Tribe's' conditions in the draft Cultural Mitigation and Monitoring Plan, to be finalized with coordination with the Tribes prior to construction of the proposed facility consistent with Recommended Historic, Cultural and Archeological Condition 1 above.~~

The SHPO guidance for the duration of the SHPO Archaeological Permits is one year, with a one-time option of extending the permit coverage for an additional year, according to its policy (Archaeology Bulletin 2 dated October 2019). The Department notes that these permits are under EFSC jurisdiction and are subject to EFSC approval. Therefore, t~~T~~he duration of the permit governance should be consistent with the timeframe identified in Recommended 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. ~~to coverprotect and excavation or survey activities conducted prior to construction and during construction. SHPO has indicated there are procedural pathways for EFSC energy facilities and Archaeological Permits under EFSC jurisdiction to extend or amend the permit to align with activities protected under the permits for the proposed facility.~~

Commented [ERA16]: ODOE: the ESFC site certificate controls. SHPO guidance is irrelevant for purposes of the permit terms.

The conditions in the SHPO Archaeological Permits are conditions of approval in the site certificate that the applicant must comply with including the general conditions from SHPO, and specific conditions from DSL~~l~~ and the Tribes. Further the applicant shall extend the permit coverage to align with pre-construction and construction activities, as appropriate. Therefore, the Department recommends ~~-~~Recommended Historic, Cultural and Archeological Condition 2 below:

Recommended Historic, Cultural and Archeological Condition 2: The certificate holder shall:

a. Prior to and during construction, and during operation, conduct field testing, excavation and removal of archaeological, historical, prehistoric, and anthropological materials within archaeological sites or objects under ORS 358.920 and ORS 390.235 in compliance with the SHPO Archaeological Permits AP2816, AP2817, AP2818, and AP2819, Attachment S-4 of the Final Order on ASC.

~~b. Amend, renew, or extend SHPO Archaeological Permits with SHPO for any work governed by the permits to be consistent with the construction commencement DATE and construction completion DATE, as stated in General Standard Condition 1. [GEN-HC-02]~~

Commented [ERA17]: ODOE: see comment above, EFSC site certificate controls not SHPO's procedures.

Conclusions of Law

Based on the foregoing recommended findings of fact and conclusions of law, and based upon compliance with the recommended conditions, the Department recommends Council find that the proposed facility would comply with the Council's Historic, Cultural, and Archeological Resources standard. ~~Upon submission by the applicant of the proper applications and payment of the proper fees, but without hearings or other proceedings, the Oregon State Historic Preservation Office (SHPO) shall issue Archaeological Permits AP2816, AP2817, AP2818, and AP2819, unredacted, subject only to conditions set forth in the Final Order on ASC Attachment S-4.~~

Commented [ERA18]: ODOE: The applications were already filed with SHPO resulting in the permits attached as S-4. This does not need to occur again.

Attachment S-3 ~~Draft~~ Cultural Mitigation and Monitoring Plan

I. INTRODUCTION

This Cultural Mitigation and Monitoring Plan (CMMP) describes how Obsidian Solar Center LLC (Applicant) will avoid, minimize, mitigate, and monitor for impacts to cultural resources from the Obsidian Solar Center (Facility) located in Lake County, Oregon. The C~~C~~MMP was developed in consultation with the Oregon Department of Energy (ODOE), the Oregon State Historic Preservation Office (SHPO), the Klamath Tribes, Burns Paiute Tribe, and Confederated Tribes of Warm Springs. Applicant will implement this C~~C~~MMP during Facility construction.

Commented [JP1]: Should this not use the language in the EFSC standard?

II. ~~PROPOSED~~ AVOIDANCE AND MINIMIZATION ~~MITIGATION~~ MEASURES

~~**ASC Exhibit S:**~~

~~The below information is preliminary and shall be updated when finalizing this Cultural Mitigation and Monitoring Plan based on the pre-construction surveys defined in Final Order on ASC, Attachment S-1: Archeological Testing and Excavation Methodologies Plan, and SHPO and Tribal coordination.~~

Applicant ~~will~~has taken the following measures to prevent destruction of historical, cultural and archaeological resources~~, all with the agreement of the Klamath Tribes and in accordance with the CMMP~~:

- Revised site layout to avoid archeological sites on ~~Excluding isolated finds, eligible or potentially eligible sites cover approximately 202.24 acres within the site boundary. Applicant will avoid~~ approximately 156 acres within Area A – represents more than three quarters of the areas identified with archeological resources.

- ~~, which amounts to almost 80% of the total acres not accounting for appropriate buffers.1 To help offset any disturbance of sites or potential sites not being avoided, Obsidian also agreed to e~~Eliminated 2,430 acres originally included in the Facility site boundary ~~the area studied for potential development~~ after it was determined that approximately 850 acres may contain eligible or potentially eligible resources. ~~In addition, construction will be subject to the Inadvertent Discovery Plan (see Attachment S.5.3.3) and the Tribal Monitoring Agreement, both components of the CMMP.~~

- ~~To further avoid and minimize impacts to historic, cultural and archeological resources, Applicant has R~~revised ~~its proposed~~ site layout to avoid topographical features (specifically, an area of sandy dune ridges), identified by the Klamath Tribes as an area of particular concern that human remains may be uncovered during construction. ~~Applicant's revised site layout avoids this area.~~

  ~~Four of the five multicomponent archeological areas recorded within the site boundary~~

~~described in the pASC have been preliminarily classified as eligible or potentially eligible resources. Applicant has agreed to avoid all four areas.~~
~~There are three areas with a preliminary designation of "potentially eligible historical site." Applicant has agreed with the Klamath Tribes that Applicant will avoid approximately 9.5 acres (1 site) and may impact approximately 2 acres (2 sites) in this category.~~
~~There are 29 areas with a preliminary designation of "eligible prehistoric site" or "potentially eligible prehistoric site" and, of the approximately 157 acres in this category, Applicants has agreed with the Klamath Tribes that Applicant will avoid approximately 132 acres (14 sites) and may impact just over 25 acres (15 sites).~~

- ~~In its agreement with the Klamath Tribes, all areas and resources not identified in the CMMP as being avoided may be impacted and the Tribes have agreed that the total mitigation measures described in the CMMP, which include the Tribal Monitoring Agreement and the Inadvertent Discovery Plan, each described below, are adequate to offset for and mitigate against resulting impacts.~~

- Prepared Inadvertent Discovery Plan (IDP) included as Attachment S-2 to the Final Order to implement during Facility during construction. See Section IV below for the IDP requirements.

III. MITIGATION MEASURES

- Implement the Archeological Testing and Excavation Methodologies Plan, included as Attachment S-1 to the Final Order, prior to and during Facility construction.

- Implement Inadvertent Discovery Plan (IDP) included as Attachment S-2 to the Final Order during Facility during construction. See Section IV below for the IDP requirements.

- Obtain and comply with SHPO archeological permits issued as a part of the Facility site certificate and included as Attachment S-4 to the Final Order during Facility construction. See Section V below for SHPO archeological permit requirements.

- Comply with the mitigation obligations agreed to by Applicant and the Klamath Tribes, as confirmed in a letter from the Klamath Tribes Tribal Council to SHPO, dated August 8, 2019. In its agreement with the Klamath Tribes, all areas and resources not identified in the CMMP as being avoided may be impacted and the Tribes have agreed that the ~~total~~ mitigation measures described in the CMMP, which include the Tribal Monitoring Agreement and the Inadvertent Discovery Plan, each described below, are adequate to offset for and mitigate against resulting impacts.

IV. INADVERTENT DISCOVERY PLAN AND CONSTRUCTION MONITORING

Commented [JP2]: This is an agreement document between the applicant and the Klamath Tribes, but it is not mitigation, and did not involve SHPO. The tribe was never asked to concur that any of the archaeological sites or objects were not eligible to the National Register of Historic Places (NRHP), which the report from the first contractor recommended, without full evaluations. SHPO was asked, as it is our role to concur or not. SHPO did not concur. Had SHPO concurred, there would be no need for any mitigation. Mitigation is for adverse effects to the characteristics of a property (archaeological site, building, etc.) that contribute to its eligibility. By recommending all the archaeological sites and objects outside the dune formations as not eligible, the original contractor is saying that there is no need for mitigation or any protection of any kind. Archaeological objects and sites that are determined not eligible, with SHPO concurrence, have no protections. In part, this is why full evaluations are critical to any archaeological site that may be affected from the construction of an energy facility of any kind. If SHPO concurred, that finding could create a standard for other similar archaeological sites throughout the Klamath Basin, which could remove any need for any agreements with any tribes for those areas.

Applicant will implement the IDP included as Attachment S-1 to the Final Order and have monitors onsite during Facility construction as described in the following sections.

A. Inadvertent Discovery Plan

Applicant will adhere to the Inadvertent Discovery Plan, included~~ing~~ as Attachment S-2 to the Final Order, during Facility construction. ~~–~~The Inadvertent Discovery Plan outlines protocols to be followed if previously unidentified ~~cultural resources~~archaeological objects, sites or human remains are encountered during construction of the Facility. The primary function of the Inadvertent Discovery Plan is to prevent impacts to human remains or exceptionally important archaeological materials.

B. Monitoring During Construction

The professionally-qualified tribal monitor leads will provide weekly reports describing work activities and any findings. This information will be comp~~l~~iled in a monitoring report to be distributed to the area tribes, ODOE, SHPO, and as appropriate the Oregon Department of State Lands (DSL), at the completion Facility construction. ~~In addition, Applicant will enter into Tribal Monitoring Agreements with the Klamath Tribes and Burns Paiute Tribe, as described under Section IV.C below.~~

C. Tribal Monitoring Agreements

Applicant will enter into monitoring agreements Klamath Tribes and the Burns Paiute Tribe. The monitoring agreements provide an opportunity for the Tribes to have monitors onsite during ground disturbing activities.~~,~~ These agreements contain notification and reporting obligations, and outline terms for compensation, reimbursement, and monitoring protocols.

~~**PROPOSED MONITORING PROGRAM**~~

~~**ASC Exhibit S:**~~

~~**OAR 345-021-0010(1)(s)(E)** *The applicant's proposed monitoring program, if any, for impacts to historic, cultural and archaeological resources during construction and operation of the proposed facility.*~~

- ~~Response. An archeological monitor will be on site during Facility construction activities. The monitor will provide weekly reports describing work activities and any findings. This information will be complied in a monitoring report to be distributed to the area tribes, SHPO and the Oregon Department of Energy at the completion Facility construction. The monitor(s) will follow the monitoring plan, which will be finalized~~

between Applicant and the Klamath Tribes, with the following agreed-upon material terms:

The Director of Culture and Heritage Department or other designee, will be the primary point of contact and will assign up to 2 cultural monitors during the Facility construction (or such greater number as may be appropriate given the rate and schedule of construction). The Director, along with the Cultural Resource Protection Specialist, if applicable, will be reimbursed for their time spent on the project overseeing the monitors and responding to reports as necessary. In order to be reimbursed detailed invoices showing time and activities must be submitted to Applicant in a timely manner.

- Monitors will be paid hourly for each hour of on-site observation and will be entitled to a per diem payment each day on site for observation. It is expected that the construction schedule will consist of 4 ten-hour work days per week and, depending on construction phases, may last up to two years. Cultural monitors will be paid on the terms and frequency agreed upon by the parties.

~~To the extent that the cultural monitors are required to travel more than 75 miles from their homes to the facility site, Obsidian will reimburse a specified amount per night for lodging, provided that the monitors are responsible for securing their own reservations or make other arrangements. This lodging stipend is in addition to the per diem.~~
~~Monitors will be responsible for providing their own transportation to and from the site. For transportation around the site, the monitors will be provided with two four-wheel drive pick-up trucks (only crew members that have been cleared by the Klamath Tribe Administration policies through the Culture and Heritage Department will be allowed to operate any vehicle). Fuel costs for monitoring on this project will be a reimbursable expense.~~
~~In order to work on the site, Monitors will be required to have steel tipped boots, hard hats, reflective vests, GPS units, digital cameras, cell phones, ear and eye protection, and first aid kits.~~
~~The cultural monitors will be expected to attend all safety meetings and follow all safety and other instructions of the EPC contractor. Cultural monitors will be expected to be on site to observe all excavation work. The cultural monitors will coordinate their daily activities with Applicant's construction contractor and Applicant's archeologist, if applicable, and provide written weekly summary reports to Applicant describing observed items or issues.~~
~~The Tribes may employ a professional archaeologist to support the monitoring and archaeological work being conducted in connection with construction of the facility. Applicant will reimburse the Tribes for the actual direct costs of hiring the archaeologist incurred by the Tribes provided the Tribes submit a reasonably detailed invoice to Applicant. The archaeologist will provide guidance on various archaeological matters throughout the term of the project. The archaeologist will work closely with representatives of the Applicant on behalf of the Klamath Tribes.~~

- ~~The Tribes may incur legal costs in association with entering into the Monitoring Agreement. Obsidian has agreed to reimburse the Tribes for a portion of such costs.~~

~~In advance of construction, all monitors and others involved in construction activities will have received appropriate training regarding the types of cultural resources that may be present below the ground surface and appropriate actions to take in case of a find. In the case of a post-review discovery, the archeological monitor will follow the Inadvertent Discovery Plan protocol described in Appendix S05 to this Supplement to Exhibit S.~~

V. SHPO ARCHAEOLOGICAL PERMITS ~~CONDITIONS~~

Applicant sought archeological permits under ORS 390.235 through the EFSC process because Facility construction would occur in an area of known archeological objects and sites. In addition to EFSC review, SHPO circulated the archeological permit applications for review and comment pursuant to OAR 736-051-0080 and OAR 736-051-0090. Comments received under OAR 736-

051-0080 and OAR 736-051-0090 were incorporated as comments into the EFSC record and formed the basis of conditions contained in the archeological permits.

~~SHPO Archaeological Permits~~

The ~~following conditions are included in the~~ four (one for each landowner) ~~SHPO a~~Archaeological p~~P~~ermits (AP2816, AP2817, AP2818, and AP2819) and their respective conditions are included and governed by the EFSC site certificate. ~~Permit ID's: AP2816, AP2817, AP2818, and AP2819~~ Complete application materials and the four permits~~, along with their conditions,~~ can be found in the Final Order on ASC, Attachment S-1: Archeological Testing and Excavation Methodologies Plan. The archaeological permits allow for archaeological excavations where construction impacts to archaeological sites are expected. The archaeological excavations serve as mitigation for those expected construction impacts. The permits also provide for construction monitoring by the Klamath Tribes and the Burns Paiute Tribe, as described above.

The following outline the archeological permit conditions Applicant must comply with during Facility construction:

- Applicant will enter into a monitoring agreement with Klamath Tribes as described in Section IV above.
- Applicant will enter into a monitoring agreement with the Burns Paiute Tribe as described in Section IV above.
- Diagnostic artifacts identified during monitoring may be collected. The landowner will provide artifacts collected from privately owned land to the Klamath Tribes for curation. On public lands, the artifacts will be sent to an appropriate repository.
- Applicant will implement the Archeological Testing and Excavation Methodologies Plan prior to and during Facility construction (Attachment S-1 to the Final Order) and implement the Inadvertent Discovery Plan (Attachment S-2 to the Final Order).
- Applicant will provide copies of all reports for monitoring and discoveries within the Facility site boundary to ODOE, SHPO, the Klamath Tribes, and the Burns Paiute Tribe. Applicant will also provide copies of all reports for monitoring and discoveries within Section 16 of the Facility site boundary to the Oregon Department of State Lands.

Commented [JP3]: Some of it may be mitigation, but some of it is just to complete the work that was not finished. There are areas that we just don't know what lies beneath the surface, because archaeological subsurface testing (excavation) has not been conducted. We know what is on the surface, but not below ground, so the question is: are we just seeing the tip of the iceberg? If archaeological objects are below ground, how far do they extend both horizontally and vertically? The archaeological excavations focus on what is known, compared with areas of project related ground disturbance. If nothing is found from the archaeological excavations in an area, that would not be mitigation. If something is found, the next steps can be considered mitigation. Additional consultation may need to occur if for example, an object of cultural patrimony (ORS 358.905) were encountered as a result of the archaeological excavations. However, the archaeological plan accounts for foreseeable archaeological objects and sites based on all currently available information. As a "big picture" issue, assuming the patterning of the archaeological objects and sites are eligible to the NRHP under Criterion A, and for research potential (Criterion D), the excavations to guide the project collectively may be mitigation based on what is currently known.

Commented [JP4]: By statute, this would be the Oregon State Museum of Anthropology (for non-federal public lands), which is currently the University of Oregon Museum of Natural and Cultural History (UOMNCH). If there is no agreement with UOMNCH, all material collected under the permits must go to the state repository. One of the four permits is on DSL lands, and UOMNCH is listed as the appropriate facility on that permit.

Commented [JP5]: All work conducted under an archaeological permit also requires submission of reports, not just monitoring.

The applicant's archaeologist prepared the archaeological permit applications in coordination with the SHPO and Tribes. Reviewing Tribes and agencies approved the permits and requested additional conditions. The additional conditions were accepted by the applicant and made part of each permit. These conditions are available in Attachment S-1 and are summarized below.

Klamath Tribes

The Klamath Tribes' will have our employed Archaeologist will be onsite for review of work related to this permit and will be overseeing the Klamath Tribes' interests.

Definitions; Monitoring Agreement, tThe Klamath Tribes may have Tribal Monitor(s) onsite during all excavation activities under theis permits. A notification of at least 24 hours must be given to the Klamath Tribes, Culture and Heritage Department or Tribal Archaeologist, before the starting of work.

Trenching within a Recorded Archaeological Site; D. (b) Diagnostic artifacts identified during monitoring may be collected. Artifacts collected from privately owned lands will be and turned over to the permitee's archaeological field director who will, in turn, give them to the private landowners. The private land owners have agreed to provide these artifacts to the Klamath Tribes for curation. On public lands, state law requires curation at specific respositories and the Klamath Tribes do not currently operate one of these respositories. However, the Klamath Tribes requested that If lands held by Oregon Department of State Lands, at a later time became property of Obsidian Solar Center LLC the project proponent,. The Klamath Tribes request thatthe artifacts collected would be given to the Klamath Tribes, Culture and Heritage Department for curation.

Testing at Project Related (non-archaeological) Excavation; C. All Project related Excavationground disturbance will be monitored by one or more tribal monitors as the tTribal aArchaeologist sees appropriate. A 24 hour notification must be given to the Klamath Tribes, Culture and Heritage Department or Tribes' Archaeologist from the project proponent or their construction contractor; Swinerton, Dog Lake Construction or Obsidian Solar Center. Bbefore non-archaeological work related to ground disturbing activities on the project is started.

Artifact Analysis; A. aA total of 51 obsidian artifacts will be selected for source characterization and hydration analysis on the project. That No Destructive analysis will be performed on collected artifacts (no lapidary sawing of formed tools for sample preparation), rather a debitage

flake from the sample area selected will be used for hydration analysis. B. aA total of 10 artifacts will be selected for residue analysis. The Klamath Tribes, Culture and Heritage Department, concurs with theis method to be used for residue analysis.
Reporting. That The Klamath Tribes, Culture and Heritage Department also requests a copy of the report of findings from the archaeological testing phase of the project.
Archaeological Permit; This Methodologies planThe Archeological Testing and Excavation Methodologies Plan provides the archaeological mitigation for impact to archaeological resources for the planned project. However, the Klamath Tribes, Culture and Heritage Department reserve the opportunity to request that more mitigation may beif needed for other (new) cultural/archaeological resources unearthed during; the archaeological testing phase of the permit and construction related activities.

Burns Paiute Tribe

WeThe Burns Paiute Tribe requests the ability to have a Burns Paiute tribal cultural monitor on site for all or part of the excavations, at the Burns Paiute Tribe's discretion.
The Burns Paiute Tribe We would like the ability to review and potentially comment on the draft report generated as a result of the excavation.
The Burns Paiute Tribe We requests a bound copy of the final report.
The Burns Paiute Tribe We reserves the right to review the collected cultural items prior to their permanent curation. If cultural items are taken from private lands we ask that the private land owner consider gifting the cultural items to the Burns Paiute Tribe so that we may take care of them in a culturally appropriate manner.
The Burns Paiute Tribe We would also like an executed copy of the inadvertent discovery plan prior to initiation of ground disturbing activities, and we want to be listed as one of the primary contacts for inadvertent discoveries.

Oregon Department of State Lands (DSL – Landowner)

DSL requests:
A copy of the of the Final Report that addresses the survey & testing done on Section 16 of DSLs land and;
A copy of the GIS shape files that identifies the areas surveyed & the location of the Sites & Isolates documented on section 16 of DSL Land.

TARDAEWETHER Kellen * ODOE

From: POULEY John * OPRD
Sent: Friday, March 13, 2020 10:18 AM
To: TARDAEWETHER Kellen * ODOE; JOHNSON Ian * OPRD
Subject: RE: Notice of DPO and Comment Period for the Obsidian Solar Center

Hi Kellen,

I took a glance at the DPO and do not have any big concerns. One small typo is on page 113, line 2, which begins "archaeological objects and site…". The word site should be plural (sites). Other than that, I think it addresses section IV.K well.

Hope all is well,
-John

John O. Pouley | Assistant State Archaeologist
Oregon Parks and Recreation Department, Heritage Division
State Historic Preservation Office
725 Summer Street NE, Suite C, Salem, OR 97301
Desk: 503.986.0675 | Sign up to the Archaeology mailing list

From: TARDAEWETHER Kellen * ODOE
Sent: Friday, March 13, 2020 7:14 AM
To: POULEY John * OPRD <John.Pouley@oregon.gov>; JOHNSON Ian * OPRD <Ian.Johnson@oregon.gov>
Subject: Notice of DPO and Comment Period for the Obsidian Solar Center

Good morning John and Ian,

I'm forwarding the notice of the DPO that we issued yesterday and here is a link to the DPO combined with attachments. If you'd like to review and provide comments you are welcome to do so, however, you don't need to. The section most applicable to the work you've been doing for this project is Section IV.K. Historic, Cultural, and Archaeological Resources. I've also included Attachments S-1 through S-4 relating to this section and permits. I've redacted several portions of the documents that relate to descriptions and locations of sensitive resources. If you'd like to discus any of this let me know.

Thanks for all you work for this project!

Kellen

Kellen Tardaewether
Senior Siting Analyst
550 Capitol St. NE Salem, OR 97301
P: 503-373-0214
C: 503-586-6551
P (In Oregon): 800-221-8035

Stay connected!

From: Oregon Department of Energy <ODOE@cd.energy.oregon.gov>
Sent: Thursday, March 12, 2020 5:13 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Subject: Public Notice of Public Hearing and Request for Comments Available on Draft Proposed Order on the Application for Site Certificate for proposed Obsidian Solar Center

Click here if you are having trouble viewing this message.

Public Notice of Public Hearing and Request for Comments Available on Draft Proposed Order on the Application for Site Certificate for Proposed Obsidian Solar Center

Description: The applicant, Obsidian Solar Center LLC (a wholly owned subsidiary of Obsidian Renewables, LLC) submitted an application for site certificate (ASC) to the Oregon Department of Energy to construct and operate the proposed Obsidian Solar Center (proposed facility). The proposed facility, including related or supporting facilities, includes up to 404 megawatt alternating current (MWac) of photovoltaic solar energy generation equipment to be located within a site boundary of approximately 3,921 acres. The proposed site boundary is located within Lake County, approximately eight miles northwest of Christmas Valley.

The Department determined that the ASC was complete on October 17, 2019; the applicant filed a complete ASC on October 30, 2019. The Department posted additional information to the ASC submitted by the applicant to the project webpage and issued a Draft Proposed Order on the ASC on March 12, 2020. The Draft Proposed Order recommends the Energy Facility Siting Council (EFSC) approve the ASC and grant a site certificate, subject to the conditions presented in the Draft Proposed Order (see Attachment A).

Comment Period: The Oregon Department of Energy requests written comments on the Draft Proposed Order (staff's initial evaluation and recommendation) from March 12, 2020 through April 23, 2020. Written comments must be received by the comment deadline of Thursday, April 23, 2020 at the close of the public hearing. Written comments must be submitted by mail, email, hand-delivery or fax:

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE, 1st Floor
Salem, OR 97301
Email: Kellen.Tardaewether@oregon.gov
Fax: 503-373-7806

Public Hearing: A third-party hearings officer from the Oregon Office of Administrative Hearings, appointed by EFSC, will hold a public hearing on the Draft Proposed Order, as described below, where members of the public may provide oral and written comments on the record of the Draft Proposed Order:

Date:	April 23, 2020
Start Time:	5:45 p.m.
End Time:	7:00 p.m., or later based on public participation
Location:	North Lake School 57566 Fort Rock Road Silver Lake, OR 97638
Call-in:	1-844-766-2282 Code: 201119

Written or oral comments must be received by the close of the Public Hearing to be eligible to participate in a contested case on this ASC.

The public notice prepared in accordance with OAR 345-015-0220(2) is provided on ODOE's website: https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2020-03-12-OSC-APP-DPO-Hearing-Public-Notice.pdf

More information about the proposed facility, the public notice, and updates on the review process, are available online at:
https://www.oregon.gov/energy/facilities-safety/facilities/Pages/OSC.aspx

Additional resources to help you participate in the state siting process can be found at:
http://www.oregon.gov/energy/facilities-safety/facilities/pages/default.aspx

You received this notice either because you previously signed up for email updates through GovDelivery/ClickDimensions related to specific siting projects, all Energy Facility Siting Council activities (the "General List") or Rulemaking activities. You may manage your subscriptions to updates on various ODOE and Energy Facility Siting Council projects by logging in to our ClickDimensions page at: https://tinyurl.com/ODOE-EFSC.

If you have any questions or comments about ClickDimensions please feel free to contact michiko.mata@oregon.gov

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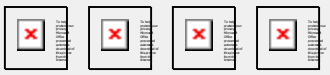
Oregon Department of Energy
Leading Oregon to a safe, clean, and sustainable energy future.

The Oregon Department of Energy helps Oregonians improve the energy efficiency of their homes, provides policy expertise to prepare for Oregon's future energy needs, staffs the Energy Facility Siting Council, provides technical and financial assistance to encourage investments in energy efficiency and renewable energy resources, promotes the cleanup of the Hanford nuclear site, and ensures state preparedness to respond to emergencies at energy facilities.



AskEnergy@oregon.gov | 503-378-4040 | 550 Capitol St. NE in Salem

TARDAEWETHER Kellen * ODOE

From: daferns@bendbroadband.com
Sent: Thursday, March 19, 2020 11:41 AM
To: TARDAEWETHER Kellen * ODOE

We are writing to express our concerns with the main route to the project. Right now it's so dry the roads are like powder.
We live close to the road and our livestock graze next to the road. The dust is way too much and will only get worse this summer. Unless Obsidian is going to water the roads
to keep the dust down or chip seal the roads they need to use the paved hwys. Since Finds are making money off this project they could go
through their place which is way closer. We support the project but don't like them using the dirt road and us having to breath this dust and
the cattle having their feed all covered with dust. A couple miles out of their way would make everyone happy. Let's all get along and support
one another. Thank you, Mike and Dorothy Ferns

TARDAEWETHER Kellen * ODOE

From: TARDAEWETHER Kellen * ODOE
Sent: Thursday, May 14, 2020 3:20 PM
To: TARDAEWETHER Kellen * ODOE
Subject: RE: Notice of DPO and Comment Period for the Obsidian Solar Center

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From: THOMPSON Seth <Seth.THOMPSON@aviation.state.or.us>
Sent: Thursday, May 14, 2020 3:07 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>; ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
Cc: LAWYER Matthew A <Matthew.A.LAWYER@aviation.state.or.us>
Subject: RE: Notice of DPO and Comment Period for the Obsidian Solar Center

Kellen and Sarah,

I forgot to bring up one additional note for future reference.

I believe I spoke to Katie Clifford already regarding potential glare or "reflectivity" from solar sites.

ODA does not regulate or have standards that address reflectivity, but the FAA may address reflectivity at this site in the future.

Unfortunately, the FAA has not yet established clear criteria for evaluating reflectivity.

However, the FAA did publish a technical guidance document in 2018 for evaluating solar technologies.

Unfortunately, the file is too large to send, but you can search google to download the document: "Technical Guidance for Evaluating Selected Solar Technologies on Airports."

According to the document, "the FAA has no specific standards for airport solar facilities and potential glare."

However, the FAA does provide an analysis process to evaluate reflectivity. Please see below:

(1) A qualitative analysis of potential impact in consultation with the Air Traffic Control Tower, pilots, and airport officials
(2) A demonstration field test with solar panels at the proposed site in coordination with Air Traffic Control Tower personnel
(3) A geometric analysis to determine days and times when there may be an ocular impact.

Please see page 40 of the document for a more detailed description.

I just wanted to make you aware of this aspect in case the FAA addresses it in the future at this site, along with all other solar facilities.

Best regards,

Seth Thompson | **OFFICE** 503-378-2529 **CELL** 503-507-6965

OREGON DEPARTMENT OF AVIATION
AVIATION PLANNER

EMAIL seth.thompson@aviation.state.or.us
3040 25TH STREET SE, SALEM, OR 97302
WWW.OREGON.GOV/AVIATION

From: THOMPSON Seth <Seth.THOMPSON@aviation.state.or.us>
Sent: Thursday, May 14, 2020 2:37 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Cc: LAWYER Matthew A <Matthew.A.LAWYER@aviation.state.or.us>; ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
Subject: RE: Notice of DPO and Comment Period for the Obsidian Solar Center

Good afternoon Kellen and Sarah,

Thank you very much for your help and I appreciate your patience.

Matt and I have concluded that further analysis of the Obsidian Solar Center is not required by ODA at this time.

The transmission lines we discussed appear to be roughly eight miles from the nearest airport.

For this reason, we conclude that the Obsidian Solar Center is in compliance with FAA Part 77.9 standards.

However, if there is any instance in the future where construction at the site exceeds more than 100 feet in height, please notify the ODA.

Construction includes temporary use of cranes or other equipment.

Thank you again and please let me know if you need further assistance.

Best regards,

Seth Thompson
OREGON DEPARTMENT OF AVIATION
AVIATION PLANNER

OFFICE 503-378-2529 **CELL** 503-507-6965
EMAIL seth.thompson@aviation.state.or.us
3040 25TH STREET SE, SALEM, OR 97302
WWW.OREGON.GOV/AVIATION

From: ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
Sent: Wednesday, May 6, 2020 4:09 PM
To: THOMPSON Seth <Seth.THOMPSON@aviation.state.or.us>
Cc: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Subject: FW: Notice of DPO and Comment Period for the Obsidian Solar Center

Hi Seth,

Hope all is well!

Per your comments provided below, could you confirm whether there are any public use airport or heliports or military airports within the distances specified below to the proposed Obsidian Solar Center?

Also, the tallest structures proposed for the facility are 70-foot tall transmission structures, with other facility structures ranging in height from 14 to 30 feet. Based on these structure heights and any identified military/public use airport/heliport, could you confirm whether your comments apply?

Thanks,
Sarah

From: THOMPSON Seth <Seth.THOMPSON@aviation.state.or.us>
Sent: Wednesday, March 25, 2020 2:40 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Subject: RE: Notice of DPO and Comment Period for the Obsidian Solar Center

Good afternoon,

Thank you for providing the opportunity for the Oregon Department of Aviation (ODA) to comment on the Obsidian Solar Center.

The Obsidian Solar Center may require airspace review by the FAA and ODA subject to the standards in Code of Federal Regulations: Title 14. Aeronautics and Space: PART 77—Safe, Efficient Use, and Preservation of the Navigable Space.

All project elements are subject to compliance with FAA Part 77.9 Construction or alteration requiring notice (a-d), FAA Part 77.17 Obstruction standards (a-b) and Obstruction Standards of OAR 738-70-0100 if they exceed 200 feet in height or are:

within 20,000 ft of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft.

- within 10,000 ft of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft.
-
- within 5,000 ft of a public use heliport which exceeds a 25:1 surface

To make this determination, all project elements more than 200 feet in height or within the distances provided above must undergo airspace analysis through submittal of a completed FAA Form 7460-1, attached for reference.

Please let me know if you have any questions or need assistance.

Thank you,

Seth Thompson
OREGON DEPARTMENT OF AVIATION
AVIATION PLANNER

OFFICE 503-378-2529 **CELL** 503-507-6965
EMAIL seth.thompson@aviation.state.or.us
3040 25TH STREET SE, SALEM, OR 97302
WWW.OREGON.GOV/AVIATION

From: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Sent: Friday, March 13, 2020 9:03 AM
To: BLEAKNEY Leann <lbleakney@nwcouncil.org>; CANE Jason <jason.cane@state.or.us>; MILLS David <david.mills@state.or.us>; Brownj@science.oregonstate.edu; PECK Heather <heather.peck@aviation.state.or.us>; GERMOND Jon P <Jon.p.Germond@state.or.us>; svelund.greg@deq.state.or.us; HAYES-GORMAN Linda <Linda.HAYES-GORMAN@state.or.us>; TOKARCZYK John A * ODF <John.A.TOKARCZYK@oregon.gov>; WANG Yumei * DGMI <Yumei.WANG@oregon.gov>; EDELMAN Scott <scott.edelman@state.or.us>; JININGS Jon <jon.jinings@state.or.us>;

HOWARD Gordon <gordon.howard@state.or.us>; MCALLISTER Lynne <lynne.mcallister@state.or.us>; bethany.harrington@dsl.state.or.us; MULDOON Matt <matt.muldoon@state.or.us>; LGKOHO@puc.state.or.us; BJORK Mary F * WRD <Mary.F.Bjork@oregon.gov>; hfoote@dlcd.state.or.us
Subject: Notice of DPO and Comment Period for the Obsidian Solar Center

Good morning,

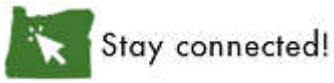
I'm forwarding the notice of the draft proposed order (DPO) that the Department issued yesterday for the Obsidian Solar Center currently under review by the Energy Facility Siting Council (EFSC). The Obsidian Solar Center is a 400 MW solar facility proposed on approximately 3,921 acres in north Lake County. The comment period ends at the end of the public hearing on April 23, 2020 in Lake County.

Here is a link to the DPO combined with attachments. If you'd like to review and provide comments you are welcome to do so, however, you don't need to. If you have any questions, let me know. Thanks!

Kellen

OREGON DEPARTMENT OF ENERGY

Kellen Tardaewether
Senior Siting Analyst
550 Capitol St. NE Salem, OR 97301
P: 503-373-0214
C: 503-586-6551
P (In Oregon): 800-221-8035



From: Oregon Department of Energy <ODOE@cd.energy.oregon.gov>
Sent: Thursday, March 12, 2020 5:13 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Subject: Public Notice of Public Hearing and Request for Comments Available on Draft Proposed Order on the Application for Site Certificate for proposed Obsidian Solar Center

Public Notice of Public Hearing and Request for Comments Available on Draft Proposed Order on the Application for Site Certificate for Proposed Obsidian Solar Center

Description: The applicant, Obsidian Solar Center LLC (a wholly owned subsidiary of Obsidian Renewables, LLC) submitted an application for site certificate (ASC) to the Oregon Department of Energy to construct and operate the proposed Obsidian Solar Center (proposed facility). The proposed facility, including related or supporting facilities, includes up to 404 megawatt alternating current (MWac) of photovoltaic solar energy generation equipment to be located within a site boundary of approximately 3,921 acres. The proposed site boundary is located within Lake County, approximately eight miles northwest of Christmas Valley.

The Department determined that the ASC was complete on October 17, 2019; the applicant filed a complete ASC on October 30, 2019. The Department posted additional information to the ASC submitted by the applicant to the project webpage and issued a Draft Proposed Order on the ASC on March 12, 2020. The Draft Proposed Order recommends the Energy Facility Siting Council (EFSC) approve the ASC and grant a site certificate, subject to the conditions presented in the Draft Proposed Order (see Attachment A).

Comment Period: The Oregon Department of Energy requests written comments on the Draft Proposed Order (staff's initial evaluation and recommendation) from March 12, 2020 through April 23, 2020. Written comments must be received by the comment deadline of Thursday, April 23, 2020 at the close of the public hearing. Written comments must be submitted by mail, email, hand-delivery or fax:

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE, 1st Floor
Salem, OR 97301
Email: Kellen.Tardaewether@oregon.gov
Fax: 503-373-7806

Public Hearing: A third-party hearings officer from the Oregon Office of Administrative Hearings, appointed by EFSC, will hold a public hearing on the Draft Proposed Order, as described below, where members of the public may provide oral and written comments on the record of the Draft Proposed Order:

Date:	April 23, 2020
Start Time:	5:45 p.m.
End Time:	7:00 p.m., or later based on public participation
Location:	North Lake School 57566 Fort Rock Road Silver Lake, OR 97638
Call-in:	1-844-766-2282 Code: 201119

Written or oral comments must be received by the close of the Public Hearing to be eligible to participate in a contested case on this ASC.

The public notice prepared in accordance with OAR 345-015-0220(2) is provided on ODOE's website: https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2020-03-12-OSC-APP-DPO-Hearing-Public-Notice.pdf

More information about the proposed facility, the public notice, and updates on the review process, are available online at: https://www.oregon.gov/energy/facilities-safety/facilities/Pages/OSC.aspx

Additional resources to help you participate in the state siting process can be found at: http://www.oregon.gov/energy/facilities-safety/facilities/pages/default.aspx

You received this notice either because you previously signed up for email updates through GovDelivery/ClickDimensions related to specific siting projects, all Energy Facility Siting Council activities (the "General List") or Rulemaking activities. You may manage your subscriptions to updates on various ODOE and Energy Facility Siting Council projects by logging in to our ClickDimensions page at: https://tinyurl.com/ODOE-EFSC.

If you have any questions or comments about ClickDimensions please feel free to contact michiko.mata@oregon.gov

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Oregon Department of Energy
Leading Oregon to a safe, clean, and sustainable energy future.

The Oregon Department of Energy helps Oregonians improve the energy efficiency of their homes, provides policy expertise to prepare for Oregon's future energy needs, staffs the Energy Facility Siting Council, provides technical and financial assistance to encourage investments in energy efficiency and renewable energy resources, promotes the cleanup of the Hanford nuclear site, and ensures state preparedness to respond to emergencies at energy facilities.

AskEnergy@oregon.gov | 503-378-4040 | 550 Capitol St. NE in Salem

TARDAEWETHER Kellen * ODOE

From: Gail Carbiener <mcgccarb@bendbroadband.com>
Sent: Tuesday, March 31, 2020 9:37 AM
To: TARDAEWETHER Kellen * ODOE
Subject: RE: Exh S
Attachments: T26SR16E.jpeg

Kellen:
I have attached a plot of the GLO map of 1913. It shows the Fort Rock to Christmas Valley Road running through the site. It is also described by Larry Nielsen in his book Pioneer Roads in Central Oregon. Published in 1985.
I am surprised they did not find traces of the old road. SHPO has not been concerned about Military and Pioneer Roads.
Attached I have located the road crossings at section lines in T26S R16E. They may be able to work with us the provide additional historical signage in the area.
Gail

----- Original Message -----
From: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
To: Gail Carbiener <mcgccarb@bendbroadband.com>
Sent: Mon, 30 Mar 2020 11:11:41 -0400 (EDT)
Subject: RE: Exh S

Good morning Gail!

I've attached Exhibit S. I'm happy to hear you're both doing well. I'm also working from home and happy that I live in the country because long walks are easily accessible! Stay well and let me know if you have any questions.

Kellen

26S 16E

Township 26S, Range 16E

① 10.35 chains N. of corner GLO1910

② 19.71 chains E. of corner 7/18/12/13

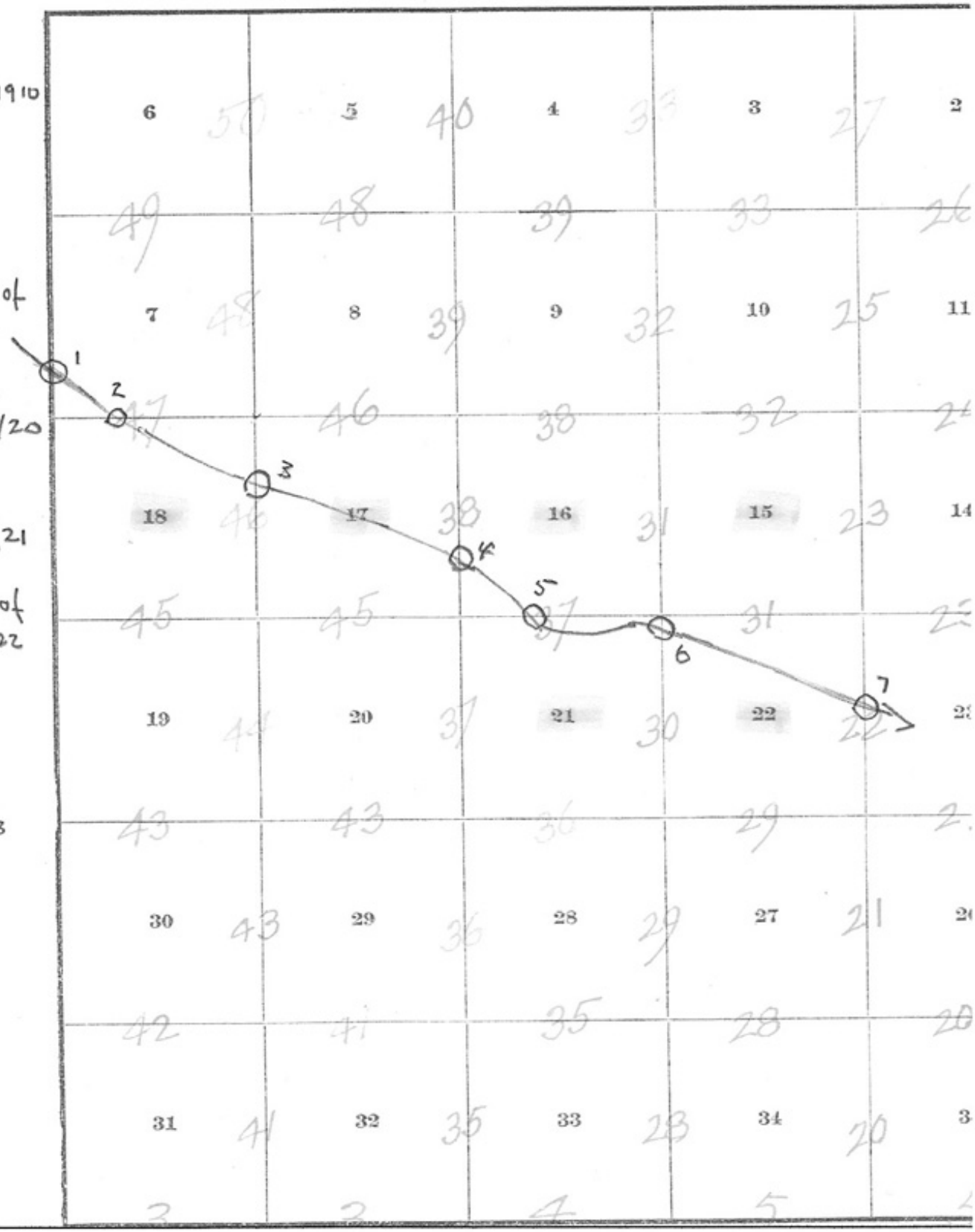
③ 49.24 chains N of corner 17/18/19/20

④ 22.20 ch. N of corner 15/16/20/21

⑤ 50.00 ch. West of corner 15/16/21/22

⑥ 74.10 ch. N of corner 21/22

⑦ 35.90 chains N. of corner 22/23



TARDAEWETHER Kellen * ODOE

From: Sarah J Reif <Sarah.J.Reif@state.or.us>
Sent: Friday, April 24, 2020 3:31 PM
To: TARDAEWETHER Kellen * ODOE; ESTERSON Sarah * ODOE
Cc: MUIR Jonathan D; WATSON Trevor M; DONALD Erin L
Subject: Obsidian DPO - ODFW Comment
Attachments: Obsidian_DPO__ODFW Final Comment_04.24.20.pdf

Kellen and Sarah,

Please see attached for ODFW's comments on the Obsidian DPO. Please feel free to share with the applicant.

We will be compiling all of the referenced comment letters, the ODFW white paper, and the literature cited for inclusion in the record. That will take us a while to compile, but we will have it together prior to the closing of the DPO record on May 21. I am thinking this will be a bookmarked PDF document, or a set of PDFs on a flash drive. Will electronic be ok or will it need to be hard copy?

Sarah J. Reif
Energy Coordinator
o: 503-947-6082; m: 503-991-3587
sarah.j.reif@state.or.us

Oregon Department of Fish and Wildlife
4034 Fairview Industrial Drive SE
Salem, OR 97302
MyODFW.com

Oregon
Kate Brown., Governor

Department of Fish and Wildlife
Wildlife Division
4034 Fairview Industrial Drive SE
Salem, OR 97302
(503) 947-6300
FAX: (503) 947-6330
Internet: www.dfw.state.or.us

April 24, 2020

Kellen Tardaewether
Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

RE: Comments on the Draft Proposed Order for Obsidian Solar Center

Dear Ms. Tardaewether,

The Oregon Department of Fish and Wildlife (ODFW) provides the following review and recommendations for the Obsidian Solar Center Draft Proposed Order (DPO; dated March 12, 2020). ODFW reviewed the DPO for its consistency with the goals of the Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0025; hereafter, mitigation policy), in furtherance of the State of Oregon's Wildlife Policy that wildlife be managed to prevent serious depletion and to provide optimal recreational and aesthetic benefits for present and future generations of the citizens of this state (ORS 496.012).

In general, ODFW finds that significant progress has been made on the Obsidian Solar Center application materials including Exhibit P, the Draft Habitat Mitigation Plan, the Wildlife Monitoring Plan, and the Draft Revegetation and Noxious Weed Control Plan (Attachments P-1, P-2, and P-3 respectively, as referenced in the DPO). ODFW appreciates the responsiveness of the applicant to ODFW's concerns and recommendations as previously stated in our letters[1] on the Notice of Intent (March 16, 2018), the Preliminary Application for Site Certificate (November 9, 2018), and the Application for Site Certificate (December 9, 2019) as well as the numerous meetings and email correspondences along the way.

Even with this significant progress, ODFW takes this opportunity to highlight remaining issues in the Obsidian Solar Center plans that need resolution to ensure consistency with the mitigation policy and by extension the EFSC Fish and Wildlife Habitat Siting Standard (OAR 345-022-0060). ODFW's recommended resolutions to these remaining issues are provided in bold type for ease of reference.

Draft Habitat Mitigation Plan (Attachment P-1), DPO Fish and Wildlife Condition 2

ODFW concurs with the DPO Fish and Wildlife Condition 2, and offers the following additional input on the applicant's Draft Habitat Mitigation Plan.

[1] To the extent Oregon Department of Energy's Final Order, and the Energy Facility Siting Council's Site Certificate, diverts from this Draft Proposed Order in a manner that renews the concerns addressed in those comments, ODFW relies on those comments.

Big Game Winter Range

The Draft Habitat Mitigation Plan (Draft HMP) correctly identifies the habitats that will be impacted by the proposed solar facility as big game winter range for elk and deer. Specifically, the proposed facility is within a wintering area that provides habitat to more wintering deer and elk than all but one other winter range in the state of Oregon (John Day River canyon). The site is comprised of a mosaic of sagebrush dominated shrublands, salt scrub shrublands, grasslands, and barren ground. Natural precipitation conditions in the area limit the diversity of plant life to those endemic and introduced species that are both arid climate adapted and drought tolerant. Previous land use within the last 50 years on the project facility site has resulted in some areas of disturbance, though from a big game habitat perspective the project area is currently functionally intact and is connected to other open space and travel corridors on all sides (ie: no existing developments currently inhibit the movements of or space use by native wildlife). Noxious weed infestation is currently believed to be at low levels and is assumed to be dominated in those small areas by cheatgrass (*Bromus tectorum*) and potentially small infestations of spotted (*Centaurea maculosa*) or diffuse knapweed (*Centaurea diffusa*). Rocky Mountain elk and mule deer are known to have used the site in recent years (as evidenced by both the presence of big game scat noted during wildlife survey efforts as well as local area accounts), and especially when winter conditions are particularly harsh or human activity has driven, particularly elk, away from other winter range areas.

The Draft HMP also correctly designates the impacted habitats as Category 2, in accordance with the mitigation policy and the ODFW 2013 Big Game Winter Range White Paper (attached to this letter). However, in Tables 1 and 2 and associated paragraphs (Section 2.0), the Draft HMP creates a distinction between ODFW's designation of this area as Category 2 big game winter range and what the applicant refers to as 'habitat category based on field habitat assessment' where the applicant further designates the habitat as categories 3, 4, and 5. Describing two separate categorizations of the impacted habitats in the Draft HMP (Category 2 as determined by ODFW, and Categories 3-5 as determined by the applicant) creates confusion, and is contrary to ODFW's policy which provides a consistent approach to habitat categorization based on the function it provides to wildlife.

It may be helpful for ODFW to clarify its reasoning for the Category 2 designation of these lands in the Fort Rock Valley, consistent with the ODFW 2013 Big Game Winter Range White Paper.[2] Elk and deer rely on the lower-elevation habitats in the Fort Rock Valley to meet their nutritional and thermal cover needs during the winter seasons when higher-elevation habitats become unavailable due to snow and freezing temperatures. Even those lower-elevation habitats in poor function and condition can make the difference for over-winter survival in particularly harsh winters. While ODFW mapped big game winter range attempts to depict those areas necessary to the survival of big game resources, it is important to note that not all winters are similar, and varying winter conditions dictate how much space is needed, and where that space needs to exist on the landscape in order to promote overwinter survival. Those conditions not only fluctuate annually, but also within a winter season such that certain areas of the winter range may only be utilized for portions of the winter period, though at those times they are every bit as critical to the survival of the individual animal as those acres that will be utilized at a later time in the same winter. Further, it may be useful to note that while big game animals (especially those that are migratory in nature like those populations found around the Ft. Rock Valley) do concentrate space use during winter, often there are resident animals that remain in those winter ranges throughout the year. While a majority of the big game that winter within the big game winter range overlapping the proposed project area do migrate to higher elevations for summer, it is a mischaracterization to assume big game only utilize those acres defined as winter range during the winter months. Further, it is important to note that lands currently available to wintering big game represent a fraction of historic ranges. Human development, highways, and changing agricultural practices have all contributed to a shrinking of

[2] The ODFW 2013 Big Game Winter Range Whitepaper is attached to these comments for inclusion in the record.

available big game winter range. For these reasons, ODFW finds the habitats within the proposed facility site meet the 'essential' definition in the mitigation policy. In addition, populations of deer and elk in eastern Oregon rely upon large, intact landscapes to facilitate their seasonal migration and because of the significant forage resources necessary for large-bodied, wide-ranging animals to survive. As Oregon continues to develop and natural landscapes become increasingly fragmented, the amount of available winter range continues to decline. Habitat loss is one of the most limiting factors for elk and deer populations (Saunders et al. 1991). For these reasons, ODFW also finds the big game winter range in eastern Oregon meets the 'limited' definition in the mitigation policy. Impacts to big game winter range can, however, be mitigated through in-kind, in-proximity habitat conservation and enhancement actions as long as the end result of 'no net loss and a net benefit' in habitat quantity and quality is achieved.

To avoid confusion with the Category 2 habitat designation, ODFW recommends deleting column 1 entitled "Habitat Category based on Field Habitat Assessment" of Tables 1 and 2.

Section 3.0 (Mitigation Options) refers to three independent mitigation options. Option 1 would be participation in an ODFW payment-to-provide (in-lieu) mitigation program. However, Option 1 is not currently viable because ODFW does not have a payment-to-provide (in-lieu) program. Option 2 refers to a third-party mitigation option on commercial timberlands, however Option 2 is not viable because the commercial timberlands considered in that option are out of kind (not the same habitat) and therefore would not meet the standards of the mitigation policy. Option 3 is the traditional, permittee responsible mitigation option discussed in most detail within the Draft HMP. ODFW understands that the DPO Fish and Wildlife Habitat Condition 2 clarifies that Option 3 is the only option approved without amendment of the HMP, however it is not clear if amendment of the HMP could occur outside of a public process or at least outside of interagency review. In addition, the Draft HMP still refers to all three options and does not make clear that Option 3 is the only viable and approved option. **ODFW recommends that Options 1 and 2 be omitted from the final HMP, or the process for revising the HMP and Site Certificate be clarified should the applicant request switching to Options 1 or 2.**

Mitigation Risks, Ratios, and Monitoring

The Draft HMP proposes a mitigation ratio of 1.1 acre of offset for every 1 acre of impact in its Working Lands Improvement Program (WLIP) Option 3 (Section 3.3, bottom of page 7). This equates to 3,948.64 acres of mitigation for the anticipated 3,589.67 acres of impact. For its mitigation actions, the Draft HMP proposes juniper thinning and protection through a working lands lease. According to the mitigation policy, the mitigation goal for unavoidable impacts to Category 2 habitat is no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality. Therefore, the applicant's proposal in the HMP is that the 359 acres in excess of the 3,589 acres of direct impacts is sufficient to (1) satisfy the no net loss of habitat quantity or quality; (2) to provide the required net benefit of habitat quantity or quality; and (3) to provide a sufficient buffer against the potential of some mitigation failure rate. For the reasons explained below, ODFW does not see substantial evidence that the 1:1.1 ratio supports a finding of consistency with OAR 635-415-0025(2).

Sufficiency of mitigation depends on a suite of factors, which are discussed and compared with the Draft HMP below.

1. That the proposed mitigation acreage be at least equal to that being impacted, assuring (in part) no net loss in habitat quantity. In the case of Option 3, the Draft HMP identifies potential mitigation sites that have sufficient acreage to be at least equal to that being impacted.

2. That the proposed habitat restoration/improvement is appropriate and a well-documented means of lifting up habitat quality to increase the carrying capacity of lands within range of the impacted elk and deer populations (assuring no net loss, and net benefit). The Draft HMP

proposes removal of Phase 1 juniper encroachment into the sagebrush-shrublands, which is a well-documented approach to improving forage productivity and increasing watershed health in western rangelands (Miller et al. 2005, Tausch 2009).

3. That the mitigation be durable for the life of the facility or the life of the project's impacts, whichever is greater (OAR 635-415-0020(8)(g)). The Draft HMP proposes working land leases for the "life of the Facility**". ODFW acknowledges the footnote 2 on page 6 of the Draft HMP, but recommends the duration of the WLIP agreement explicitly include the extended time it may take for habitat reclamation once the facility is decommissioned (what footnote 2 refers to as retirement). As currently written, the Draft HMP suggests that some alternative mitigation may be proposed in the applicant's final retirement plan.**

   In addition, ODFW requests the opportunity to review the terms of the working land leases between the applicant and the mitigation site landowners to assure that the standard of "no net loss" is achieved and that the area identified is protected as a mitigation site for the life of project impacts. Without an opportunity for the Oregon Department of Energy and ODFW to review the lease, there is no evidence of provisions for long-term protection and management of the mitigation sites (see OAR 635-415-0020(8)(h)(C)). Therefore, ODFW seeks opportunity to ensure the agreements address, at a minimum and not limited to, the following substantial components:
   - Mutual commitment from the landowner and the applicant to maintaining big game winter range as per the Habitat Mitigation Plan approved by EFSC,
   - Clearly identified conflicting uses that would be restricted by the agreement,
   - The term of the agreement to include the life of the facility, and the period of decommissioning and reclamation,
   - A clearly identified third party responsible for monitoring and enforcement,
   - Access to the state agencies for secondary monitoring and enforcement (note: this is not a suggestion that ODFW be responsible for monitoring of the WLIP).

   Failure to provide the lease agreements in a timely manner that facilitates review will preclude ODFW's assurance of the applicant's satisfaction of the mitigation policy standards.

   Should ODOE find itself unable to require the agreement to include a third party responsible for monitoring and enforcement, ODFW recommends ODOE consider using its own consultants for long-term compliance support for the HMP.

4. That the mitigation be reliable, and that the risk of failure for the proposed habitat restoration/improvements be adequately addressed by the proposed ratio of offset-to-impact. For example, certain types of mitigation require complex habitat restoration techniques and are fraught with high rates of failure (e.g., restoration of sagebrush vegetation has a documented failure rate of ~80%; Davies et. al. 2011). In the case of this project, the proposed mitigation is juniper removal, which enjoys a relatively high success rate in the intermountain west but does carry risk of noxious weed invasion in years following mechanical treatment and fire (Miller et al. 2014, Dittel et al. 2018, Bates and Svejcar 2009). While the mitigation policy does not specifically call for quantitative mitigation ratios, ODFW finds the Draft HMP's proposed ratio of 1.1:1 to be quite narrow, not leaving much room to buffer against the risk of mitigation failure. The performance of habitat improvements on the mitigation project area would have to be near 100% success to avoid dropping into a net loss of habitat (impacts > offsets). **ODFW recommends that EFSC require a higher mitigation ratio to accommodate for mixed performance in habitat improvements, to buffer against the risk of noxious weed invasion, and to minimize monitoring burden and costs. ODFW recommends a 2:1 mitigation ratio as a reasonably conservative approach to addressing the risk of mitigation failure while achieving consistency with the mitigation goal, and because that ratio is consistent with**

past precedent on other EFSC projects in big game winter range in proper functioning condition.

If something less than a 2:1 mitigation ratio is deemed to be adequate by Oregon Department of Energy, then ODFW recommends the HMP include a rigorous monitoring design, provided for agency review during this application review, prior to Council's decision. ODFW recommends the applicant develop a sampling design that would include enough monitoring sites so as to be sensitive to any drops in performance below the no net loss-net benefit threshold. ODFW also recommends the monitoring schedule be enhanced to annual monitoring visits for the first five years after juniper treatment, which is when noxious weed infestations are typically highest (Miller et al. 2014). It is ODFW's understanding that the applicant intends to develop a monitoring plan as part of its pre-construction compliance (Section 5.0). ODFW recommends that this monitoring plan be developed with the above recommendations prior to finalization of the HMP, prior to Council's decision, to assure consistency with the mitigation policy (OAR 635-415-0020(8e-h)).

Juniper Treatment Plans – Reducing Risk of Noxious Weed Infestation
As discussed above, noxious weeds are a well-known, unintended consequence of many juniper treatments due to soil disturbance from mechanical equipment, scarification of soils from burning slash piles, weed seed travelling in on equipment and boots/clothing, as well as premature re-introduction of livestock post-treatment, etc (Davies et al. 2019). **ODFW recommends the pending Working Lands Improvement Program Juniper Treatment Plans (to be developed by the applicant's consultant prior to implementation) include best management practices (similar to those found in the Section 3.1 of the Draft Revegetation and Noxious Weed Plan) to avoid and minimize the risk of noxious weed introduction into juniper treatment areas. Furthermore, ODFW recommends additional pro-active measures of reseeding with desirable grasses and forbs (particularly after slash piles are burned) followed by two seasons of rest from cattle grazing to allow the desired understory to re-establish after juniper treatment. ODFW recommends that the Site Certificate conditions, the Working Lands Improvement Program Juniper Treatment Plan and the working lands leases reflect these requirements**. **A monitoring protocol (such as that provided by Bartz 2006) that focuses efforts on disturbed sites where noxious weed infestation is most likely to occur should be included and executed over multiple growing seasons post-treatment.** These pro-active measures would serve to improve the likelihood of success in the applicant's mitigation project areas.

Draft Wildlife Monitoring Plan (Attachment P-2), DPO Fish and Wildlife Conditions 3 through 11

ODFW concurs with Fish and Wildlife Conditions 3 through 11 in the DPO.

It is ODFW's understanding that the applicant had some questions regarding ODFW's recommendation that pygmy rabbit surveys be valid for three years. The pygmy rabbit is a semi-colonial, burrowing mammal. Burrows are clustered into complexes or systems, and the boundary of burrow complexes shrink, grow and shift from year to year depending on survival and dispersal patterns of individual rabbits (Crawford 2008, Keinath and McGee 2004, Federal Register 75 FR 60515). Given that burrow complexes fluctuate annually, a conservative recommendation would be to refresh pygmy rabbit surveys annually in order to avoid potential impacts to individual rabbits. However, annual surveys can place a financial and logistical hardship on project developers as they strive to finalize project design. For this reason, and similar to the logic ODFW uses in its standard recommendations for other burrowing mammals such as the Washington ground squirrel, **ODFW recommends pygmy rabbit surveys be valid for three years. If construction is delayed beyond three years since initial survey, then ODFW recommends full re-survey and avoidance of found burrow complexes to the maximum extent possible.**

ODFW offers an alternative strategy for Fish and Wildlife Condition 9, which as written in the DPO requires the applicant to halt construction and consult with ODFW if active burrows are found for pygmy rabbits, burrowing owls, and white-tailed jackrabbits in construction areas. Condition 7c already requires a 0.25-mile buffer around active burrowing owl nest sites, so **ODFW recommends burrowing owls do not need to be included in Condition 9. Where Condition 9 requires the applicant to develop an incidental wildlife mitigation plan that is intended to provide avoidance and minimization guidance, ODFW recommends this plan include temporary avoidance of digging, trenching, or pile-driving solar panel posts within a 3-meter radius around occupied pygmy rabbit burrows**. Most burrow tunnels for pygmy rabbits are less than 2.2 meters in length (Rachlow et al. 2005). Avoiding a 3-meter radius around the burrow entrance will likely preclude unintended fatalities caused by construction activities. Pygmy rabbits typically breed from **mid-January through mid-June**, and their young are born altricial, which means they are incapable of caring for themselves for the first two months (Rachlow et al. 2005). Outside of this breeding season, pygmy rabbits still use burrows but are not as closely tied to them as when they are raising litters in the burrow chambers. Delaying destruction of the burrows until outside the breeding season will avoid crushing the young in the burrow chamber, and will afford the adults more of an opportunity to escape and relocate away from the construction area if necessary (Estes-Zumpf et al. 2010). **If the applicant follows the temporary avoidance recommendation as outlined above, ODFW would not need the applicant to consult during construction but rather recommends the applicant include these actions in their Wildlife Monitoring Report.**

Draft Revegetation and Noxious Weed Plan (Attachment P-3), DPO Fish and Wildlife Condition 1

ODFW also concurs with Fish and Wildlife Condition 1 in the DPO, subject to the above concurrences.

ODFW concurs with the applicant's plans to retain existing vegetation to the maximum extent practicable within the solar facility work areas. ODFW finds the proposed seed mix and application methods in Section 2.2.1 to be appropriate for the area and for the stated objectives, though ODFW notes that use of relatively expensive grass varietals may not be necessary within the project area. ODFW views those acres within the project site as having lost all habitat function, leaving soil stabilization and site occupancy to preclude noxious weed infestations as the only goals of graminoid restoration on this site. Crested wheatgrass (*Agropyron cristatum*) alone will serve these functions and provide resiliency through the life of the project. Revegetation and noxious weed monitoring plans and schedules are also appropriately described in the plan, and ODFW has no further comment.

ODFW concurs with the noxious weed prevention measures identified in Section 3.1 for the solar facility work areas, and recommends that similar prevention measures also be applied to the juniper treatment areas within the mitigation areas.

In conclusion, ODFW extends its appreciation to the Oregon Department of Energy for the opportunity to provide technical assistance in the review of the Obsidian Solar Center. Should staff have any questions or require additional discussion with ODFW, please do not hesitate to contact Sarah Reif (Energy Coordinator) or Jon Muir (Lakeview District Wildlife Biologist). Thank you.

Sincerely,

Sarah Reif

Sarah Reif
Energy Coordinator
sarah.j.reif@state.or.us; 503-947-6082

Cc: Jon Muir, Lakeview District Wildlife Biologist
Trevor Watson, Klamath and Malheur Watershed Districts Manager
Erin Donald, Oregon Department of Justice

Literature Cited

Bartz, E., 2006. Noxious weed plan. Las Vegas Field Office, Nevada BLM: A plan for integrated weed management. Appendix 3: Weed Survey Protocol. Unpubl. Report. pp. 16-17.

Bates, J. D. and T. J. Svejcar. 2009. Herbaceous succession after burning of cut western juniper trees. Western North American Naturalist 69:1. pp. 9-25

Crawford, J. A. 2008. Survival, movements, and habitat selection of pygmy rabbits (*Brachylagus idahoensis*) on the Great Basin of southeastern Oregon and northwestern Nevada. *M.S. Thesis*, Oregon State University, Corvallis.

Davies, K. W., J. D. Bates, C. S. Boyd. 2019. Post-wildfire seeding to restore native vegetation and limit exotic annuals: an evaluation in juniper-dominated sagebrush steppe. Restoration Ecology 27:1. pp. 120-127.

Davies, K.W., C.S. Boyd, J.L. Beck, J.D. Bates, T.J. Svejcar, and M.A. Gregg. Saving the sagebrush sea: an ecosystem conservation plan for big sagebrush plant communities. Biological Conservation 144:2573-2584.

Dittel, J.W., D. Sanchez, L.M. Ellsworth, C.N. Morozumi, R. Mata-Gonzalez. 2017. Vegetation response to juniper reduction and grazing exclusion in sagebrush-steppe habitat in Eastern Oregon. Rangeland Ecology & Management https://doi.org/10.1016/j.rama.2017.11.004

Estes-Zumpf, W. A., J. L. Rachlow, L. P. Waits, K. I. Warheit. 2010. Dispersal, gene flow, and population genetic structure in the pygmy rabbit (*Brachylagus idahoensis*). Journal of Mammalogy, 91:1. pp. 208-219.

Federal Register 75 FR 60515 https://www.govinfo.gov/app/details/FR-2010-09-30/2010-24349

Keinath, D.A. and M. McGee. 2004. Species assessment for pygmy rabbit (*Brachylagus idahoensis)* in Wyoming. Prepared for US Department of Interior Bureau of Land Management. Cheyenne, Wyoming. 84pp.

ODFW 2013. Oregon Big Game Winter Habitat: a white paper. Salem, Oregon. 6pp.

Miller, R.F, J.D. Bates, T.J. Svejcar, F.B. Pierson, and L.E. Eddleman. Biology, ecology, and management of western juniper (*Juniperus occidentalis*). Oregon State University Agricultural Experiment Station Technical Bulletin 152. Corvallis, Oregon. 82pp.

Miller, R.F., J. Ratchford, B.A. Roundy, R.J. Tausch, A. Hulet, and J. Chambers. 2014. Response of conifer-encroached shrublands in the Great Basin to prescribed fire and mechanical treatments. Rangeland Ecology & Management 67:468-481.

Rachlow, J. L., D. M. Sanchez, and W. A. Estes-Zumpf. 2005. Natal burrows and nests of free-ranging pygmy rabbits (*Brachylagus idahoensis*). Western North American Naturalist 65:1. pp 136-139.

Saunders, E. A, R. J. Hobbs, and C. R. Margules. 1991. Biological consequences of Ecosystem Fragmentation: A Review. Conservation Biology 5:1. pp.18-32.

Tausch, R.J., Miller, R.F., Roundy, B.A., and Chambers, J.C., 2009, Piñon and juniper field guide: Asking the right questions to select appropriate management actions: U.S. Geological Survey Circular 1335, 96 p.

ESTERSON Sarah * ODOE

From: Albrich, Elaine <ElaineAlbrich@dwt.com>
Sent: Thursday, April 30, 2020 8:29 AM
To: TARDAEWETHER Kellen * ODOE
Cc: ESTERSON Sarah * ODOE; WOODS Maxwell * ODOE; David Brown; Michelle Slater; Albrich, Elaine; Bainter, Allison
Subject: Obsidian - Comments on DPO and CMMP
Attachments: Obsidian_DPO Comment Cover Letter_04282020.pdf; OSCAPP ASC Draft Proposed Order_Applicant comments.pdf; OSCAPP Attachment S-3 Draft Cultural Mitigation and Monitoring Plan_Applicant Comments.pdf; OSCAPP Attachment S-3 Draft Cultural Mitigation and Monitoring Plan_Applicant Comments.docx; OSCAPP ASC Draft Proposed Order_Applicant comments.docx

Hi Kellen –

Thank you for the opportunity to provide comments on the Obsidian Solar Center DPO. Attached you will find the following:

- A cover letter that summarizes the comments and provides reasons to support the requested change.
- A redline DPO that provides the requested changes in redline along with additional explanation for the revisions (in bubble comments).
- A redline CMMP that finalizes it as an implementable plan.

I tried to come up with a different method for sending you the redline sections of the DPO but it ended up being more confusing than sending the entire DPO document – sorry for not being able to better minimize the volume of paper. I have included PDFs for ease of review and also Word documents for your convenience. Please let me know if there are questions.

Thank you – Elaine

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Anchorage | Bellevue | Los Angeles | New York | Portland | San Francisco | Seattle | Washington, D.C.

Obsidian
RENEWABLES, LLC
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April 29, 2020

VIA EMAIL

Kellen Tardaewether
Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE, First Floor
Salem, Oregon 97301

Re: Applicant's Comments on Draft Proposed Order for Obsidian Solar Center

Dear Kellen:

Obsidian Solar Center LLC ("Obsidian") appreciates the opportunity to provide comments on the Draft Proposed Order on Obsidian Solar Center Application for Site Certificate ("DPO"). Obsidian is seeking approval from the Oregon Energy Facility Siting Council ("EFSC") for up to a 400-megawatt ("MW") photovoltaic solar energy facility on approximately 3,921 acres of nonarable land in north Lake County, Oregon ("Facility").

This letter provides a summary of Obsidian's DPO comments and provides reasons to support the requested changes. Obsidian includes a DPO redline showing the specific comments and requested revisions as Attachment 1. Not all redline changes are summarized below so Obsidian encourages ODOE to rely on the redline in Attachment 1 and corresponding bubble comments to supplement this letter. Obsidian will supplement this this letter as described in Section II below. Obsidian will also provide responses to public or reviewing agency DPO comments received by the Department in a separate filing.

I. COMMENTS ON DPO

The following provides a summary of the specific revisions Obsidian is requesting and the reasons to support the requested change. The specific language requested is shown in the corresponding section of the DPO in Attachment 1.

Comment on Section I (Introduction)
Obsidian proposes revisions to clarify the project description, correct findings related to proper application of ORS 469.401(2), and strike applicant and project information that is not found in other project DPOs.

Comment on Section III.A (Proposed Facility Components)
Obsidian proposes revisions to clarify the project description and revise the 115/500kV step-up substation description consistent with its earlier response to Request for Additional Information,

dated February 5, 2020 from the Oregon Department of Energy ("ODOE"). Obsidian also proposes revisions to correct the description of the SCADA as a related or supporting facility. Finally, Obsidian requests to remove the 50 MW maximum storage capacity for the proposed battery storage system. Technology advances currently enable approximately 200 MW of charge/discharge capacity without any increase in the number of battery storage enclosures or related components (only an increase in the non-hazardous liquid electrolyte).

Comment on Section III.B (Proposed Facility Location and Site Boundary)
Obsidian proposes minor edits to the location description.

Comment on Section IV.A (General Standard of Review)
Obsidian proposes revisions to the findings describing the certificate expiration and request that Recommended General Standard Condition 1 be revised to be consistent with other recently issued DPOs (setting an expiration date from the date of the site certificate, not the start of construction date). Obsidian also requests that ODOE delete commentary regarding pre-construction compliance when such findings are not in other recently issued DPOs and do not amount to a finding for demonstrating compliance with the General Standard of Review.

Comment on Section IV.B (Organizational Expertise)
Obsidian proposes a revision to Recommended Organization Expertise Condition 1, consistent with the condition language in the recently approved Final Order on the Bakeoven Solar Facility.

Comment on Section IV.C (Structural Standard).
This section includes proposed findings that are commentary of the comments received during the review of the Application for Site Certificate ("ASC"), which are not needed for findings of compliance under OAR 345-022-0020 and Applicant requests be deleted. A record of the comments is already available in the DPO record. In addition, Obsidian requests revisions to Recommended Structural Standard Condition to delete language that restates DOGAMI guideline language (when the DOGAMI guidelines are referred to already in the condition).

Comment on Section IV.D (Soil Protection)
Obsidian clarifies that cattle grazing, the underlying land use within the site boundary is "seasonal" (and requests that this change be global throughout the DPO where noted in Attachment 1). Obsidian also deletes the obligation in Recommended Soil Protection Condition 1 to provide evidence of compliance (with NPDES 1200-C permit) in its construction reports to ODOE. Requiring evidence of compliance is burdensome, not necessary, and is vague as to what amounts to sufficient evidence. If Obsidian received a violation received during the reporting period, Obsidian would be required to notify ODOE. Therefore, if ODOE receives a construction report and there is no reported violation, then that should be sufficient to demonstrate ongoing compliance. Finally, Obsidian proposes revised findings to describe the Spill Management Plan currently in the record and included as Attachment I-2 of the DPO. This plan addresses both facility construction, facility operation, and includes hazardous substance management protocols as well as language to satisfy any Spill Prevention Control and Countermeasure Plan (SPCC) if an SPCC is required. This plan is final and Obsidian can implement it readily during facility construction and operation. Obsidian proposes revisions to Recommended Soil Protection Condition 2 accordingly.

Comment on Section IV.E (Land Use)

Obsidian provides additional proposed findings to strengthen the agricultural impacts analysis under LCZO 24.18. Obsidian also proposes revisions to the findings under ORS 215.275 to bolster further the proposed findings and make consistent with the earlier agricultural impact findings. Obsidian proposes minor modifications to Recommended Land Use Condition 2(d) and (e) to clarify the difference between street and road, like internal access roads. Relatedly, Obsidian also proposes revisions to the primary access description and the language in Recommended Land Use Condition 3 to clarify what would trigger subsequent coordination with Lake County. Finally, Obsidian revises Recommended Land Use Condition 7 to eliminate an unnecessary reference to General Standard Condition 1.

Comment on Section IV.G (Retirement and Financial Assurance)

Obsidian has several comments under the Retirement and Financial Assurance Standard, and as ODOE knowns, repeatedly advocated for EFSC to allow a phased decommissioning approach with consideration for scrap value. Obsidian expresses its disagreement with ODOE's proposed findings on this issue but provides no other comments at this time and reserves the ability to take advantage of changes in law or rules to decrease the facility's decommissioning liability.

Obsidian has serious concerns with the proposed findings under "Restoration of the Site Following Cessation of Construction or Operation." There are proposed findings that are unlike any in other project DPO or final order and incorporate an ODFW comment that has no place under the Retirement and Financial Assurance Standard. The standard requires that the "site, taking into account mitigation, can be "restored adequately to a useful, nonhazardous condition." EFSC has not interpreted this standard to require mitigation as a part of a facility's retirement to meet ODFW's habitat mitigation policy, which is what ODOE's proposes findings imply. As Obsidian must work with ODOE to develop a retirement plan under OAR 345-027-0110 and during that process, this issue can be addressed. To single out this facility with retirement obligations not required by any other EFSC-approved facility would be unduly burdensome and significantly disadvantage the facility as having undetermined mitigation liability (30+ years in the future).

Obsidian notes there are structural inconsistencies between the decommissioning findings in the Bakeoven DPO/Final Order and this DPO – Obsidian requests revised findings to be more consistent across orders to describe the steps to decommissioning a solar technology.

Finally, Obsidian maintains that a 10 percent future development contingency for all facility components is appropriate and justifiable. ODOE proposes a 20 percent contingency for battery storage and bases its reasoning on potential for subsurface hazardous impacts. Obsidian is proposing flow battery storage technology, which consists of non-hazardous components, therefore 10 percent contingency for all facility components should be more than adequate.

Comments on Fish and Wildlife Standard (OAR 345-022-0060)

Obsidian proposes revisions to the findings describing the habitat within the site boundary, consistent with the description contained in the Habitat Mitigation Plan included as Attachment P-1 of the DPO. Obsidian also requests modified findings, consistent with the adopted findings

in the Bakeoven Final Order to describe the mitigation obligations for a project located in ODFW mapped Big Game Winter Range. This consistency across project orders is a theme with Obsidian's comments.

The Revegetation and Noxious Weed Control Plan, provided as Attachment P-3 to the DPO already provides the information requested in Recommended Fish and Wildlife Habitat Condition 1. Obsidian provides revised findings to demonstrate how the plan already meets the elements described in the condition language and proposes corresponding edits to Recommended Fish and Wildlife Habitat Condition 1 to detail specifically what is required to finalize the plan. Obsidian takes the same approach for proposing revised findings and condition language for the habitat discussion and Recommended Fish and Wildlife Habitat Condition 2 concerning the Habitat Mitigation Plan include as Attachment P-1 of the DPO. The plans are final or close to, final and the only information needed to finalize should be able to be stated in clear, concise condition language rather than open-ended obligations.

Obsidian proposes revisions to Recommended Fish and Wildlife Habitat Condition 9 concerning pygmy rabbits and burrowing species. Obsidian agreed to conduct specific pygmy rabbit surveys at ODFW's request in preparing Exhibit P of the ASC. Obsidian revised the facility design to avoid disturbance to identified pygmy rabbit burrows identified during the survey. Obsidian has also agreed to measures to minimize impacts to sensitive state burrowing species (like the measures required by Recommended Fish and Wildlife Habitat Conditions 3 and 4) should such species be encountered during facility construction. As such, Obsidian has met is obligation to avoid and minimize impacts to state sensitive species like the pygmy rabbit. ODOE and ODFW cannot impose survey and condition requirements that treat the pygmy rabbit like the Washington Ground Squirrel, a state endangered species, which is the approach ODOE is taking in the DPO. A more proportionate and appropriate response is to rely on the existing pygmy rabbit surveys, implement the avoidance and minimization measures already agreed to, and develop a Pygmy Rabbit Incidental Discovery Plan that Obsidian will implement during construction should contractors encounter active pygmy rabbit burrows or complexes. The plan will recodify the avoidance and minimization measures agreed to (*e.g*., previously identified avoidance areas) and proposes measures to mitigate for potential impacts if active burrows or complexes are encountered. Obsidian proposes to include this plan as Attachment P-4 to the Final Order. Stantec is preparing the plan and Obsidian will provide it to ODOE in a supplement to this comment letter.

Comments on Historic, Cultural, and Archeological Resources (OAR 345-022-0090)

Obsidian proposes several revisions to this section to address the prior discussions more clearly, and minimize the commentary on the commentary currently included in the DPO. Obsidian requests that the findings be very clear and directive to ensure that there is no confusion or ambiguity as the facility moves to construction and Obsidian exercises its approvals under the SHPO archeological permits. The comments included in Attachment 1 should summarize the specific changes and objectives. As with the plans discussed under the Fish and Wildlife Standard, the plans are final or close to, final and the only information needed to finalize should be able to be stated in clear, concise condition language rather than open-ended obligations. Specifically, the Archeological Testing and Excavation Methodologies Plan (Attachment S-1) codifies the memorandum of agreement between SHPO and Obsidian and is final. With respect

to the Cultural Mitigation and Monitoring Plan (Attachment S-2) (CMMP) Obsidian revised it considers it final, incorporating all the elements of the strategy to comply with the Historic, Cultural, and Archeological Standard. The revised CMMP is provided as Attachment 2.

Finally, Obsidian offers clarifying revisions to describe the procedural relationship between the EFSC site certificate and the SHPO archeological permits. While it may be difficult for SHPO to accept, the EFSC procedural rules, including the site certificate deadlines and expiration dates, govern and SHPO may not apply its own timelines or expiration deadlines that are inconsistent. Therefore, the EFSC construction deadline date must also apply to the SHPO archeological permits pursuant to ORS 469.401(3). Further, given how SHPO circulated the archeological permits for comments under its own rules, in addition to the SHPO permits being subject to public comment through the EFSC process, there is nothing left for SHPO to do under ORS 469.401(3). Accordingly, the permits contained in Attachment S-4 must be considered the final permits subject only to signatures (there is no filing fee for SHPO).

Comments on Other Applicable Regulatory Requirements (Noise Control)

Obsidian requests a minor modification to Recommended Noise Control Condition 1(a)(vi) to allow pneumatic pile driving during the day time hours of 7 am to 5 pm (rather than 8 am to 6 pm). This change corresponds to the daytime hours under the DEQ noise regulations (as shown in Table 11 of the DPO).

II. SUPPLEMENTAL INFORMATION

In addition to this filing, Obsidian will provide ODOE with the additional information:

- Draft Pygmy Rabbit Incidental Discovery Plan (to be Attachment P-4);
- Working Lands Improvement Program Lease Agreement; and
- Response to ODFW Comment on the DPO.

Obsidian will work to get you the first two items by the end of next week and will respond to ODFW's comments before the DPO hearing.

Thank you for your consideration. We appreciate ODOE's continued work on this project.

Very truly yours,

David Brown

Enclosures

cc: Michelle Slater
Elaine Albrich

BEFORE THE
ENERGY FACILITY SITING COUNCIL
OF THE STATE OF OREGON

In the Matter of the Application for Site Certificate For the Obsidian Solar Center	))))	DRAFT PROPOSED ORDER ON APPLICATION FOR SITE CERTIFICATE

[Applicant's comments on DPO]

March 12, 2020

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

AC	Alternating Current
ASC	Application for Site Certificate for the Obsidian Solar Center
BMP	Best Management Practice
BPA	Bonneville Power Administration
Council	Oregon Energy Facility Siting Council
dBA	A-weighted decibel
Department	Oregon Department of Energy
DC	Direct Current
DEQ	Oregon Department of Environmental Quality
DOGAMI	Oregon Department of Geology and Mineral Industries
DSL	Oregon Department of State Lands
EFSC	Oregon Energy Facility Siting Council
ESCP	Erosion and Sediment Control Plan
kV	kilovolts
MW	Megawatt(s)
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ODOT	Oregon Department of Transportation
ORBIC	Oregon Biodiversity Information Center
ORS	Oregon Revised Statutes
pASC	Preliminary Application for Site Certificate
PGE	Portland General Electric
RAI	Request for Additional Information
SAG	Special Advisory Group
USFWS	United States Fish and Wildlife Service
WHMMP	Wildlife Habitat Mitigation and Monitoring Plan

I. INTRODUCTION

The Oregon Department of Energy (Department) issues this draft proposed order (DPO) in accordance with Oregon Revised Statute (ORS) 469.370(1), based on its review of the Application for Site Certificate (ASC) for the proposed Obsidian Solar Center (proposed facility) and comments and recommendations received by state agencies, local governments, and tribal governments. This DPO includes recommended conditions of approval for inclusion in the site certificate to ensure or maintain compliance with applicable rules and standards during proposed facility construction, operation and retirement. Based upon its review, including recommending findings of fact, conclusions of law and conditions, the Department recommends Council approve the ASC and issue a site certificate for the proposed facility.

The proposed facility would be located within north Lake County, approximately eight miles northwest of Christmas Valley and would occupy approximately 3,590 acres within an approximately 3,921-acre site boundary. The applicant, Obsidian Solar Center LLC (applicant), owned by Obsidian Renewables, LLC and Lindgren Development, Inc. (parent companies), seeks Energy Facility Siting Council (EFSC or Council) approval to construct and operate up to 400 megawatts alternating current (MWac) of solar photovoltaic (PV) energy generation equipment ~~(modules, posts, inverter/transformer units, electrical collection system)~~ and related or supporting facilities including up to four collector substations ~~(1 acre/each)~~; a 115/500 kilovolt (kV) step-up substation ~~(3 acres)~~; up to two operations and maintenance (O&M) buildings; access and service roads, perimeter fencing and security gates; ~~50 megawatts (MW) of~~ dispersed or centralized battery storage systems ~~(including cell stack, balance of plant, and enclosures)~~; and a ~~, as an approximately two mile~~ 115 kV generation-tie (gen-tie) transmission line.

The proposed facility is subject to EFSC review pursuant to ORS 469.300(11)(a)(D)(iii) as it is proposed as a solar photovoltaic power generation facility that would use more than 1,920 acres of "other" (nonarable) land, where "other" land is neither high-value farmland as defined in ORS 195.300(10) nor land predominately composed of soils in a capability class I to IV.[1] Approval of a site certificate by EFSC is therefore required for the construction, operation, and retirement of the proposed facility.

~~In addition to the conditions recommended in this DPO, the applicant would be subject to the conditions and requirements contained in local ordinances in effect on the date the preliminary application was submitted and the rules and standards of the Council and state laws in effect on the date the site certificate is executed.~~ Under ORS 469.401(2), the site certificate shall require the applicant to abide by local ordinances and state laws and the rules of the Council in effect on the date the site certificate is executed. In addition, the Council may require compliance with later-adopted laws or rules upon a clear showing ~~demonstration~~ of a significant threat to public health, safety, or the environment that requires application of later-

[1] OSCAPPDoc4 ASC Exhibit K. Soil within the proposed site boundary is Natural Resources Conservation Service (NRCS) Soil Class VI and considered nonarable.

adopted laws or rules, the Council may require compliance with such later-adopted laws or rules. ~~The Department recognizes that many specific tasks related to the design, construction, operation, and retirement of the proposed facility would be undertaken by the applicant's agents or contractors. Nonetheless, the certificate holder remains responsible for ensuring compliance with all provisions of the site certificate.~~

The Council does not have jurisdiction over matters that are not included in and governed by the site certificate or amended site certificate, including design-specific construction or operating standards and practices that do not relate to siting, as well as matters relating to employee health and safety, building code compliance, wage and hour or other labor regulations, or local government fees and charges. Also, outside the Council's jurisdiction are matters of land-acquisition, land purchases, land leases and right-of-way easements.

A site certificate is a binding agreement between the State of Oregon and the applicant, authorizing the applicant to design, construct, operate, and retire a facility on an approved site, incorporating all conditions imposed by the Council on the applicant. A site certificate issued by EFSC binds the state and all counties, cities and political subdivisions of Oregon. Once EFSC issues a site certificate, any affected state agency, county, city or political subdivision with an applicable permit identified in the ASC and to be governed by the site certificate, must, upon submission by the applicant of the proper applications and payment of the proper fees, but without hearing or other proceeding, promptly issue the permits, licenses and certificates addressed in the site certificate. The Council has continued authority over the site for which the site certificate is issued and may inspect, or direct Department staff to inspect, or request another state agency or local government to inspect, the site at any time in order to ensure that the facility is being operated consistently with the terms and conditions of the site certificate.

~~I.A. Name and Address of Applicant~~

~~Obsidian Solar Center LLC~~
~~c/o Obsidian Renewables, LLC~~
~~5 Centerpointe Drive, Suite 250~~
~~Lake Oswego, Oregon 97035~~

~~Parent Companies of the Applicant~~

~~Obsidian Renewables, LLC~~
~~5 Centerpointe Drive, Suite 250~~
~~Lake Oswego, Oregon 97035~~

~~Lindgren Development, Inc.~~
~~260 Townsend Street~~
~~San Francisco, California 94107~~

Commented [A1]: ODOE: request this be deleted as it is not in other project DPOs. Many comments throughout are aimed at consistency among DPOs and Final Orders when it comes to structure of the findings and condition language.

~~***Applicant Contact***~~

~~David W. Brown, Manager and Owner~~
~~Obsidian Solar Center LLC~~
~~5 Centerpointe Drive, Suite 250~~
~~Lake Oswego, Oregon 97035~~

II. PROCEDURAL HISTORY

II.A. Notice of Intent

On January 16, 2018, the applicant submitted to the Department a Notice of Intent (NOI) to file an application for site certificate (ASC). On February 7, 2018, the Department issued public notice of the NOI to the Council's general mailing list and to adjacent property owners as defined at OAR 340-020-0011(1)(f). Further, in accordance with OAR 345-020-0040, on February 7, 2018, the Department distributed the NOI to the Lake County Board of Commissioners, the appointed Special Advisory Group (SAG) for site certificate proceedings associated with the proposed facility, and reviewing agencies, along with a memorandum requesting comments on the NOI.[2] On February 23, 2018, the Council appointed the Lake County Board of Commissioners as the SAG, in accordance with ORS 469.480(1).

The Department published notice of the NOI on February 7, 2018 in the Lake County Examiner, a newspaper of general circulation in the area of the proposed facility. The NOI comment deadline was March 9, 2018. Pursuant to OAR 345-015-0140, the Department provided the applicant with copies of each public comment for consideration in the development of the ASC.

II.B. Project Order

Pursuant to ORS 469.330(3) and OAR 345-015-0160(1) and (3), the Department issued a project order on May 24, 2018 which specified the state statutes and administrative rules, and local, state, and tribal laws, regulations, ordinances and other requirements applicable to the siting of the proposed facility. The project order outlines the ASC requirements from OAR 345-021-0010 that are relevant to the proposed facility. Under OAR 345-015-0160, the project order also establishes analysis areas for the proposed facility which are areas containing resources that the proposed facility may significantly affect and that must be evaluated in the application for site certificate.[3] A proposed facility might have different analysis areas for different types of resources. Further, the Department considered the size and type of the proposed facility in determining the study areas the applicant must evaluate in the application.[4] Finally, under OAR 345-015-0160(3), the Department or Council may amend the project order at any time.

[2] Council appointed the Lake County Board of Commissioners as the SAG, in accordance with ORS 469.480(1), on February 23, 2018.
[3] OAR 345-015-0160(1)(f) and OAR 345-001-0010(2).
[4] OAR 345-015-0160(2).

II.C. Application for Site Certificate

The Department received the pASC on September 20, 2018. The applicant distributed the pASC to reviewing agencies as defined in OAR 345-001-0010, with a review request memo issued by the Department consistent with OAR 345-021-0050, requesting comments on the pASC. The Department also sent the review request memo via email to all reviewing agencies. The memos included a comment deadline of October 29, 2018, with an opportunity for a deadline extension if requested by the reviewing agency. An announcement was posted on the Department's website, notifying the public that the pASC had been received.

Pursuant to OAR 345-015-0190(1), on November 19, 2018 the Department determined the pASC to be incomplete. On November 19, 2018 and December 18, 2018, the Department issued Requests for Additional Information (RAIs).[5] The applicant began providing revised pASC exhibits and responses to the information requests beginning on December 4, 2018 and submitted the remainder of requested information to the Department on June 30, 2019. After reviewing the revised pASC exhibits and supplemental materials, the Department determined the pASC to be complete on September 16, 2019. Under OAR 345-015-0190(5), an ASC is complete when the Department finds that an applicant has submitted information adequate for the Council to make findings or impose conditions on all applicable Council standards. Also under this rule, the Department may find that the application is complete without requiring the applicant to submit all of the required information. Pursuant to OAR 345-015-0190, the date of filing of the ASC was October 17, 2019, the date the Department received the application. The applicant filed a complete ASC on October 17, 2019. Consistent with OAR 345-021-0055(1), the ASC was submitted as a"…total revision of the application…to provide a clear presentation of new information." In ASC Exhibit P (Fish and Wildlife Habitat) and Exhibit S (Historic, Cultural and Archaeological Resources), the applicant indicated it intended to submit additional information at a later date. Specifically, the applicant had not finalized its proposal for the Habitat Mitigation Plan (HMP) in coordination with the Oregon Department of Fish and Wildlife (ODFW), and the applicant had not submitted information for the archaeological permits reviewed by the Oregon State Historic Preservation Office (SHPO) and had outstanding issues with its field methodology proposal being reviewed by SHPO. These are discussed further in Section IV.H., *Fish and Wildlife Habitat,* and IV.K., *Historic, Cultural, and Archaeological Resources*, respectively.

Public notice of the complete ASC was issued on October 30, 2019, with the notice published in the Lake County Examiner on October 30, 2019, the Desert Whispers and Community Breeze on November 1, 2019. The notice included information about an informational meeting held on the ASC. The Department held a public information meeting on the complete ASC on November 14, 2019 at the North Lake School. Pursuant to OAR 345-015-0200, the Department distributed

[5] OSCAPPDoc19 pASC ODOE Determination Letter and Request for Additional Information 2018-11-19, and OSCAPPDoc22 pASC ODOE Cover Letter and Request for Additional Information 2 - 2018-12-18

electronic copies of the complete ASC to reviewing agencies, along with a request for agency reports on the complete ASC with a deadline of December 9, 2019. The Department received comments from seven reviewing agencies, including the SAG. Those comment letters and other reviewing agency comments referenced in this DPO are included in Attachment C.

On October 25, 2019 the Council appointed Joe Allen, Oregon Office of Administrative Hearings Administrative Law Judge, as the hearing officer to conduct the draft proposed order public hearing and the contested case proceeding.[6]

As noted in the ASC completeness and filing date letters sent to the applicant, pursuant to OAR 345-015-0190(9), during the Department's continued review of the application and the preparation of the DPO, the Department may identify the need for additional information and the applicant must submit the information requested.[7] The submission of additional information does not constitute an amendment of the application. The Department issued additional RAI's on February 5 and 11, 2020 for clarification on the HMP, retirement cost estimate, and proposed substation components. The applicant provided responses to the RAI's from February 05, 2020 to March 2, 2020.[8] Further, the applicant indicated its intent to modify its proposal regarding retirement of the proposed facility on March 5, 2020 and provided supporting documentation for the modified proposal on March 9, 2020, this is discussed further in Section IV.G., *Retirement and Financial Assurance* of this order. The Department combined the ASC additional information package and made it available on the project webpage on March 12, 2020 and made note of the additional information in the notice of the DPO, discussed below.[9]

Site Boundary Refinement from NOI

Site boundary means the perimeter of the site of a proposed energy facility, its related or supporting facilities, all temporary laydown and staging areas and all corridors and micrositing corridors proposed by the applicant.[10] For this proposed facility, the applicant originally proposed an approximately 7,000 acre site boundary including four main areas for solar facility components and associated gen-tie transmission line corridors. In the NOI, these areas were referred to as Areas A, B, C and D. Based on results of desktop and field surveys, as well as comments from tribal governments and reviewing agencies, the applicant reduced the size of the site boundary from approximately 7,000 to 3,921 acres to avoid impacts to resources, as summarized below:

- Area B was eliminated to avoid impacts on sensitive resources, including non-wetland waters, habitat, and cultural resources;

[6] OSCAPPDoc3 ASC Hearing Officer Appointment 2019-10-25.
[7] OSCAPPDoc1 ASC Completeness Letter_2019-09-16 and OSCAPPDoc2 ASC Filing Date Letter 2019-10-17.
[8] OSCAPPDoc19 ASC ODOE Additional RAIs_Combined 2020-02-05 to 2020-03-02.
[9] OSCAPPDoc20 ASC Applicant Responses to Additional RAIs_Combined 2020-02-24 to 2020-03-09.
[10] OAR 345-001-0010(54)

- Two gen-tie corridors extending from Area B were eliminated due to removal of Area B from site boundary;
- Area C and gen-tie corridor extending from Area C was eliminated to avoid impacts on sensitive resources.

The site boundary, as proposed in the ASC, includes the perimeter of Area A, Area D, and the gen-tie transmission line corridor extending from Area A to Area D. As illustrated in ASC Exhibit B, Figure B-1, Area A is the larger area that would contain the solar modules, inverters, collector system, collector substations, and O&M buildings. The proposed facility and its related or supporting facilities are discussed further in Section III.A., *Proposed Facility Components*, of this order. Area D is the smaller, triangle portion of the site boundary where the applicant proposes to construct a 115/500 kV step-up substation near the point of interconnection with the Portland General Electric 500 kV transmission line. The two mile 115 kV gen-tie transmission line corridor connects Area A and Area D.

II.D. Council Review Process

On **March 12, 2020**, the Department issued the draft proposed order and notice for public comment; the comment period extends from **March 12, 2020 and closes on April 23, 2020.** The public hearing and opportunity for in-person testimony on the DPO is scheduled to occur on **April 23**, at the April 23 EFSC meeting at 5:45 PM at North Lake School in north Lake County, Oregon. In addition to accepting written comments during the comment period from **March 12, 2020 to April 23, 2020**, the Council or its hearing officer will also accept oral testimony at the public hearing.[11] The record of the DPO will close at the conclusion of the DPO comment period on April 23, 2020, as described in the public notice. Subject to OAR 345-015-0220(3)(j), the Council will not accept or consider any further public comment on the site certificate application or on the draft proposed order after the close of the record of the public hearing (April 23, 2020).

Notice of public hearing was issued on March 12, 2020 and distributed to all persons on the Council's general mailing list, to the special list established for the proposed facility, to an updated list of property owners supplied by the applicant, and to a list of reviewing agencies as defined in OAR 345-001-0010(52). The Department also published notice of the public hearing in the Lake County Examiner on March 18, 2020, the Desert Whispers and Community Breeze on April 1, 2020, a newspaper of general circulation in the area of the proposed facility.

Following the close of the record of the public hearing and Council's review of the DPO, the Department will issue a proposed order, taking into consideration Council comments, any comments received "on the record of the public hearing" (i.e., oral testimony provided at the public hearing and written comments received by the Department after the date of the notice of the public hearing and before the close of the public hearing), and agency consultation.

[11] ORS 469.370(2).

Concurrent with the issuance of the proposed order, the Department will issue a notice of contested case and a public notice of the proposed order.[12] Only those persons who comment in person or in writing on the record of the public hearing may request to participate as a party or limited party in the contested case proceeding. Additionally, to raise an issue in a contested case proceeding, the issue must be within Council jurisdiction, and the person must have raised the issue on the record of the public hearing with "sufficient specificity to afford the Council, the department, and the applicant an adequate opportunity to respond," unless the Department did not follow the requirements of ORS 469.370(2) or (3), or unless the action recommended in the proposed order differs materially from the action recommended in the draft proposed order.[13]

At the conclusion of a contested case proceeding, the hearing officer will issue a proposed contested case order stating the hearing officer's findings of fact, conclusions of law and recommended site certificate conditions on the issues raised in the contested case. The Council may adopt, modify or reject the hearing officer's proposed contested case order.[14] Based upon Council's direction to adopt, modify or reject the hearing officer's proposed contested case order, the findings of the hearing officer's proposed contested case order, and any modifications requested by Council, are then incorporated into the Council's final order on the ASC.

Following the contested case proceeding, the Council will issue a final order either approving or denying the ASC based upon the standards adopted under ORS 469.501, and any additional state statutes, rules, or local government regulations or ordinances determined to be applicable to the facility in the project order.[15] The Council's final order is subject to judicial review by the Oregon Supreme Court. Only a party to the contested case proceeding may request judicial review and the issues on appeal are limited to those raised by the parties to the contested case proceeding. A petition for judicial review must be filed with the Supreme Court within 60 days after the date of service of the Council's final order or within 30 days after the date of a petition for rehearing is denied or deemed denied.[16]

III. DESCRIPTION OF THE PROPOSED FACILITY

The information presented in this section is based upon details provided in ASC Exhibits B and C. Section III.A., *Proposed Facility Components* describes proposed facility components and Section III.B., *Proposed Facility Location and Site Boundary* described the proposed facility location and site boundary.

[12] See ORS 469.370(4) and OAR 345-015-0014.
[13] OAR 345-015-0016(3) or ORS 469.370.
[14] OAR 345-015-0085.
[15] ORS 469.370(7).
[16] ORS 469.403.

A proposed facility includes the energy facility together with any related or supporting facilities. Related or supporting facilities means any structure proposed by the applicant to be constructed or substantially modified in connection with the construction of an energy facility.[17] The proposed facility is described below as the energy facility and its related or supporting facilities. As stated in ASC Exhibit B, the proposed facility includes a solar photovoltaic (PV) energy generation facility and related or supporting facilities, with a nominal generating capacity of up to 400 MWac.

In the ASC, the applicant analyzes impacts associated with two design scenarios:

1. Full build-out without battery storage ("PV only")
2. Full build-out with battery storage (dispersed or centralized) ("PV plus storage")

There is one potential layout presented for PV only (ASC Exhibit B, Figure B-2), and two potential layouts presented for PV plus storage: one with centralized battery storage and one with dispersed battery storage (ASC Exhibit B, Figures B-3 and B- 4). The dispersed battery storage layout would likely have greater potential impacts on resources than centralized battery storage, due to the increased number of battery storage enclosures; therefore, the applicants' analyses throughout the ASC and this order is based on the greater impacts associated with the PV plus storage layout.

III.A. Proposed Facility Components

Solar Photovoltaic (PV) Energy Facility

The proposed energy facility would be comprised of ~~up to 1.7 million solar PV modules consisting of~~ solar panels, trackers, racks, posts, inverter/transformer units and above- and belowground cabling. The proposed energy facility would include approximately 246,444 galvanized steel posts for solar panels, which would be hydraulically driven into the ground ~~at a depth of 5 to 8 feet, with an approximately 4-foot aboveground height~~. Solar panels with anti-reflective coating would ~~have be dark bluish in color, with anti-reflective coating. Solar PV modules would~~ be placed on non-specular metal galvanized steel racks. ~~, with dimensions of approximately 3' x 7' x 7' at full tilt.~~ The inverter/transformer units and cabling are part of the 34.5 kV electrical collection system, as further described below.

Related or Supporting Facilities[18]

Proposed related or supporting facilities, as further described below, would include:

[17] OAR 345-001-0010(21) and – (50)

[18] In the ASC, the applicant proposes and describes temporary construction staging areas as related or supporting facilities. The applicant explains that it or its contractor would use temporary staging areas to facilitate

- 34.5 kV electrical collection system
- Up to 4 collector substations ~~(approximately 1 acre each)~~
- 115/500 kV step-up substation ~~(on approximately 3 acres)~~
- Up to 2 operations and maintenance (O&M) building(s); ~~and,~~
- Supervisory Control and Data Acquisition (SCADA) System;
- Site access, service roads, perimeter fencing, and ~~/~~gates~~, approximately 50 miles of internal/perimeter roads, and 7-foot tall perimeter fencing~~
- Battery storage system
- ~~2 miles of~~ 115 kV transmission line

~~Battery Storage System Components:~~

- ~~Long-Duration Flow Batteries~~
- ~~Battery Storage Enclosures~~
- ~~Cell Stack~~
- ~~Balance of Plant~~

34.5 kV Electrical Collection System

Proposed 34.5 kV electrical collection system components may ~~would~~ include combiner boxes, up to 2 million miles of above- and belowground cable, approximately 160 P~~ower Electronics FS3000M or similar solar~~ inverter/transformer stations ~~units with integrated transformers~~, and approximately 160 "home run" underground cables.

~~Combiner boxes would be located throughout each module block, and larger direct current (dc) cables would run from combiner boxes to inverter stations. Up to 2 million miles of mostly underground collector cable would be installed in 5' x 3' excavated trenches. Where necessary due to ground conditions or sensitive areas (i.e. delineated playas, ASC Exhibit J), the collector cable would be located above ground in trays mounted on the racking below the panels. The inverter alternating current (ac) output voltage would be stepped up to a higher voltage (34.5 kV) by integrated transformer/solar inverter units, which would then be stepped up to 34.5 kV within the solar array for transmission to the proposed collector substations.~~

Commented [A2]: ODOE: This level of detail is not found in any other DPO.

Collector Substations

Four collector substations are proposed, with each substation containing an oil-filled transformer, with substation equipment heights up to 10 feet (with lightening protection up to 40 feet tall). The substation area would be approximately 1 acre, each. Each collector substation would include equipment, foundations, poles, and anchoring systems.

construction of the proposed facility, equipment would be delivered to facilitate assembly and installation of materials. The Department notes that because the applicant anticipates these areas would become part of the permanent site boundary and are considered permanent impacts under the Council's standards, they would not be considered related or facilities, therefore are not listed as such in this order.

115/500 kV Step-up Substation

The proposed 115/500 kV step-up substation would occupy approximately 3 acres and would contain approximately one 115 kV input structure, two 115 kV circuit breakers, two 115/500 kV transformers, two 500 kV circuit breakers, 500 kV output structures, and a control building for housing control and communication equipment. The transformers would contain approximately 50,000 (total) gallons of transformer oil. The height of the main electrical equipment would be around ~~not exceed~~ 10 feet, but the lightning and structural components receiving power from the 115 kV gen-tie line or sending the power from the step-up substation to the Portland General Electric (PGE) point of interconnection (POI) would be around 65 feet to 100 feet. ~~(with lightening protection up to 40 feet tall).~~ All equipment and structures would be electrically grounded in accordance with NESC standards. The proposed step-up substation would be enclosed on all four sides by a 7 to 8-foot chain-link fence. A metal access gate would also be approximately 20 feet wide and be 7 to 8 feet high. The perimeter fence and gates would be fitted with barbed wire for increased security. The substation would be accessed by a 20-foot wide new access road connecting to Connley Lane.

The proposed step-up substation would have access and maintenance lighting. The access lighting would be low-intensity and controlled by photo sensors. Maintenance lights would be used only when required for maintenance outages and emergency repairs occurring at night. Lights would be directed downward and shielded to reduce glare.

Once the power is "stepped up," it would be transferred to an adjacent, not yet constructed, ~~Portland General Electric (~~PGE~~)~~ substation for interconnection to the regional grid. The proposed 115/500 kV step-up substation and the PGE substation would share a fence line. Applicant would own the 500-kV output structure until it crosses the shared fence line at which point PGE would own the 500 kV output structure and would control the interconnection point at the PGE substation.

Operation and Maintenance (O&M) Building(s)~~; and SCADA System~~=

Two O&M buildings are proposed, to be used for storage of extra equipment and supplies. The O&M building(s) would consist of a warehouse-like storage area; restrooms and employee work areas; an exempt groundwater well; and possibly a septic system as discussed further in IV.M., *Public Services*, of this order. Each O&M building would be located on approximately 0.5 acres (including parking areas) and consist of a building approximately 50 by 50 feet in size and approximately 14 feet in height. The applicant may opt to not install a bathroom and sink for operational staff and site visitors to use, in which case applicant would contract with a local service provider for portable toilets and handwashing stations. Under this scenario, no on-site septic system would be required.

Supervisory Control and Data Acquisition System

Commented [A3]: ODOE: this is consistent with the RAI response to ODOE's February 5, 2020 RAIs.

Commented [A4]: ODOE: This is a separate related and supporting facility and runs alone with the collection system but is controlled from the O&M. Needs to be a standalone description.

A proposed supervisory control and data acquisition (SCADA system will be installed to collect operating and performance data from the solar array. The SCADA system would allow for remote operation of the proposed facility. Fiber optic cables for the SCADA system would be installed with the collection system. In areas where the collection system would be buried, the fiber cables would be installed in the same trench. Where the collection system is above ground, the fiber cables would be mounted on overhead poles along with conductors. The O&M buildings would contain the SCADA ~~a supervisory control and data acquisition (SCADA)~~ human machine interface (HMI) system. The SCADA HMI software platform would be programmed with various multi-level priority alarms for electrical hazards, fire and other operational issues.

Site Access, Internal/Perimeter Roads and Perimeter Fencing

Primary access to Area A would be provided from Oil Dri Road (County Road S-14 G), a local access road that provides connection between Christmas V~~v~~alley Road and Country Road 5-12 A. Secondary access to Area A would be located north of County Road 5-12A. Primary access to Area D would be provided from Connley Lane (County Road 5-10 C).

Approximately 50 miles of internal and perimeter roads would be constructed within the proposed facility perimeter fence. Internal and perimeter road materials would include compacted native soil or gravel; roads would be designed to act as fire breaks and would be sufficiently sized for emergency vehicle access in accordance with 2014 Oregon Fire Code or the current fire code. Internal roads would be a minimum of 12 feet in width; the perimeter road would be 20 feet wide with additional space to provide at least a 30-foot, noncombustible, defensible space clearance to help prevent the spread of any fires from within or outside of the site boundary.

An approximately 18-mile, 7-foot chain-link fence, including 1-foot of barbed wire, would be installed around the perimeter of the proposed facility.

115 kV Transmission Line

The proposed facility would include a new, overhead double-circuit 115 kV transmission line, extending approximately 0.5 mile within a private property transmission easement, to be secured prior to construction, and then for approximately 1.5 miles within an existing county road (Connley Lane) right-of-way from Area A to Area D. The proposed 115 kV transmission line would be supported by approximately 37, single steel monopole structures up to 6 feet in diameter, spaced approximately 300 feet apart, and approximately 70 feet in height. The monopole structures would be set on concrete foundations up to 20 feet deep, which may have directional anchoring system structures.

Battery Storage System

The proposed battery storage system would include flow technology batteries and related components, enclosed within up to 134 steel-framed structures, approximately 50 feet wide, 67 feet long and up to 30 feet tall, located at a centralized location or at dispersed locations within the facility perimeter fence. Flow technology batteries store energy in a non-hazardous liquid electrolyte which is then flowed through a stack of electrodes. The battery system containers for the flow batteries would likely be shipped and installed dry with the electrolyte added onsite (e.g., water will be brought onsite in water trucks or tanks and added to the other redox components). Following installation, the electrolyte system would be sealed and would not require replacement or additives.[19]

The estimated capacity of battery storage facilities at the time applicant filed a complete ASC was ~~is~~ up to approximately 50 MW of charge/discharge capacity and up to 250 megawatt-hours (MWh) of long-term storage (5–6 hours).[20] Technological advances currently enable up to approximately 200 MW of charge/discharge capacity and up to 800 MWh of long-term storage without any increase in the number of battery storage enclosures or related components, only requiring additional non-hazardous liquid electrolyte. ASC Exhibit B Figures B-3 and B-4 represents potential layouts for the dispersed and centralized battery storage facilities. To represent the maximum impacts associated with the proposed facility, the applicant assumes that the dispersed battery storage facilities would be used. The applicant explains that approximately 134 battery storage enclosures (with concrete foundations) would be utilized under the dispersed battery storage scenario.

The proposed facility would use approximately 160 ~~Power Electronics FS3000M or similar~~ inverters to convert from dc to ac power and may include converters to convert the voltage of the dc current in and out of the battery.[21] Inverters would be outdoor rated, negatively grounded and would include ground fault detection and interruption capable of detecting ground faults in the dc current carrying conductors and components, intentionally grounded conductors, insulation monitoring, dc and ac overvoltage protection and lightning protection, humidity control, and data acquisition and communication monitoring interface.

Flow batteries consist of a cell stack with the balance of plant (BOP) on either side. The BOP consists of large polymer tanks on each side of the cell stack, pumps, piping (polyvinyl chloride), thermal controls, and power conversion hardware (single stage, bidirectional inverters). The BOP storage tanks contain a non-hazardous, water-based electrolyte/polymer used as redox-active compounds to store energy. The BOP system would have primary and secondary spill containment devices to avoid inadvertent mixing of the aqueous electrolytes contained in the tanks with groundwater or soils. The electrolyte fluid is non-toxic, non-flammable, and thermally stable. The thermal system control in the BOP is a combination of a heating,

[19] OSCAPPDoc4 ASC 22 OSC ASC Exhibit V 2019-10-17, V.2.2.
[20] OSCAPPDoc4 ASC 02 OSC ASC Exhibit B 2019-10-17, B.3.
[21] OSCAPPDoc4 ASC 02 OSC ASC Exhibit B 2019-10-17, B.2.

ventilation, air conditioning (HVAC) air-to-air and glycol-to-air (non-toxic) heat exchanger, keeping the batteries thermally stable over a wide operating range.[22]

III.B. Proposed Facility Location and Site Boundary

As discussed in the previous section, the site boundary encompasses approximately 3,921 acres and includes geographic areas referred to as Area A, Area D, and the transmission line corridor. Within the proposed site boundary, approximately 332 acres are identified as avoidance ~~non-disturbance~~ areas where no disturbance will occur ~~the applicant commits to prohibiting placement of facility structures and any facility-related disturbance~~ due to sensitivity of ~~environmental~~ resources.

The proposed site boundary is approximately 10 miles east of Fort Rock and 6 miles northwest of Christmas Valley, which are both unincorporated communities in northern Lake County. Within the proposed site boundary, Area A contains approximately 3,863 acres, located mostly on private land and some public lands (about 640 acres) owned by the Oregon Department of State Lands (DSL). The land within Area A is mostly sagebrush shrubland, but also contains relatively small areas of sand dunes and playas. The primary existing land use in Area A is light to moderate seasonal cattle grazing. The areas adjacent to Area A are mostly pivot-irrigated crop circles and some sagebrush shrubland. Oil Dri North Road runs along the eastern border of Area A as well as a portion of the northern border. Area A~~D~~ would contain the solar PV module blocks, battery storage enclosures, inverter/transformer units, collector substations, above and belowground 34.5 kV electrical collection system, operations and maintenance buildings, and other associated components and would be enclosed in a perimeter fence with gated access.

Area D is approximately 2 miles west of Area A, located on private land and contains approximately 44 acres. Area D would contain the 115/500 kV step-up substation and point of interconnection. The land within Area D is mostly non-native forb habitats except for a small portion of pivot-irrigated crop circle in the northeastern corner, which would not be impacted by the proposed step-up substation (Area D is not included in the water right place of use).

The proposed transmission line corridor would be 60 feet in width and would extend approximately 2 miles from the proposed collector substation in Area A to the proposed 115/500 kV step-up substation in Area D. For approximately 0.5 miles from Area A, the corridor would be located within private property, within a 60 foot wide transmission easement, to be secured prior to construction. For the remaining 1.5 miles to Area D, the corridor would be located within an existing 60-foot county road (Connley Lane) right-of-way, to be authorized by the county prior to construction.

The regional location of the proposed facility site boundary and transmission line corridor are presented in Figure 1, *Proposed Facility Location*. The location of proposed facility components are presented in Figure 2, *Proposed Facility Layout (with Dispersed Battery Storage)*.

[22] OSCAPPDoc4 ASC 02 OSC ASC Exhibit B 2019-10-17, B.3.

Figure 1: Proposed Facility Location

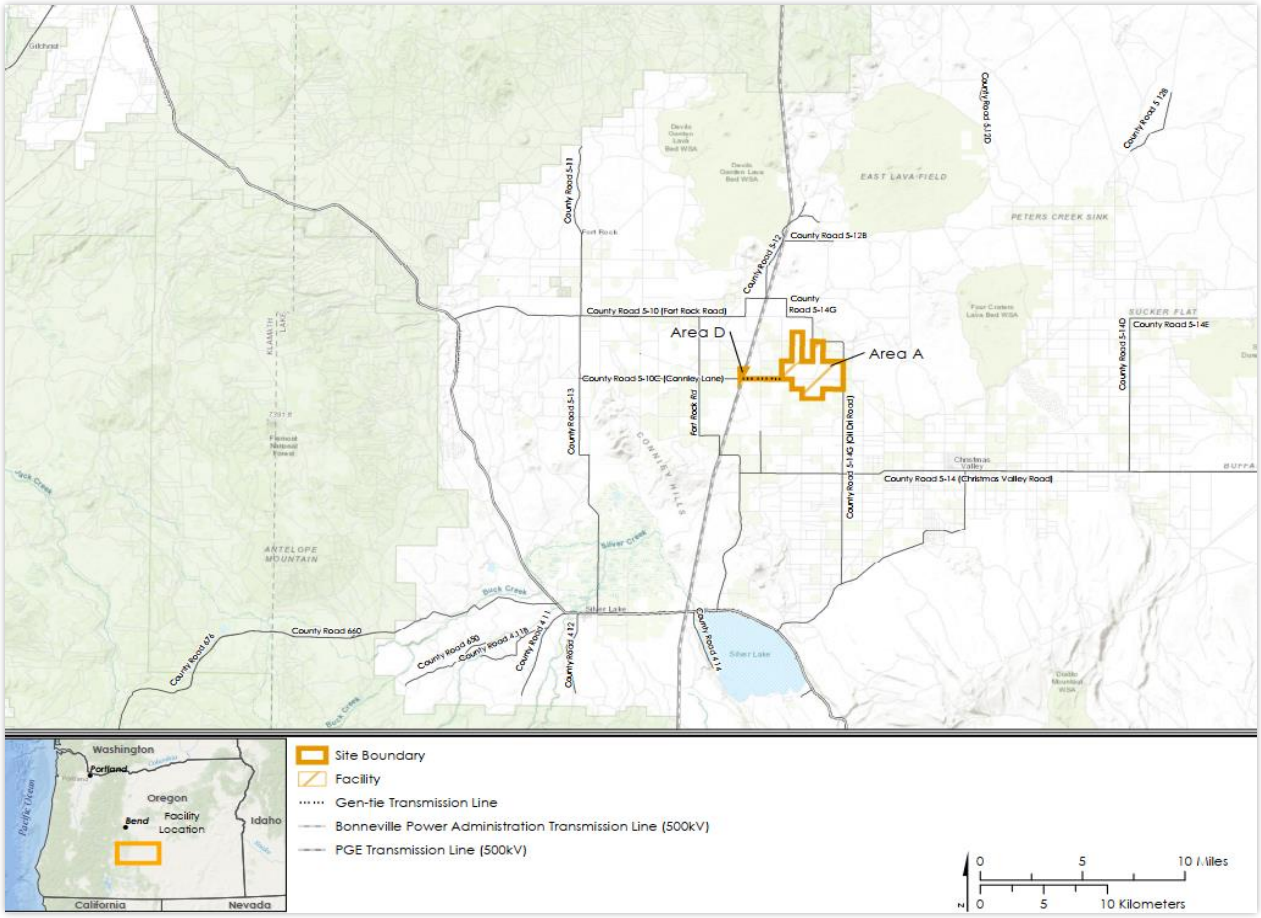
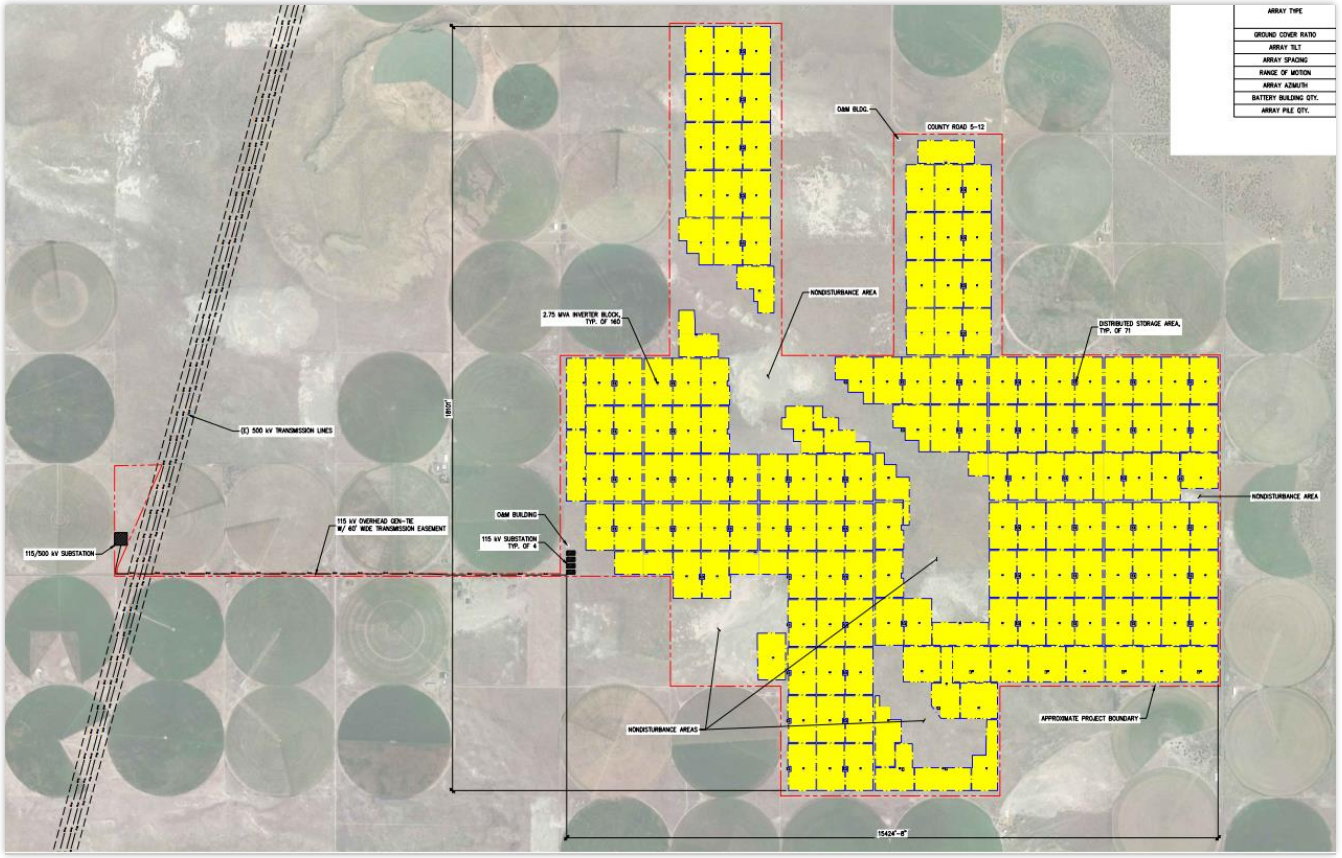


Figure 2: Proposed Facility Layout (with Dispersed Battery Storage)



IV. EVALUATION OF COUNCIL STANDARDS

As discussed above, ORS 469.320 requires a site certificate from the Energy Facility Siting Council (EFSC or Council) before construction of a "facility." ORS 469.300(14) defines "facility" as an "energy facility together with any related or supporting facilities." The proposed facility qualifies as an "energy facility" under the definition in ORS 469.300(11)(a)(D)(iii) because it is a solar photovoltaic power generation facility that would use more than 1,920 acres of nonarable (i.e. lands not considered high-value farmland pursuant to ORS 195.300(10) or arable land.[23]

To issue a site certificate for a proposed facility, the Council must determine that "the facility complies with the applicable standards adopted by the Council pursuant to ORS 469.501 or the overall public benefits of the facility outweigh any adverse effects on a resource or interest protected by the applicable standards that the facility does not meet."[24] The Council must also determine that the proposed facility complies with all other applicable Oregon statutes and administrative rules, as identified in the project order, excluding requirements governing design or operational issues that do not relate to siting[25] and excluding compliance with requirements of federally-delegated programs.[26] Nevertheless, the Council may consider these programs in the context of its own standards to ensure public health and safety and protection of the environment.[27]

Under ORS 469.310, the Council is charged with ensuring that the "siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety." ORS 469.401(2) further provides that the Council must include in the site certificate "conditions for the protection of the public health and safety," for the time for completion of construction, and to ensure compliance with the standards, statutes and rules described in ORS 469.501 and ORS 469.503."[28] The Council implements this statutory framework and ensures the protection of public health and safety by adopting findings of fact, conclusions of law, and conditions of approval concerning the proposed facility's compliance with the Council's Standards for Siting Facilities at OAR 345, Divisions 22, 24, 26, and 27.

This order includes the Department's initial analysis of whether the proposed facility meets each applicable Council Standard (with mitigation and subject to compliance with recommended conditions, as applicable), based on the information in the ASC. Following the

[23] The definitions contained in ORS 469.300 and OAR 345-001-0010 apply to terms used in this draft proposed order.
[24] ORS 469.503(1).
[25] As stated above, such matters include design-specific construction or operation standards and practices that do not relate to siting, as well as matters relating to employee health and safety, building code compliance, wage and hour or other labor regulations, or local government fees and charges.
[26] ORS 469.401(4); ORS 469.503(3).
[27] The Council does not have jurisdiction over matters that are not included in and governed by the site certificate or amended site certificate. However, the Council may rely on the determinations of compliance and the conditions in the permits issued by these state agencies and local governments in deciding whether the facility meets other standards and requirements under its jurisdiction.
[28] ORS 469.401(2).

42-day comment period on the DPO, public hearing on April 23, 2020, and Council's review of the DPO and comments received at a subsequent Council meeting, the proposed order would be issued presenting the Department's evaluation of the comments and additional evidence, if received on the record of the DPO.

IV.A. General Standard of Review: OAR 345-022-0000

> *(1) To issue a site certificate for a proposed facility or to amend a site certificate, the Council shall determine that the preponderance of evidence on the record supports the following conclusions:*
>
> > *(a) The facility complies with the requirements of the Oregon Energy Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590 to 469.619, and the standards adopted by the Council pursuant to ORS 469.501 or the overall public benefits of the facility outweigh the damage to the resources protected by the standards the facility does not meet as described in section (2);*
> >
> > *(b) Except as provided in OAR 345-022-0030 for land use compliance and except for those statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council, the facility complies with all other Oregon statutes and administrative rules identified in the project order, as amended, as applicable to the issuance of a site certificate for the proposed facility. If the Council finds that applicable Oregon statutes and rules, other than those involving federally delegated programs, would impose conflicting requirements, the Council shall resolve the conflict consistent with the public interest. In resolving the conflict, the Council cannot waive any applicable state statute.*
> > *****
>
> *(4) In making determinations regarding compliance with statutes, rules and ordinances normally administered by other agencies or compliance with requirement of the Council statutes if other agencies have special expertise, the Department of Energy shall consult such other agencies during the notice of intent, site certificate application and site certificate amendment processes. Nothing in these rules is intended to interfere with the state's implementation of programs delegated to it by the federal government.*

Findings of Fact

OAR 345-022-0000 provides the Council's General Standard of Review and requires the Council to find that a preponderance of evidence on the record supports the conclusion that a proposed facility would comply with the requirements of EFSC statutes and the siting standards adopted by the Council and that a proposed facility would comply with all other Oregon

statutes and administrative rules applicable to the issuance of a site certificate for the proposed facility.[29]

The requirements of OAR 345-022-0000 are discussed in the sections that follow. The Department consulted with reviewing agencies including; state agencies, tribal governments, and the Lake County Board of Commissioners during review of the ASC to aid in the evaluation of whether the proposed facility would satisfy the requirements of applicable statutes, rules, and ordinances otherwise administered by other agencies and governments.[30] Additionally, in many circumstances the Department relies upon these reviewing agencies' special expertise in evaluating compliance with the requirements of Council standards.

OAR 345-022-0000(2) and (3) apply to ASCs where an applicant has shown that the proposed facility cannot meet Council standards, or has shown that there is no reasonable way to meet the Council standards through mitigation or avoidance of the damage to protected resources; and, for those instances, establish criteria for the Council to evaluate in making a balancing determination. The applicant does not assert that the proposed facility would not meet an applicable Council standard. Therefore, OAR 345-022-0000(2) and (3) do not apply to this review.

Certificate Expiration (OAR 345-027-0013)

Under OAR 345-015-0085(8), the site certificate is effective upon execution by the Council and the applicant. ORS 469.370(12) requires the Council to "specify in the site certificate the date by which construction of the facility must begin." ORS 469.401(2) requires that the site certificate contain a condition "for the time for completion of construction." Under OAR 345-025-0006(4), the certificate holder must begin construction on the facility no later than the construction beginning date specified by Council in the site certificate. "Construction" is defined in ORS 469.300(6) and OAR 345-010-0010(12) to mean "work performed on a site, excluding surveying, exploration or other activities to define or characterize the site, the cost of which exceeds $250,000."

In the ASC Exhibit B, the applicant explains that it anticipates having a rolling construction schedule, with "modest" construction activities in the beginning and then an "average rate of 0.8 MW per day (with up to 2 MW per day during peak summer months)", with construction completion two years after beginning full build out.[31] ASC Exhibit U describes that construction

[29] OAR 345-022-0000(2) and (3) apply to proposed facilities where an applicant has shown that the proposed facility cannot meet Council standards or has shown that there is no reasonable way to meet the Council standards through mitigation or avoidance of adverse effects to protected resources; and, for those instances, establish criteria for the Council to evaluate in making a balancing determination. The applicant does not assert that the proposed facility cannot meet an applicable Council standard. Therefore, OAR 345-022-0000(2) and (3) do not apply to this review.

[30] Reviewing agencies, as defined in OAR 345-001-0010 (51).

[31] OSCAPPDoc4 ASC 02 OSC ASC Exhibit B 2019-10-17, B.1.

is expected to take approximately two years, with crews typically working on ~~1 to 2 megawatts, approximately~~ 60-acre~~,~~ sections at a time.[32] The applicant does not request Council to consider a specific construction commencement or completion deadline, but states in the ASC that construction would be completed within two years after beginning. The applicant's impact analysis related to construction impacts assumes a "worse-case" scenario of all construction activities occurring for two years until the proposed facility is complete.

While each ASC is evaluated on its own facts, the Council has decided during its review of previous energy facility ASCs that an applicant should typically have up to three years to commence construction, and no more than ~~three to~~ six years to complete construction from the effective date of the site certificate~~of all facility components~~. An applicant request to begin and complete construction within a longer timeframe must be balanced against potential changes in the existing environment (such as wildlife habitat) and in land use ordinance provisions and Council standards in the interim. In contrast, the Council should also consider unforeseen factors that could impact a certificate holder's ability to meet the construction commencement and completion deadlines, such as financial, economic, or technological changes. ~~The Department also points to the pre-construction obligations in conditions of approval that are recommended to Council in this order. An applicant is obligated to comply with all applicable pre-construction conditions prior to beginning construction activities. Recommended pre-construction conditions include verification surveys related to wildlife habitat, geotechnical, and cultural, as well as the finalization of impact and mitigation plans currently in draft form, as discussed in this order. Several pre-construction conditions include review and approval by the Department, in coordination with applicable reviewing agencies. This review and approval process must occur for the applicant to begin construction activities, as defined in OAR 345-010-0010(12), for a portion or all the proposed facility, even for the applicant-proposed "rolling construction schedule."~~ Because the applicant does not request Council to consider a specific timeframe to begin construction, consistent with other EFSC-approved facilities, the Department recommends a construction commencement deadline of three years from the effective date of the site certificate~~allotting up to three years after the date of Council action for the applicant to begin construction~~.

Commented [A5]: ODOE: Delete – conditions of approval stand for themselves and these findings are not needed under the standard.

The applicant represents it will complete construction within two years of construction commencement, however, due to the size and scope of this proposed facility, the Department recommends increasing the timeframe to complete construction activities. Further, in the Department and EFSC experience with other approved facilities, longer construction windows allow for unplanned construction interruptions. The Department recommends a construction completion deadline of six years from the effective date of the site certificate~~allotting up to three years to complete construction of all the facility components, from the date of construction commencement. The Department recommends a timeline consistent with previously approved facilities, noting that the applicant may begin construction after issuance of a site certificate, pending compliance with pre-construction conditions discussed above~~.

[32] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.2.

Recommended General Standard Condition 1: 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 Council action [DATE TO BE SPECIFIED]. Within 7 days of construction commencement, the certificate holder shall provide the Department written verification of the construction commencement date and that it has met the construction commencement deadline.
b. Construction of all facility components shall be completed within six years after the date of Council action [DATE TO BE SPECIFIED]~~three years after construction commencement identified in (a.) of this condition~~. Within 7 days of construction completion, the certificate holder shall provide the Department written verification that it has met the construction completion deadline.

[GEN-GS-01; Mandatory Condition OAR 345-025-0006(4)]

Mandatory and Site-Specific Conditions in Site Certificates [OAR 345-025-0006 and OAR 345-025-0010]

OAR 345-025-0006 lists certain mandatory conditions that the Council must adopt in every site certificate. Mandatory conditions OAR 345-025-0006(7) through (9) and (16) are discussed and applied in Section IV.G., *Retirement and Financial Assurance*, of this order as they relate to the restoration of the site, Council approval of a retirement plan, and bonding requirements of the applicant. Mandatory conditions OAR 345-025-0006(12) through (14) are discussed and applied in Section IV.C, *Structural Standard*, because they are associated with the design, construction and the operation of the proposed facility to avoid dangers of seismic hazards, coordination with and notifications to the Department of Geology and Mineral Industries. In addition, pursuant to OAR 345-025-0006(10), the Council shall include as conditions in the site certificate all representations in the ASC and supporting record the Council deems to be binding commitments made by the applicant, as necessary to avoid or minimize a potential impact. Mandatory conditions that are not otherwise addressed in the evaluation of compliance with specific standards are discussed below, in the context of the Council's General Standard of Review.

The following are applicable mandatory conditions required pursuant to OAR 345-025-0006:

Recommended General Standard Condition 2: The certificate holder shall submit a legal description of the site to the Oregon Department of Energy within 90 days after beginning operation of the facility. The legal description required by this rule means a description of metes and bounds or a description of the site by reference to a map and geographic data that clearly and specifically identify the outer boundaries that contain all parts of the facility.

[OPR-GS-01; Mandatory Condition OAR 345-025-0006(2)]

Recommended General Standard Condition 3: The certificate holder shall design, construct, operate, and retire the facility:

a. Substantially as described in the site certificate;
b. In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the site certificate is issued; and
c. In compliance with all applicable permit requirements of other state agencies.

[GEN-GS-02; Mandatory Condition OAR 345-025-0006(3)]

Recommended General Standard Condition 4: Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under this section, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, "construction rights" means the legal right to engage in construction activities. For the transmission line associated with the energy facility, if the certificate holder does not have construction rights on all parts of the site, the certificate holder may nevertheless begin construction, as defined in OAR 345-001-0010, or create a clearing on a part of the site if the certificate holder has construction rights on that part of the site and the certificate holder would construct and operate part of the facility on that part of the site even if a change in the planned route of a transmission line occurs during the certificate holder's negotiations to acquire construction rights on another part of the site.
[PRE-GS-01; Mandatory Condition OAR 345-025-0006(5)]

Recommended General Standard Condition 5: If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, the certificate holder shall, as soon as possible, submit a written report to the Department describing the impact on the facility and any affected site certificate conditions.
[GEN-GS-03; Mandatory Condition OAR 345-025-0006(6)]

Recommended General Standard Condition 6: Upon completion of construction, the certificate holder shall restore vegetation to the extent practicable and shall landscape all areas disturbed by construction in a manner compatible with the surroundings and proposed use. Upon completion of construction, the certificate holder shall remove all temporary structures not required for facility operation and dispose of all timber, brush, refuse and flammable or combustible material resulting from clearing of land and construction of the facility.
[OPR-GS-01; Mandatory Condition OAR 345-025-0006(11)]

In ASC Exhibit B, the applicant discusses that it may lease, sell, share ownership of portions of the proposed facility with outside customers. In the event there is a change in the ownership, possession or control of the facility or the then certificate holder, a transfer of the site certificate is required subject to the requirements of OAR 345-027-0100. A transfer of the site certificate does not terminate the transferor's duties and obligations under the site certificate until the Council approves a request for amendment to transfer the site certificate and issues an amended site certificate. Mandatory Condition OAR 345-025-0006(15) below is included in

each site certificate~~, and the Department highlights the condition specific to the applicant's discussion of transferring portions of the proposed facility in the ASC~~.

Recommended General Standard Condition 7: Before any transfer of ownership of the facility or ownership of the site certificate holder, the certificate holder shall inform the Department of the proposed new owners. The requirements of OAR 345-027-0100 apply to any transfer of ownership that requires a transfer of the site certificate.
[GEN-GS-04; Mandatory Condition OAR 345-025-0006(15)]

Site Specific Conditions [OAR 345-025-0010]

In addition to mandatory conditions imposed on all facilities, the Council rules also include "site specific" conditions at OAR 345-025-0010 that the Council may include in the site certificate to address issues specific to certain facility types or proposed features of facilities.[33]

Because the proposed facility includes a 115-kV transmission line, the Department recommends the Council adopt the following site-specific conditions:

Recommended General Standard Condition 8: The certificate holder shall:

a. Design, construct and operate the transmission line in accordance with the requirements of the National Electrical Safety Code as approved by the American National Standards Institute; and
b. The certificate holder shall develop and implement a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or structures of a permanent nature that could become inadvertently charged with electricity are grounded or bonded throughout the life of the line.

[GEN-GS-05; Site Specific Condition OAR 345-025-0010(4)]

Recommended General Standard Condition 9: The certificate holder is authorized to construct a 115-kV transmission line anywhere within the approved corridor, subject to the conditions of the site certificate. The approved corridor extends approximately 2 miles from Area A to Area D. From east to west, the first 0.5-mile corridor extends 60 feet in width within a private property transmission easement, and the remaining 1.5-mile corridor extending 60 feet in width within the exiting road right-of-way of Connley Lane, as further described in ASC Exhibits B and C and as presented in Figure 1 of the site certificate.
[GEN-GS-06; Site Specific Condition OAR 345-025-0010(5)]

[33] Site-Specific Conditions at OAR 345-025-0010(1)-(3), and (6)-(7) do not apply to the proposed facility based on facility energy source/type (solar photovoltaic power generation facility with related and supporting facilities including a proposed 115 kV transmission line).

Construction and Operation Rules for Facilities [OAR Chapter 345, Division 26]

The Council has adopted rules at OAR Chapter 345, Division 26 to ensure that construction, operation, and retirement of facilities are accomplished in a manner consistent with the protection of the public health, safety, and welfare and protection of the environment. These rules include requirements for compliance plans, inspections, reporting and notification of incidents. The certificate holder must construct the facility substantially as described in the site certificate and the certificate holder must construct, operate, and retire the facility in accordance with all applicable rules adopted by the Council in OAR Chapter 345, Division 26.[34]

The Department recommends that the Council adopt General Standard Condition 10, as presented below, to support the Department's review of ongoing site certificate compliance, in accordance with OAR Chapter 345, Division 26.

> **Recommended General Standard Condition 10:** At least 90 days prior to beginning construction of the facility (unless otherwise agreed to by the Department), the certificate holder shall submit to the Department a compliance plan documenting and demonstrating actions completed or to be completed to satisfy the requirements of all site certificate terms and conditions and applicable statutes and rules. The plan shall be provided to the Department for review and compliance determination for each requirement. The Department may request additional information or evaluation deemed necessary to demonstrate compliance.
> [PRE-GS-02; OAR 345-026-0048]

Conclusions of Law

Based on the foregoing recommended findings of fact, conclusions of law, and subject to recommended conditions, the Department recommends Council find that the proposed facility would satisfy the requirements of OAR 345-022-0000.

IV.B. Organizational Expertise: OAR 345-022-0010

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

[34] Applicable rule requirements established in OAR Chapter 345, Division 26 include OAR 345-026-0005 to OAR 345-026-0170.

constructing, operating and retiring other facilities, including, but not limited to, the number and severity of regulatory citations issued to the applicant.

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

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

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

Findings of Fact

Subsections (1) and (2) of the Council's Organizational Expertise standard require that the applicant demonstrate its ability to design, construct and operate the proposed facility in compliance with Council standards and all site certificate conditions, and in a manner that protects public health and safety, as well as its ability to restore the site to a useful, non-hazardous condition. The Council may consider the applicant's experience and past performance in constructing, operating and retiring other facilities in determining compliance with the Council's Organizational Expertise standard. Subsections (3) and (4) address third party permits.

Construction, Operation and Retirement of the Proposed Facility

To evaluate whether the applicant has demonstrated an ability to comply with Council's Organizational Expertise standard, the Department presents an evaluation of the applicant's relevant experience with constructing and operating similar facilities and considers whether any regulatory citations have been received for its facilities. The Council may consider an applicant's past performance, including but not limited to; the quantity or severity of any regulatory citations in the construction or operation a facility, type of equipment, or process similar to the facility, in evaluating whether the applicant has demonstrated an ability to design,

construct and operate a facility in compliance with Council standards and site certificate conditions.[35]

Obsidian Solar Center, LLC is a project-specific LLC and therefore relies upon the organizational expertise and experience of its two parent companies, Obsidian Renewables, LLC, and Lindgren Development, Inc. to demonstrate compliance with the Council's Organizational Expertise standard, as presented in ASC Exhibit D.[36]

ASC Exhibit D states that Obsidian Renewables "was the first and remains one of the most active developers of utility-scale solar photovoltaic facilities in the Pacific Northwest," and has experience in the design, construction, and operation of multiple utility-scale solar energy facilities, specifically in southeast Oregon and Lake County, Oregon. ASC Exhibit D states that Obsidian Renewables has developed or financed 24 solar PV facilities and has locally permitted three other solar PV facilities, in addition to the Obsidian Solar Center, currently in development in Lake County. These solar facilities are: Fossil Lake Solar (10 MW) in the Christmas Valley/north Lake County area, and Airport Solar (47.25 MW) and Airport 10 (10 MW) in the Lakeview/south Lake County area.

Lindgren Development, as stated in ASC Exhibit D, is a subsidiary of Swinerton Incorporated, and through its subsidiaries, Swinerton Builders and Swinerton Renewable Energy, has constructed, operated, and maintained solar PV projects totaling over 3 gigawatts.[37] Swinerton Renewable Energy has experience engineering, procuring, and construction capabilities, and includes, SOLV which is a division that provides full-service operation and maintenance of solar facilities, as well as real-time performance monitoring through its proprietary supervisory control and data acquisition platform. ASC Exhibit D also states that the facility is likely to be operated by Swinerton Renewable Energy or its affiliate.

The ASC describes that neither Obsidian Renewables nor Lindgren Development have developed a battery storage system substantially similar to the proposed battery storage system. In ASC Exhibit D, however, the applicant explains that Lindgren Development's affiliate company, Swinerton Builders, has constructed a 20 MW battery storage facility in California, and Swinerton Builders is expected to be involved in the Obsidian Solar Center facility development.

The applicant affirms that neither the LLC or its parent companies have received regulatory citations or complaints for any of its solar facilities.

Because the organizational expertise of the applicant's parent companies, Obsidian Renewables and Lindgren Development, as well as Lindgren Development's sister companies at Swinerton Builders, is relied upon to satisfy the requirements of the standard, the Department

[35] OAR 345-021-0010(1)(d)(D)
[36] OSCAPPDoc4 ASC 04 OSC ASC Exhibit D 2019-10-17.
[37] OSCAPPDoc4 ASC 04 OSC ASC Exhibit D 2019-10-17, D.2.

recommends Council impose the following condition to ensure that the applicant notifies the Department of any changes in the corporate structure of the applicant's parent companies:

> **Recommended Organizational Expertise Condition 1:** During construction and operation of the facility, the certificate holder shall report to the Department, within 21 days, any change of the parent companies, Obsidian Renewables, LLC and Lindgren Development, Inc., such as changes within the Board of Directors, President or Chief Executive Officer, where the certificate holder considers such change to ~~that could~~ impact its ~~the certificate holder's~~ access to the resources or expertise of the parent companies.
> [GEN-OE-01]

While ASC Exhibit D and Exhibit E describe that the builder of the proposed facility would likely be Swinerton Incorporated or its subsidiaries, Swinerton Builders and Swinerton Renewable Energy, it is possible that a different builder is ultimately hired to construct the proposed facility. Because the ultimate responsibility for compliance with the site certificate would lie with the certificate holder, Obsidian Solar Center LLC, but it is recognized that the certificate holder would hire various contractors to design and build components of the proposed facility, the Department recommends that Council adopt the following conditions that clarify and confirm that the responsibility of compliance with the site certificate would be with the certificate holder.

> **Recommended Organizational Expertise Condition 2:** Before beginning construction of the facility, the certificate holder shall notify the Department of the identity and qualifications of the major design, engineering and construction contractor(s). The certificate holder shall select contractors that have substantial experience in the design, engineering and construction of similar facilities. The certificate holder shall report to the Department any changes of major contractors.
> [PRE-OE-01]

> **Recommended Organizational Expertise Condition 3:** During design, construction, operation, and retirement of the facility, the certificate holder shall contractually require all contractors and subcontractors to comply with all applicable laws and regulations and with the terms and conditions of the site certificate. The contractual obligation shall be required of each contractor and subcontractor prior to that firm working on the facility. Such contractual provisions shall not operate to relieve the certificate holder of responsibility under the site certificate.
> [GEN-OE-02]

> **Recommended Organizational Expertise Condition 4**: Any matter of non-compliance under the site certificate is the responsibility of the certificate holder. Any notice of violation issued under the site certificate will be issued to the certificate holder. Any civil penalties under the site certificate will be levied on the certificate holder.
> [GEN-OE-03]

Recommended Organizational Expertise Condition 5: In addition to the requirements of OAR 345-026-0170, within 72 hours after discovery of incidents or circumstances that violate the terms or conditions of the site certificate, the certificate holder must report the conditions or circumstances to the Department.
[GEN-OE-04]

In ASC Exhibit D, the applicant discusses that while it does not have specific experience implementing mitigation projects as would be required based on the Department's recommendations elsewhere in this order, it has experience in in developing multiple solar PV projects in Oregon, and has hired or is working with multiple experienced professionals with experience in developing and implementing mitigation projects, specifically habitat compensatory mitigation projects. The Department further notes that Exhibit P and the associated habitat mitigation plan describes how the applicant would develop and implement habitat mitigation projects in compliance with Council standards, as well as in Exhibit S describing how the application would implement mitigation related to cultural, historical, and archaeological resources. The Department has been working with the applicant's legal, permitting, environmental, and archaeological consultants during the review of the ASC. The Department recommends Council find that the applicant has the ability to successfully implement mitigation requirements, including habitat and cultural resources mitigation, as described elsewhere in this order and as would be required as conditions of approval of a site certificate, based on the Department's recommendations to Council.

Public Health and Safety

The proposed solar facility components and transmission line could result in health and safety risks from risks to public providers of fire service during fire response events. The Department's evaluation of these risks is presented in Section IV.M., *Public Services* of this order.

The applicant is only seeking EFSC approval to install and operate a flow-battery system, and not lithium batteries. Flow batteries use a non-toxic and non-flammable electrolyte fluid that is not expected to pose a risk to public health and safety. Furthermore, the facility would have primary and secondary containment to reduce the risk of the fluid from spilling or otherwise leaking and reaching the ground.[38]

Based upon the evidence and reasoning provided in the ASC and as described here, and in compliance with the recommended conditions, the Department recommends Council find that the applicant provides reasonable assurance that it can design, construct, operate, and retire the proposed facility in a manner that protects public health and safety in accordance with the Organizational Expertise standard.

[38] OSCAPPDoc4 ASC 02 OSC ASC Exhibit B. 2019-10-17, Section B.3

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

The applicant's ability to restore the facility site to a useful, non-hazardous condition is evaluated in Section III.G., *Retirement and Financial Assurance* of this order, in which the Department recommends that Council find that the applicant has demonstrated an ability to comply with the Retirement and Financial Assurance standard.

ISO 900 or ISO 14000 Certified Program

OAR 345-022-0010(2) is not applicable because the applicant has not proposed to design, construct or operate the proposed facility according to an ISO 9000 or ISO 14000 certified program.

Third-Party Permits

OAR 345-022-0010(3) addresses the requirements for potential third party contractors. Further, the standard requires that prior to issuing a site certificate, the Council must find that the applicant has, or has a reasonable likelihood of entering into, a contractual or other arrangement with the third party for access to the resource or service secured by that permit or approval.

The applicant states in Exhibit E that it may rely on construction contractors to obtain the following permits: an onsite sewage disposal construction installation permit for the O&M building; a water pollution control facility permit (1700-B) for washwater produced from equipment-cleaning activities[39]; and an oversized load movement permit. These third-party permits are ministerial and would not ordinarily be reviewed by the Council to determine compliance, nor governed by the site certificate, and if necessary, must be secured by the third-party contractors independent of the site certificate process.

Conclusions of Law

Based on the evidence in the record, and subject to compliance with the recommended conditions of approval, the Department recommends that the Council find that the applicant would satisfy the Council's Organizational Expertise standard.

IV.C. Structural Standard: OAR 345-022-0020

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

[39] It is unclear if DEQ continues to require the 1700-B permit related to solar panel washwater. Nevertheless, if such a permit is required, the application states that the applicant's third-party contractor would secure the permit, if necessary, and as such it is not subject to EFSC jurisdiction nor is it governed by the site certificate.

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

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

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

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

(2) The Council may not impose the Structural Standard in section (1) to approve or deny an application for an energy facility that would produce power from wind, solar or geothermal energy. However, the Council may, to the extent it determines appropriate, apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.
***[40]

Findings of Fact

As provided in section (1) above, the Structural Standard generally requires the Council to evaluate whether the applicant has adequately characterized the potential seismic, geological and soil hazards of the site, and whether the applicant can design, engineer and construct the facility to avoid dangers to human safety and the environment from these hazards. Pursuant to OAR 345-022-0020(2), the Council may issue a site certificate for a solar energy facility without making findings regarding compliance with the Structural Standard; however, the Council may apply the requirements of the standard to impose site certificate conditions.

The analysis area for review of geologic and soil stability, as evaluated under the Council's Structural Standard, is the area within the site boundary. The applicant also assesses earthquakes within 50-miles from the proposed site boundary and faults outside the site boundary.

[40] OAR 345-022-0020(3) does not apply to this ASC because the proposed facility would not meet the criteria for a special criteria facility as defined in ORS 469.373(1).

DOGAMI Consultation

Council's information requirements under OAR Chapter 345 Division 21 include applicant consultation with the Oregon Department of Geology and Mineral Industries (DOGAMI) on the appropriate methodology and scope of the seismic hazards and geology and soil-related hazards assessments, and the appropriate site-specific geotechnical work to be completed to demonstrate compliance with the Council's Structural Standard. The applicant consulted with DOGAMI on June 6, 2018. Through consultation, DOGAMI provided recommendations, which were incorporated and reflected in ASC Exhibit H~~. DOGAMI recommended that, to inform ASC Exhibit H, the applicant conduct a seismic analysis using a range of estimated soil conditions, but that subsurface explorations including borings be conducted prior to construction to inform final design. DOGAMI also recommended that the applicant rely upon both the 2015 and 2018 International Building Code (IBC) and the updated Oregon Structural Specialty Code (OSSC) (2014). The applicant provides notes, as reviewed and concurred with edits by DOGAMI staff (Yumei Wang, DOGAMI geotechnical engineer), from the DOGAMI consultation in ASC Exhibit H Attachment H-2~~.[41]

Commented [A6]: ODOE: No need to summarize what was already addressed in Exhibit H.

Potential Seismic, Geologic, and Soil Hazards within Analysis Area

OAR 345-022-0020(1)(a) requires the Council to find that the applicant has adequately characterized the seismic, geologic, and soil hazards of a proposed site. ~~The applicant's geotechnical and geological consultant, Cornforth Consultants, prepared a preliminary geotechnical and geological summary report (preliminary geotechnical report) of the proposed facility site, provided in ASC Exhibit H, Attachment H-1.[42] Cornforth Consultants is an Oregon-based geotechnical firm established in 1983 that performs a wide array of complex geotechnical and landslide studies~~.

Commented [A7]: ODOE: This kind of commentary is not in other DPOs. Not a finding.

Seismic Hazards

Potential seismic hazards within the analysis area include faults and earthquakes. To evaluate these potential hazards, the applicant conducted a literature review, geologic site reconnaissance survey, and deterministic ground motion studies to characterize the potential seismic hazards within and near the proposed facility site. Literature publications reviewed include existing geological maps and reports, Oregon Department of Water Resources well log reports, United States Geological Survey (USGS) Search Earthquake Catalogue, National Resource Conservation Service Soil Survey Geographic Database for Lake County, and seismic analysis. The site reconnaissance was conducted on May 29-31, 2018 by a senior engineering geologist of Cornforth Consulting, which included a visual evaluation of existing soil and

[41] OSCAPPDoc4. ASC 08 OSC ASC Exhibit H, 2019-10-17.

[42] ~~*Id.* The preliminary geotechnical and geological summary report conducted by Cornforth consultants evaluates areas within a proposed site boundary which include Areas A, C, D, and the Gen-tie Corridor; however, as discussed in Section II.C. *Application for Site Certificate* of this order, and the applicant removed Area C from the site boundary proposed in the ASC.~~

exposures, classification of soils including a soil laboratory analysis, and observation of typical slopes within the area of proposed facility components.

In ASC Exhibit H and Attachment H-1, based on the literature review, the applicant describes that there are two fault zones near the proposed site boundary, where a fault zone includes faults expressed as a zone of numerous small fractures. The two fault zones include the Southeast Newberry Fault Zone (east and west of the proposed site boundary), capable of generating a maximum earthquake magnitude of 6.3, and the Paulina Marsh Fault Zone (about 4 miles southwest of the proposed site boundary), capable of generating a maximum earthquake magnitude of 7.0. The Southeast Newberry Fault Zone is identified as the likely seismic source that would control ground motion at the site.

Based on the applicant's USGS literature review, there is a fair amount of moderate earthquake activity and Quaternary faults surrounding the area, but there are no known faults traveling through the site boundary. Local crustal faults and the Cascadia Subduction Zone are the two principle sources of potential seismic activity that could cause strong ground shaking within and near the site boundary. Based on the applicant's literature review, as presented in ASC Exhibit H Appendix H-3, 13 earthquakes within 50 miles of the site boundary have been recorded since 1991; however, none were stronger than a 3.8 magnitude, and the closest (17.2 radial miles) recent (12/25/13) recorded earthquake was a 2.7 magnitude.[43] Based on the location and history of seismic sources and activity within the area, the applicant represents that seismic risk from ground shaking and structural damage is considered low or very low.

Based on soil sampling conducted during the site reconnaissance survey, a wide range of soil types were identified within the site boundary. Using the site classification procedures for seismic design outlined in the American Society of Civil Engineers (ASCE 7-16) Section 20 and the wide-range of soil types identified, soil site classes B through E could reasonably be encountered. For site classifications B through E, the applicant mapped maximum considered earthquake (MCE) Response Spectra to inform design requirements, resulting in 0.821g and 0.302g for short (S_S) and 1-second (S_1) based on 2012/15 IBC; and 0.756g and 0.289 for short (S_S) and 1-second (S^1) based on 2018 IBC. The site also contains potential for Site class F, which is collapsible diatomaceous clay and requires a site response analysis in accordance with ASCE 7-16 Section 21.1 to evaluate design requirements. MCE ground motions at the site are presented in Table 1: *Maximum Considered Earthquake Ground Motions for IBC.*

Table 1: Maximum Considered Earthquake Ground Motions for IBC

Site Class	IBC 2012/2015		IBC 2018	
	S_{MS} (g)	S_{M1} (g)	S_{MS} (g)	S_{M1} (g)
B	0.821	0.302	0.680	0.231
C	0.880	0.453	0.907	0.433
D	0.962	0.543	0.905	0.584
E	0.915	0.844	0.983	0.825

[43] OSCAPPDoc4. ASC 08 OSC ASC Exhibit H, 2019-10-17, Attachment H-3.

Table 1: Maximum Considered Earthquake Ground Motions for IBC

Site Class	IBC 2012/2015		IBC 2018	
	S_{MS} (g)	S_{M1} (g)	S_{MS} (g)	S_{M1} (g)
F	Requires site responses analysis			

Non-Seismic Geologic Hazards

Potential non-seismic soil related hazards within the site boundary include erosion of loose surficial soils, collapse of the wind-blown sand and silt soils, minor flooding in low-lying areas, and the potential for layers of diatomite in the subsurface leading to long-term settlement of high load structures. Potential non-seismic geologic hazards within the site boundary include volcanic eruptions, flooding, evaporates, diatomite, blowing sand, and ground settlement.

The Newberry Volcano is located about 50 miles to the northwest of the proposed site, with the most recent activity occurring between 1,450 and 1,250 years ago. Hazards from volcanic eruptions could include direct blast, mudflows, pyroclastic flows, ash falls, lave flows and floods.

Design, Engineer and Construct Proposed Facility to Avoid Potential Seismic and Non-Seismic Hazards within Surrounding Area

The Structural Standard requires the Council to find that, based on an adequate characterization of the seismic risks of the site – as presented above, that the applicant demonstrates an ability to design, engineer and construct the proposed facility to avoid potential seismic and non-seismic hazards within the surrounding area.

In ASC Exhibit H, the applicant describes that the final facility design, including foundation design, would avoid seismic and non-seismic hazards at the site because it would be based on a site-specific geotechnical investigation report; and, would adhere to the current version of the IBC, OSSC and building codes in effect at the time of construction. The Department agrees and recommends Council impose the following pre-construction condition:

Recommended Structural Standard Condition 1: At least 60-days prior to construction of the facility, the certificate holder shall conduct a site-specific geotechnical investigation in accordance with the 2014 version of the Oregon State Board of Geologist Examiners Guideline for Preparing Engineering Geologic Reports, or newer guidelines if available. The investigation report shall be submitted to DOGAMI and the Department, for review. ~~The geotechnical investigation will include the following:~~

~~Borings sufficient to develop seismic site classification(s) to facilitate engineering studies and site design;~~

~~Foundation-specific investigations appropriate for the structures and their accompanying loads; and~~

Commented [A8]: ODOE: Do not need to list what is already required by the DOGAMI guidelines.

~~As recommended by licensed project engineers, soil and rock laboratory tests, such as soil and rock classification and strength testing, electrical resistance, corrosivity, scanning electron microscopy, soil collapsibility, and other parameters.~~

~~The certificate holder's final facility engineering must include geotechnical engineering design for foundations (substations, O&M buildings, inverter/transformer pads, battery systems), including seismic design that incorporates detailed site-specific conditions, based on the results of the site-specific investigation report described in this condition~~. [PRE-SS-01]

In addition, the Council's Mandatory Conditions at OAR 345-025-0006(12) – (14) provide structural related design requirements, which the Department recommends Council find sufficient to address the applicant's ability to design the proposed facility to minimize public health and safety risk from a seismic or non-seismic related event, as represented below:

Recommended Structural Standard Condition 2: The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. As used in this rule "seismic hazard" includes ground shaking, ground failure, landslide, liquefaction triggering and consequences (including flow failure, settlement buoyancy, and lateral spreading), cyclic softening of clays and silts, fault rupture, directivity effects and soil-structure interaction.
[GEN-SS-01; Mandatory Condition OAR 345-025-0006(12)]

Recommended Structural Standard Condition 3: The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate. After the Department receives the notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions.
[GEN-SS-02; Mandatory Condition OAR 345-025-0006(13)]

Recommended Structural Standard Condition 4: The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site. After the Department receives notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions.
[GEN-SS-03; Mandatory Condition OAR 345-025-0006(14)]

To minimize potential soil erosion risks during construction and operation, the applicant relies upon the best management practices (BMPs) that would be imposed through its National

Pollutant Discharge Elimination Permit (NPDES) 1200-C Stormwater Permit, to be issued prior to construction by the Oregon Department of Environmental Quality (DEQ). The NPDES 1200-C permit would include an Erosion and Sediment Control Plan, which includes detailed engineering drawings of the site and specific measures necessary to minimize the potential of any sources of dirt and debris from polluting waterways and waters of the state. As presented in Section IV.D. *Soil Protection* of this order, the draft NPDES permit including an Erosion and Sediment Control Plan is included as Attachment I-1 in both ASC Exhibit I and this order. Because the applicant relies upon the BMPs imposed through its NPDES 1200-C to minimize potential erosion-related impacts, the Department recommends Council impose conditions requiring that the applicant remit a copy of its DEQ-issued NPDES 1200-C permit to the Department, and document through its semi-annual construction and annual reporting to the Department its ongoing compliance with the permit requirements.

Disaster Resilience and Climate Change Adaption

Applicants are required to address disaster resiliency of a proposed facility and future climatic conditions that could impact the proposed facility, in accordance with the Council's Exhibit H information requirement at OAR 345-021-0010(1)(h)(F)(i) and (ii). The applicant asserts that solar facilities are inherently resilient due to generation systems that are less complex with fewer moving parts, and no ignition sources, compared to other technologies. The applicant also relies upon its pre-construction site-specific geotechnical investigation as representative of a disaster resilient design because it would utilize subsurface exploration data to inform foundation design, where foundations would be designed to withstand modeled major seismic disasters, and component location, where high risk areas would be avoided.

ASC Exhibit H explains that future climatic conditions within the region include more common extreme heat and storm events, small increases in drought frequency, longer fire seasons, altered precipitation patterns and shifting streamflow seasonality. Potential risks at the site from these conditions, such as increased fire risk, would be mitigated through the applicant's proposed facility design, including a perimeter road which would act as a fire break, coordination with local fire districts, electronic onsite monitoring, and maintaining appropriate onsite fire response equipment, as further detailed in the draft Fire Protection and Emergency Response Plan (see Attachment U-3 of this order).

Conclusions of Law

Based on the foregoing analysis, and in compliance with OAR 345-022-0020(2), the Department recommends Council include the conditions listed above in the site certificate to address the Council's Structural Standard.

IV.D. Soil Protection: OAR 345-022-0022

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

Findings of Fact

The Soil Protection standard requires the Council to find that, taking into account mitigation, the design, construction, and operation of a proposed facility are not likely to result in a significant adverse impact to soils. The applicant's assessment of potential soil impacts and compliance with the Soil Protection standard are included in ASC Exhibit I. Additional information related to the proposed facility's potential effects to soils and proposed mitigation measures, as described by the applicant can be found in ASC Exhibit G (Materials Analysis) and ASC Exhibit K (Land Use).

The analysis area for the Soil Protection standard is the area within the site boundary and 500 feet from the site boundary, as established in the project order discussed in Section II.B., *Project Order*, of this order. The applicant describes in ASC Exhibit P that construction of the facility would result in approximately 3,588 acres of permanent disturbance and a negligible (1.2 acres) temporary disturbance.[44]

Existing Soil Conditions and Land Use

Existing soil conditions within the analysis area are shown in ASC Exhibit I. The applicant classifies soil types using Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database. As represented in ASC Exhibit I, Figure I-1, there are five major soil types within the analysis area. A description of the soil types, including information regarding erodibility and other technical information, can be found in ASC Exhibit I, Section I.2. All soil types are considered Capability Class VI by the Natural Resources Conservation Service. There is no irrigation within the site boundary; lacking irrigation, the land is considered non-arable. Irrigated cultivated land is present in the analysis area but outside the site boundary.[45] The primary land use within the site boundary is light to moderate seasonal cattle-grazing, and ASC Exhibit K states that all lands within the analysis area are Agricultural Use Zone (A-2) under Lake County Zoning Ordinance (LCZO).[46] There is no high-value farmland in the site boundary.

[44] OSCAPPDoc4 ASC 16 OSC ASC Exhibit P 2019-10-17, Table P-1.
[45] OSCAPPDoc4 ASC 09 OSC ASC Exhibit I. 2019-10-17, I.2 and I.3.
[46] OSCAPPDoc4 ASC 11 OSC ASC Exhibit K 2019-10-17, K.3.

Potential Adverse Impacts to Soil

ASC Exhibit I includes the applicant's assessment of how the proposed facility may impact soils. Additional information related to the facility's potential impacts to soils, as described by the applicant, and proposed mitigation measures can be found in ASC Exhibit G and Exhibit K.

Construction and operation of the proposed facility would impact soils within the site boundary, though the applicant states that the site would not be fully graded or excavated, resulting in minimal soil-related disturbance impacts. Grading would be required for site preparation in areas to be used for access roads and facility components requiring foundations – such as operations and maintenance buildings, collector substations, 115/500 kV step-up substation, battery storage systems, and inverter/transformer units associated with solar modules and battery storage systems. Posts required to support the solar modules would be hydraulically driven into the ground and would not require concrete foundations.

Other potential soil impacts include erosion from wind or water, accidental chemical spills, noxious weed infestation, or revegetation failure. The applicant also describes that impacts from application of liquid effluent are unlikely, as the applicant would apply water to control dust during construction in accordance with an NPDES 1200-C construction stormwater permit, and during operations, if necessary, solar module washing would only be conducted with water without cleaning solvents.[47]

To address these potential impacts, the applicant proposes a number of management and mitigation measures. The mitigation measures and best management practices (BMPs) specific to soils are included in the applicant's NPDES 1200-C permit application, specifically the Erosion and Sediment Control Plan (ESCP). The NPDES and ESCP are included in Exhibit I, Attachment I-1. NPDES 1200-C permits are federally-delegated from EPA to DEQ, and are therefore not included in or governed by the site certificate (draft ESCP is provided as Attachment I-1 of this order). The NPDES 1200-C permit applies during construction, and is intended to regulate and manage stormwater, as well as reduce erosion and sedimentation. Oregon DEQ issued a letter on the record of the ASC stating that the permit application was complete and that permit issuance would occur following issue the permit pending a determination on the site certificate by EFSC. To ensure compliance with the NPDES 1200-C permit and the ESCP, the Department recommends that the Council adopt the following condition, requiring the applicant to implement all provisions of the NPDES 1200-C permit and the final ESCP, as approved by DEQ:

Recommended Soil Protection Condition 1:

a. Prior to construction of the facility, the certificate holder shall provide a copy to the Department of its DEQ-issued NPDES 1200-C permit, including final Erosion Sediment

[47] OSCAPPDoc4 ASC 09 OSC ASC Exhibit I. 2019-10-17, I.4.

Control Plan and associated drawings (as provided in Attachment I-1 of the Final Order on the ASC).

b. During construction of the facility, the certificate holder shall conduct all work in compliance with a final Erosion and Sediment Control Plan that is satisfactory to the Oregon Department of Environmental Quality as required under the National Pollutant Discharge Elimination System Construction Stormwater Discharge General Permit 1200-C~~. The certificate holder must include evidence of compliance with the permit in its semi-annual construction reports and annual reports to the Department~~.

[GEN-SP-01]

Commented [A9]: ODOE: What is evidence of compliance? This is burdensome and not necessary. CH already had to provide information if there is a violation, if not, there is presumed compliance. This is not required in the BO PO.

A monitoring program is required as part of the ESCP and NPDES 1200-C permit, and the monitoring schedule is described in the ESCP submitted as Exhibit I, Attachment I-1. The ESCP, including the monitoring component, would be required to be implemented in accordance with DEQ requirements and Soil Protection Condition 1.

The applicant will also be required to implement the provisions of its Revegetation and Noxious Weed Control Plan (see Attachment P-3), which would include revegetation of areas not permanently impacted by facility components. Successful revegetation would reduce erosion at the site. Additional discussion of the Revegetation and Noxious Weed Control Plan and associated measures is included in Section IV.H., *Fish and Wildlife Habitat*. The applicant also explains it will implement measures to reduce erosion on the site and water used by not completely clearing the site of vegetation which is expected to help control dust. Additionally, wood waste will be chipped in the onsite grinder and used (together with other measures, such as straw and silt fencing) for road and soil ~~landscape~~ stabilization in order to reduce water needs for reduction of dust generation.

As described by the applicant, potential impacts to soils from proposed facility construction and operation could include accidental spills from oil, grease, or other chemicals used onsite. As described in ASC Exhibit B, proposed facility operations would have minimal likelihood of impacting soils from potential spills of oil or other materials because oil-containing equipment including solar facility inverters and transformers, and flow battery storage systems would be stored in contained modules on concrete pads, all of which would be inspected regularly by facility personnel. Nevertheless, the Department notes that there would be a large quantity of electrolyte fluid stored in the flow battery systems, noted in ASC Exhibit G, as up to 14,000 gallons per MW, as well as up to 800 gallons of transformer oil contained in each of up to 200 transformers.

In addition to containment systems and other facility design features intended to reduce the potential for a spill or release of material, in order to further reduce the risk of spills or leaks, and reduce the risk of impact to soils, the applicant proposed to develop and implement a Spill Management Plan (Plan). In ASC Exhibit G, the applicant describes implementing a Hazardous Substances Management Plan/Program, which the applicant incorporates into ~~the Department notes that the components of~~ the applicant's ~~proposal for managing hazardous wastes are contained within the~~ Spill Management Plan included as Attachment I-2 to this order. For

additional information about the types of waste, including small amounts and proposed handling of hazardous waste, that would be addressed in the Plan see Section IV.N., *Waste Minimization*, of this order. The ~~A draft of the~~ Spill Management Plan ~~is included as Attachment I-2. The Plan~~ describes material handling and management procedures, training requirements, response procedures, and reporting requirements for both facility construction and operation~~.~~ ~~The Spill Management Plan should be specific to construction and operation of the proposed facility~~. The ~~draft~~ plan also includes the requisite language to serve as the ~~Spill Management Plan included as I-2 contains language regarding a~~ Spill Prevention Control and Countermeasure Plan (SPCC) should the state or federal agencies require one. An SPCC plan is a specific requirement of the EPA and DEQ related to potential risk of oil spills reaching navigable waters. It is unclear if the proposed facility would require an SPCC plan; if so, that requirement is outside of EFSC jurisdiction. The Department recommends ~~The Spill Management Plan described in this section, and recommended in Soil Protection Condition 2, is distinct from and not intended to duplicate an SPCC plan. The Spill Management Plan would be required if Council approves~~ Soil Protection Condition 2 regardless of whether or not an SPCC plan is required in order to implement the applicant's proposed spill management and hazardous substance management programs. ~~. Additionally, the Spill Prevention Plan should consider for management of any hazardous material that could impact the environment if not properly managed, and not limited to only oil or petroleum-based products as is the case with an SPCC plan~~.

The Department recommends the Council adopt the following condition, requiring the applicant to ~~finalize and~~ implement the Spill Management Plan during ~~prior to~~ facility construction and ~~prior to~~ facility operation. Additionally, the Department recommends including provisions outlined in the applicant's Hazardous Substances Management Plan into the Spill Management Plan.

Recommended Soil Protection Condition 2: The certificate holder shall implement the Spill Management Plan, included as Attachment I-2 to this order, during facility construction and facility construction. The certificate must construct and operate the facility in compliance with the Spill Management Plan.

~~a. Prior to construction of the facility, the certificate holder must submit to the Department for review and approval a Spill Management Plan for Construction. The Spill Management Plan shall contain the measures discussed in the ASC for managing and disposing of hazardous materials. The certificate holder must construct the facility in compliance with the Department-approved plan.~~

~~b. Prior to operation of the facility, the certificate holder must submit to the Department for review and approval a Spill Management Plan for Operation. The certificate holder must operate the facility in compliance with the Department-approved plan.~~

[GEN-SP-02]

Subject to compliance with the recommended conditions above, the Department recommends that the Council find the design, construction, and operation of the proposed facility would not result in a significant adverse impact to soils.

Commented [A10]: ODOE: the provided plan provides the spill management and hazardous management protocols and procedures. From applicant's perspective, the plan is final and ready to implement.

Conclusions of Law

Based on the foregoing findings of fact and conclusions, and subject to compliance with the recommended site certificate conditions, the Department recommends that the Council find that the proposed facility would comply with the Council's Soil Protection standard.

IV.E. Land Use: OAR 345-022-0030

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

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

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

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

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

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

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

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

decide either to make its own determination of the applicable substantive criteria and apply them or to evaluate the proposed facility against the statewide planning goals.

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

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

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

(c) The following standards are met:

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

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

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

Findings of Fact

The Land Use standard requires the Council to find that a proposed facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission (LCDC). Under ORS 469.504(1)(b)(A), the Council may find compliance with statewide planning goals if the Council finds that a proposed facility "complies with applicable substantive criteria from the affected local government's acknowledged comprehensive plan and land use regulations that are required by the statewide planning goals and in effect on the date the application is submitted…" The preliminary ASC was received on September 20, 2018.

The analysis area for potential land use impacts, as defined in the project order, is the area within and extending one-half mile from the proposed site boundary.

The proposed facility would be located within Lake County. Therefore, the governing body within Lake County, Lake County Board of Commissioners, is the Special Advisory Group (SAG).[48] On February 23, 2018, prior to receipt of the pASC, the Council appointed the Lake County Board of Commissioners as the SAG for all site certificate proceedings related to the proposed facility.[49]

IV.E.1 Local Applicable Substantive Criteria

Under OAR 345-022-0030(2), the Council must apply the applicable substantive criteria recommended by the SAG, as long as those criteria are required by the statewide planning goals and in effect on the date the pASC is submitted. Applicable substantive criteria identified by the applicant in ASC Exhibit K are presented in Table 2: *Lake County Applicable Substantive Criteria*.

Table 2: Lake County Applicable Substantive Criteria

Lake County Zoning Ordinance (LCZO)	
Article 3 Agricultural Use Zone: A-2	
Section 3.02	Permitted Uses – Subsection C
Section 3.04	Conditional Uses – Subsection B
Section 3.05	Dimensional Standards – Subsections F, G and H
Article 18 Significant Resource (SR) Combining Zone	
Section 18.05	Reduced Preservation Review Criteria – Subsection D
Article 20 Supplementary Provisions	
Section 20.01	Supplementary Provisions
Section 20.08	Vision Clearance Area
Section 20.09	Riparian Habitat – Subsections A, B and C
Section 20.12	Fences
Section 20.13	Compliance with and Consideration of State and Federal Agency Rules and Regulations
Article 24 Conditional Uses	
Section 24.01	Authorization to Grant or Deny Conditional Uses – Subsections A
Section 24.18	Renewable Energy Facilities
Section 24.19	Criteria for Nonfarm Uses, Excluding Farm Related or Accessory Uses, in an A-1 or A-2 Zone
Lake County Comprehensive Plan	
Goal 2 Planning Process – Policies 17 and 18 Goal 3 Agricultural Lands – Policy 12 Goal 5 Open Space, Scenic and Historic Areas and Natural Resources – Policies 3, 4, 5, 8, 10, 13, 14 and 16 Goal 6 Air, Water and Land Resource Quality – Policies 1, 3, 4, 5 and 11	

[48] Under ORS 469.480(1), the Council must designate as a Special Advisory Group the governing body of any local government within whose jurisdiction the facility is proposed or proposed changes of a facility would be located.
[49] OSCNOIDoc4-2 Lake County Special Advisory Group Appointment Order 2018-02-23

Table 2: Lake County Applicable Substantive Criteria

Goal 9 Economic Development – Policies 1, 6 and 8
Goal 11 Public Services and Facilities – Policies 1, 4 and 6
Goal 12 Transportation – Policy 8
Goal 13 Energy Conservation – Policies 1 and 3
Goal 14 Urbanization – Policy 9

Lake County Zoning Ordinance (LCZO)

The proposed facility would be located on agricultural use (A-2) zoned land in Lake County. Pursuant to LCZO Section 3.01 Agricultural Use Zone, the purpose of the A-2 zone is to preserve grazing and other agricultural land. The A-2 zone is considered a qualifying exclusive farm use (EFU) zone by the Oregon Department of Land Conservation and Development (LCDC) and therefore subject to the provisions of Oregon Administrative Rules (OAR) Chapter 660, Division 33 which specifically apply to EFU zoned lands.

As presented in this section, the proposed facility is evaluated as two separate land use categories within A-2 zoned land: Utility Facilities Necessary for Public Service (proposed 2 mile 115 kV transmission line and 115/500 kV step-up substation); and, Commercial Utility Facilities for the Purpose of Generating Power for Public Use by Sale (commercial utility facilities) (proposed 400 MWac of solar photovoltaic energy generation equipment including modules and accessory equipment like trackers, posts, cabling, inverter/transformer units, collection system, collector substations, O&M buildings, perimeter fencing, gates, and 50 MW of battery storage equipment). An evaluation of the applicable substantive criteria for these uses within A-2 zoned land is presented below.

LCZO Article 3: Agricultural Use Zone: A-2

> *LCZO Section 3.02 Permitted Uses..In an A-2 Zone, the following uses and their accessory uses are permitted outright:*
> *****
> *C. Utility facilities necessary for public service, except commercial facilities for the purpose of generating power for public use by sale and transmission towers over 200 feet in height.*

LCZO Section 3.02(C) identifies utility facilities "necessary" for public service, and their accessory uses, as a use permitted outright on A-2 zoned land.[50] A utility facility is necessary for public service if it is an associated transmission line as defined in ORS 215.274, or utility facilities which otherwise satisfy the requirements under ORS 215.275.[51] Based on the proposed

[50] LCZO Article 1 defines Accessory Structure or Use as, "A use of a structure, or a portion of a structure, the of which is incidental and subordinate to the main use of the property or structure and is located on the same premises as the main or primary use and/or structure.
[51] ORS 215.283(1)(c)(B)

facility description included in ASC Exhibit B, proposed utility facilities not considered part of the commercial utility facility would include up to 2 miles of a parallel double-circuit 115 kV transmission line and an approximately 3 acre 115/500 kV step-up substation. The proposed transmission line would include steel, monopole structures that could extend up to 70 feet in height and therefore would not exceed the 200-foot height restriction established in LCZO Section 3.02(C).

As provided in Section IV.E.2. *Directly Applicable State Statutes and Administrative Rules*, the Department recommends that the proposed 115 kV transmission line and 115/500 kV step-up substation be evaluated as "utility facilities necessary for public service" under ORS 215.275, rather than ORS 215.274, as presented in ASC Exhibit K. Utility facilities necessary for public service, under ORS 215.274, must meet the definition under ORS 469.300(2) of an "associated transmission line," defined as "new transmission lines constructed to connect an energy facility to the first point of junction of such transmission line or lines with either a power distribution system or an interconnected primary transmission system or both or to the Northwest Power Grid." As presented, ORS 215.274 specifically refers to transmission lines, extending to but not inclusive of the first point of junction, whereas ORS 215.275 refers to utility facilities necessary for public service, omitting specific definition. Based on the size and operating function, the Department does not consider the proposed 115/500 kV substation to be an accessory use, incidental and subordinate, to the proposed 115 kV transmission line, rather it considers the component to be a utility facility. The Department recommends, then, that Council evaluate the proposed 115 kV transmission line and 115/500 kV step-up substation as a utility facility necessary for public service under ORS 215.275 as presented in Section IV.E.2 *Directly Applicable State Statutes and Administrative Rules* of this order.

Based on the evaluation presented in Section IV.E.2. *Directly Applicable State Statutes and Administrative Rules*, the Department recommends Council find that the proposed 115 kV transmission line and 115/500 kV step-up substation would be a utility facility necessary for public service and would satisfy the requirements under ORS 215.275; therefore, the Department recommends Council find that the proposed 115 kV transmission and 115/500 kV step-up substation are a use permitted outright under LCZO Section 3.02(C).

> *LCZO Section 3.04 Conditional Uses. In an A-2 Zone, the following uses and their accessory uses are permitted when authorized in accordance with the requirements of this Article and Article 24 of this Ordinance.*
> *****
> *B. Type II. Conditional Uses.*
> *****
> *6. Commercial utility facilities for the purpose of generating power for public use by sale.*

LCZO Section 3.04(B)(6) identifies "commercial utility facilities for the purpose of generating power for public use by sale" (commercial utility facilities), and their accessory uses, as a Type II permitted conditional use in an A-2 zone, subject to the zoning requirements under Article 3 and 24. The proposed solar facility, not including the proposed 115 kV transmission line and

115/500 kV step-up substation, is evaluated under the commercial utility facilities land use category. The evaluation of compliance with LCZO Article 3 and 24 provisions is provided below.

The applicant would be required to secure zoning, building, onsite sewage disposal system and a conditional use permit for the proposed facility. Therefore, the Department recommends Council adopt the following condition:

Recommended Land Use Condition 1: Prior to construction of the facility, the certificate holder shall:

a. Submit a conditional use and zoning permit application along with the proper filing fees to Lake County Planning Department for issuance pursuant to ORS 469.401(3); and
b. Obtain all other necessary local permits, including building permits and onsite sewage treatment system permits.

[PRE-LU-01]

Lake County has not amended LCZO Section 3.04(B)(6) to reflect the Oregon Land Conservation and Development Commission (LCDC) administrative rules governing conditional uses within agricultural lands, which include specific requirements that must be satisfied and require a governing body to take an exception to the statewide policy embodied in Goal 3 for proposed solar facilities that would use, occupy or cover more than 320 acres of nonarable lands, as applicable to the proposed facility. Therefore, the requirements under OAR 660-033-0130(38) apply directly to the proposed facility, as evaluated in Section IV.E.2. *Directly Applicable State Statutes and Administrative Rules* below.

LCZO Section 3.05 Dimensional Standards. In an A-2 Zone, the following Dimensional Standards shall apply:
*****

F. For nonfarm uses permitted in areas not designated by the Plan as Farm Residential, Rural Residential or Rural Center, the minimum lot or parcel size shall be one (1) acre and should not be more than necessary to accommodate the intended or proposed use.

LCZO Section 3.05(F) requires lots or parcels used by nonfarm uses to be at least 1-acre in size but not more than necessary for the proposed use. In ASC Exhibit K, the applicant indicates that the proposed facility would not result in new lots or parcels. Further, the Department confirms that based on review of a 2018/19 Lake County tax assessor map of the proposed facility site boundary and surrounding properties, all parcels for which the proposed facility would be located are at least 1-acre or greater.[52] Therefore, the Department recommends Council find that the proposed facility would satisfy the dimensional standards under LCZO Section 3.05(F).

G. The minimum Front and Rear yard setbacks shall be 20 feet, and sideyard setbacks shall

[52] https://ormap.net/gis/index.html

be 10 feet, except that a sideyard of a nonfarm use adjacent to a farm use in an area not designated as Farm Residential, Rural Residential or Rural Center shall be 50 feet.

LCZO Section 3.05(G) establishes minimum setback distances from nonfarm uses to adjacent farm uses, including 50-feet for sideyards and 20 feet for front and rear yards. In ASC Exhibit K, the applicant asserts that the proposed facility design would meet or exceed the minimum setback distance requirements[53]. To ensure compliance with the applicable setback requirement, the Department recommends Council impose the following setback condition:

Recommended Land Use Condition 2: Prior to construction of the facility, the certificate holder shall demonstrate to the Department and Lake County Planning Department through mapping or other engineering drawing that the final facility layout complies with the following county yard setback and vision clearance area requirements:

a. 50-foot minimum sideyard setback distance from permanent foundations (inverter/transformer units, collector/step-up substations, O&M buildings, battery storage enclosures) to adjacent non-participating property boundaries.
b. 20-foot minimum front and rear yard setback distance from permanent foundations (inverter/transformer units, collector/step-up substations, O&M buildings, battery storage enclosures) to adjacent non-participating property boundaries.
c. 45-foot minimum setback from the centerline of any county or other public or street right-of-way to permanent foundations (inverter/transformer units, collector/step-up substations, O&M buildings, battery storage enclosures).
d. ~~At the intersection of any two streets, existing and constructed,~~ 20-foot minimum triangular vision clearance area at access road driveways constructed by the facility that provide access to a public roadway.
e. ~~At the intersection of any two streets, existing and constructed,~~ 2.5-foot height restriction on planting, fence, wall, structure, or temporary or permanent obstruction, measured from the top of the curb or, where no curb exists, from the established street center line grade, except that trees exceeding this height may be located in this area, provided all branches and foliage are removed to a height eight (8) feet above grade.

[PRE-LU-02]

Commented [A11]: ODOE: The word "streets" in (d) and (e) is vague and could be interpreted to apply to "roads" like the internal access roads which is not the intent of the setback requirement (applies to public roads).

Based on the applicant's assertion and compliance with the recommended condition above, the Department recommends Council find that the proposed facility would satisfy the dimensional standards under LCZO Section 3.05(F).

H. All structures shall be setback at least 60 feet from the centerline of any State or Federal Highway rights-of-way and 45 feet from the centerline of any County or other public road or street right-of-way.

LCZO Section 3.05(H) establishes minimum setback distances for structures from road rights-of-

[53] Recommended Land Use Condition 2 (d) and (e) are recommended in the condition to demonstrate compliance with LCZO Section 20.08, as evaluated below.

way, including a 45-foot minimum setback distance from the centerline of any County or other public or street right-of-way; and, a 60 foot minimum setback distance from the centerline of any State or Federal Highway right-of-way. Based on ASC Exhibit C, there are no state or Federal Highway rights-of-way within 0.5 miles of the proposed site boundary. Nonetheless, the applicant asserts that all proposed structures would be located more than 60-feet from any public road right-of-way. To ensure compliance with the applicable setback requirement, the Department recommends Council impose Land Use Condition 2(c).

Based on the applicant's assertion and compliance with the recommended condition above, the Department recommends Council find that the proposed facility would satisfy the dimensional standards under LCZO Section 3.05(H).

Article 18: Significant Resource (SR) Combining Zone

LCZO Article 18 establishes requirements for permissible uses within a Significant Resource (SR) Combining Zone, which includes the County's Goal 5 mapped resources such as Big Game Winter Range Habitat. In ASC Exhibit K, the applicant describes, but does not graphically present, that a small portion of the northeastern corner of the site boundary is within the County's Goal 5 mapped Big Game Habitat Winter Range. Based on the Department's consultation with Lake County Planning Director Darwin Johnson, and review of the county's goal 5 maps overlain with the proposed facility site boundary, approximately 269 acres within the proposed facility site boundary would be within the County's Goal 5 Big Game Winter Range Habitat.[54] Therefore, the provisions of LCZO Article 18 Section 18.05 are applicable and evaluated below.

Section 18.05 Reduced Preservation Review Criteria. The environmental, social, economic and energy consequences of allowing the proposed use or activity shall be described in sufficient detail to provide a clear demonstration that the applicable criteria set forth hereinafter are met.

*****

D. Big Game Habitat Restrictions

1. Definitions

a) "Big Game Winter Range" means an area designated as winter range for big game by the comprehensive plan.

b) "Dwelling" includes resource and nonresource dwellings.

c) "Tract" means one or more contiguous lots or parcels under the same ownership.

2. All uses allowed in big game winter range must comply with the applicable standards for the underlying zone;

3. Siting Standards

a) New structures shall be located as close as possible to existing adjacent structures.

[54] However, the entire site boundary is located in ODFW-mapped big game winter range habitat; see Section IV.H *Fish and Wildlife Habitat* for additional discussion and assessment.

b) Structures shall share a common access road wherever possible.
c) Where it is impractical or unreasonable to share a common access road the structure shall be located as close as possible to the nearest existing public road in order to minimize the length of access from said existing public road.

LCZO Section 18.05(D)(2) and (3) require uses allowed in the county's Goal 5 mapped big game winter range to describe the environmental, social, economic and energy consequences of the proposed use; and, to comply with applicable standards for the underlying zone, A-2, and specific siting standards for structures and access roads. An evaluation of the environmental, social, economic and energy consequences of the proposed use is presented in Section IV.E.3 *Goal 3 Exception* of this order. As presented above, the Department recommends Council find that the proposed facility would comply with the applicable standards for the conditionally permitted uses (commercial utility facility) within A-2 zoned land.

The applicant explains that there are no existing structures within the proposed site boundary; and, explains that proposed facility structures would be located within a fenced area and would share newly constructed internal and perimeter roads. Primary access to the proposed facility would be provided via County Road 5-12, 5-12 A, 5-10, 5-10 C (Connley Road) and 5-14 G (Oil Dri Road). ~~The only existing road within the county's mapped Goal 5 Big Game Winter Range habitat, that would be used during proposed facility construction or operation, is County Road 5-12 A.~~ Based on representations provided in ASC Exhibit U, applicant proposes to construct a driveway ~~proposed new access roads or road approaches would be constructed~~ onto the site from County Road 5-10 C (Connley Road) and from 5-14 G (Oil Dri Road). ~~, and have not been identified from County Road 5-12 A.~~ If an access road or road approach from the facility site to County Road 5-12 A is constructed as part of the facility, the applicant must demonstrate, in accordance with LCZO Section 18.05(D)(3), that the access road or road approach length represents a minimal length from the county road to the facility perimeter fenceline. To ensure compliance with LCZO Section 18.05(D)(3)(c), the Department recommends Council impose the following condition:

Recommended Land Use Condition 3: Prior to construction of the facility, the certificate holder shall provide a map presenting facility site boundary, access roads and road approaches; and county roads~~; and, the County's mapped Goal 5 Big Game Winter Range habitat overlay~~. If the certificate holder ~~identifies~~ proposes to construct new facility access roads or road approaches from County Road 5-12 A onto the site, certificate holder shall demonstrate to the Department and Lake County Planning Department how the length of the road or road~~ch~~ approach complies with LCZO Section 18.05(D)(3)(c). ~~has been minimized to reduce big game habitat impacts from road-related habitat fragmentation~~. [PRE-LU-03]

Based on compliance with the recommended condition above, the Department recommends Council find that the proposed facility would satisfy the applicable requirements within the SR zone under LCZO Section 18.05(D)(2) and (3).

Article 20: Supplementary Provisions

Section 20.01 Supplementary Provisions. The following provisions generally apply to all uses in all zones except as specified in respective sections.

*****

Section 20.08 Vision Clearance Area. A clear-vision area shall be maintained on the corners of all property at the intersection of any two streets or a street and a railroad.

A. A clear-vision area shall consist of a triangular area, two sides of which are lot lines measured from the corner intersection of the street lot lines for a distance of 20' or where the lot lines have rounded corners, the lot lines extended in a straight line to a point of intersection and so measured, and third side of which is a line across the corner of the lot joining the non-intersecting ends of the other two sides.

B. A clear-vision area shall contain no planting, fence, wall, structure, or temporary or permanent obstruction exceeding 2.5 feet in height, measured from the top of the curb or, where no curb exists, from the established street center line grade, except that trees exceeding this height may be located in this area, provided all branches and foliage are removed to a height eight (8) feet above grade.

LCZO Section 20.08 establishes a 20 foot vision clearance requirement on corner properties and height restriction for plantings, fencing, walls, structures or other obstructions from an established street center line grade. LCZO Section 20.08 describes the vision clearance area as a triangular area measured from the corner intersection of the street lot lines, and requires this area to contain no planting, fence, wall, structure, or temporary or permanent obstruction exceeding 2.5 feet in height. For purposes of this standard, corner properties should be identified along the outside property lines of the applicant's leased boundary, not the internal property lines located within the site boundary.

The applicant represents proposed access roads would be designed to meet LCZO Section 20.08 clear vision area requirements. As presented above, the Department recommends Council impose in Land Use Condition 2 to ensure compliance with the requirements. Based on compliance with the above-recommended condition, the Department recommends Council find that the proposed facility would comply with LCZO Section 20.08.

Section 20.09 Riparian Habitat. In A-1, A-2 and F-1 zones, structural setbacks as follows shall be provided to recognize the value of riparian habitat.

A. On perennial streams and rivers, structural development shall be set back at least 50 feet from the high water mark.

B. On intermittent streams or drainages, structural development shall be set back at least 25 feet from the high water mark.

C. On lakes or reservoirs, structural development shall be set back a sufficient distance determined by the Planning Commission as needed to protect riparian habitat

LCZO Section 20.09 establishes setback distances from structure foundations to the high water line or mark along perennial streams and rivers; intermittent streams or drainages; and, on lakes or reservoirs. As presented in ASC Exhibit J, within the site boundary, the only state jurisdictional waters are four playas, or playa lakes, which are seasonally flooded and provide habitat and foraging for migratory birds. However, these playa lakes are not considered perennial streams or rivers; intermittent streaks or drainages; or, lakes or reservoirs because they do not permanently and continually hold water. Therefore, the established setbacks would not apply.

> *Section 20.12 Fences. Fences are permitted in any Zone and do not require a permit for construction, however, with the exception of the A-1, A-2, F-1 and other "resources zones," barbed wire and similar hazardous materials are not permitted except as approved otherwise by the County. Also, in the non-resource zones, fences exceeding a height of six (6) feet require a building permit. In no zone shall sight-obscuring fences be maintained in violation of vision clearance requirements and in all zones fences shall be maintained in good condition.*

LCZO Section 20.12 establishes requirements for fencing, including a restriction on barbed wire or similar hazardous materials in A-2 zoned land, unless otherwise approved by the governing body; compliance with vision clearance requirements, fence maintenance obligations, and building permit requirements for fences exceeding 6' in height. The applicant proposes to install a 7' chain-link perimeter fence, inclusive of 1' of barbed wire. Therefore, the applicant would be required to obtain a building permit for the perimeter fence and obtain Council approval for use of barbed wire. Based on consultation with the Lake County Planning Director, Darwin Johnson, consistent with the county's position for use of barbed wire for other solar facility fencing, the Department recommends Council authorize use of 1' of barbed wire for the proposed 7' perimeter fence.[55]

As presented above, the Department recommends Council impose Land Use Condition 1 requiring that, prior to construction, the applicant obtain all necessary local permits, including a building permit for the perimeter fence. To ensure that the applicant maintain its perimeter fence is good condition, the Department recommends Council impose the following condition:

> **Recommended Land Use Condition 4:** During facility operation, the certificate holder shall include in the annual report the condition of the perimeter fence and identify whether any repairs were completed within the reporting year, or if scheduled for following reporting year.
> [OPR-LU-01]

> *Section 20.13 Compliance With and Consideration of State and Federal Agency Rules and Regulations.*

[55] OSCAPPDoc18-1 ASC Reviewing Agency Comment Lake County Planning Department_Johnson 2020-03-03.

Approval of any use or development proposal pursuant to the provisions of this Ordinance shall require compliance with and consideration of all applicable State and Federal Agency rules and regulations. Specific rules and regulations which may affect any specific use or development proposal, and for which compliance is required for approval by the County include, but are not limited to, the following:

A. Air quality standards administered by DEQ and EPA.

LCZO Section 20.13(A) requires permitted uses to comply with applicable air quality standards administered by the Oregon Department of Environmental Quality (DEQ) and United States Environmental Protection Agency (EPA). The EPA is responsible for setting and enforcing National Ambient Air Quality Standards (NAAQS) applicable to aircraft, locomotives and vehicles through the Clean Air Act. Title V of the Clean Air Act establishes a federal permit program for large stationary emission sources, which has been delegated to DEQ.

The proposed facility would not include stationary emission sources, and therefore would not trigger any air quality standards enforced by either DEQ or EPA. Particulate matter or dust would be generated during earth-moving construction activities such as road building. However, the applicant proposes to control dust through daily watering via onsite water trucks. Based on the above analysis, the Department recommends Council find that there are no applicable air quality standards for which the proposed facility must comply.

B. Noise pollution standards administered by EPA.

LCZO Section 20.13(B) requires permitted uses to comply with noise pollution standards administered by the EPA. As presented in ASC Exhibit K, there are no noise pollution standards administrated by EPA for which the applicant must comply; however, as presented in ASC Exhibit X and evaluated in Section IV.Q.1. *Noise Control Regulations* of this order, the Department recommends Council find that the proposed facility would satisfy the applicable noise pollution standards under DEQ's Noise Control Regulations. The Department recommends Council find that there are no applicable EPA-administrated noise pollution standards for which the proposed facility must comply.

C. Water quality standards administered by DEQ and WRD.

LCZO Section 20.13(C) requires permitted uses to comply with water quality standards administered by DEQ and Oregon Water Resources Department (WRD), which for the proposed facility, includes DEQ's National Pollution Discharge Elimination System Stormwater Discharge Permit program. There are no applicable WRD water quality standards.

The proposed facility would be located on or within jurisdictional waters of the state (i.e. various playas and playa mosaics), which requires compliance with DEQ's water quality standards administered under ORS 468B.050 and Section 402 of the Federal Clean Water Act

through the National Pollution Discharge Elimination System Stormwater Discharge Permit program (1200-C permit). As presented in ASC Exhibit I and evaluated in Section IV.D. *Soil Protection* of this order, a 1200-C permit would be required for proposed facility construction; the Department recommends Council impose recommended Soil Protection Condition 1 to ensure compliance with the water quality standards administered through compliance with the 1200-C permit requirements. Based on compliance with this condition, the Department recommends Council find that the proposed facility would comply with LCZO Section 20.13(C).

D. Sewage Disposal regulations administered by DEQ.

LCZO Section 20.13(D) requires permitted uses to comply with sewage disposal regulations administrated by DEQ, such as OAR Chapter 340 Division 71, which apply to onsite wastewater treatment systems. In ASC Exhibit E, the applicant identifies that an Onsite Sewage Disposal Construction Installation Permit would be needed for onsite septic fields to be constructed to support O&M building restroom facilities (sewage disposal permit). Sewage disposal permits are regulated by the Oregon Department of Environmental Quality (DEQ), but have been delegated to Lake County through the Lake County Building Department. To ensure compliance with the applicable sewage disposal permit requirements, the Department recommends the Council adopt Land Use Condition 1, as presented above, to ensure all applicable local permits are obtained prior to construction. Based on compliance with recommended Land Use Condition 1, the Department recommends Council find that the proposed facility would comply with LCZO Section 20.13(D).

E. Uniform Building Code.

LCZO Section 20.13(E) requires permitted uses to comply with Uniform Building Codes, which are addressed in local building permits to be obtained prior to construction, as recommended, be imposed in Land Use Condition 1. Based on compliance with recommended Land Use Condition 1, the Department recommends Council find that the proposed facility would comply with LCZO Section 20.13(E).

F. Surface and Ground Water Withdrawals by WRD.

LCZO Section 20.13(F) requires permitted uses to comply with Oregon Water Resources Department (WRD) surface and groundwater withdrawals. As evaluated in Section IV.Q.3. *Water Rights* of this order, the applicant proposes to withdraw groundwater from two 5,000-gallon per day groundwater wells, which would be exempt based on daily usage from WRD permit requirements under ORS 537.545(1)(f). Based on the proposed water sources for construction and operation, the applicant has not identified that a groundwater permit, surface water permit, or water right transfer would be needed. Pursuant to OAR 690-190-0100, WRD establishes recording requirements for permit exempt groundwater wells, which the Department recommends be imposed in Water Rights Condition 1. Based on compliance with this proposed condition, the Department recommends Council find that the proposed facility

would comply with LCZO Section 20.13(F).

G. Scenic Area rules administered by State Highway Division.

LCZO Section 20.13(G) requires permitted uses to comply with State Highway Division Scenic Area rules. The land use analysis area extends 0.5-mile within and extending from the proposed facility site boundary, in which there are no scenic roadways. Therefore, LCZO Section 20.13(G) would not apply.

H. Forest Practices Act administered by DOF.

LCZO Section 20.13(H) requires permitted uses to comply with Oregon Department of Forestry's Forest Practices Act, which establish requirements within forest-zoned lands. The proposed facility would be located within lands zoned for cattle grazing, and would not be located on any forest-zoned lands. Therefore, LCZO Section 20.13(H) would not apply.

I. Access regulations administered by State Highway Div.

LCZO Section 20.13(I) requires permitted uses to comply with Oregon Department of Transportation (ODOT) access regulations. While ODOT access regulations require an approach permit for construction of any new approach or change of use of an existing connection to a highway, the applicant has not identified any new or changes to existing approaches to state highways. Therefore, LCZO Section 20.13(I) would not apply.

J. Surface mining regulations administered by DOGAMI.

LCZO Section 20.13(J) requires permitted uses to comply with the Oregon Department of Geology and Mineral Industries (DOGAMI) surface mining regulations. The applicant has not proposed to conduct any surface mining or related activities (i.e. blasting) as part of the proposed facility. Therefore, LCZO Section 20.13(J) would not apply.

Article 24: Conditional Uses

Section 24.01 Authorization to Grant or Deny Conditional Uses. Conditional Uses listed in this Ordinance may be permitted, enlarged or otherwise altered when authorized in accordance with the standards and procedures set forth in this Article. In the case of a use existing prior to the effective date of this Ordinance, and classified herein as a Conditional Use, a change in use, enlargement or alteration of such use shall conform with the provisions for a conditional use. An application for a Conditional Use may be approved, modified, approved with conditions or denied.

A. General Criteria. In determining whether or not a Conditional Use shall be approved or denied, it shall be determined that the following criteria are either met or can be met through the compliance with specific conditions.

1. *The proposal is in compliance with the applicable Comprehensive Plan and Policies set forth thereby.*

LCZO Section 24.01(A)(1) requires conditionally permitted uses to demonstrate compliance with applicable Comprehensive Plan and Policies. Based on the evaluation presented in the subsection below, the Department recommends Council find that the proposed facility would comply, or be consist with, with applicable Comprehensive Plan policies, including Goal 2 Policies 17 and 18; Goal 3 Policy 12; Goal 5 Policies 3, 4, 5, 8, 10, and 14; Goal 6 Policies 1, 3, 4, 5 and 11; Goal 9 Policies 1, 6 and 8; Goal 11 Policies 1, 4 and 6; Goal 12 Policy; Goal 13 Policies 1 and 3; Goal 14 Policy 9.

2. *The proposal is in compliance with the standards and requirements set forth by the applicable primary Zone, any applicable Combining Zone, and the standards and conditions set forth by this Article and any other provisions of this Ordinance.*

LCZO Section 24.01(A)(2) requires conditionally permitted uses to demonstrate compliance with applicable code provisions established for the primary and any applicable combining zone. As presented in this section, the Department recommends Council find that the proposed facility would comply with all applicable LCZO provisions.

3. *That, for proposals requiring approvals or permits from other local, State and/or federal agencies, evidence of such approval or permit compliance is established or can be assured prior to final approval.*

LCZO Section 24.01(A)(3) requires conditionally permitted uses to provide evidence or assurance that local, State and/or federal permits necessary for the proposed facility can be obtained. In ASC Exhibit E, the applicant represents various local, State and federal approvals and permits that may be required prior to construction of the proposed facility. To ensure all necessary permits are obtained prior to construction, the Department recommends Council impose Land Use Condition 1 (for local permits) and Land Use Condition 5 below:

Recommended Land Use Condition 5: The certificate holder shall:

a. Prior to construction of the facility, provide to the Department a list of all State and federal permits or approval necessary for construction or operation of the facility. Certificate holder shall consider ASC Exhibit E in identifying necessary permits.
b. At least 90-day following construction commencement, provide evidence of all State and federal permits or approval identified per sub(a) of this condition.

[GEN-LU-1]

Based on compliance with the recommended conditions, the Department recommends Council find that the proposed facility would comply with LCZO Section 24.01(A)(3).

4. *That no approval be granted for any use which is or is expected to be found to exceed*

> *resource and public service/facility carrying capacities, or for any use which is found to not be in compliance with applicable air, water, land, solid waste, or noise pollution standards.*

LCZO Section 24.01(A)(4) prohibits approval of conditionally permitted uses if the use is expected to exceed resource carrying capacities or would not comply with air, water land, solid waste, or noise pollution standards. As presented in Section IV.M. *Public Services* of this order and in the evaluation of LCZO Section 20.13, the Department recommends Council find that the proposed facility would not result in significant adverse impacts on the ability of public or private service providers to provide a service or result in non-compliance with any applicable standards. Therefore, based on the above-referenced evaluation, the Department recommends Council find that the LCZO Section 24.01(A)(4) use prohibition would not need to be exercised.

> *Section 24.18 Renewable Energy Facilities. For proposed facilities under Oregon Energy Siting Council (EFSC) jurisdiction, conditional use permits shall be granted consistent with the EFSC siting standards as adopted in Oregon Administrative Rules Chapter 345, or amended hereafter. For facilities not under EFSC jurisdiction, the following siting standards shall apply: ****

LCZO Section 24.18 requires conditionally permitted uses under EFSC jurisdiction to comply with OAR Chapter 345. The proposed facility is an EFSC-jurisdictional facility. OAR Chapter 345 requirements are established in Divisions 22 and 24 and are evaluated in Section IV of this order. Based on the evaluation presented in this order, the Department recommends Council find that the proposed facility would comply with LCZO Section 24.18.

> *Section 24.19 Criteria for Nonfarm Uses, Excluding Farm Related or Accessory Uses, in an A-1 or A-2 Zone. Nonfarm uses, excluding farm related or farm accessory uses, may be approved in an A-1 or A-2 zone upon findings that each such use:*
>
> *A. Is compatible with farm uses described in ORS 215.203(2) and is consistent with the intent and purposes set forth in ORS 215.243;*

LCZO Section 24.19(A) requires nonfarm uses within an A-1 or A-2 zone to demonstrate compatibility with ORS 215.203(2) and consistency with the intent and purpose set forth in ORS 215.243.[56] ORS 215.203(2) defines farm use and ORS 215.243 provides the policy statements

[56] Pursuant to ORS 215.203(2)(a) "farm use" means "the current employment of land for the primary purpose of obtaining a profit in money by raising, harvesting and selling crops or the feeding, breeding, management and sale of, or the produce of, livestock, poultry, fur-bearing animals or honeybees or for dairying and the sale of dairy products or any other agricultural or horticultural use or animal husbandry or any combination thereof. "Farm use" includes the preparation, storage and disposal by marketing or otherwise of the products or by-products raised on such land for human or animal use. "Farm use" also includes the current employment of land for the primary purpose of obtaining a profit in money by stabling or training equines including but not limited to providing riding lessons, training clinics and schooling shows. "Farm use" also includes the propagation, cultivation, maintenance and harvesting of aquatic, bird and animal species that are under the jurisdiction of the State Fish and Wildlife

made by the legislature to support broad application of the Exclusive Farm Use zone across open lands of the state. As presented in ASC Exhibit C, the proposed facility would occupy up to 3,921 acres of land within Lake County's A-2 zone, a zone designated for cattle grazing.

The proposed facility site contains no water rights and is in an area that has been under a WRD moratorium preventing issuance of new groundwater rights for irrigation since the mid- 1980s. Additionally, the applicant provides an August 2, 2019 letter from one of the underlying landowners – Mr. Richard Morehouse – affirming that while the land has been historically grazed, the land and soil conditions are inadequate to support a viable commercial grazing operation.

Based on the August 2, 2019 landowner letter and explanation of historic and current use of the land within the proposed site boundary, because ORS 215.203(2) defines farm uses as specific uses of land for the primary purpose of obtaining a profit in money, the Department does not consider that land within the proposed site boundary, because it is not currently employed – even as a wasteland under ORS 215.203(2)(b)(E) – for the primary purpose of obtaining a profit in money, to be a farm use. Therefore, the proposed facility is only obligated to demonstrate consistency with the intent and purpose of ORS 215.243 – which focuses on maintaining conditions within the zone. While the applicant requests a Goal 3 exception under OAR 660-033-0130(38), the applicant relies upon a reasons exception request rather than a zone change. Therefore, because the underlying A-2 zone would be maintained, the Department recommends Council find that the proposed facility would comply with the applicable requirements of LCZO Section 24.19(A).

B. Does not interfere seriously with accepted farming practices as defined in ORS 215.203(2)(c), on adjacent lands devoted to farm use;

LCZO Section 24.19(B) requires that within an A-1 or A-2 zone, nonfarm uses 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. The Department considers the language of this code, while not exactly the same as ORS 215.296(1) and OAR 660-033-0130(5), to mirror the intent and purpose. ORS 215.296(1) and OAR 660-033-0130(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.

In ASC Exhibit K, the applicant identifies that accepted farming practices on surrounding lands include irrigated agriculture and grazing/ranching activities. Based on these practices, the applicant identifies ~~defines~~ potential adverse impacts arising from ~~serious interference as impacts to the~~ availability ~~source~~ of irrigation water, increased traffic, increased dust, and

Commission, to the extent allowed by the rules adopted by the commission. "Farm use" includes the on-site construction and maintenance of equipment and facilities used for the activities described in this subsection. "Farm use" does not include the use of land subject to the provisions of ORS chapter 321, except land used exclusively for growing cultured Christmas trees as defined in subsection (3) of this section or land described in ORS 321.267 (3) or 321.824 (3)."

spread of invasive weed species. The applicant then evaluated whether these potential adverse impacts would rise to the level of serious interference with accepted farming practices. The proposed facility is not requesting a new ~~does not include a request for a~~ limited water use license or water use permit from WRD so it is not anticipated to interfere with existing irrigation water rights. Any potential traffic impacts would be limited to the duration of construction, which the applicant proposes to minimize through implementation of best management practices covered under a Construction Traffic Management Plan (Attachment U-2 of this order). The applicant proposes to implement dust abatement through daily watering via water trucks; and, to control weeds through implementation of a Revegetation and Noxious Weed Control Plan (Attachment P-3 of this order). Based on compliance with recommended conditions presented in this order and mitigation plans attached to this order, the Department recommends Council find that the proposed facility would not result in serious interference with ~~or significantly increase the cost of~~ accepted farming practices on adjacent lands devoted to farm use and would therefore comply with LCZO Section 24.19(B).

C. Does not materially alter the stability of the overall land use pattern of the area;

LCZO Section 24.19(C) requires that within an A-1 or A-2 zone, nonfarm uses demonstrate that the overall land use pattern of the area would not be materially altered. The applicant describes the land use within the area as remote and rural, with sparse population averaging about one person per square mile. Approximately 23 percent of the land area in the county (about 1,227,648 acres) is privately owned. As of 2012, 657,055 acres were in farms, with approximately 67 percent in pastureland, 20 percent in cropland, and the remainder in woodland or other uses. The proposed facility would occupy approximately 3,921.3 acres of land that otherwise could be used for occasional grazing. This amounts to only 0.32 percent of the privately owned land in the county, or 0.6 percent of the acres in farms. Based on this information, the applicant asserts, and the Department agrees, that the proposed facility would not materially alter the land use pattern of the area. Therefore, the Department recommends Council find that the proposed facility would satisfy LCZO Section 24.19(C).

D. Is situated upon generally unsuitable land for the production of farm crops and livestock, considering the flooding, vegetation, location and size of the tract;

LCZO Section 24.19(D) requires that within an A-1 or A-2 zone, nonfarm uses be situated upon generally unsuitable land for the production of farm crops and livestock, considering the flooding, vegetation, location and size of the tract. In ASC Exhibit I and P, the applicant provides information/mapping on the vegetation and soil conditions of the site, including low quality soil (Class VI and VIII) and a mix of shrublands and bare earth. As referenced above, the applicant provides a letter from one of the underlying landowners – Mr. Richard Morehouse – supporting the applicant's representations that the land is not economically viable for use by commercial cattle grazing. Therefore, based on land conditions and landowners' supporting letter, the Department recommends Council find that the proposed facility would satisfy LCZO Section 24.19(D).

E. Complies with other applicable natural resource provisions; and

LCZO Section 24.19(E) requires that within an A-1 or A-2 zone, nonfarm uses demonstrate compliance with other applicable natural resource provisions. Other applicable natural resource provisions of LCZO include Article 18, which include the requirements within the County's mapped Goal 5 Big Game Winter Range. As presented in this order in the evaluation of LCZO Section 18.05(D), based on compliance with recommended conditions, the Department recommends Council find that the proposed facility would comply with the other LCZO natural resource provisions and therefore would comply with LCZO Section 24.19(E).

F. Complies with such other conditions as the County considers necessary.

LCZO Section 24.19(F) requires that within an A-1 or A-2 zone, nonfarm uses must comply with other conditions considered necessary by the governing body. As presented throughout this order, the Department recommend Council impose various conditions to satisfy the requirement of LCZO provisions and other Council standards and applicable rules. Based on compliance with the recommended conditions, as presented in Attachment 1 of this order, the Department recommended Council find that the proposed facility would comply with LCZO Section 24.19(F).

Lake County Comprehensive Plan

As presented in Table 2: Lake County Applicable Substantive Criteria, the following Lake County Comprehensive Plan Goals and policies were identified as applicable to the proposed facility.

Goal 2 Planning Process – Policies 17 and 18
Goal 3 Agricultural Lands – Policy 12
Goal 5 Open Space, Scenic and Historic Areas and Natural Resources – Policies 3, 4, 5, 8, 10, 13, 14 and 16
Goal 6 Air, Water and Land Resource Quality – Policies 1, 3, 4, 5 and 11
Goal 9 Economic Development – Policies 1, 6 and 8
Goal 11 Public Services and Facilities – Policies 1, 4 and 6
Goal 12 Transportation – Policy 8
Goal 13 Energy Conservation – Policies 1 and 3
Goal 14 Urbanization – Policy 9

Based on the analysis presented in Section IV.E.1. *Local Applicable Substantive Criteria*, which presents the evaluation of the proposed facility's compliance with applicable code provisions as implemented in the county zoning ordinance to meet the goals and policies of the comprehensive plan, the Department recommends that the proposed facility would be consistent with the goals and policies of the Lake County Comprehensive Plan, particularly the sections related to Economy, Industrial Development, Resource Industrial Development.

IV.E.2 Directly Applicable State Statutes and Administrative Rules

Oregon Revised Statutes

ORS 215.275 – Utility Facilities Necessary for Public Service

The proposed facility includes a 115 kV transmission line and 115/500 kV substation, where the proposed transmission line would extend approximately 2 miles west of the site boundary of the solar energy generation facility components. The Department recommends that the proposed 115 kV transmission line and 115/500 kV step-up substation be evaluated as "utility facilities necessary for public service" under ORS 215.275, rather than ORS 215.274. Utility facilities necessary for public service, under ORS 215.274, must meet the definition under ORS 469.300(2) of an "associated transmission line," defined as "new transmission lines constructed to connect an energy facility to the first point of junction of such transmission line or lines with either a power distribution system or an interconnected primary transmission system or both or to the Northwest Power Grid." As presented, ORS 215.274 specifically refers to transmission lines, extending to but not inclusive of the first point of junction, whereas ORS 215.275 refers to utility facilities necessary for public service, omitting specific definition. Based on the size and operating function, the Department does not consider the proposed 115/500 kV substation to be an accessory use, incidental and subordinate, to the proposed 115 kV transmission line, rather it considers the component to be a utility facility.

ORS 215.275 Utility facilities necessary for public service; criteria; rules; mitigating impact of facility.

(1) A utility facility established under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) is necessary for public service if the facility must be sited in an exclusive farm use zone in order to provide the service.

(2) To demonstrate that a utility facility is necessary, an applicant for approval under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) must show that reasonable alternatives have been considered and that the facility must be sited in an exclusive farm use zone due to one or more of the following factors:

(a) Technical and engineering feasibility;

(b) The proposed facility is locationally dependent. A utility facility is locationally dependent if it must cross land in one or more areas zoned for exclusive farm use in order to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;

(c) Lack of available urban and nonresource lands;

(d) Availability of existing rights of way;

(e) Public health and safety; and

(f) Other requirements of state or federal agencies.

In ASC Exhibit K, the applicant addresses the factors under ORS 215.274, which differ from the factors listed above under ORS 215.275. Therefore, based on the information contained in the ASC, the Department presents its assessment of the applicant's ability to satisfy ORS 215.275.

1. **Technical and engineering feasibility:** The proposed 115 kV transmission line is required to interconnect proposed solar energy generation facility to PGE's existing 500 kV line, which would in the same location as the proposed 115/500 kV step-up substation. Based on the extent of A-2 zoned land within the area, there is not a feasible alternative, on non A-2 zoned land, that would allow the energy generation facility to interconnect to PGE's existing 500 kV transmission line.
2. **The proposed facility is locationally dependent:** A utility facility is locationally dependent if it must cross land in one or more areas A-2 zoned areas in order to achieve a reasonably direct route or to meet a unique geographical need that cannot be satisfied on other lands. Based on the extent of A-2 zoned land within the area, there is no route between the proposed facility and interconnection point (at future PGE substation to be co-located with the proposed 115/500 kV step-up substation) that would achieve a reasonably direct route while not impacting A-2 zoned land. Any alternative routing would be circuitous and cost-prohibitive.
3. **Lack of available urban or nonresource lands:** Based on the extent of A-2 zoned land within the area, there are no available urban and non-resource lands that would provide for a reasonably direct route for the transmission line while connecting the proposed facility to PGE's existing 500 kV transmission line.
4. **Availability of existing rights-of-way:** The proposed 115 kV transmission line would be located within existing county road rights-of-way for approximately 1.5 miles and a landowner easement, a form of right-of-way, for the remaining 0.5 mile. Therefore, the Department recommends Council find that the proposed transmission line must be located on A-2 land in order to use available rights-of-way.

As presented in ASC Exhibit B, the applicant considered multiple alternative transmission line routes and grid interconnection alternatives. Under ORS 215.275, reasonable alternatives must be considered that support a finding that the proposed facility must be sited on EFU zoned land in order to provide the service, which in this case is transmission service between the proposed facility to PGE's existing 500 kV transmission, to serve the regional grid. As presented in Exhibit K, non-A-2 zoned locations are not available for the proposed use. It is not possible to transfer the generated electricity via transmission line from the energy generation facility to the grid without crossing A-2-zoned land. Fundamentally, the proposed transmission is locationally dependent because "it must cross land in one or more areas zoned for exclusive farm use in order to achieve a reasonable direct route."

Because of the necessity to cross EFU zoned land, in addition to the analysis provided for the other factors which provide additional support and justification for the proposed transmission route, the Department recommends that the Council find that the proposed transmission line is necessary for public service pursuant to the factors set forth in ORS 215.275(2).

(3) Costs associated with any of the factors listed in subsection (2) of this section may be considered, but cost alone may not be the only consideration in determining that a utility facility is necessary for public service. Land costs shall not be included when considering

alternative locations for substantially similar utility facilities. The Land Conservation and Development Commission shall determine by rule how land costs may be considered when evaluating the siting of utility facilities that are not substantially similar.

As provided above, the proposed intraconnection transmission line is locationally dependent because it must cross EFU zoned land in order to connect the proposed facility to the 115/500 kV substation and the interconnection location ~~Wheatridge East to Wheatridge West~~. Therefore, the department recommends that the Council find that cost alone is not the only, or even primary, consideration in determining that the proposed intraconnection line is necessary for public service under ORS 215.275(3).

(4) The owner of a utility facility approved under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) shall be responsible for restoring, as nearly as possible, to its former condition any agricultural land and associated improvements that are damaged or otherwise disturbed by the siting, maintenance, repair or reconstruction of the facility. Nothing in this section shall prevent the owner of the utility facility from requiring a bond or other security from a contractor or otherwise imposing on a contractor the responsibility for restoration.

The applicant would be responsible for all areas temporarily disturbed during construction, maintenance or repair of the proposed facility, including the transmission line(s). The applicant has submitted a draft Revegetation and Noxious Weed Control Plan, provided as Attachment P- of this order. Pursuant to recommended Fish and Wildlife Condition 1, the applicant would be required to receive final approval of the Revegetation Plan from the Department, in consultation with ODFW and Lake County, before beginning construction. The applicant would also be required to implement the approved plan during facility construction and operation.

Based upon the evaluation provided above, and subject to compliance with the referenced conditions, the Department recommends that the Council find that the proposed facility would satisfy the restoration requirements of ORS 215.275(4).

(5) The governing body of the county or its designee shall impose clear and objective conditions on an application for utility facility siting under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) to mitigate and minimize the impacts of the proposed facility, if any, on surrounding lands devoted to farm use in order to prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices on the surrounding farmlands.

In ASC Exhibit K, the applicant identifies that accepted farming practices on surrounding lands include irrigated agriculture and grazing/ranching activities. Based on these practices, the applicant identifies potential adverse ~~defines significant~~ impacts to accepted farm practices as availability ~~impacts to the source~~ of irrigation water, increased traffic, increased dust, and spread of invasive weed species. The applicant then evaluated whether these potential adverse impacts would rise to the level of serious impacts resulting in a significant change to, or a

significant increase in the cost of, the identified accepted farming practices. The proposed facility is not requesting ~~does not include a request for~~ a new limited water use license or water use permit from WRD so it is not anticipated to significantly change the availability of irrigation water. Any potential traffic impacts would be limited to the duration of construction, which the applicant proposes to minimize through implementation of best management practices covered under a Construction Traffic Management Plan (Attachment U-2 of this order). The applicant proposes to implement dust abatement through daily watering via water trucks; and, to control weeds through implementation of a Revegetation and Noxious Weed Control Plan (Attachment P-3 of this order). Based on compliance with recommended conditions presented in this order and mitigation plans attached to this order, the Department recommends Council find that the proposed facility would not result significant changes, or significantly increase the cost of, the identified accepted farming practices on surrounding ~~adjacent~~ lands devoted to farm use and would therefore satisfy the requirements of ORS 215.275(5).

Oregon Administrative Rules

OAR 660-033-0130(38) – Standards for Approval for Photovoltaic Solar Power Generation Facility in Exclusive Farm Use Zones

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

OAR 660-033-0130(38)(h) restricts a photovoltaic solar power generation facility from using, occupying, or covering more than 320 acres of nonarable land. The proposed facility would use, occupy or cover approximately 3,921 acres of nonarable land and therefore would not comply with the acreage threshold. OAR 660-033-0130(38)(k) provides that an exception of the acreage threshold may be taken pursuant to ORS 197.732 and OAR Chapter 660 Division 4. As presented in ASC Exhibit K, and evaluated in Section IV.E.3 *Goal 3 Exception* of this order, the applicant requests that Council take an exception to the acreage threshold based on a "reasons" exception. The Department recommends Council find that the proposed facility would not comply with the nonarable acreage threshold established in OAR 660-033-0130(38)(h) and based on the analysis presented in Section IV.E.3 *Goal 3 Exception* of this order, take an exception pursuant to OAR 660-033-0130(38)(k).

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

OAR 660-033-0130(38)(h)(A) applies to photovoltaic solar power generation facilities located on nonarable lands and prohibits facility components from being located on high value farmland soils, as defined in OAR 660-033-0020(8)(a) (NCRS Class I or II). Based on NRCS soil classification as presented in ASC Exhibit I, the proposed facility site is comprised of Class VI and VIII soils,

which are nonarable soils. Therefore, the Department recommends Council find that the proposed facility would not be located on any high-value farmland soils and therefore would comply with OAR 660-033-0130(38)(h)(A).

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

OAR 660-033-0130(38)(h)(B) applies to photovoltaic solar power generation facilities located on nonarable lands and prohibits facility components from being located on high value farmland soils or arable soils unless certain criteria can be met. As previously described throughout this section, the proposed facility site is comprised of Class VI and VIII soils, which are nonarable soils and does not contain high value farmland or arable soils. Therefore, the Department recommends Council find that the proposed facility would comply with OAR 660-033-0130(38)(h)(B).

(C) No more than 12 acres of the project will be sited on high-value farmland soils described at ORS 195.300(10);
(D) No more than 20 acres of the project will be sited on arable soils;

OAR 660-033-0130(38)(h)(C)-(D) applies to photovoltaic solar power generation facilities located on nonarable lands and prohibits facility components from occupying more than 12 acres of high value farmland soils as defined in ORS 195.300(10) or 20 acres of arable soils. As previously described throughout this section, the proposed facility site is comprised of Class VI and VIII soils, which are nonarable soils and does not contain high value farmland soils, as defined in ORS 195.300(10) or arable soils. Therefore, the Department recommends Council find that the proposed facility would comply with OAR 660-033-0130(38)(h)(C) and (D).

(E) The requirements of OAR 660-033-0130(38)(h)(D) are satisfied;

OAR 660-033-0130(38)(h)(E) applies to photovoltaic solar power generation facilities located on nonarable lands and requires compliance with OAR 660-033-0130(38)(h)(D). As presented above, the Department recommends Council find that the proposed facility would satisfy OAR 660-033-0130(38)(h)(D) and therefore would also comply with OAR 660-033-0130(38)(h)(E).

(F) If a photovoltaic solar power generation facility is proposed to be developed on lands that contain a Goal 5 resource protected under the county's comprehensive plan, and the plan does not address conflicts between energy facility development and the resource, the applicant and the county, together with any state or federal agency

responsible for protecting the resource or habitat supporting the resource, will cooperatively develop a specific resource management plan to mitigate potential development conflicts. If there is no program present to protect the listed Goal 5 resource(s) present in the local comprehensive plan or implementing ordinances and the applicant and the appropriate resource management agency(ies) cannot successfully agree on a cooperative resource management plan, the county is responsible for determining appropriate mitigation measures; and

OAR 660-033-0130(38)(h)(E) applies to photovoltaic solar power generation facilities located on nonarable lands and requires development and implementation of a mitigation plan for Goal 5 resources identified in the county's comprehensive plan that would be impacted by the proposed facility. The Department consulted with Lake County Planning Department and obtained Goal 5 Big Game Winter Range mapped habitat, overlain with the proposed facility site boundary. Based on this review, approximately 269 of 3,921 acres of the proposed facility site would be located within the county's mapped Goal 5 Big Game Winter Range habitat. As presented in ASC Exhibit P and evaluated in Section IV.H., *Fish and Wildlife Habitat* of this order, the applicant proposes to implement a Habitat Mitigation Plan (HMP), which has been reviewed by the Department in consultation with ODFW. Based on compliance and conditions recommended under the Council's Fish and Wildlife Habitat standard, the Department recommends Council find that OAR 660-033-0130(38)(h)(E) would be satisfied.

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

OAR 660-033-0130(38)(h)(G) applies to photovoltaic solar power generation facilities located on nonarable lands and requires development and implementation of a mitigation plan for impacts to big game winter range. The applicant, Department and ODFW coordinated

throughout the ASC review and process to identify and establish appropriate components of the HMP, which is further evaluated in Section IV.H, *Fish and Wildlife Habitat* of this order. Based on compliance and conditions recommended under the Council's Fish and Wildlife Habitat standard, the Department recommends Council find that OAR 660-033-0130(38)(h)(G) would be satisfied.

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

OAR 660-033-0130(38)(k) establishes that, for projects that would be sited on 320 acres or more of nonarable land, an exception is required pursuant to ORS 197.732 and OAR Chapter 660, division 4. The proposed solar facility would use, occupy or cover more than 320 acres of nonarable land. The Department's assessment of the applicant's Goal 3 exception request is evaluated in Section III.E.3, *Goal 3 Exception* of this order below and recommends that the Council find that an exception to Goal 3 is justified.

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

OAR 660-033-0130(38)(l) requires the governing body to impose a condition that the applicant sign and record in the deed records for the County a document binding the applicant and the applicant owner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming. The Department recommends Council impose the following condition to ensure compliance with this requirement:

Recommended Land Use Condition 6: Prior to construction of the facility, the certificate holder shall sign and record in the county deed records a document binding the certificate holder owner, and any certificate holder owner successors in interest, prohibiting them

from pursuing a claim for relief of cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).
[PRE-LU-04]

Based on compliance with the above-recommended Land Use Condition 6, the Department recommends that Council conclude the requirements under OAR 660-033-0130(38)(l) would be satisfied.

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

OAR 660-033-0130(38)(m) allows for the governing body to require a bond or other security for the amount necessary to retire the facility during decommissioning. Recommended Retirement and Financial Assurance Conditions 4 and 5 would require the applicant to obtain a bond or letter of credit, before beginning construction. Therefore, based upon compliance with these recommended conditions, the Department recommends that Council conclude that the requirements under OAR 660-033-0130(38)(m) would be satisfied.

IV.E.3 Goal 3 Exception

The proposed facility would use, occupy or cover more than 320 acres of nonarable land. Therefore, the proposed facility would not comply with OAR 660-033-0130(38)(j). Pursuant to OAR 345-022-0030(2)(b)(B), if a proposed facility does not comply with an applicable substantive criteria, the facility must otherwise comply with the applicable statewide planning goal (Goal 3 Agricultural Lands) or seek an exception to the statewide planning goal. Pursuant to ORS 469.504(1)(b)(B), non-compliance with a statewide planning goal requires a determination by the Council that an exception to Goal 3 is warranted under ORS 469.504(2) and the implementing rule at OAR 345-022-0030(4).

Goal 2, under OAR 660-004-0020(2)(a), permits an "exception" to the requirement of a goal for "specific properties or situations." The text of Goal 2, part II, pertaining to exceptions is codified in ORS 197.732; however, for EFSC-jurisdictional facilities, ORS 469.504(2) establishes the requirements that must be met for the Council to take an exception to a land use planning goal, not the LCDC rule or statute. The Council's Land Use standard at OAR 345-022-0030(4), mirrors the language of ORS 469.504(2), stating:

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

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

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

(c) The following standards are met:

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

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

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

The provisions of OAR 345-022-0030(4)(a) and (b) are not applicable to the proposed facility. In ASC Exhibit K, the applicant provides an assessment as to why a goal exception, under OAR 345-022-0030(4)(c), for the proposed facility that would use, occupy or cover more than 320 acres of nonarable land is appropriate. Based on the evaluation presented below, the Department agrees and recommends Council find that a goal exception under OAR 345-022-0030(4)(c) is appropriate.

Reasons Supporting an Exception

Under OAR 345-022-0030(4)(c)(A) (and ORS 469.504(2)(c)(A)), in order for the Council to determine whether to grant an exception to a statewide planning goal, the applicant must provide reasons justifying why the state policy embodied in the applicable goal should not apply. The state policy embodied in Goal 3 is the preservation and maintenance of agricultural land for farm use. The applicant's arguments relating to "reasons supporting an exception" are discussed below.

Minimal Impacts to Agriculture

The applicant requests that Council consider the proposed facility's minimal impacts to agriculture as a reason for granting an exception to the state policy embodied in Goal 3. As noted throughout this order, the applicant seeks Council approval for use of up to 3,921 acres of nonarable lands for proposed facility.

The proposed facility site is comprised of NRCS Class VI and VIII soils, which are soils considered

not suitable for cultivation ("nonarable soils"). The site contains no water rights and is in an area that has been under a WRD moratorium preventing issuance of new groundwater rights for irrigation since the mid-1980s. Additionally, the applicant provides an August 2, 2019 letter from one of the underlying landowners – Mr. Richard Morehouse – affirming that while the land has been historically grazed, the land and soil conditions are inadequate to support a viable commercial grazing operation. Based on historic use of the land, confirmation from local landowner, the Department agrees that the area within the proposed site boundary provides limited ability for landowners to make a profit on the land from agriculture use, including grazing, and therefore use by a solar facility would have minimal agricultural related impacts.

The Department agrees with the applicant's reasoning as presented in this section. The land is not viable for productive crop cultivation or cattle grazing due to low quality soils and no water source. The Department recommends that Council conclude that due to the proposed facility's minimal impacts to agriculture, this "reason" in addition to the subsequent analysis justifies a Goal 3 exception.

Local Economic Benefits

The applicant requests that Council consider the local economic benefits from construction and operation of the proposed facility as a reason for granting an exception to the state policy embodied in Goal 3.

As identified by the applicant, local economic benefits from proposed facility construction and operation would likely include lease payments to underlying landowners, creation of up to 150 construction jobs, and community service fees paid to Lake County through a Strategic Investment Program (SIP) agreement. Under the SIP Agreement, the applicant affirms that the certificate holder would pay $2,000 per MWac of nameplate installed capacity to the County, annually for 15 years. The applicant also commits to remitting payment of $10,000 per MWac to the North Lake County School District Foundation, totaling up to $4 million. Because the Department and Council strongly support the local economic benefit as a reason for the Goal 3 exception, the Department recommends Council impose the following condition to allow the Department the opportunity to verify completion of the commitments:

Recommended Land Use Condition 7: Prior to operation of the facility, the certificate holder shall:

a. Provide a copy to the Department of the Strategic Investment Program Agreement as executed by Lake County and certificate holder. The SIP agreement shall demonstrate, at a minimum, annual Community Service Fees of $2,000 megawatt alternating current (MWac), based on nameplate installed capacity.
b. Provide a one-time contribution to the North Lake County School District Foundation based on $10,000 per MWac capacity, based on final design of the facility ~~constructed by the construction completion deadline defined in General Standard Condition 1~~.

[PRO-LU-01]

The Department agrees that proposed facility construction and operation would benefit the local economy as presented in the findings here. The Department recommends the Council conclude that this argument is a relevant "reason" justifying a Goal 3 exception.

Reasons Recommended Not be Considered by Council for a Goal 3 Exception

In addition to the reasons described above, the applicant requests Council consideration of reasons which the Department recommends not be considered, as further described below. The applicant asserts that it does not seek to permanently remove land from agricultural production, and that the land, which per lease terms, would be returned to agricultural purposes following retirement and restoration. The Department agrees that the site could be returned to agricultural purposes after facility retirement; however, the Department does not consider this argument relevant to "reasons supporting an exception." The site, as requested, would preclude agricultural use for 40+ years, at least. While effects of the land removal may not "permanent" in a long time scale, such effects nonetheless sufficiently disturb land for an extended period of time. The Department therefore recommends that the Council conclude that the mere fact that the land may be returned for agricultural use, after its projected retirement after 40 years or more, is not a sufficient "reason" justifying a Goal 3 exception for the proposed facility.

The applicant also asserts that the availability of reliable renewable energy relates to the ability to recruit and retain energy-dependent businesses, which may maintain renewable energy procurement policies. The applicant has not provided evidence of any specific companies that are considering to expand, or move business, because of renewable energy procurement policies. Therefore, the Department considers this argument to be attenuated and lacking specifics and recommends Council conclude that this argument is not a sufficient reason justifying a Goal 3 exception.

The applicant asserts that the proposed facility would further public and private policies, including but not limited to Oregon's Renewable Portfolio Standard (RPS), which requires utilities to provide 50 percent of its electricity from renewable sources by 2040. The Department agrees that energy generated by the proposed facility could apply towards the State's RPS requirements if Renewable Energy Credits are generated and purchased by in-state utilities. However, because there is no requirement in the state RPS requirements that renewable energy be procured from Oregon-based resources, nor direct facility development on agricultural lands, the Department does not consider abstract consistency with the State's RPS standard to be a sufficient "reason" justifying a Goal 3 exception, specifically. Additionally, the applicant has not provided a power purchase agreement or other documentation that would demonstrate that the proposed facility would provide power to an Oregon utility in support of its RPS requirements. Therefore, the Department recommends that Council conclude that although the development of the proposed facility as a renewable energy source would further and advance the State's renewable energy resources policy, this is not considered a sufficient reason supporting or justifying a Goal 3 exception for the proposed facility.

Significant Environmental, Economic, Social and Energy Consequences

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

Environmental Consequences

The proposed facility must satisfy the requirements of all applicable EFSC standards, rules and statutes. Applicable environmental EFSC standards include: General Standard of Review; Soil Protection standard; Protected Areas standard; Recreation Standard; Scenic Resources standard; Fish and Wildlife Habitat standard; and the Threatened and Endangered Species standard. As presented in this order, the Department recommends that the Council find that the proposed facility has been designed to avoid and where necessary, to mitigate impacts to soils, wetlands, fish and wildlife habitats, and threatened and endangered species through recommended conditions of approval.

Based on the recommended findings of fact, conclusions of law, and conditions of approval presented within this order, the Department recommends that Council find that the proposed facility, including mitigation, would not cause significant adverse environmental consequences or impacts.

Economic Consequences

Economic consequences of a proposed facility could include potential impacts to providers of public services, as well as benefits from local job creation, increased tax revenue from property taxes received from the proposed facility site and from consumption of local goods and services from new or temporary residents associated with the proposed facility, and supplemental income to property owners through lease payments. As presented in ASC Exhibit U and evaluated in Section IV.M. *Public Services* of this order, based upon compliance with recommended conditions, the Department recommends Council find that the proposed facility would not have a significant impact on providers of public or private services. As evaluated above, under the *Local Economic Benefits* reason, construction and operation of the proposed facility would provide economic benefits through multiple sources. Based on these factors as evaluated under the applicant's public services impact assessment, recommended conditions of approval, and local economic benefits realized from proposed facility construction and operation, the Department recommends that the Council conclude that the proposed facility represents a net benefit compared to the proposed site's existing uses and economic consequences.

Social Consequences

Social consequences of a proposed facility could include impacts from proposed facility visibility, noise, traffic or demand on providers of public services (health care, education, housing, water supply, waste disposal, transportation, fire and safety). As demonstrated in the applicable sections of this order, the Department recommends Council find that impacts to important or significant scenic resources, protected areas, and recreational opportunities would not result in significant adverse impacts and would comply with the appropriate Council standards. The Department addresses potential adverse impacts to public services in Section IV.M, *Public Services*, and impacts to cultural resources in Section IV.K., *Historic, Cultural and Archaeological Resources*. Based on the Department's recommended findings of fact and conclusions of law, and recommended conditions of compliance, as presented in the proposed order under the Council's Scenic Resources standard; Historic, Cultural and Archeological standard; Public Services standard; and Recreation standard, the Department recommends Council conclude that the proposed facility would not cause significant adverse social consequences.

Energy Consequences

Energy consequences of a proposed facility could include the amount of energy a proposed facility would require, the source of energy, and whether the proposed facility is consistent with state and local energy policies. The proposed facility would provide a renewable source of energy for sale to the public. As a renewable energy source, the proposed facility would not rely upon other energy generation sources, and with 50 MW of proposed battery storage, would provide a net benefit in renewable energy sources. Based upon the above analysis, the Department recommends the Council find that the proposed facility would have beneficial energy consequences.

Compatibility of Adjacent Uses

Under OAR 345-022-0030(4)(c)(C) (and ORS 469.504(2)(c)(C)), in order for the Council to determine whether to grant an exception to a statewide planning goal, the applicant must show that the proposed facility is compatible with other adjacent land uses or will be made compatible through mitigation measures. As explained in ASC Exhibit K, adjacent land uses include irrigated crop cultivation. Adjacent land use zones within the 0.5-mile analysis area are exclusively A-2-zoned land.

For adjacent and nearby farmland, as described above [under the ORS 215.275 analysis], the Department recommends that the Council conclude that the proposed facility would not cause a significant change to accepted farm practices nor significantly increase the cost of accepted farm practices within the surrounding area. Moreover, the economic benefits of the proposed facility would more than offset any potential impacts to nonarable land. Potential impacts to adjacent farm practices would be limited to short-term, temporary construction impacts associated with dust, construction-related traffic, and temporary increases in local population and resource demand, which would be minimized through compliance with recommended conditions. Therefore, the Department recommends that Council conclude that the proposed

facility would be compatible with other adjacent land uses and land use zones and that the proposed facility would meet the standard under OAR 345-022-0030(4)(c)(C).

Goal 3 Conclusion of Law

Based on the foregoing findings and evidence in the record, the Department recommends that Council take a Goal 3 exception for the 3,921 acres of nonarable land that could be occupied by proposed facility components, subject to compliance with the recommended site certificate conditions. The Department also recommends Council find that the Goal 3 exception taken for this proposed facility would expire and terminated at time of site certificate termination.

Conclusions of Law

Based on the foregoing recommended findings and the evidence in the record, and subject to compliance with the recommended site certificate conditions, the Department recommends the Council finds an exception to Goal 3 is justified under OAR 345-022-0030(4)(c) and ORS 469.504(2)(c); and that therefore the Department recommends the Council find that the proposed facility would comply with the applicable statewide planning goal (Goal 3). As such, subject to the recommended conditions, the Department recommends Council find that the proposed facility would comply with the Council's Land Use standard.

IV.F. Protected Areas: OAR 345-022-0040

(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate for a proposed facility located in the areas listed below. To issue a site certificate for a proposed facility located outside the areas listed below, the Council must find that, taking into account mitigation, the design, construction and operation of the facility are not likely to result in significant adverse impact to the areas listed below. References in this rule to protected areas designated under federal or state statutes or regulations are to the designations in effect as of May 11, 2007:

(a) National parks, including but not limited to Crater Lake National Park and Fort Clatsop National Memorial;

(b) National monuments, including but not limited to John Day Fossil Bed National Monument, Newberry National Volcanic Monument and Oregon Caves National Monument;

(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et seq. and areas recommended for designation as wilderness areas pursuant to 43 U.S.C. 1782;

(d) National and state wildlife refuges, including but not limited to Ankeny, Bandon Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath, Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper Klamath, and William L. Finley;

(e) National coordination areas, including but not limited to Government Island, Ochoco and Summer Lake;

(f) National and state fish hatcheries, including but not limited to Eagle Creek and Warm Springs;

(g) National recreation and scenic areas, including but not limited to Oregon Dunes National Recreation Area, Hell's Canyon National Recreation Area, and the Oregon Cascades Recreation Area, and Columbia River Gorge National Scenic Area;

(h) State parks and waysides as listed by the Oregon Department of Parks and Recreation and the Willamette River Greenway;

(i) State natural heritage areas listed in the Oregon Register of Natural Heritage Areas pursuant to ORS 273.581;

(j) State estuarine sanctuaries, including but not limited to South Slough Estuarine Sanctuary, OAR Chapter 142;

(k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed as potentials for designation;

(l) Experimental areas established by the Rangeland Resources Program, College of Agriculture, Oregon State University: the Prineville site, the Burns (Squaw Butte) site, the Starkey site and the Union site;

(m) Agricultural experimental stations established by the College of Agriculture, Oregon State University, including but not limited to: Coastal Oregon Marine Experiment Station, Astoria Mid-Columbia Agriculture Research and Extension Center, Hood River Agriculture Research and Extension Center, Hermiston Columbia Basin Agriculture Research Center, Pendleton Columbia Basin Agriculture Research Center, Moro North Willamette Research and Extension Center, Aurora East Oregon Agriculture Research Center, Union Malheur Experiment Station, Ontario Eastern Oregon Agriculture Research Center, Burns Eastern Oregon Agriculture Research Center, Squaw Butte Central Oregon Experiment Station, Madras Central Oregon Experiment Station, Powell Butte Central Oregon Experiment Station, Redmond Central Station, Corvallis Coastal Oregon Marine Experiment Station, Newport

Southern Oregon Experiment Station, Medford Klamath Experiment Station, Klamath Falls;

(n) Research forests established by the College of Forestry, Oregon State University, including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett Tract in Columbia County, the Spaulding Tract in the Mary's Peak area and the Marchel Tract;

(o) Bureau of Land Management areas of critical environmental concern, outstanding natural areas and research natural areas;

(p) State wildlife areas and management areas identified in OAR chapter 635, Division 8.

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(3) The provisions of section (1) do not apply to transmission lines or natural gas pipelines routed within 500 feet of an existing utility right-of-way containing at least one transmission line with a voltage rating of 115 kilovolts or higher or containing at least one natural gas pipeline of 8 inches or greater diameter that is operated at a pressure of 125 psig.

Findings of Fact

The Protected Areas standard requires the Council to find that, taking into account mitigation, the design, construction and operation of a proposed facility are not likely to result in significant adverse impacts to any protected area as defined by OAR 345-022-0040.[57] As required under OAR 345-021-0010(L), the applicant identifies the protected areas within the analysis area and evaluates the following potential impacts during proposed facility construction and operation: excessive noise, increased traffic, water use, wastewater disposal, visual impacts of facility structures.[58]

The analysis area for protected areas is the area within and extending 20 miles from the proposed site boundary. The applicant addresses protected areas in ASC Exhibit L. The applicant's assessment of impacts to protected areas also relies on information presented in

[57] OAR 345-001-0010(53) defines "Significant" as "…having an important consequence, either alone or in combination with other factors, based upon the magnitude and likelihood of the impact on the affected human population or natural resources, or on the importance of the natural resource affected, considering the context of the action or impact, its intensity and the degree to which possible impacts are caused by the proposed action. Nothing in this definition is intended to require a statistical analysis of the magnitude or likelihood of a particular impact."

[58] The proposed facility would not generate any emission plumes and therefore would not result in visual impacts from air emissions. Therefore, visual impacts from air emissions resulting from proposed facility construction or operation, including but not limited to impacts on Class I Areas as described in OAR 340-204-0050, is not applicable and therefore not addressed in this order.

ASC Exhibit R (Scenic Resources) and ASC Exhibit X (Noise). ASC Exhibit L, Figure L-1 is a map of the protected areas within the analysis area.

As presented in Table 3: *Protected Areas within the Analysis Area*, seven protected areas were identified by the applicant within the 20-mile analysis area, with the nearest protected area approximately four miles north of the proposed facility.

Table 3: Protected Areas within the Analysis Area

Protected Area and Rule Reference	Distance and Direction from Proposed Facility
Devil's Garden Lava Bed, BLM Area of Critical Environmental Concern (ACEC) OAR 345-022-0040(o)	4 miles, north
Connley Hills BLM ACEC and Research Natural Area (RNA) OAR 345-022-0040(o)	5.3 miles, southwest
Table Rock BLM ACEC and RNA OAR 345-022-0040(o)	6.9 miles, south
Fort Rock State Natural Area OAR 345-022-0040(i)	9.2 miles, northwest
Black Hills BLM ACEC/RNA OAR 345-022-0040(o)	9.7 miles, southeast
Lost Forest/Sand Dunes/Fossil Lake BLM ACEC OAR 345-022-0040(o)	14.4 miles, east
Summer Lake Wildlife Area OAR 345-022-0040(p)	19 miles, south

The nearest protected area to the proposed site boundary is approximately four miles from the site boundary, Devil's Garden Lava Bed, a Bureau of Land Management (BLM) designated Area of Critical Environmental Concern (ACEC). ASC Exhibit L describes The Devil's Garden Lava Bed as a historic basaltic lava field of the Newberry volcano, known for its caves including lava tube caves, diverse vegetation, and rugged topography.[59] One of the main and largest attractions at Devil's Garden Lava Bed is Derrick Cave, which is in the northeast corner of the protected areas boundary and the farthest away from the proposed facility.

The Connley Hills ACEC/ Research Natural Area (RNA) is accessible for day use by the public, and located approximately 5.3 miles southwest from the proposed facility site boundary. The BLM established this ACEC/RNA due to its outstanding archaeological value, and important botanical and ecological values, specifically, as an important representation of four distinct native ecosystems, including plant communities dominated by mixtures of western juniper, big sagebrush, bluebunch wheatgrass, and Idaho fescue.[60]

[59] OSCAPPDoc4 ASC 12 OSC ASC Exhibit L 2019-10-17, L.4.5.1.
[60] OSCAPPDoc4 ASC 12 OSC ASC Exhibit L 2019-10-17, L.4.5.2.

The Table Rock protected area was designated as an ACEC by the BLM due to its cultural, botanical, and scenic values. It is located 6.9 miles to the south of the site boundary, with an elevation change of approximately 1,500 feet to the top of the summit. Given its elevation above the surrounding area, the summit of Table Rock is a dominant feature that is visible from most parts of the Christmas Valley area.[61]

The Fort Rock State Natural Area is located 9.2 miles northwest from the proposed facility site boundary and is primarily visited for views of the volcanic tuff ring, for short hiking trails to the rim of the tuff ring, which offers views of the region, and to the bottom of the volcanic tuff ring. It includes a parking lots, kiosk, restroom, and picnicking areas. The site boundary location for the main substation (Area D) and the gen-tie transmission line will be 9.2 miles southeast of this protected area, and the solar array and potential battery storage enclosures will be almost 12 miles away (Area A).[62]

The Black Hills ACEC/RNA is located approximately 9.7 miles from the site boundary. The protected area was designated by BLM as an ACEC based on its botanical values, ecologically diverse western juniper community, presence of ash plant communities, and the presence of two BLM-designated sensitive plants within the ACEC. The area is most well-known and visited for day use hiking the low-lying hills and wildlife viewing.

See ASC Exhibit L for descriptions of Lost Forest/Sand Dunes/Fossil Lake ACEC and the Summer Lake Wildlife Area. The applicant's assessment in ASC Exhibit L describes that based upon a visual impact assessment, proposed facility components would be visible or partially visible from three of the identified protected areas, however the applicant explains that the components are so distant as to not be visually distinct on the landscape. Based upon the applicant's noise analysis, audibility of proposed facility operations would be low or negligible at all protected areas. Potential impacts from the proposed facility at protected area within the analysis area are evaluated below.

Potential Noise Impacts

The significance of potential noise impacts to identified protected areas is based on the magnitude and likelihood of the impact on the affected human population or natural resources that uses the protected area.

Construction

In the ASC, the applicant explains that construction of the proposed facility would take approximately two years, as recommended in Section IV.A., *General Standard of Review*, construction may occur up to three years after beginning. The applicant explains that construction staging would likely limit any particular construction area to approximately 60-

[61] OSCAPPDoc4 ASC 12 OSC ASC Exhibit L 2019-10-17, L.4.5.3.
[62] OSCAPPDoc4 ASC 12 OSC ASC Exhibit L 2019-10-17, L.4.5.4.

acres at a time. As such, potential noise impacts at any protected area, if audible, would not last longer than the construction period within the vicinity of that area. In ASC Exhibit X Appendix X-1, the applicant provides a noise analysis that includes these construction ~~operational~~ sources and sound power levels. The noise analysis was produced by Michael Minor & Associates, a consultant who conducts noise, vibration, and air environmental analysis.

The noise analysis included an assessment of construction (and operational, see below) noise at the nearest protected area, the BLM Devil's Garden Lava Bed ACEC. Section 8.3 of the noise analysis, and in Section IV.Q.1., *Noise Control Regulations*, of this order, includes a discussion of construction noise levels, and an analysis of the noise levels at varying distances from the facility site boundary. Figure 8 in the analysis demonstrates the attenuation of estimated sound levels at distances from the facility site boundary. According to this Section, it is estimated that during construction, the loudest potential sound at the nearest protected area, Devil's Garden Lava Bed BLM ACEC (approximately four miles from the site boundary), could be up to 48 dBA during intermittent pneumatic pile driver use (loudest equipment used), but general construction equipment would be anticipated at 35 dBA or less, and typical construction may be 20 dBA or less, which is essentially inaudible. Section IV.Q.1, *Noise Control Regulations,* of this order contains additional information regarding anticipated construction noise.

Based on review of the applicant's construction-related noise impact assessment, as described above, the Department recommends that Council find that proposed facility construction would not result in significant adverse noise impacts at Devil's Garden Lava Bed BLM ACEC; and, because the other protected areas within the analysis area are located at greater distances from the proposed site boundary, the Department recommends that Council find that there would be no impacts from proposed facility construction noise at the other protected areas.

Operation

Proposed facility components that would generate noise during operations include: transformers and inverters associated with the solar arrays, inverters and cooling systems associated with battery storage systems; the collector and step-up substations, and corona discharge noise (buzz or crackling during wet conditions) from the 115-kV transmission line. In ASC Exhibit X, the applicant provides a noise analysis inclusive of the operational sources and sound power levels (in A-weighted decibels) for proposed facility components. Section IV.Q.1, *Noise Control Regulations*, of this order summarizes the statistical noise modeling methodologies and results. The results of the modeling indicate that maximum operational noise levels of the proposed facility would be inaudible beyond 1 mile, see Section 6.3 of Attachment X-1. Therefore, because the nearest protected area to the proposed facility would be four miles, the Department recommends Council find that operational noise from the proposed facility would not impact any protected areas within the analysis area.

Traffic Impacts (Construction and Operation)

Potential traffic impacts to protected areas is described in ASC Exhibit L. As discussed in Section IV.M, *Public Services* of this order, peak construction/worst case scenario could result in up to approximately 120 one-way (or 240 round trip) construction worker commuter trips, plus the addition of up to 160 delivery (round trip) truck trips per day for material delivery.[63] ASC Exhibit L Section L.4.2 describes that the anticipated commuter routes to the site during construction would primarily be from the west of the facility, using US-97 and SR-31, and a network of county roads including Fort Rock Road (County Road 5-10), Christmas Valley Road (County Highway 5-14) and County Road 5-12. See Section IV.M, *Public Services*, for a discussion of these roads and highways including a description of road conditions.

As described in ASC Exhibit L, visitors to most protected areas in the analysis area would likely use the same highway network as construction vehicles to the facility site, particularly US-97 and SR-31, and the county road network. The ASC notes that the Fort Rock State Natural Area is the closest protected area within the analysis area to an anticipated facility access routes; approximately one mile north of Fort Rock Road.[64] The Department clarifies that the existing access roads and highways proposed to be used by the applicant for worker commuting and material delivery, are not new or modified roads and therefore not included as part of the site boundary. The applicant's evaluation in ASC Exhibit L, of the proximity of access roads to protected areas is within the discussion of traffic impacts on exterior roads.

Devil's Garden Lava Bed ACEC is the second closest protected area to an access route identified by the applicant, at 1.7 miles north of County Road 5-12 (one of the access routes to Area A).[65] Visitors to this protected area and personnel will use SR- 31, Fort Rock Road, and County Road 5-12. As stated above, the expected increases in traffic are well within the operating capacities of these roads. Therefore, significant adverse impacts on visitor access to this protected area are not likely.

Other protected areas identified in the ASC and listed in Table 3 *Protected Areas within the Analysis Area*, are farther from anticipated facility access routes. While it is possible that users of the protected areas would notice increased traffic on the access routes during peak construction period, as well as notice the visibility or noise from vehicles, traffic impacts during construction are both intermittent and temporary, and as described in Section IV.M, *Public Services*, traffic is well within the acceptable range of level of service on those larger roads. Additionally, recommended Public Services Condition 1 would require the applicant to finalize and implement a construction traffic management plan, which would reduce potential impacts of construction traffic.

During operations, the proposed facility would generate an additional 6 to 10 daily two-way trips on existing local roads for workers, with additional, occasional material delivery trucks.

[63] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, Appendix U-1, p. 4.
[64] Fort Rock State Natural Area is 9.2 miles northwest of the site boundary of the proposed facility.
[65] Devil's Garden Lava Bed ACEC is 4 miles north of the site boundary of the proposed facility.

Based on the minimal number of operational trips, there is unlikely to be any impact on protected areas, including access points to protected areas.[66]

Based on the analysis presented here, the Department recommends Council find that potential traffic-related impacts during construction and operation of the proposed facility would not likely result in significant adverse impacts to any protected areas within the analysis area.

Water Use and Wastewater Disposal (Construction and Operation)

The applicant discusses the proposed facility's water use in ASC Exhibit O. Generation and management of wastewater during construction and operation are evaluated in Exhibit V and discussed in Section IV.N, *Waste Minimization* of this order.

Proposed facility construction would use, under high temperatures, dry climactic conditions (i.e. "worst-case conditions") up to 34 million gallons of water for dust suppression, road compaction, concrete foundations, on-site worker drinking and sanitation use. Proposed facility operation may use up to approximately 1.28 million gallons of water per year to support O&M building drinking water use and solar panel washing. In ASC Exhibit O and Section IV.M, *Public Services* of this order, the applicant describes that construction-related water would be obtained from local municipal or other private sources, plus water from exempt ground-water wells. Operational water would be obtained from the onsite wells, and if additional water is necessary, from the same municipal or other private sources. As such, the facility's water use is not anticipated to impact any protected area during construction or operation of the proposed facility.

As explained in ASC Exhibit L, no industrial wastewater would be produced during construction or operation of the proposed facility. Stormwater runoff, which is not considered wastewater but discussed nonetheless, would be managed on site according to the best management practices (BMPs) as described in the NPDES 1200-C / Erosion and Sediment Control Plan (ESCP), such that no stormwater would be anticipated to leave the site boundary.[67] The ESCP, and recommended condition language is discussed further in Section IV.D., *Soil Protection*, of this order. During construction, sanitary wastewater would be contained in portable toilets, which the applicant explains would be provided and maintained by a licensed contractor. During operations, sanitary wastes from the O&M buildings would be discharged to a permitted onsite septic system or to portable toilets. The primary use of water during construction would be for dust control, and during operation, for potential solar panel washing. Neither activity would impact a protected area.

Based on the analysis presented here, the Department recommends Council find that water use and wastewater disposal during construction and operation of the proposed facility would not

[66] See Section IV.M, *Public Services* of this order for further discussion of traffic impacts.
[67] OSCAPPDoc4 ASC 09 OSC ASC Exhibit I 2019-10-17, I.5.

result in a significant adverse impact, or any impact, to any protected area within the analysis area.

Methodologies for Visual Impact Assessment

A discussion of the applicant's visual impact analysis is provided an ASC Exhibits L and R. The dimensions of major proposed facility components considered for potential evaluation in the visual analysis include the following:

- Up to 1.7 million solar PV modules, 7 feet tall at full tilt on the tracking axes. Modules will be installed in 250-foot-long rows.
- Up to 180 inverters, 8 feet wide by 30 feet long by 5 feet tall.
- One 115/500-kV step-up substation about 3 acres in size in Area D.[68] Up to four collector substations, each up to 1 acre in size in Area A. The step-up and collector substations will be approximately 10 feet tall, although rods for lightning protection may be up to 40 feet tall.
- Up to 134 battery storage enclosures, depending on final design, consisting of steelframed structures that are 50 feet wide by 67 feet long, and up to 30 feet tall.
- One 115-kV generation-tie transmission line, up to 2 miles long and utilizing 70-foottall steel monopoles spaced approximately 300 feet apart (not included in the visual impact analysis).[69]

The viewsheds were calculated using the Esri ArcDesktop 10.5.1 geoprocessing 'Visibility' tool. The Visibility tool uses a digital elevation scanner to determine the surface locations that are potentially visible from an aggregated set of "observer points" placed in key parts of a project. The applicant determined that the solar modules (7 feet tall) and battery storage structures (30 feet tall) in Area A will have the most potential to be observed from distances of several miles or more, due to their forms and abundance within the site boundary. Area D will contain a substation (approximately 10-foot tall structures, with thin 40-foot tall lightning protection rods) however, to be conservative, the applicant utilized the larger footprint dimensions associated with the solar panels in Area A for the evaluation of the substation in Area D. Observer points were placed on all corners/vertices of the site boundary, as well as at the highest point near the center of Area A and Area D. As a result, 23 observer points were placed

[68] The structural components receiving power from the 115-kV gen-tie transmission line will likely be about 65 feet in height (referred to as the "Incoming Line Mast") and the structural components sending the stepped-up power to the future, adjacent, PGE POI will likely be up to 100 feet (referred to as the "Outgoing Line Mast"). The substation components will be located closer than the 115-kV transmission line monopoles to the existing 500-kV transmission towers and lines and will be visually subordinate or subsumed in the existing visual landscape. Therefore, the step-up substation structural components were not included in the viewshed analysis. OSCAPPDoc20 ASC Applicant Responses to Additional RAIs_Combined 2020-02-24 to 2020-03-09.

[69] The applicant explains in Exhibit R and L, that it is unlikely that the proposed 115-kV transmission line will attract the attention of casual observers away from any of the protected areas, which are a minimum of 4 miles away, and it will be subordinate in appearance compared to the existing 500-kV transmission lines. Therefore, the transmission line was not included in the viewshed analysis.

in Area A and 4 in Area C. The input elevation raster was a 10-meter resolution digital elevation model.

The viewshed analysis does not take into account the visibility effects of existing vegetation or structures, which in practice would block or screen views in some places. In addition, the model does not account for distance, lighting and atmospheric factors (such as weather) that can diminish visibility under actual field conditions. In other words, the results of the viewshed analysis, which present potential lines of site of proposed facility components, is conservative in identifying potential visibility impacts. The applicant classified the level of visual impacts as high (components dominant or readily apparent from viewing locations), medium (components co-dominant with existing landscape features and moderately apparent from viewing locations), and low (components subordinate in the landscape and not readily apparent from viewing locations).[70]

Potential Visual Impacts of Proposed Facility Structures

The results of the viewshed analysis for protected areas is provided in ASC Exhibit L Section L.4.5 and are represented in Figure L-2. The results indicate that some portion of facility components would be visible or partially visible from 5 of the 7 protected areas within the analysis area, with the two most distant protected areas not having visibility to the proposed facility.

Devil's Garden Lava Bed ACEC (including Derrick Cave)

Only about 10 percent of the proposed facility structures will be in the line-of-sight of the Devil's Garden Lava Bed ACEC, due to the varying topography which will, for the most part, shield the casual observer from views of the proposed facility, except for areas in the southern portion of the ACEC, or from higher elevation points within the ACEC. However, at these locations because the proposed facility would be located 4 miles or greater, the facility will likely only appear as a dark line on the horizon. As noted in this section, Derrick Cave is the primary feature visited within the protected area, and it is located over 12 miles from the proposed facility, and it is not in the line-of sight of the proposed facility. Therefore, the proposed facility is not likely to result in significant adverse impact to the Devil's Garden Lava Bed ACEC.

Connley Hills ACEC/RNA

The applicant's viewshed analysis demonstrates that some northern and eastern part of the ACEC/RNA are in the line-of-sight of the proposed facility due to the slight increase in elevation and the lack of intervening topography. According to ASC Exhibit L reference to the BLM management document, Connley Hills ACEC/RNA not contain significant scenic value because

[70] OSCAPPDoc4 ASC 12 OSC ASC Exhibit L 2019-10-17, L.4.5.

there are visually similar mountain ranges in the area. The main substation (Area D) and the gen-tie transmission line are 5.3 miles from this ACEC/RNA, the solar arrays and potential battery enclosures of Area A will be 7.2 miles away.[71] Views toward the direction of the proposed facility from Connley Hills ACEC/RNA (i.e., to the northeast) include crop circles and scattered farm residences in the direct vicinity of the site boundary, and the developments of the town of Christmas Valley farther to the east. Visual impacts on the Connley Hills ACEC/RNA should be medium-low because, although structures will be co-dominant with the existing landscape features, they will not be very apparent from this protected area considering its distance from the proposed facility. Therefore, the proposed facility is not likely to result in significant adverse impact to the Connley Hills ACEC/RNA.

Table Rock Area ACEC/RNA

Based on the applicant's viewshed analysis, proposed facility components would be in the line-of-sight of areas in the northern and eastern portions of the Table Rock ACEC/RNA, including from the summit of Table Rock, however the protected area is approximately 6.9 miles away south/southwest. According to reference to the BLM management document, Table Rock possesses regional important scenic value due to its location and visibility from the adjacent portions of the Christmas Valley National Backcountry Byway and the Oregon Outback National Scenic Byway, which pass to the southeast and south of the ACEC/RNA, respectively.[72] See Section IV.J., *Scenic Resources,* of this order for more discussion of scenic byways. Table Rock is also designated as a traditional cultural place, and the proposed facility could potentially have visual impacts on some culturally sensitive locations within the ACEC/RNA. To assess these potential impacts, the applicant utilized the BLM's Visual Resource Management (VRM) system, which includes contrast and distance as key considerations in analyzing the visual impacts of proposed projects. The solar arrays could be perceived from these areas as a large rectilinear form punctuated by numerous rectilinear battery storage units that would contrast somewhat in form, line, color, and texture with the surrounding agricultural (e.g., active irrigation circles) and natural landscape. Because the proposed facility would be located within the background distance zone, according to the BLM VRM system, it would appear co dominant with or subordinate within the broader landscape, and its contrast would result in medium-low to low visual impacts. In addition, the gen-tie transmission line would be subordinate in appearance to the three existing, taller, collocated 500-kV transmission lines that cross the valley. Therefore, the proposed facility is not likely to result in significant adverse impact to the Table Rock Area ACEC/RNA.

Black Hills ACEC/RNA

Based on the applicant's visual impact analysis represented in ASC Exhibit L, at this protected area, proposed facility components would be in the line-of-site at approximately 50 percent of the ACEC/RNA. However, the applicant explains that it is unlikely to be dominant or apparent in

[71] OSCAPPDoc4 ASC 12 OSC ASC Exhibit L 2019-10-17, L.4.5.2.
[72] OSCAPPDoc4 ASC 12 OSC ASC Exhibit L 2019-10-17, L.4.5.3.

the view of the landscape due to the distance of 9.7 miles. At this distance, proposed facility components will likely be co-dominant with existing landscape features, including scattered ranches and the developments in the town of Christmas Valley, and will be moderately apparent. The proposed facility will likely appear as a dark thick line near the horizon and will likely not be noticeable, therefore, visual impacts on this protected area will be medium-low. Further, the BLM did not designate this area as protected based on scenic value but rather because of its botanical value.[73] For these reasons, the proposed facility is not likely to result in significant adverse impact to the Black Hills ACEC/RNA.

Based on the applicant's visual assessment provided in ASC Exhibit L, proposed facility structures will not be in the line-of-sight from Lost Forest/Sand Dunes/Fossil Lake ACEC and Summer Lake Wildlife Area, therefore, there will be no visual impacts on these protected area from proposed facility structures or plumes.

Based on review of the applicant's viewshed analysis and the assessment presented here, the Department recommends Council find that the proposed facility would not cause a significant, adverse visual impact to any protected area in the analysis area. However, in ASC Exhibit R, the applicant describes measures that would minimize general visual impacts caused by the proposed facility. These include using earth-toned colors on the battery storage enclosures and other buildings, using shielded lighting directed downward, and managing fugitive dust during facility construction. These measures are considered applicant representations and imposed via Recommended Scenic Resources Condition 1 in Section IV.J., *Scenic Resources*, of this order.

Conclusions of Law

Based on the foregoing recommended findings, the Department recommends the Council conclude that, taking into account mitigation, the design, construction and operation of the proposed facility would not be likely to result in significant adverse impacts to any protected areas, in compliance with the Council's Protected Area standard.

IV.G. Retirement and Financial Assurance: OAR 345-022-0050

> *To issue a site certificate, the Council must find that:*
>
> *(1) The site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility.*
>
> *(2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.*

[73] OSCAPPDoc4 ASC 12 OSC ASC Exhibit L 2019-10-17, L.4.5.5.

Findings of Fact

The Retirement and Financial Assurance standard requires a finding that the proposed facility site can be restored to a useful, non-hazardous condition at the end of the facility's useful life, should either the applicant (certificate holder) stop construction or should the facility cease to operate. In addition, it requires a demonstration that the applicant can obtain a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.

As discussed in Section II.C., *Application for Site Certificate*, of this order, the applicant modified its proposal for retirement of the proposed facility after the ASC was deemed complete and submitted documentation on March 9, 2020 (ASC Exhibit W Supplement). This information is available on the Department's project webpage.[74] In the ASC Exhibit W Supplement, the applicant requests Council consideration of a phased approach to providing the retirement financial surety, as well as consideration of salvage value of facility materials, and different contingency markups than what are typically used by the Department and Council. These requests are addressed in this section of the order.

Restoration of the Site Following Cessation of Construction or Operation

OAR 345-022-0050(1) requires the Council to find that the proposed facility site can be restored to a useful non-hazardous condition at the end of the proposed facility's useful life, or if construction of the proposed facility were to be halted prior to completion. ~~The proposed facility is located entirely within Agricultural Use (A-2) zoned land, a zone intended for grazing and other agricultural uses, and is within ODFW's mapped big-game winter range habitat, which is considered by ODFW as habitat Category 2. Therefore, to satisfy the Retirement and Financial Assurance standard, the site restoration tasks and actions must be based on site restoration suitable for cattle grazing and big game foraging.[75]~~ The applicant estimates the proposed facility's useful life as 3~~0~~ years, although describes that the proposed facility would likely be upgraded with more efficient equipment over time extending the useful life much longer than 35 years.

As described in ASC Exhibit W, restoring the site to a useful, non-hazardous condition upon cessation of construction or operation (or upon facility retirement) would involve dismantling solar and battery components, and related aboveground equipment (O&M building, transmission and overhead collector lines, transformer/inverter pads, and substation). Solar modules would be separated from anchored steel poles, and directly loaded onto trucks or roll-off containers for off-site disposal. Steel poles would then be removed and recycled.

Commented [A12]: ODOE: this language is a significant deviation from other DPOs. EFSC's retirement standard has never been interpreted this way before and there are no findings in the DPO to support an interpretation that "restored adequately to a useful, nonhazardous condition" means restoration meeting ODFW's habitat mitigation policy.

Commented [A13]: ODOE: Obsidian request that the proposed findings be revised to track more closely the Bakeoven DPO/PO findings that describe how the facility will be decommissioned. Looking for consistency across orders and the facility involves the same technology and the same decommissioning steps.

[74] OSCAPPDoc20 ASC Applicant Responses to Additional RAIs_Combined 2020-02-24 to 2020-03-09.

[75] ~~While this demonstration is necessary for Council findings, site restoration at the time of facility retirement may differ based on current zoning, habitat designations, and accepted land use practices within the surrounding area, with those differences to be established in the applicants' final retirement plan, as discussed below.~~

Transformers would be decommissioned (oil would be removed) and hauled and disposed off-site.

Decommissioning of battery storage components would include draining fluids within the flow batteries, and transporting to an off-site facility for recycling. Once the self-contained battery components have been removed, the containers and associated components would be disassembled and transported off site via truck for disposal or recycling. The footprint of the battery storage system would be regraded and seeded for final stabilization. Any unsalvageable material would be disposed of at authorized sites.

Concrete pads and foundations (solar panel posts, substation, O&M building and battery storage systems) would be removed to a minimum of 3 feet below grade. Portions of underground electrical and communication cable buried below 3 feet would be left in place. Disturbed areas would be regraded and reseeded with native seed mix, based on landowner consultation. Access roads would then be removed. Access road areas would be restored to surface grade and soil to a condition useful for agriculture or grazing, depending on the use of surrounding lands. However, access roads, O&M buildings, and other infrastructure like the perimeter fence also may be left in place based on landowner preference.

~~site mobilization, electric disconnect/dismantling work, aboveground structure removal, foundation removal, road and site restoration, and on and offsite hauling and disposal. More specifically, equipment necessary for decommissioning would be mobilized onsite; electrical components would be disconnected (combiner boxes, battery systems); aboveground equipment and associated foundations would be dismantled (racking, posts, inverters/transformer units, O&M buildings, transmission and overhead collector lines, collector and step-up substations, fencing, gates) and removed and hauled offsite for disposal. Transformers and other collector/step-up substation equipment would be removed to be reused elsewhere or recycled as scrap metal. Underground cable and electrical collection lines would be removed up to 3 feet below ground. Transmission structure foundations would be removed up to 5 feet below ground, or as otherwise requested by the County. Internal and perimeter facility roads would be restored, including removal of gravel surface material, decompaction and revegetation. Groundwater wells would be abandoned in accordance with applicable Oregon laws and regulations. Site revegetation activities would include re-seeding of the areas impacted by permanent facility components and temporarily impacted during decommissioning activities.~~

The Council's rules include several mandatory site certificate conditions relating to the obligation of an applicant (certificate holder) to prevent the development of conditions on the site that would preclude restoration of the site and requiring the applicant (certificate holder) to obtain Council approval of a retirement plan in the event that the facility ceases construction or operation, which are as follows:

Recommended Retirement and Financial Assurance Condition 1: The certificate holder shall prevent the development of any conditions on the site that would preclude restoration

of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder.
[Mandatory Condition OAR 345-025-0006(7); GEN-RF-01]

Recommended Retirement and Financial Assurance Condition 2: The certificate holder shall retire the facility if the certificate holder permanently ceases construction or operation of the facility. The certificate holder shall retire the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110. The certificate holder shall pay the actual cost to restore the site to a useful, nonhazardous condition at the time of retirement, notwithstanding the Council's approval in the site certificate of an estimated amount required to restore the site.
[Mandatory Condition OAR 345-025-0006(9); RET-RF-01]

Recommended Retirement and Financial Assurance Condition 3: If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110, the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the Department within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the specified date, the Council may direct the Department to prepare a proposed final retirement plan for the Council's approval.

Upon the Council's approval of the final retirement plan, the Council may draw on the bond or letter of credit described in OAR 345-025-0006(8) to restore the site to a useful, nonhazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, nonhazardous condition. After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan.
[Mandatory Condition OAR 345-025-0006(16); RET-RF-02]

In Section IV.B, *Organizational Expertise* of this order, the Department recommends that the Council find that the applicant has the organizational expertise to construct, operate, and retire the proposed facility in compliance with that Council standard. In addition, the Department recommends that the Council find that the applicant meets the Council's Soil Protection, Fish and Wildlife Habitat, and Waste Minimization standards (Sections IV.D, IV.H, and IV.N of this order, respectively). Each of those sections imposes conditions on the applicant that are designed to ensure that construction and operation of the proposed facility would not have adverse impacts on the surrounding land.

Based on compliance with the above-referenced mandatory conditions, and the applicant's assessment of decommissioning tasks and actions, the Department recommends the Council

find that the site of the proposed facility could be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation.

Estimated Cost of Site Restoration

OAR 345-022-0050(2) requires the Council to find that the applicant has demonstrated a reasonable likelihood of obtaining a bond or letter of credit in a form and amount necessary to restore the site of the proposed facility to a useful non-hazardous condition. A bond or letter of credit provides a site restoration remedy to protect the state of Oregon and its citizens if the applicant (certificate holder) fails to perform its obligation to restore the site. The bond or letter of credit acceptable to the Council must remain in force until the applicant (certificate holder) has fully restored the site. OAR 345-025-0006(8) establishes a mandatory condition, included as recommended Retirement and Financial Assurance Condition 4, which ensures compliance with this requirement.

In ASC Exhibit W Supplement, the applicant provides a site restoration cost estimate of $23,955,377 (Q3 2018 dollars). The site restoration cost estimate was prepared based on a decommissioning bid and technical costing input from Swinerton Renewable Energy (SRE), a division of Swinerton Builders. As explained in ASC Exhibit D, SRE has experience in construction, operation and maintenance for over 100 solar PV facilities totaling over 3 gigawatts, which includes more than 18 projects in Oregon. The applicant represents that based on experience, SRE has an understanding of labor costs, supply chain and material values, safety issues, and required time and expense for installation, retirement and repurposing of renewable energy facilities.

Based on the above-described experience, the Department recommends Council conclude that the applicant's consultant, SRE, and engineering staff have the experience necessary to adequately and accurately prepare a cost estimate for decommissioning and restoration of the site of the proposed facility.

ASC Exhibit W Supplement presents the applicant's decommissioning estimate, which is represented in Table 4: *Proposed Facility Decommissioning Cost Estimate and Unit Costs.*

Table 4: Proposed Facility Decommissioning Cost Estimate and Unit Costs

Task or Action	Quantity	Unit	Per Unit Cost	Total Cost
Stormwater Pollution Prevention and Dust Control Measures				
Stabilized Construction Entrances	1	Each	$3,287	$3,287
Perimeter Silt Fencing	95,040	Linear Ft	$0.74	$70,330
Spill Kits (Emergency Equipment Cleanup)	2	Each	$324	$648
Dust Control Watering (Water Truck)	250	Day	$787	$196,750
			Subtotal =	$271,015
500 kV Step-Up Substation and Transmission Line				
Substation Step-up Transformer Removal	2	Each	$40,205	$80,410

Table 4: Proposed Facility Decommissioning Cost Estimate and Unit Costs

Task or Action	Quantity	Unit	Per Unit Cost	Total Cost
Haul and Recycle/Dispose of Transformer Oil	2	Each	$48,207	$96,414
Substation Circuit Breaker Removal	2	Each	$40,205	$80,410
Remove and Recycle/Dispose of Fencing	1,200	Linear Ft	$2.50	$3,000
Remove and Recycle Gate	28	Linear Ft	$6.75	$189
Remove and Recycle Access and Maintenance Lighting	1	Day	$1,051	$1,051
Remove and Recycle Control Building Structure	1	Each	$2,432	$2,432
Remove and Recycle Control/Communications Equipment	1	Each	$1,051	$1,051
Remove and Recycle HV Above Ground Transmission Line	10,560	Feet	$36.61	$386,602
Remove Gen-tie Foundations to Subgrade	37	Each	$15,333	$567,321
			Subtotal =	$1,218,880
Four Collector Substations				
Remove and Recycle Collector Cables	60	Days	$4,000	$240,000
Remove Step up Transformers and Oil	4	Each	$172,250	$689,000
Haul and Recycle/Dispose of Transformer Oil	20	Trips	$1,000	$20,000
Remove Foundations to Subgrade	4	Each	$25,000	$100,000
Remove Substation Junction Boxes and Foundations	4	Each	$212,500	$212,500
			Subtotal =	$1,261,500
Solar Array				
Remove and Recycle Photovoltaic Modules	1,742,572	Panels	$3.98	$6,935,437
Hauling and Disposal of Modules	34,851	Ton	$30	$1,045,543
Remove Racking	22,689	Each	$47	$1,072,055
Hauling and Disposal of Racking	22,689	Ton	$58	$1,310,290
Remove Posts	246,444	Each	$4.50	$1,108,998
Hauling and Disposal of Posts	246,444	Each	$6	$1,355,442
Remove and Recycle Inverters and Transformers	160	Each	$1,200	$192,000
Dispose of Inverters and Transformers	3,040	Ton	$30	$91,200
Disconnect and Remove Combiner Boxes and Switches	2,240	Each	$1,100	$2,464,000
Remove SCADA and Met Stations	1	Each	$1,051	$1,051
Remove Fences/Gates	95,040	Linear Ft	$2.50	$237,600
Restore Site (Primarily Re-Seeding Disturbed Areas)	1,300	Acres	$200	$260,000
			Subtotal =	$16,073,616
O&M Facilities				
Remove O&M facility (per building)	2	Each	$40,000	$80,000
			Subtotal =	$80,000
Battery System				
Disconnect battery and prepare for removal	134	Each	$4,000	$536,000
Remove Buildings and Foundations (Demolition and Hauling)	134	Each	$1,000	$134,000
Haul Batteries Containing Electrolyte Fluid	67	Trips	$1,000	$67,000

Table 4: Proposed Facility Decommissioning Cost Estimate and Unit Costs

Task or Action	Quantity	Unit	Per Unit Cost	Total Cost
Dispose of Electrolyte Fluid	50	MW	$100	$5,000
Disposal of Battery System Inverters and Switchyard	70	Each	$4,100	$287,000
Disposal of Battery System Switchyard	1	Each	$9,100	$9,100
Restore Battery Building Site	25	Acres	$2,600	$65,000
Hauling and Disposal	67	Trips	$1,000	$67,000
			Subtotal =	$1,170,100
Road Restoration				
Remove Service Roads	3,696,000	Sq feet	$0.08	$295,680
			Subtotal =	$295,680
Restore Additional Areas Distributed by Facility Removal				
Restore and seed temporary disturbance areas	25	Acres	$2,600	$65,000
			Subtotal =	$65,000
General Costs				
Haul charges and disposal fees (per load)	250	Trips	$1,000	$250,000
Permits, Inspections and Fees				$10,000
			Subtotal =	$260,000
			Subtotal, All Tasks or Actions =	$20,695,790
			Mobilization and Supervisory	$206,958
			Subcontractor Bonding/Liability Insurance - 1.5%	$310,437
			General Conditions - 1.25%	$258,697
			Performance Bond - 1%	$206,958
			Subcontractor Administration and Project Management - 3%*	$620,874
			Subcontractor General Overhead and Profit - 5%*	$1,034,789
			Subcontractor Future Development Contingency - 3%*	$620,874
			Subtotal, Subcontractor Contingencies =	$3,259,587
			Total Site Restoration Cost (Q3 2018 dollars)	$23,955,377
Department Recommended Markups				
			Department Project Management (PM) – 10%	$2,395,538
			Future Development Contingencies - 10% ~~(solar facility components); 20% (battery)~~	$2,~~512~~395,~~547~~538
			Total Site Restoration Cost with Department Adjusted Contingencies (Q3 2018 dollars)	$28,746,453~~863,462~~

Notes:
*Revised Table W-1 dated 2020-03-09 included additional line items for ODOE Project Management and Administration and ODOE Future Development Contingency, both at 3%, which were separate from the Project Management and Future Development Contingency line items under the Subcontractor subheading. Therefore, the Department interprets the Subcontractor and ODOE line items to be separate and recommends Council not consider the applicant's proposed contingencies for ODOE to be sufficient.

Table 4: Proposed Facility Decommissioning Cost Estimate and Unit Costs

Task or Action	Quantity	Unit	Per Unit Cost	Total Cost
1. A 10% future development contingency is applied to all tasks ~~tasks (with the exception of the proposed battery storage system) ($22,785,527 x 10% = $2,512,547) A 20% future development contingency is applied to the proposed battery storage system ($1,170,100 X 20% = 1,404,120)~~.				

Assumptions and Methods

As presented in ASC Exhibit W, the applicant evaluates costs for each of the tasks and actions identified for site restoration based on the following methods and assumptions:

- Total decommissioning duration – six months with a 25-person crew;
- Total weather delay contingency – seven days;
- Fort Rock, Oregon for zip-to-zip tracking mileage and weather conditions;
- International Brotherhood of Electrical Workers union for electrical scope of work;
- Non-union and no prevailing wage for all other scopes of work; and,
- No scrap or recycling value to the project and the site is left vacant

Based on the applicant's methodology and assumptions, the Department recommends Council consider that $23.9 million (Q3 2018 dollars) is a reasonable estimate of an amount satisfactory to restore the site of proposed facility components to a useful, non-hazardous condition.

ODOE Applied Contingencies

In the event that the applicant (certificate holder) were to become unable to fulfill its obligation to complete facility decommissioning, the Department would require staff time related to the preparation and approval of a final retirement plan, obtaining legal permission to proceed with demolition of the facility, legal expenses for protecting the State's interest, preparing specification bid documents and contracts for demolition work, managing the bidding process, negotiations of contracts, and other tasks. In ASC Exhibit W Supplement, the applicant estimates administration and project management costs to be $620,874, which is three percent of its $20,695,790 sub-total estimate for retirement costs, not including the costs of mobilization and supervision, nor the cost of insurance. ASC Exhibit W Supplement also adds an additional three percent markup, $718,661, for ODOE Project Management and Administration costs, should the Department and Council be required to manage facility decommissioning. Typically, Council has imposed a ten percent markup to account for potential ODOE Project Management and Administration costs to a facility retirement estimate, not three percent. The Applicant, in ASC Exhibit W Supplement, argues that its cost estimate already includes a three percent markup to account for the actual decommissioning contractor markup, and "there is no evidence that ODOE will incur more costs for managing decommissioning than will the contractor actually overseeing the work." Additionally, ASC Exhibit W Supplement argues that

"there is no evidence that EFSC has ever needed or used that financial cushion…in fact, there is no evidence of an EFSC project being abandoned in the history of EFSC projects."[76]

While it is true that no EFSC project has ever been abandoned and EFSC has never needed to call in the retirement bond/letter of credit and decommission a facility, if this were to be necessary in the future, the Department and Council would require money to administer and manage the process. The intention of the EFSC Retirement and Financial Assurance standard is as a "backstop" of last resort, and simply because it has never been utilized, does not mean the bond amount should be reduce or the standard relaxed without a policy change based on a reason to do so. The Department recommends that Council continue to apply a 10 percent project management and administration mark-up for the following reasons. The Council has imposed the 10 percent project management and administration mark-up to retirement bond cost estimates for all EFSC facilities, and while the Department does not support utilization of the 2005 Facility Retirement Cost Estimating Guide for cost-estimating purposes, that guide does include the recommendation of utilizing a 10 percent mark-up for administration and project management.

In addition to the project management and administration mark-up described above, the Council has historically applied a future development contingency of 10 to 20 percent to an applicant's decommissioning cost estimate based on uncertainty in the decommissioning estimate. If site restoration becomes necessary, it might be many years in the future where there is uncertainty of continued adequacy of the retirement cost estimate. Uncertainty factors include different environmental standards or other legal requirements; and, changes in cost of labor and equipment that increase at a rate exceeding the standard inflation adjustment. The applicant seeks Council approval of a three percent future development contingency added to its contractor retirement cost estimate, and an additional three percent future development contingency for ODOE specific contingencies.

Historically, Council has applied a 10 percent future development contingency for wind energy facilities, and in recent years, has applied 10 or 20 percent for solar facilities. Council has also imposed varying future development contingencies based on specific facility components, bifurcating the future development contingency of battery storage systems from the rest of the proposed facility. When Council has differentiated the future development contingency applied to battery storage components from the rest of a proposed facility, Council has traditionally applied a 20 percent contingency to the battery storage components due to its potentially hazardous subsurface impacts and uncertainty of regulatory requirements for hazardous materials and cleanup costs. Because a solar facility, like a wind facility, has limited, if any, potential for subsurface hazardous impacts, the Department recommends Council apply a future development contingency of 10 percent to all facility components, including ~~with the exception of~~ the proposed battery storage system, which the Department recognizes does not require a higher (e.g.. ~~recommends Council apply a~~ 20 percent) contingency given that the

[76] OSCAPPDoc20 ASC Applicant Responses to Additional RAIs_Combined 2020-02-24 to 2020-03-09, page 83.

proposed technology is flow batteries (consisting of non-hazardous components) as opposed to lithium ion.

If Council finds that contingencies should be applied to the applicant's decommissioning cost for potential Department project management and future development uncertainties, the total decommissioning amount, based on the tasks, actions and unit costs would be $28.78 million (Q3 2018 dollars).

Ability of the Applicant to Obtain a Bond or Letter of Credit

OAR 345-022-0050(2) requires the Council to find that the applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to Council to restore the proposed facility site to a useful non-hazardous condition. A bond or letter of credit provides a site restoration remedy to protect the state of Oregon and its citizens if the applicant (certificate holder) fails to perform its obligation to restore the site. The bond or letter of credit must remain in force until the applicant (certificate holder) has fully restored the site. OAR 345-025-0006(8) establishes a mandatory condition which ensures compliance with this requirement, as recommended for inclusion in the site certificate and referenced below:

> **Recommended Retirement and Financial Assurance Condition 4:** Before beginning construction of the facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition. The certificate holder shall maintain a bond or letter of credit in effect at all times until the facility has been retired. The Council may specify different amounts for the bond or letter of credit during construction and during operation of the facility.
> [Mandatory Condition OAR 345-025-0006(8); PRE-RF-01]

Based on the estimate shown in Table 4 *Proposed Facility Decommissioning Cost Estimate and Unit Costs* and, adjusted with ODOE applied contingencies, would be approximately $28.78 million (Q3 2018 dollars), adjusted annually as described in the recommended condition below.

The applicant provides information about its financial capability in ASC Exhibit M. The applicant proposes to provide a financial assurance bond or letter of credit in a form approved by the Council before beginning construction. To demonstrate its ability to receive an adequate bond or letter of credit, the applicant provides a September 20, 2018 letter from Heffernan Insurance Brokers, which is not a financial institution pre-approved by Council or that ODOE is familiar, but which states that they "are confident that [Obsidian] will be able to obtain said decommissioning bond."

The applicant proposes to provide financial security as follows:

- At the start of construction, post the full amount of $25,393,000;

- At commercial operation date ("COD", or in service date), reduce the posted financial assurance to $1;

- During the fourth year before the expiration Power Purchase Agreement ("PAA") update the decommissioning estimates reflected in Table W-1 based on current data and information and use that revised amount, with the approval of ODOE, in a bond or letter of credit.

- At the time of recalculation and adjustment 4 years prior to the end of the PPA term, the Council permit inclusion of projected scrap value in the decommissioning estimate (i.e., reduce the amount of the financial assurance by the projected scrap value)

- Enter into a security interest agreement with EFSC and ODOE prior to construction granting EFSC/ODOE a priority security interest in the scrap value to ensure "first in line" prior ahead of other creditor.

Phased Approach

Applicant asserts that any risk in delaying the full posting of the decommissioning security until four years prior to the expiration of the PPA is low because "[w]hile there is a PPA in place for the facility, the facility will not be decommissioned." Applicant provides examples of PPAs to illustrate the terms, conditions, contingencies, and obligations of a typical PPA, which applicant contends ensure that the facility will remain in operation during the term of the PPA. For example, per the applicant, PPAs typically include a development security, to allow the power purchaser to recover costs if the facility is not built or COD is delayed, as well as an operation security, which allows the power purchaser to purchase energy elsewhere if the project fails to deliver it.

Applicant has not provided a draft of the PPA that it would enter into for the power to be produced and sold at its facility. Rather, it has provided boilerplate PPAs or PPAs from other transactions to support these arguments.

Applicant provides these documents as evidence that "both the offtaker and the project owner are highly incentivized to keep the project viable and operating, and to ensure that the operator of the project is financially stable." Applicant further contends that if the certificate holder were to become unable to fulfill its future obligation to complete facility decommissioning and it became apparent while the PPA was still in place, the counterparty to the PPA or another third party would take over ownership of the facility from the certificate holder and the obligations of the certificate holder under the site certificate would be transferred to a financially stable party.

The Department points to the mandatory condition in OAR 345-025-0006(8) which requires the certificate holder to maintain a bond or letter of credit in a form and amount satisfactory to the

Council in effect at all times until the facility has been retired. While the Department acknowledges that, in general, there may be a low level of risk that a facility operating under the PPA terms as described by the applicant would be abandoned or retired during the PPA period, the Department does not believe the applicant has provided substantial evidence that there would be such minimal risk under the terms of the PPA that it would enter. Further, even assuming a low level of risk, the Department does not believe applicant has provided substantial evidence that accepting a $1 security for approximately the first 16 years of the facility operation is an "amount satisfactory to Council to restore the proposed facility site to a useful non-hazardous condition." If, in spite of there being only a low risk, the facility were abandoned, the State would be left with no options for recourse against the certificate holder and no means for covering the costs of decommissioning and site restoration. (This is unlike, for example, a utility that would still have a mechanism available to it to seek to recover such costs from ratepayers).

Accordingly, to address the applicant's financial assurance obligations and ensure the adequacy of the bond or letter of credit, the Department recommends Council adopt the following condition:

Recommended Retirement and Financial Assurance Condition 5: Before beginning construction of the facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The total bond or letter of credit amount for the facility is $28.7~~8~~ million dollars (Q3 2018 dollars), to be adjusted to the date of issuance, and adjusted on an annual basis thereafter, as described in sub-paragraph (b) of this condition:

a. The certificate holder may adjust the amount of the bond or letter of credit based on the design configuration of the facility by applying the unit costs, general costs and ODOE applied contingencies as illustrated in Table 3 of the Final Order on the ASC. Any revision to the restoration costs should be adjusted to the date of issuance as described in (b) and subject to review and approval by the Council.
b. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation:
    i. Adjust the amount of the bond or letter of credit (expressed in Q3 2018 dollars) to present value, using the U.S. Gross Domestic Product Implicit Price Deflator, Chain-Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor agency and using the third quarter 2018 index value and the quarterly index value for the date of issuance of the new bond or letter of credit. If at any time the index is no longer published, the Council shall select a comparable calculation to adjust third quarter 2018 dollars to present value.
    ii. Round the result total to the nearest $1,000 to determine the financial assurance amount.
c. The certificate holder shall use an issuer of the bond or letter of credit approved by the Council, based on the Council's pre-approved financial institution list.

d. The certificate holder shall use a form of bond or letter of credit approved by the Council. The certificate holder shall describe the status of the bond or letter of credit in the annual report submitted to the Council under OAR 345-026-0080. The bond or letter of credit shall not be subject to revocation or reduction before retirement of the facility site.
[PRE-RF-02]

Scrap Value

In ASC Exhibit W, the applicant also requests the decommissioning surety be reduced by as much as 35% in recognition of the value of salvage and scrap. Applicant asks that ODOE take note of the evidence submitted by Avangrid pertaining to the Bakeoven Solar Project, in support of its similar request that the decommissioning surety be reduced by the project's estimated salvage value, and consider that evidence in Council's evaluation of the applicant's request for this project. Applicant states that it will also submit independent evidence of salvage and scrap value at a later date to be considered with a request to amend the bond amount.

In the past, Council has reviewed requests for consideration of scrap metal value. In the early 2000s, Council allowed retirement bonds to be reduced to account for the value of salvage or scrap metals. In 2006 and 2007, the Department recommended and Council agreed to implement a policy limiting use of scrap value in decommissioning estimates and bond amounts based on concerns of risk related to fluctuating market value, and perhaps more importantly, that third party creditors or other parties could assert a claim against the scrap or salvage value that might result in that value being unavailable to the State to offset site restoration costs, or require a potentially costly and lengthy legal challenge by the State in a bankruptcy court to access the value of the salvaged materials. Council has not authorized use of the value of scrap metal to lower a decommissioning estimate since that time.

In addition to reviewing historic Council decisions and policy on use of scrap metal in decommissioning estimates and bond amounts, in the Bakeoven Solar Project application review, the Department contracted with a technical expert, Golder Associates, Inc. (Golder), to review regulatory requirements applicable to industrial facility decommissioning in California, Washington, Alaska, and British Columbia Canada, to determine whether scrap metal value is considered under similar regulatory requirements. Based on this review, Golder found that no state or provincial-level programs support use of the value of scrap metal to reduce a decommissioning bond requirement for the state or provincial level permitting programs for mining and waste disposal landfill sites. Cited reasons under these other similar regulatory programs for not considering the value of scrap metal included difficulty in tracking the total value over a facility's operational lifetime, uncertainty as to the actual value, difficulty ensuring that the assets remain onsite, and potential problems associated with creditor's rights.

In assessing the Bakeoven proposal, Golder also reviewed the applicant's steel market value information source, SteelBenchmarker.com, and based on the value of "#1 heavy melting

scrap," the metal type used by the applicant, Golder found the fluctuation in value to be between $200 and $400/ton over the last ten years.

Based on the above-summarized review by Golder, the Department has determined that the underlying risk to the State of accepting salvage material value to reduce the retirement bond amount has not changed since the 2007 Council review and policy decision. While the questions related to the fluctuating value of scrap steel can potentially be addressed via a condition of approval requiring a regular update to the scrap steel valuation and corresponding adjustment of the retirement bond, the issue related to the risk that the Council and State may not have access to the scrap value due to claims by third-party facility creditors or other interested parties is more difficult to address. The applicant has proposed to enter into an agreement with the Department (on behalf of the Council) to grant the Department a security interest in facility equipment salvage. The Council has never taken on this type of arrangement, and even if such an agreement was agreed upon by Council, and vetted by Oregon Department of Justice, it is likely that risk still exists that would either limit the availability of salvage value to the State or make accessing that value challenging, costly, and lengthy. For example, it is uncertain if a future bankruptcy court would honor such an agreement, or if a third-party creditor of the facility would accept such an agreement and waive a claim to access salvage value of facility materials. Ultimately, accepting such a proposed agreement would have the effect of putting extra risk upon the Department, the Council, and the State, with unclear value in return to the Department, Council, and State for accepting that risk.

Based on the findings presented here, the Department recommends Council not change its policy on use of scrap metal value in lowering a bond or letter of credit obligation as there has been no change in the risks previously identified by Council as the reasons to limit use of scrap metal value.

Applicant disagrees with the Department's findings and recommendations regarding decommissioning. Applicant recognizes that the Department is applying reasoning and calculations that it has applied in the past using its own precedent to justify the outcomes. Applicant does not agree that decommissioning security is necessary throughout the entire life of the facility, nor does applicant agree that full and complete decommissioning as described and required by the Department is the best or only manner of returning a solar photovoltaic facility site to a useful, non-hazardous condition. Applicant has provided testimony and data, as have other solar developers, to enable the Department to undertake a deeper analysis of this issue and the Department has been requested to hold expedited rulemaking on the question.

Future Changes in the Law or Council Policy

The applicant seeks the ability to adjust the amount of its bond or letter of credit to reflect future changes in law or rule governing decommissioning of energy facilities subject to EFSC jurisdiction or the EFSC Retirement and Financial Assurance Standard through an amendment determination request or other staff-level administrative review.

Conclusion

Subject to compliance with Retirement and Financial Assurance Conditions 1, 2 and 3, the Department recommends the Council find that the proposed facility can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the proposed facility. Subject to compliance with Retirement and Financial Assurance Conditions 4 and 5, the Department recommends that the Council find that the applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.

Conclusions of Law

Based on the foregoing recommended findings of fact, and subject to compliance with Retirement and Financial Assurance Conditions 1, 2 and 3, the Department recommends the Council find that the proposed facility can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the proposed facility. Subject to compliance with Retirement and Financial Assurance Conditions 4 and 5, the Department recommends that the Council find that the applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition and comply with the Council's Retirement and Financial Assurance standard.

IV.H. Fish and Wildlife Habitat: OAR 345-022-0060

> *To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are consistent with:*
>
> > *(1) The general fish and wildlife habitat mitigation goals and standards of OAR 635-415-0025(1) through (6) in effect as of February 24, 2017****

Findings of Fact

The EFSC Fish and Wildlife Habitat standard requires the Council to find that the design, construction and operation of a facility is consistent with the Oregon Department of Fish and Wildlife's (ODFW) habitat mitigation goals and standards, as set forth in OAR 635-415-0025. This rule creates requirements to mitigate impacts to fish and wildlife habitat, based on the quantity and quality of the habitat as well as the nature, extent, and duration of the potential impacts to the habitat. The rule also establishes a habitat classification system based on value the habitat would provide to a species or group of species. There are six habitat categories; Category 1 being the most valuable and Category 6 the least valuable.

The analysis area for potential impacts to fish and wildlife habitat, as defined in the project order, is the area within and extending one-half mile from the site boundary. To inform the evaluation of impacts under the Council's Fish and Wildlife Standard, the applicant completed a

literature review, field-based habitat assessment, wetland and waterbody delineation survey, ground-based raptor nest survey, and State-sensitive species survey for pygmy rabbits, as further described below.

Methodology

To inform ASC Exhibit P, the applicant consulted with ODFW to identify the appropriate Special-status species surveys to be conducted at the site, based on suitability of habitat and previously documented species occurring within the analysis area. The applicant also consulted with ODFW on the development of the Habitat Mitigation Plan, as provided in Attachment P-1 of this order. Based on ODFW consultation, multiple recommendations were provided related to minimizing potential impacts to big game, big game winter range, ground nesting birds and raptor nests, which were incorporated as mitigation by the applicant and recommended by the Department for Council's inclusion as site certificate conditions.

As explained in ASC Exhibit P, the applicant conducted a literature review to establish a preliminary habitat assessment, prior to field-based habitat mapping, and to identify documented occurrences of Special-status species within the analysis area. Sources evaluated include a 2011 National Land Cover Database published in a 2015 version of the scientific journal, *Photogrammetric Engineering and Remove Sensing*; and, ODFW's 2016 online data and planning tool – Compass – and Oregon Conservation Strategy Reporting Tool. The results of the literature review were then used to inform the field-based surveys, which were conducted from March 18-22, 2018 for habitat, ground birds, raptor nests and wetlands/water bodies; and, June 18-20, 2018 for pygmy rabbits and wetlands/water bodies. The applicant also explains that during these surveys, incidental observations of wildlife or wildlife signs were documented, as well as presence of noxious weeds.

The applicant's consultant, Ecology and Environment (E&E), conducted the field based surveys, the methods and survey results are presented in ASC Exhibit P Attachment P-1. The habitat assessment and raptor nest surveys were conducted concurrently by two E&E ecologists from March 18-22, 2018 and included observation by foot and 4x4 vehicle throughout the analysis area. Habitat boundaries were delineated using the preliminary habitat assessment mapping, adjusted based on field observations using Geographic Information System software (Esri Collector) and the consultant's proposed dichotomous key based on predominant vegetation characteristics. For raptor nest surveys, E&E observed all potential nest structures including trees, transmission poles and towers, and other manmade structures. At each observed raptor nest, E&E recorded a global positioning system (GPS) reference point; activity status (i.e., active or inactive); nesting species; and nest site conditions.

E&E conducted species-specific pygmy rabbit surveys within the site boundary from June 18-20, 2018. Pygmy rabbit surveys were conducted in accordance with methods used by the Bureau of Land Management, inclusive of 660-foot transects in suitable habitat (sagebrush shrublands).

Results of the habitat and State-sensitive species surveys are described below, under the *State Sensitive Species* subheading.

Habitat Types and Categories in the Analysis Area

Habitat types and categories within the analysis area, based on the applicant's literature and field surveys described above, include ODFW's designated big-game winter range Category 2 habitat and Category 6 developed/agricultural lands. The identified habitat types within Category 2 and 6 habitat identified within the analysis area include the following:

Category 2 Big Game Winter Range

Varying habitat types within ODFW's designated Category 2 Big Game Winter Range habitat within the proposed site boundary are summarized below:

- Playa (playa lake or dry lake) – Not Wetland (Category 3 quality) ~~- a flat-floored bottom of an undrained desert basin that is periodically inundated with water, providing important habitat function to migratory birds through seasonal standing water in a limited water resource region~~
- Sagebrush Shrubland (Category 3 quality) ~~– a mosaic (sagebrush, rabbitbrush, herbaceous plants, and bare earth) of stand cover ranging from 15 to 30 percent, plant heights up to 6 feet tall, and varying levels of cattle grazing disturbance~~=
- Non-sagebrush shrubland (Category 4 quality) ~~– shrub-dominated (rabbitbrush) areas without a dominate sagebrush component~~
- Sand Dunes (Category 4 quality) ~~– areas with saltgrass but otherwise less than 10 percent herbaceous vegetation and less than 5 percent shrubs~~
- Non-native Forbs (Category 5 quality) ~~– moderately disturbed areas containing Tall tumblemustard (*Sysimbrium altissimum*) (70 percent cover), Rubber rabbitbrush (*Ericameria nauseosa*), green rabbitbrush, Russian thistle (*Salsola kali*), and cheatgrass.~~
- Agricultural Lands/Developed (Category 6 quality) ~~– includes spigot irrigated crop circles~~

~~*Sagebrush Habitat*~~

~~Greater sage-grouse habitat includes sagebrush habitat, the predominant habitat type within the site boundary. However, identification of sage-grouse habitat relies upon ODFW's designated core and low density habitat areas. In ASC Exhibit P, the applicant confirms that the proposed facility is not within a mapped core or low density area and confirms that the nearest core area habitat is about 10 miles south of the site boundary (nearest Area A) and the nearest low density area is about 7.5 miles north of the site boundary (nearest Area D), as presented in ASC Exhibit P Figure P-4. The proposed facility would therefore not impact greater sage grouse habitat.~~

Commented [A14]: ODOE: Revised to track same approach/structure of Bakeoven PO findings.

Commented [A15]: ODOE: This is not needed – findings already make clear that this is not sage grouse habitat. No need to cause a red flag in the record for investors.

Potential Impacts to Fish and Wildlife Habitat

Construction and operation of the proposed facility would result in temporary and permanent habitat impacts to Category 2 habitat. Impacts to Category 6 habitat do not require compensatory mitigation under the Council's Fish and Wildlife Habitat standard. Temporary habitat impacts are those that would last for less than the operational lifetime of the proposed facility and would result during construction and installation of proposed facility components. The duration of temporary impacts to habitat is variable, based on vegetation type and extent. Permanent impacts are defined as impacts that would exist for the operational life of the proposed facility and would result from placement of permanent facility structures.

As presented in Table 5: *Summary of Habitat Types within Site Boundary and Estimated Permanent and Temporary Habitat Impacts from Proposed Facility,* the proposed facility would temporarily disturb approximately 0.23 acres of Category 2 habitat. The proposed facility would permanently disturb approximately 3,588 acres of Category 2 habitat.

Table 5: Summary of Habitat Types within Site Boundary and Estimated Permanent and Temporary Habitat Impacts from Proposed Facility

Habitat Category based on Vegetation Structure	Habitat Type	Temporary Impact	Permanent Impact	Total
ODFW Designated Category 2 Habitat				
3	Sagebrush Shrubland	0.00	3,419.21	**3,419.21**
3	Playa OHW – Not Wetlands	0.00	16.91	**16.91**
4	Sand Dune	0.03	108.78	**108.81**
4	Non-sagebrush Shrubland	0.15	0.00	**0.15**
5	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**
Notes:				

Commented [A16]: ODOE – use same table from HMP

~~Habitat Type~~	~~Perm.~~	~~Temp.~~
	~~Acres~~	
~~*Category 2*[1]~~		
~~Sagebrush Shrubland~~	~~3,419.21~~	~~0.00~~
~~Playa~~	~~16.91~~	~~0.00~~
~~Sand Dune~~	~~108.78~~	~~0.03~~
~~Non-sagebrush Shrubland~~	~~0.00~~	~~0.15~~
~~Non-native Forb~~	~~42.77~~	~~0.05~~
~~*Category 6*~~		
~~Agricultural Lands~~	~~1.00~~	~~0.56~~
~~Developed~~	~~0.00~~	~~0.21~~
~~*Habitat Impact Summary*~~		
~~Estimated Category 2 Impacts =~~	~~3,587.67~~	~~0.23~~
~~Estimated Category 6 Impacts =~~	~~1.0~~	~~0.77~~
~~Notes: Perm. = Permanent; Temp. = Temporary~~		

Proposed Habitat Mitigation

Commented [A17]: ODOE: Why do these findings vary from the recently issued Bakeoven PO? The findings in the BO PO are more concise.

The proposed facility would be located within Category 2 habitat, primarily composed of sagebrush shrubland. Pursuant to OAR 635-415-0025(2), Category 2 habitat is defined as essential habitat for a fish or wildlife species, population, or unique assemblage of species and is limited either on a physiographic province or site-specific basis depending on the individual species, population or unique assemblage. The mitigation goal if impacts are unavoidable, is no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality. To meet the Category 2 habitat mitigation goal, pursuant to OAR 635-415-00225(2), mitigation shall be "reliable, in-kind and in-proximity," ~~as defined below:~~

~~"Reliable" means a mitigation method that has been tested in areas with site factors similar to those affected by a development action and the area in which the mitigation action is proposed and that has been found (e.g., through field trials, demonstration projects or scientific studies) to produce the habitat effects required to meet the mitigation goal for this action.~~

~~"In-kind" mitigation means habitat mitigation measures which would recreate similar habitat structure and function to that existing prior to the development action.~~

~~"In-proximity" mitigation means within the same home range of the wildlife population directly affected by the development.~~

~~"Habitat Quality" means the relative importance of a habitat with regard to its ability to influence species presence and support the life-cycle requirements of the wildlife species that use it.~~

As presented in the ~~draft~~ Revegetation and Noxious Weed Control Plan, provided as Attachment P-3 of this order, the applicant proposes to mitigate temporary habitat impacts through revegetation and noxious weed control. In addition, applicant ~~Of note, the applicant also voluntarily~~ proposes to revegetate the areas within the proposed site boundary following construction even though the areas ~~, which~~ are considered a permanent disturbance impact resulting from the placement of the ~~facility components and~~ perimeter fencing excluding use by wildlife species (big game) ~~of the impacted area, in accordance with prescribed success criteria~~. The applicant proposes weed control measures in conjunction with the revegetation activities, as further described in Attachment P-3 of this order, which ~~Revegetation within the perimeter fencing would~~ minimize the potential for offsite noxious weed invasion due ~~to weed control measures proposed in conjunction with the revegetation activities~~.

As presented in the ~~draft~~ Revegetation Plan and Noxious Weed Control Plan, prior to construction, the applicant proposes to identify monitoring sites, including both a reference and monitoring site, for each habitat type to be temporarily impacted by the proposed facility. During revegetation monitoring surveys, monitors will collect the information listed below from representative monitoring locations, including along main access roads and areas of especially

heavy disturbance, as well as at sample plots across the Facility site (one sample plot per quarter-section, or 160 acres). One sample plot will be randomly selected from a grid of 10 square 16-acre (approximately 0.025 square miles) plots within each quarter-section. The sample plots will be compared with reference sample plots in undisturbed areas of the same habitat type within the site boundary (i.e., avoidance areas). ~~The final number of monitoring sites necessary for the evaluation of revegetation success of temporarily impacted habitat types would be based on the extent and diversity of vegetation within each habitat type, with an anticipated average of two to five paired monitoring sites per habitat type, to be reviewed and approved by the Department in consultation with ODFW.~~ The applicant would then be obligated to monitor and report on the success of revegetation at the identified monitoring sites; success would be measured, as specified in Section 4.2 of the ~~draft~~ plan: the vegetation percent cover (both seeded and naturally recruited) is approximately 70 percent or more, or not substantially less than the percent vegetation cover of surrounding undisturbed areas, State- or County-listed noxious weeds are absent or constitute only a very small percentage (e.g., less than 1%) of vegetation otherwise dominated by native or desirable non-native species, unless the noxious weeds present are similar to pre-construction conditions or adjacent undisturbed areas, the percentage of bare soil in the sample plot is not substantially greater than the percentage of bare soil in surrounding undisturbed areas. ~~, based on percentage of vegetation cover (70 percent), vegetation density and weed cover.~~ The applicant proposes to evaluate ~~conduct monitoring of~~ monitoring sites ~~f~~at year 1 and year 5 following construction.

The Department recommends Council impose the following condition to ensure that the plan is finalized as specified ~~,~~ prior to construction and implemented during construction and operation~~, including identification of appropriate revegetation seed mix, establishment of appropriate and adequate monitoring sites, and confirmation of adequate monitoring and treatment frequency~~.

Commented [A18]: ODOE: This information is already included in the draft plan. Revisions to address the substance in the plan and clarify what needs to be finalized prior to construction.

Recommended Fish and Wildlife Habitat Condition 1: The certificate holder shall:

a. Prior to construction of the facility, the certificate holder shall finalize the ~~and submit the~~ Revegetation and Noxious Weed Control Plan~~, based upon the draft plan~~ provided in Attachment P-3 of the Final Order on the ASC by including the final assessment of temporary habitat impacts (in acres), based on habitat quality of habitat subtype, and final facility design, presented in tabular form~~, for review and approval by the Department, in consultation with ODFW and Lake County Weed Control Supervisor~~. ~~The scope of finalizing the plan shall, at a minimum, include the following:~~.

~~1. Final assessment of temporary habitat impacts (in acres), based on habitat quality of habitat subtype, and final facility design, presented in tabular format.~~

~~2. Survey and sampling protocol for evaluating the success criteria against paired monitoring and reference sites determined to represent a statistically significant number of sites based on pre-disturbance habitat quality and diversity of habitat temporarily impacted.~~

~~3. Approval of appropriate revegetation seed mix from ODFW.~~

4. Confirmation of revegetation and noxious weed monitoring frequency, to occur annually for the first 5-years following construction, unless otherwise agreed to by the Department in consultation with ODFW, Lake County or the Cooperative Weed Management Area
5. Assurance that the success criteria for vegetation cover is based upon desirable, native vegetation.

b. During construction and operation of the facility, the certificate holder shall implement the requirements of the plan; monitor and report results of revegetation activities to the Department, as required by the plan.

[GEN-FW-01]

The applicant proposes three compensatory mitigation options to mitigate permanent habitat impacts, one of which (Option 3) provides sufficient information for Council to evaluate against the standard. Therefore, only Option 3 is evaluated further. More specifically, Option 1 is an ODFW Payment to Provide measure that is not available because ODFW has not adopted or implemented such program. Option 2 is a Third-Party Fee-in-Lieu Program option, but the applicant previously identified that the lands identified would not meet the "in-kind" requirement under the Category 2 habitat mitigation goal. Therefore, the option is not considered acceptable and not evaluated further.

Option 3 includes a Working Lands Improvement Program (WLIP) concept, where the applicant identifies private landowner mitigation sites proximate to ranging up to 20 miles from the proposed facility site, within ODFW's designated Category 2 Big Game Winter Range. The applicant represents that the sites would be secured for mitigation through a lease agreement with the underlying landowner that would contain terms and conditions to implement the WLIPlandowner agreement, with deed restrictions, which would be similarly binding as a conservation easement. The applicant provides a desktop habitat assessment of the proposed WLIP sites, which preliminarily confirm that the WLIP sites contain habitat with similar structure and function as the habitat with the proposed site boundary. The location of the proposed WLIP sites are provided in the draft Habitat Mitigation Plan (HMP), Attachment P-1 of this order. The WLIP sites are recognized by ODFW as suitable mitigation sites; however, pre-construction habitat assessments of the WLIP sites are necessary to confirm that the WLIP sites contain habitat with similar structure and function as the habitat within the proposed siteinform the extent of enhancement actions to achieve the Category 2 habitat mitigation goal of no net loss and a net benefit in habitat quality.

In order The applicant proposes acreage ratios to meet ODFW's mitigation goal for Category 2 habitat impacts, the . The applicant proposes to secure landowner agreements covering lands equivalent to 1.1 acre for every 1 acre of Category 2 habitat permanently impacted, to meet the Category 2 mitigation goal of net loss in habitat quantity. Based on this proposed methodology, the land area included in WLIP sites for the proposed facility would include approximately 3,946 acres as mitigation for permanent habitat loss. Implementation of the juniper treatment and management program on the WLIP sites would then achieve mitigation results in a net benefit of habitat quality. Based on the Department's review of the applicant's draft HMP, in

Commented [A19]: ODOE: we do not want a finding re Option 2 that it was not "in kind" when it was not even fully evaluated.

Commented [A20]: ODOE: We have been trying to avoid the use of conservation easement and deed restrictions and instead use the lease as the vehicle. The lease itself will have the restrictions to ensure success (e.g., prohibit certain activities).

Commented [A21]: ODOE: we have been discussing that the surveys are to confirm what is anticipated based on desktop work to date.

coordination with ODFW, the Department recommends Council find that the proposed mitigation would satisfy the Council's Fish and Wildlife Habitat standard, and recommends Council impose the following condition:

Recommended Fish and Wildlife Habitat Condition 2: The certificate holder shall:

a. Prior to construction of the facility, the certificate holder shall finalize the ~~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 by including (i) a final assessment of permanent habitat impacts (in acres) based on final facility design and habitat quality of habitat subtype, presented in tabular form, and (ii) results from the habitat field surveys of the WLIP sites, and submit the plan ~~,~~ for review and approval by the Department, in consultation with ODFW. 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 shall include, at a minimum, a final assessment of permanent habitat impacts (in acres) based on habitat quality of habitat subtype, and final facility design, presented in tabular format.~~

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.

[GEN-FW-02]

State Sensitive Species within the Analysis Area and Proposed Facility Potential Impacts

As presented in ASC Exhibit P, the applicant identified ~~the following~~ sensitive species ~~were either observed during the applicant's 2018 field surveys or identified~~ as having the potential to occur within the analysis area, which ~~and~~ therefore could be impacted by proposed facility construction and operation. Potential facility related impacts could include introduction of noxious weeds and other non-native invasive species, potential nesting and breeding disturbance, electrocution, powerline collision, structure collision, vehicular collision, disturbance related to artificial lighting, entrapment within open vertical pipes, disturbance to wintering big game, and entrapment within fenced area.

The following State-sensitive species were observed during the applicant's 2018 surveys and the applicant provided ~~, along with~~ an assessment of potential impacts to the affected species. Conditions are recommended below, consistent the applicant's representation in ASC Exhibit P, to minimize potential impact to State-sensitive species.

- Swainson's hawk (*Buteo swainsoni*) is a State-sensitive raptor observed within the proposed site boundary during 2018 raptor nest surveys. These species ~~,~~ rely~~ing~~ on open

Commented [A22]: ODOE: Consistent with our comments on the phone call earlier, want to specify what specifically is needed to finalize the HMP.

Commented [A23]: ODOE: This is not condition language. If anything, more appropriate as a finding. Suggest revision to condition language to move the description about which option may be used to modify the language in (9)(a). As originally drafted, the condition language could have been interpreted to not include the whole plan, only just a portion and that needs to be clarified.

Commented [A24]: ODOE: This is in the following section not here – the bullet list does not reflect all the sensitive species that were listed in Exhibit. Revise to only address what was observed? Or have it be "identified as having potential to occur and observed" rather than use the word "either"? See suggested redline to address.

habitat with few trees, bunchgrass prairie and irrigated farmland. Potential impacts include vehicle collision, power line electrocution, and loss of foraging habitat.

- Ferruginous hawk (*Buteo regalis*) is a State-sensitive raptor observed within the proposed site boundary during 2018 raptor nest surveys. These species ~~,~~ rely~~ing~~ on sagebrush plains and grasslands with low tree density. Potential impacts include vehicle collision, power line electrocution, and loss of foraging habitat.

- Pygmy Rabbit (*Brachylagus idahoensis)* is a State-sensitive mammal, with three complexes observed ~~within the proposed site boundary~~ during 2018 pygmy rabbit surveys. These species ~~,~~ rely~~ing~~ on sagebrush habitat. Potential impacts include vehicle and equipment collision ~~and take~~, which would be minimized by avoiding the three complexes ~~through the proposed facility design – which includes disturbance avoidance for the previously identified complexes –~~ and adherence to an onsite speed limit of 15 miles per hour.

Commented [A25]: ODOE: There is no "take" for a state sensitive species.

Based upon potential impacts of the proposed facility to the above-described sensitive species, the applicant proposes a suite of best management practices and minimization measures which are represented as recommended conditions below:

Recommended Fish and Wildlife Habitat Condition 3: Prior to and during construction of the facility, the applicant shall provide, and keep records documenting completion of, environmental awareness training for all facility personnel and on-site contractors. The training program shall discuss State Sensitive Species and all other environmental issues related to the facility, including information about pygmy rabbit identification information and reporting procedures.
[GEN-FW-03]

Recommended Fish and Wildlife Habitat Condition 4: During construction, operation, and retirement of the facility, the certificate holder shall impose and enforce a speed limit of 15 miles per hour within the site boundary.
[GEN-FW-04]

Recommended Fish and Wildlife Habitat Condition 5: During trenching and backfilling activities necessary for construction or operation of the facility, the certificate holder shall ensure that contractors or facility personnel responsible for the work avoid leaving trenches open overnight, as practicable. Where trenches remain open overnight, the trenches shall include wildlife escape ramps approximately every 90 meters with slopes of less than 45 degrees. Trenches shall be inspected, and any wildlife found removed prior to backfilling.
[GEN-FW-05]

Recommended Fish and Wildlife Habitat Condition 6: The certificate holder shall:

a. 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 nests, based on a protocol to be submitted to the Department for review and approval in consultation with ODFW. Nest surveys for non-raptor species shall be conducted within 50 feet of all disturbance areas, including the transmission line and access roads.

b. During construction of the facility, if the biologist detects active migratory bird nests during bird nest surveys, the certificate holder shall ensure that construction activities adhere to 30-foot disturbance buffers around the nests until the nest has been abandoned/depredated or the eggs hatch and young have fledged.

[GEN-FW-06]

Recommended Fish and Wildlife Habitat Condition 7: The certificate holder shall:

a. Prior to any year of construction of the facility, the certificate holder shall hire a qualified biologist to conduct a pre-construction survey for raptor nests, based on a protocol to be submitted to the Department for review and approval in consultation with ODFW. Pre-construction raptor nest surveys shall extend 0.5 miles of proposed disturbance areas, to the extent the certificate holder has legal access. Raptor nest surveys shall be conducted no more than two weeks prior to the start of construction activities. If the biologist detects active raptor nests, the certificate holder shall implement and maintain disturbance buffers around the nests in which construction activities are prohibited until the nest has been abandoned/depredated or the eggs hatch and young have fledged.

b. Prior to construction, the certificate holder shall develop a construction plan that demonstrates construction activities within 0.25 of a mile (or other appropriate buffer distance, as described in sub(c) of this condition) from previously identified active nest sites are scheduled to avoid the sensitive nesting and breeding season. Previously identified nest sites are those identified during surveys per sub(a) of this condition.

c. During construction of the facility, the certificate holder shall ensure that construction work maintains a 0.25-mile buffer distance from all raptor nests, except for golden eagle ([*Aquila chrysaetos*] 0.5 miles) and red-tailed hawk (300 to 500 feet) during the sensitive nesting and breeding season presented in the table below. In cases where smaller buffers or restricted work authorizations might be appropriate, the certificate holder shall coordinate with the Department and ODFW or the USFWS to decrease buffer sizes and/or to allow restricted construction activities. Facility vehicles shall be permitted within buffers on paved public roads. Most light traffic by rubber-tired vehicles shall be permitted to pass through the buffer on existing unpaved access roads, if needed, and as determined by the on-site environmental monitor.

Status Sensitive/Raptor Species	Buffer Size (Radius Around Nest Site):	Sensitive Nesting and Breeding Season
Western burrowing owl	0.25 mile	April 1 to August 15
Ferruginous hawk	0.25 mile	March 15 to August 15
Swainsons hawk	0.25 mile	April 1 to August 15
Red-tailed hawk	300-500 feet	March 1 to August 31

Status Sensitive/Raptor Species	Buffer Size (Radius Around Nest Site):	Sensitive Nesting and Breeding Season
Golden eagle	0.5~~25~~ mile	Feb 1 – August 31

[GEN-FW-07]

Recommended Fish and Wildlife Habitat Condition 8: During design and construction of the facility, the certificate holder shall ensure that aboveground transmission line and aboveground portions of the electrical collection system adhere to the current APLIC guidelines for minimizing avian electrocution risks.
[GEN-FW-08]

Recommended Fish and Wildlife Habitat Condition 9: ~~The certificate holder shall:~~
~~a. No more than 3 years prior to construction of the facility, conduct pygmy rabbit (*Brachylagus idahoensis)* surveys within the site boundary, based on a survey area appropriate for the location of facility components and a protocol approved by the Department in consultation with ODFW. Pygmy rabbit surveys shall also document presence of burrowing owls (*Athene cunicularia hypugaea*) and white-tailed jack rabbits (*Lepus townsendii).*~~
~~b.~~a. During ~~Prior to~~ construction, the certificate holder shall implement the ~~submit~~ Pygmy Rabbit Incidental Discovery Plan included as Attachment P-4 of the Final Order on the ASC~~an incidental wildlife mitigation plan (plan) to the Department for review and approval in consultation with ODFW~~. ~~The plan shall include appropriate minimization and/or mitigation measures that may be implemented if burrow or burrow complexes are identified for pygmy rabbits, burrowing owls, or white-tailed jack rabbits during construction within the survey area. In the event of an incidental wildlife observation of a State-sensitive species occurs during construction, the certificate holder shall notify the Department and ODFW within 24 hours. Construction activities shall halt in the immediate area of the identified complex or burrow site until an appropriate minimization and/or mitigation approach, as established in the plan, is determined by the Department in consultation with ODFW.~~
~~c.~~b. The certificate holder shall ~~During~~ D~~d~~esign and ~~prior to~~ construction ~~of~~ the facility to avoid ~~, the certificate holder shall develop constraint maps clearing delineating avoidance areas for any~~ the previously identified pygmy rabbit complex~~.~~ as shown on Figure X of the plan described under subpart (a) above. ~~(ASC Exhibit P Figure P-1 and pre-construction survey maps) within or in close proximity to the site boundary.~~ Disturbance and facility components shall not occur or be located within identified complexes.
[GEN-FW-9]

Commented [A26]: ODOE: Obsidian proposes a plan, like ODOE recommended and will include it in a subsequent filing. Stantec is preparing.

Commented [A27]: ODOE: these areas have been defined and referencing a map here is more specific than generally describing.

Recommended Fish and Wildlife Habitat Condition 10: Prior to any year of construction where vegetation clearing activities would occur, the certificate holder shall implement the following measures to minimize use at the site by, and impacts to, ground nesting birds:

a. Schedule vegetation clearing activities, including removal of trees, shrubs, and tall grasses to stubs, to occur between September 1 and March 31 for shrubs and trees shorter than 15 feet, and September 1 to January 15 for trees over 15 feet tall, to the extent practicable.
b. The certificate holder shall remove vegetation slash material offsite to an approved location or chipping slash in place prior to March 31 to the extent practicable.

[GEN-FW-10]

Recommended Fish and Wildlife Habitat Condition 11: During operation, the certificate holder shall implement the post-construction bird and bat mortality monitoring as established in the Wildlife Monitoring Plan provided in Attachment P-2 of the Final Order on the ASC.
[OPR-FW-01]

Conclusions of Law

Based on the foregoing findings of fact and conclusions, and subject to compliance with the recommended site certificate conditions, the Department recommends the Council find that proposed facility would comply with the Council's Fish and Wildlife Habitat standard.

IV.I. Threatened and Endangered Species: OAR 345-022-0070

To issue a site certificate, the Council, after consultation with appropriate state agencies, must find that:

(1) For plant species that the Oregon Department of Agriculture has listed as threatened or endangered under ORS 564.105(2), the design, construction and operation of the proposed facility, taking into account mitigation:

(a) Are consistent with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3); or

(b) If the Oregon Department of Agriculture has not adopted a protection and conservation program, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and

(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as threatened or endangered under ORS 496.172(2), the design, construction and operation of the proposed facility, taking into account mitigation, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species.

Findings of Fact

The Threatened and Endangered Species standard requires the Council to find that the design, construction, and operation of the proposed facility are not likely to cause a significant reduction in the likelihood of survival or recovery of a fish, wildlife, or plant species listed as threatened or endangered by Oregon Department of Fish and Wildlife (ODFW) or Oregon Department of Agriculture (ODA). For threatened and endangered plant species, the Council must also find that the proposed facility is consistent with an adopted protection and conservation program from ODA. Threatened and endangered species are those listed under ORS 564.105(2) for plant species and ORS 496.172(2) for fish and wildlife species. For the purposes of this standard, threatened and endangered species are those identified as such by either the Oregon Department of Agriculture or the Oregon Fish and Wildlife Commission.[77]

The analysis area for threatened or endangered plant and wildlife species, as defined in the project order, is the area within and extending 5-miles from the site boundary.

Methodology – Literature Review

ASC Exhibit Q is the applicant's assessment of compliance with the Council's Threatened and Endangered Species standard. In order to identify threatened or endangered species that might occur within the analysis area, the applicant consulted with the Oregon Department of Fish and Wildlife (ODFW) and reviewed multiple databases and literature sources. Sources included:

- ODFW's 2016 Compass Online Tool, which includes information related to the Oregon Conservation Strategy
- Oregon Department Agriculture's Oregon Listed Plants by County
- ODFW's Threatened, endangered and candidate fish and wildlife species list
- Oregon Biodiversity Information Center's Rare, Threatened and Endangered Species of Oregon
- US Fish and Wildlife Services Information for Planning and Consultation

As described below, based on the results of the literature review, a field survey was determined unnecessary given the lack of suitable habitat for any State-listed T&E species.

Literature Review Results

Based on the applicant's literature review, as confirmed by ODFW, suitable habitat for state-listed threatened or endangered fish or wildlife species was not identified within the analysis area. The Oregon Department of Agriculture, Native Plant program, lists five threatened or endangered plant species as potentially occurring in Lake County. There are no previously

[77] Although the Council's standard does not address federally-listed threatened or endangered species, certificate holders must comply with all applicable federal laws, including laws protecting those species, independent of the site certificate.

recorded occurrences of any species in the analysis area. The applicant's assessment, presented in ASC Exhibit Q, determined that there is no suitable habitat in the analysis area for four of the five threatened or endangered plant species. The analysis area potentially includes suitable habitat for the fifth species, the Bogg's Lake hedge hyssop, however the closest known occurrence of the species is near the California border, approximately 135 miles from the site boundary. The Department consulted with the Oregon Department of Agriculture, Native Plant program representative, who confirmed that the species is unlikely to occur so far north from its known range, and furthermore, the representative questioned if the analysis area in fact contains suitable habitat for the species.[78]

Based on the above analysis, the Department recommends Council find that there are no state-listed threatened or endangered species that are likely to occur in the analysis area, and as such, the proposed facility would not result in impacts to the likelihood or survival of any T&E species.

Conclusions of Law

Based on the foregoing recommended findings of fact and conclusions, the Department recommends that the Council find that the proposed facility would comply with the Council's Threatened and Endangered Species standard.

IV.J. Scenic Resources: OAR 345-022-0080

> *(1) Except for facilities described in section (2), to issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to scenic resources and values identified as significant or important in local land use plans, tribal land management plans and federal land management plans for any lands located within the analysis area described in the project order.*
> ****[79]*

Findings of Fact

The Scenic Resources standard requires the Council to find that visibility of proposed facility structures, plumes, vegetation loss and landscape alterations would not cause a significant adverse impact to identified scenic resources and values. To be considered under the standard, scenic resources and values must be identified as significant or important in local land use plans, tribal land management plans, and/or federal land management plans.[80]

[78] OSCAPPDoc16 ASC Reviewing Agency Comment Letter ODA_Brown 2020-01-28.
[79] The proposed facility is not a special criteria facility under OAR 345-015-0310; therefore OAR 345-022-0080(2) is not applicable.
[80] State management plans are not included in the language of OAR 345-022-0080 or the application requirements identified in OAR 345-021-0010(1)(r), however, the applicant identified potential scenic resources in the Oregon

The analysis area for the Scenic Resources standard is the area within and extending 10-miles from the proposed site boundary, as presented in ASC Exhibit R Figure R-1: A*nalysis Area for Scenic Resources*.

Applicable Land Use and Management Plans

The applicant evaluated multiple land use, and land management plans to determine whether scenic resources were identified as significant or important within the analysis area, which are presented in Table 6*: Local, State, Tribal, and Federal Land Use Management Plans that Address Lands within the Analysis Area* below.

Table 6: Local, State, Tribal, and Federal Land Use Management Plans that Address Lands within the Analysis Area

Jurisdiction	**Plan**
Lake County	Lake County Comprehensive Plan (Lake County Planning Commission, 1980)
Oregon Department of Transportation	1999 Oregon Highway Plan: Including Amendments November 1999 through May 2015 (ODOT 1999)
Bureau of Land Management, Lakeview Resource Management Area	Lakeview Resource Management Plan and Record of Decision (BLM 2003)
Bureau of Land Management	Areas of Critical Environmental Concern Nomination Analysis Report for the Lakeview Resource Area Resource Management Plan (BLM 2000)
Bureau of Land Management	BLM Handbook 8357-1 Byways (BLM 1993)
ASC Exhibit R	

Significant or Important Scenic Resources

Based on the review of the land use, and land management plans listed in Table 6*: Local, State, Tribal, and Federal Land Use Management Plans that Address Lands within the Analysis Area*, the applicant identified three scenic resources as significant or important in the analysis area. The Department reviewed the management plans to confirm that the applicant-identified

Highway Plan managed by the Oregon Department of Transportation in ASC Exhibit R, therefore, an evaluation is provided in this order.

scenic resources are identified as significant or important. A summary of each important or significant scenic resource is presented below:

1. Table Rock Bureau of Land Management (BLM) Area of Critical Environmental Concern (ACEC), approximately 6.9 miles from the site boundary.[81] The BLM has designated Table Rock as an ACEC due to its cultural, botanical, and scenic values. ASC Exhibit R, Section 4.4.1 references the BLM in noting that Table Rock possesses regional important scenic value due to its location and visibility adjacent to the Christmas Valley National Backcountry Byway and the Oregon Outback National Scenic Byway. Applicable sections of the BLM management plan are included in the ASC as Appendix R-2.
2. Christmas Valley National Backcountry Byway, designated by the BLM. Nearest portion of the byway is approximately 2.3 miles from the site boundary, on County Road 5-12. ASC Exhibit R notes that the BLM designates selected routes as "backcountry byways" that offer "off the beaten path" routes. The byway passes both natural landscapes and agricultural landscapes in the region. Applicable sections of the BLM management plan are included in the ASC as Appendix R-2, which describes that the primary focus of the program was the designation of "back country byways" includes a system of low standard roads and trails that pass through areas of public lands that have high scenic or public interest value.
3. Oregon Outback National Scenic Byway, designated by the Oregon Department of Transportation (ODOT). Nearest portion of the byway is approximately 8.3 miles from the site boundary, on County Road 5-10. This byway is approximately 170 miles length in total in Deschutes and Lake Counties, and as noted in ASC Exhibit R, is compared to the Australian Outback for its ruggedness, wide open spaces, and expansive views. Applicable sections of the ODOE Highway Plan are included in the ASC as Appendix R-2 and explains that to protect the scenic assets of its Scenic Byways, ODOT will develop guidelines for aesthetic and design elements within the public right-of-way that are appropriate to Scenic Byways.[82]

Analysis

Under the Scenic Resources standard, consistent with the information requirement under OAR 345-021-0010(r)(C), potential visual impacts from loss of vegetation, alteration of landscape, facility structures and plumes during proposed facility-related construction and operations are evaluated. The proposed facility would not result in plumes and therefore plume-related visual impacts would not occur.

A detailed discussion of the methodologies and assumptions the applicant considered in its visual impact assessment is included in Section IV.F., *Protected Areas*, of this order, and in ASC Exhibits L and R. This includes the dimensions of major proposed facility components

[81] ASC Exhibit R, Section R.4.4.1 states that Table Rock is 6.82 miles from the facility site boundary, Section R.5 states that it is 9 miles from the facility, and ASC Exhibit L (Protected Areas) lists Table Rock as 6.9 miles from the site boundary. It is unclear which is accurate, the Department relies on the 6.9-mile distance evaluated under the Protected Areas standard in this order and in ASC Exhibit L, for consistency.
[82] OSCAPPDoc4 ASC 18 OSC ASC Exhibit R 2019-10-17, Appendix R-2.

considered for evaluation in the visual analysis. Conversely, the applicant did not include the two-mile 115-kV transmission line and some substation components in the visual assessment included in Exhibit L Figure L-2, because they considered these features to be subordinate on the landscape to the existing 500-kV transmission line and towers located near Area D.[83]

Table Rock ACEC

The Table Rock ACEC is at least 6.9 miles distance from the facility site boundary.[84] As described in ASC Exhibit R, section R.5, the BLM's Lakeview Resource Management Plan (RMP) describes the scenic value of Table Rock ACEC as being specifically based on views from the two nearby scenic byways, Oregon Outback national Scenic Byway and Christmas Valley National Backcountry Byway, to the ACEC, as representing the valuable scenic resource. In other words, the scenic value of Table Rock, as designated and described by the BLM in its management plan for the area, is based on the scenic value of Table Rock itself. The proposed facility would not be visible from the two byways to a viewer looking towards Table Rock. Additionally, even if the resource was designated as having scenic value for views from Table Rock ACEC across the surrounding landscape, the proposed facility, at least 6.9 miles distant, would not be very apparent on the landscape.[85]

Oregon Outback National Scenic Byway

The portion of the Oregon Outback National Scenic Byway within the analysis area is a 1.8-mile-long segment of Fort Rock Road (County Road 5-10) that connects SR 31 through the community of Fort Rock. Based on the applicants viewshed analysis in ASC Exhibit R, the proposed facility will only be in the line-of-sight portions of the byway in the analysis area near the community of Fort Rock. However, this byway segment is located 8.3 miles to the northwest of the closest portion of the proposed facility site Area D, which will house the step-up substation, but which is also crossed by three existing 500-kV transmission towns with lattice steel structures. Proposed facility Area A, which is larger and will house the solar arrays, is over 10 miles east of this segment of the byway. At these distances, alteration of the landscape at the proposed facility site is unlikely to be apparent (ASC Exhibit R contains photos of the existing landscape from the byway, see Photos #3 and #4 in Appendix R-1). In addition, from the portions of the byway west of the community of Fort Rock, views facing in the

[83] OSCAPPDoc4 ASC 12 OSC ASC Exhibit L 2019-10-17, L.4.5. And OSCAPPDoc20 ASC Applicant Responses to Additional RAIs_Combined 2020-02-24 to 2020-03-09.
[84] For consistency, the Department uses the distance of 6.9 miles from Table Rock to the site boundary represented in ASC Exhibit L, and under the Protected Areas section in this order.
[85] OSCAPPDoc4 ASC 18 OSC ASC Exhibit R 2019-10-17, R.5.

direction of the proposed facility site (to the east), would be dominated by the developments in the community of Fort Rock.[86]

Christmas Valley National Backcountry Byway

In ASC Exhibit R, the applicant notes that the most likely viewing location toward the proposed facility site from the Christmas Valley National Backcountry Byway is from the portion located approximately 2.3 miles north of the site boundary, which offers views toward the proposed facility to drivers traveling south. It is stated that the views will mostly not be head-on, but rather will be off to one side through the windshield. The applicant contends that viewed from an elevation similar to that of the proposed facility and from distances of at least 2.3 miles or more, the PV modules are likely to appear only as a dark line on the horizon to the casual observer traveling on the byway. It is also noted that three existing 500-kV transmission lines with lattice steel towers will be situated in the foreground of views toward the proposed facility site (See ASC Exhibit R, Appendix R-1 Photos #1 and #2).

Although the areas surrounding the proposed facility primarily include agricultural lands and scattered farm residences and barns, the existing views toward the proposed facility from this portion of the byway already include development features, due to the presence of the three existing 500-kV transmission lines. The applicant notes that due to its proposed location, the proposed facility will not substantially obstruct views of the natural landscapes along this byway and contends the potential impacts on the views from this portion of the byway due to alteration of the landscape and facility structures will be viewed quickly from drivers along the byway. Finally, as described below, the applicant proposes mitigation measures to reduce visual impacts, including constructing the battery enclosures to match the landscape (e.g., by painting with low contrast earth tones), the impacts from alteration of the landscape on the views from this portion of the byway, or from more distant portions of the byway, will be reduced to low.

[86] Id.

Applicant Proposed Mitigation

In ASC Exhibit R, Section R.6, the applicant proposes to incorporate the following measures into the proposed facility design to minimize general visual effects.[87] Based on applicant representations, the Department recommends these measures be included as Scenic Resources Condition 1.

Recommended Scenic Resources Condition 1: The certificate holder shall ensure that facility design, construction and operation adheres to the following requirements:

a. Use earth-tone colors on battery storage enclosures and other buildings to match or complement the predominant colors of surrounding vegetation, or use steel for the enclosure siding that produces a brown rusty patina when weathered.
b. Facility lighting must be shielded and directed downward and be the minimum necessary for construction, operation, safety, and security. Lighting for operation, safety, and security must be on-demand or motion-activated and/or use timers to minimize light exposure.

[GEN-SR-01]

Based on the findings presented here, the Department recommends Council find that visual impacts from landscape alteration and facility structures associated with proposed facility construction and operation would not result in significant, adverse impacts at important or significant scenic resources and values identified as significant or important in local land use plans, tribal land management plans and federal land management plans for any lands within the analysis area.

Conclusion of Law

Based on the foregoing findings of fact, and based upon compliance with the recommended condition, the Department recommends the Council conclude that the design, construction and operation of the proposed facility is not likely to result in significant adverse impacts to any scenic resources and values identified as significant or important in local land use plans, tribal land management plans and federal land management plans for any lands, in compliance with Council's Scenic Resources standard.

IV.K. Historic, Cultural, and Archaeological Resources: OAR 345-022-0090

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

[87] The applicant describes these measures in ASC Exhibit R, in the context of reducing visual impacts to scenic resources, however, the Department notes that these measures would also minimize visual impacts evaluated under the Council's Protected Area and Recreation standards.

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

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

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

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

** * **

Findings of Fact

Section (1) of the Historic, Cultural and Archaeological Resources standard generally requires the Council to find that a proposed facility is not likely to result in significant adverse impacts to identified historic, cultural, or archaeological resources.[88] Under Section (2), the Council may issue a site certificate for a solar power facility without making findings of compliance with this section. However, the Council may impose site certificate conditions based on the requirements of this standard.

The analysis area for the Historic, Cultural and Archaeological Resources standard includes the area within the proposed site boundary; however, the applicant's literature review, as further described below, extended 1-mile beyond the proposed site boundary. The Legislative Commission on Indian Services identified the Confederated Tribes of the Warm Springs Indian Reservation of Oregon (CTWSRO), the Klamath Tribes and the Burns Paiute Tribe as potentially affected by the proposed facility pursuant to OAR 345-001-0010(51)(o).

Pursuant to ORS 358.920(1)(a), a person may not excavate, injure, destroy or alter an archaeological site or object or remove an archaeological object located on public or private lands in Oregon unless that activity is authorized by a permit issued under ORS 390.235 (SHPO archaeological permit). Because the applicant intends to conduct work within an area of known archaeological objects and sites, the applicant must comply with ORS 390.235, OAR 736-051 0000 through 736-051-0090, and requested that the SHPO archaeological permits be included and governed by the site certificate under the EFSC review process. Under ORS 469.401(3), for permits under EFSC jurisdiction, after issuance of the site certificate, agencies 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.

[88] The site boundary includes public and private lands.

Development of Archeological Testing and Excavation Methodologies Plan

In preparation of ASC Exhibit S, containing information on historic cultural and archaeological resources, the applicant engaged one of its consultants, Heritage Research Associates (Heritage), who conducted a literature review and pedestrian surveys in Area A and Area D of the site boundary, which resulted in two confidential technical reports submitted to the Department and reviewing agencies. Confidential materials were submitted under a separate cover and under ORS 192.345(11) they are exempt from public disclosure. Subsurface testing was not conducted to inform the resulting technical reports. ~~; however, T~~the applicant ~~did~~ coordinated and shared the results of the preliminary pedestrian surveys with the CTWSRO, the Burns Paiute Tribe, and the Klamath Tribes. After the applicant submitted the preliminary application for site certificate (pASC) to the Department, the Department requested comments from reviewing agencies including the tribal governments and the Oregon State Historic Preservation Office (SHPO).

Due to the size and scope of the applicant's proposal for archaeological resources, the Department engaged its consultant, Golder Associates and its subcontractor, Historical Research Associates (HRA), Inc. to assist SHPO with the completeness review of the pASC and associated technical reports. The letter provided from HRA to SHPO and the Department indicated that the methods by which the isolates and sites were identified and delineated by the applicant were inconsistent and generally did not meet SHPO standards because subsurface probing was not conducted to gather information for the eligibility evaluation for the National Register of Historic Places (NRHP).[89] In SHPO's letter provided to the Department dated June 17, 2019, they reiterate this concern stating; "Oregon SHPO concurs that the process for determining NRHP eligibility is inadequate. No attempt was made to assess the vertical (subsurface) boundary (depth of cultural materials) which are critical to NRHP evaluations…. for an archaeological site to be considered not eligible to the NRHP, they must be evaluated under all four criteria."[90] The applicant engaged SHPO, the Department, and the affected tribal governments with addressing the concerns identified by SHPO and the Department's consultant, HRA. The applicant coordinated with SHPO, the Department, the Klamath Tribes, and the Burns Paiute Tribe to resolve the issues identified by SHPO. The result of the ongoing coordination was a memorandum of agreement between ~~proposal drafted by~~ SHPO and ~~reviewed with~~ the applicant, which is codified in the Archeological Testing and Excavation Methods Plan (Plan) included as Attachment S-1 to this order. The Plan defines ~~defined~~ archeological testing and excavation methods to serve as mitigation for impacts to archeological sites. The Plan ~~Archeological Testing and Excavation Methods Plan (Plan) is included in this order as Attachment S-1 and~~ includes:[91]

- Delineating Archaeological Site Boundaries
- Definitions

[89] OSCAPPDoc26 pASC Draft to SHPO Completeness Review Memo_HRA_Perrin 2019-05-30.
[90] OSCAPPDoc29 pASC Reviewing Agency Comment Letter SHPO Case No._ 18-0246_Pouley 2019-06-17.
[91] Information concerning the potential location of archaeological sites or objects as those terms are defined in ORS 358.905 has been redacted from this and other documents associated with this section. The Department also redacted resource descriptions that may be associated with archaeological locations.

- Archaeological Testing at Isolates
- Trenching within a Recorded Archaeological Site
- Testing at Project Related (non-archaeological) Excavation
- Historical and Multicomponent Archaeological Sites
- Artifact Analysis
- Reporting
- Archaeological Permits

Results from Preliminary Pedestrian Surveys

The Department points to the language of the EFSC standard, specifically, "…resources that have been listed on, or would likely be listed on…" the common term used by SHPO and throughout the profession, is eligible or likely/potentially eligible for listing on the NRHP. Therefore, the terms eligible or likely/potentially eligible meet the meaning of likely to be listed on the NRHP in the EFSC standard.

The applicant explains in ASC Exhibit S that prehistoric sites were evaluated as eligible, potentially eligible, or not eligible for nomination to the NRHP, assessed under NRHP Criterion D. Based on the pedestrian survey and site visits with Klamath Tribal representatives, the applicant identified seven prehistoric sites treated as eligible, 22 prehistoric sites treated as potentially eligible, and 69 prehistoric sites treated as not eligible for listing on the NRHP.

Historic-period~~al (above-ground)~~ archaeological resources identified include five possible homestead locations with structural remains, and six small refuse scatters. The homestead sites likely relate to a short homesteading period in the early twentieth century:

- The applicant recommends that the homestead sites and one well/corral site are considered potentially NRHP-eligible as some information can be learned about the homestead era in Fort Rock by further documenting and researching the homestead sites.
- The applicant recommends that the six isolated refuse scatters, including limited debris from what may have been a small corral site, are recommended not eligible for the NRHP as those locations do not appear to be associated with larger homestead features, nor do they contain previously undocumented or potentially significant information.

Five sites contained both prehistoric and historical components:

- The applicant recommends that two of the sites appear to contain NRHP-eligible components, and another two sites appear to be potentially NRHP-eligible.
- The applicant recommends that one site contains limited artifacts for both prehistoric and historical components and is likely to be found not eligible for the NRHP due to the likelihood that it does not contain potentially significant information that would contribute to our understanding of either history or prehistory.[92]

Commented [A28]: ODOE: As they are "in-ruin" the possible homestead locations are not "above ground" resources despite the ruins being primarily on the surface of the ground.

[92] OSCAPPDoc4 ASC 19 OSC ASC Exhibit S 2019-10-17, S.5.2.

Of the prehistoric ~~archaeological~~ and historic-period archaeological resources, the applicant recommends nine sites as eligible. Seven are prehistoric sites, and two are multicomponent sites. Twenty-nine ~~potentially eligible~~ sites are recommended as potentially eligible, 22 are prehistoric sites, five are historic sites, and two are multicomponent sites. Seventy-six ~~potential~~ sites are recommended as not eligible including 69 prehistoric, six are historic, and one is multicomponent.[93] Further, the applicant identified 241 isolated finds.[94] ~~Aside from the above ground historic resources, the archaeological resources identified are all appears to be Tribal resources.~~

~~As discussed in the aforementioned section, because the applicant did not adhere to recommended SHPO guidelines, National Register Bulletins, and did not provide evaluations under all four NRHP criteria, SHPO was not able to concur with the proposed eligibility recommendations.~~

Evaluation, Avoidance, and Mitigation for Impacts to Historic, Cultural, and Archeological Resources

OAR 345-022-0090(1)(a)

The Council's standard, OAR 345-022-0090(1)(a) addresses historic, cultural or archaeological resources that have been listed on, or would likely be listed on the National Register of Historic Places. As noted, the applicant coordinated with SHPO, the Department, the Klamath Tribes, and the Burns Paiute Tribe to resolve the issues of NRHP criteria evaluation and survey protocols identified by SHPO and HRA, and agreed upon the Archeological Testing and Excavation Methods Plan (Attachment S-1 to this order) and further addressed below in Recommended Historic, Cultural and Archeological Condition 1. SHPO and t~~T~~he applicant have ~~has~~ agreed to adhere to the methodologies defined in the Plan when conducting archaeological testing during ground disturbing activities associated with ~~any necessary pre-construction surveys and~~ construction of the proposed facility in order to mitigate for impacts to archeological sites that are not avoided. ~~SHPO highlighted in its letter to the Department that it is unprecedented that SHPO itself would draft methodologies that adhere to its guidelines and bulletins for a specific project.[95]~~ To address resources potentially protected under OAR 345-022-0090, as defined in the Plan, methodologies treat the recorded archaeological sites and isolates as a district and focus on Project-related impacts, this approach is also consistent with the governance of the SHPO Archaeological Permits included and governed by the site certificate as discussed below. This is reiterated in the comment letter on the ASC from SHPO, which states; "…it was agreed that the known archaeological sites and isolates would be treated as an eligible district under Criterion A of the NRHP and the Archaeological Testing and Excavation Methods

Commented [A29]: ODOE: This sentence is grammatically incorrect and uses the terms "above ground" resources which is also incorrect and "Tribal resources" which in unusual and not recommended usage by AINW. Suggest deleting as shown in track changes.

Commented [A30]: ODOE: This is unnecessary and addressed by the MOA codified in the Plan. That was the whole purpose of negotiating the MOA.

Commented [A31]: ODOE: This is not a finding – the comment letter stands on its own and if anything undermines ODOE's findings of compliance. Whether another project seeks to use this same approach/compliance pathway is a discussion for another day.

[93] OSCAPPDoc4 ASC 19 OSC ASC Exhibit S 2019-10-17, S.5.2.

[94] In ASC Exhibit S, the applicant states that finds of cultural materials that were not classified as sites were recorded and mapped as isolated finds. OSCAPPDoc4 ASC 19 OSC ASC Exhibit S 2019-10-17, S.5.1.2.

[95] ~~OSCAPPDoc17 ASC Reviewing Agency Comment Letter SHPO Case No._18-0246_Pouley 2020-02-26.~~

Plan addresses procedures for addressing Criterion D through targeted archaeological testing in areas of ground disturbance, and through the IDP [incidental discovery plan]." [96] The applicant agrees to treat the area as eligible for listing on the NRHP, and therefore protected under the Council's standard. This approach may overestimate the actual impacts from construction and operation of the proposed facility because many of the sites may indeed be not eligible for listing on the NRHP.

The site boundary is located within the ceded lands of the Klamath Tribes, Confederated Tribes of Warm Springs, and Burns Paiute Tribe. Predominantly the resources identified in the preliminary pedestrian surveys, in coordination with the Klamath Tribes, are prehistoric archaeological sites representing the ancestors of modern Tribes ~~considered Tribal resources~~. The applicant contacted, met in-person on site, presented to the Klamath Tribal Council, and maintained communication with the Klamath Tribes and Burns Paiute Tribe. As part of its supplemental application submittal for ASC Exhibit S, the applicant provided a letter from the Klamath Tribes Tribal Council.[97] The letter from the Tribal Council stated that the Tribes have reached an agreement with the applicant to avoid, minimize, and mitigate impacts to ~~Tribal~~prehistoric archaeological resources identified by the applicant. The applicant states it will avoid approximately 156 acres within the site boundary ~~identified as~~ containing likely eligible or eligible resources identified by the Tribes. These areas were identified as avoidance areas and the applicant ~~avoidance will involve by~~ modif~~y~~ied~~ing~~ the design of the facility to avoid these sensitive areas. The letter continues by stating that the areas that may be impacted will be subject to a Monitoring Agreement and Inadvertent Discovery Plan. At the request of the Burns Paiute Tribe, ~~the Tribes have agreed to include~~ a representative of the Burns Paiute Tribe will also be a monitor during ground disturbing activities, as further discussed in the Cultural Mitigation and Monitoring Plan (CMMP) included as Attachment S-3 to this order ~~for monitoring~~. Finally, the letter addresses the Council's standard stating that it views that construction and operation of the proposed facility, taking into account mitigation, is not likely to result in significant adverse impacts to eligible and likely eligible resources identified in the application or by the Tribes.

To address the Tribes comments, and as part of the applicant proposal in ASC Exhibit S, the applicant proposes avoidance, minimization, and mitigation measures codified in the ~~and areas as well as a proposed draft~~ Cultural Mitigation and Monitoring Plan (CMMP) included as ~~which the Department has compiled into~~ Attachment S-3 of this order. The CMMP is comprised of (a) a description of applicant's avoidance and mitigation agreement with the Klamath Tribes, (b) a description of the monitoring agreements with the Burns Paiute and Klamath Tribes, (c) the Inadvertent Discovery Plan (also included as Attachment S-2 to this order), and (d) comments submitted by ~~applicant represented measures to avoid, reduce, mitigate and monitor construction activities and to include Tribes with the construction and survey activities. T~~the Klamath Tribes and Burns Paiute Tribe ~~also provided comments~~ as conditions to be included with the SHPO Archaeological Permits discussed below. ~~Their comments relate to monitoring,~~

Commented [A32]: ODOE: From AINW – "The term "Tribal resources" is a curious one that implies ownership of archaeological sites by Native American Tribes. While prehistoric or pre-contact archaeological sites were surely created by the ancestors of modern Tribes, ownership of the artifacts is by the current landowners according to state law. It may be politically efficient to leave this "as is" here, but I wanted to point to this as irregular usage in CRM."

[96] OSCAPPDoc17 ASC Reviewing Agency Comment Letter SHPO Case No._ 18-0246_Pouley 2020-02-26.
[97] On June 18, 2019, Donald Gentry, the Klamath Tribes Chairman, submitted the same letter to the Department.

~~reviewing materials, and receiving reports generated. The Department includes these conditions within the draft CMMP to be finalized prior to construction of the proposed facility. The Department recommends review and approval of the final CMMP by the Department in coordination with SHPO and the Tribes. As such, the Department recommends this as a component of the below condition. As part of ASC Exhibit S, the applicant also provided an Inadvertent Discovery Plan (IDP) and maintains it will conduct all work within compliance with the IDP.~~

~~To verify that any surveys that may be conducted prior to and during construction are conducted consistent with that Archeological Testing and Excavation Methodologies Plan and that the resulting information is shared with SHPO, the Tribes, and the Department, as well as the applicant's finalization of the provisions in the Cultural Mitigation and Monitoring Plan and compliance with the Inadvertent Discovery Plan,~~ T~~t~~he Department recommends the following site certificate condition:

Recommended Historic, Cultural and Archeological Condition 1: The certificate holder shall:

a. Prior to and during construction implement ~~conduct any necessary surveys or archaeological testing and construction activities in compliance with~~ the Archeological Testing and Excavation Methodologies Plan (Attachment S-1 to Final Order on ASC) and the Cultural Mitigation and Monitoring Plan (Attachment S-2 to the Final Order on ASC).
   ~~i. The certificate holder shall submit results of any survey or testing data and technical reports to SHPO in accordance with SHPO's Go Digital requirements and affected Tribal Governments.~~
   ~~ii. Under separate confidential cover, at the completion of construction of the facility, the certificate holder shall submit the final report, including SHPO NRHP eligibility recommendations, to the Department.~~

~~b. Prior to construction of the facility finalize the Draft Cultural Mitigation and Monitoring Plan, as provided in Attachment S-3 of the Final Order on ASC, and submit to the Department for review and approval, in coordination with SHPO and the affected Tribal Governments. The certificate holder may coordinate with Tribal Governments prior to submitting the finalized PlanCMMP to the Department. The PlanCMMP shall identify any modifications based on results of any surveys or testing completed following the Archeological Testing and Excavation Methodologies Plan (Attachment S-1 to Final Order on ASC) identified in sub (a) of this condition, or any modifications derived from Tribal or SHPO coordination.~~

~~c.~~b. During construction and operation of the facility, the certificate holder shall implement and adhere to the requirements of the Inadvertent Discovery Plan, as provided in Attachment S-2 of the Final Order on ASC and the Cultural Mitigation and Monitoring Plan, as provided in Attachment S-3 of the Final Order on ASC.

~~d. During construction and operation of the facility, the certificate holder shall implement and adhere to the requirements of the Cultural Mitigation and Monitoring Plan, as finalized per sub(b) of this condition.~~

[GEN-HC-01]

Commented [A33]: ODOE – this is a really long confusing sentence. The recommended conditions stand for themselves based on the analysis and findings above.

Commented [A34]: ODOE: Plan does not require eligibility recommendations and even if it became necessary due to new finds, it does not need to be stipulated here.

Commented [A35]: ODOE: the CMMP is the final plan, as attached to the final order. Nothing further needs to be negotiated – follow the Testing Plan, the IDP, and the CMMP.

OAR 345-022-0090(1)(b) and (c)

The evaluation above applies to resources potentially protected under OAR 345-022-0090(1)(a). Under OAR 345-022-0090(1)(b), for a proposed facility located on private land, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impacts to archaeological objects, as defined in ORS 358.905(1)(a)[98], or archaeological sites, as defined in 358.905(1)(c). OAR 345-022-0090(1)(c), the Council's Historic, Cultural and Archaeological Resources standard addresses and protects archaeological sites on public lands under OAR 345-022-0090(1)(c) as defined in ORS 358.905(1)(c).[99] Predominantly lands within the site boundary are privately owned lands, however there is a parcel of land owned by the Oregon Department of State Lands (DSL). Therefore, both of the provisions of (b) and (c) of the Council standard apply. The Department notes that resources identified as eligible and likely eligible, as discussed in the preceding section, based from the ~~preliminary~~ pedestrian surveys conducted with Tribal review, ~~are likely to meet the definitions of~~include archaeological objects ~~or~~and archaeological ~~objects~~sites. ~~Further~~However, the SHPO Archeological Testing and Excavation Methodologies Plan ~~applicant's assumption to~~ treats the site boundary as an NRHP-eligible district, and mitigates adverse impacts to the archaeological objects and sites within the district~~considers the area as an archaeological site~~. The Department points to the ~~agree-upon~~ mitigation agreement between the applicant and the Tribe and recommends the Council find that construction and operation of the proposed facility ~~the facility~~, taking into account mitigation, are not likely to result in significant adverse impacts on private lands, archaeological objects, as defined in ORS 358.905(1)(a), or archaeological sites, as defined in 358.905(1)(c); and on public land, archaeological sites, as defined in ORS 358.905(1)(c).

SHPO Archaeological Permits

Pursuant to ORS 358.920(1)(a) A person may not excavate, injure, destroy or alter an archaeological site or object or remove an archaeological object located on public or private lands in Oregon unless that activity is authorized by a permit issued under ORS 390.235 (SHPO archaeological permit). Because the applicant intends to conduct work within an area of known archaeological objects and sites, the applicant must comply with ORS 390.235, OAR 736-051

[98] 358.905(1)(a) states ""Archaeological object" means an object that: (A) Is at least 75 years old; (B) Is part of the physical record of an indigenous or other culture found in the state or waters of the state; and (C) Is material remains of past human life or activity that are of archaeological significance including, but not limited to, monuments, symbols, tools, facilities, technological by-products and dietary by-products."

[99] ORS 358.905(1)(c) states, (A) "Archaeological site" means a geographic locality in Oregon, including but not limited to submerged and submersible lands and the bed of the sea within the state's jurisdiction, that contains archaeological objects and the contextual associations of the archaeological objects with: (i) Each other; or (ii) Biotic or geological remains or deposits. (B) Examples of archaeological sites described in subparagraph (A) of this paragraph include but are not limited to shipwrecks, lithic quarries, house pit villages, camps, burials, lithic scatters, homesteads and townsites.
B2HAPPDoc3-36 ASC 19_Exhibit S_Cultural_ASC_Public 2018-09-28. Section 3.4.2.

0000 through 736-051-0090, and requested that the SHPO archaeological permits be included and governed by the site certificate under the EFSC review process.

Under ORS 469.401(3), for permits under EFSC jurisdiction, after issuance of the site certificate~~,~~ agencies 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. The effective date of the permits will be a date after the EFSC final affirmative decision and issuance of the site certificate. After a Council final affirmative decision, SHPO would promptly issue and date the permits stipulating the timeframe extensions as discussed below.

The applicant engaged a qualified archaeologist from Archaeological Investigations Northwest, Inc., as defined ORS 390.235 as the applicant for the permits. The SHPO Archaeological Permits apply to each separate landowner, so four applications were submitted. The ~~agreed up~~ Archeological Testing and Excavation Methodologies Plan was included with the permits. SHPO circulated the permit applications for 30-days to commenting parties to receive requests for draft conditions to be included in the permits as part of the site certificate. The ~~draft~~ Archeological Permits and permit applications are included as Attachment S-4 to this order. The Department has redacted partial information concerning the location and descriptions of archaeological sites or objects as those terms are defined in ORS 358.905, as public records conditionally exempt from disclosure under ORS 192.345.

For the parcel of land owned by DSL, DSL made requests to receive GIS information about resources. For the entire site, ~~T~~the Klamath Tribes requested ~~specific diagnostic steps to occur when resources are found,~~ that a Tribal monitor be onsite during trenching and excavation activities, a 24-hour notification ~~must~~ be given to the Klamath Tribes'~~,~~ Culture and Heritage Department or Tribe's Archaeologist prior to ~~intiation~~initiation of trenching or excavations, and to receive a copy of the report of findings from the testing phase of the project. The Klamath Tribes also requested a specific procedure for sampling artifacts for hydration analysis and that diagnostic artifacts found on private lands during Tribal monitoring be turned over by the private landowner to the Klamath Tribes for curation (as agreed by the private landowners). The Burns Paiute Tribe requested an on-site monitor and, consistent with its~~'~~ previous comments, the ability to review and comment on the draft report generated as a result of the archaeological excavations and request an executed copy of the IDP prior to initiation of ground disturbing activities. Other conditions requested by the Tribes are included in the Cultural Mitigation and Monitoring Plan (Attachment S-3) and the Archeological Permits (Attachment S-4)~~,~~. ~~tThe Department also included the Tribe's' conditions in the draft Cultural Mitigation and Monitoring Plan, to be finalized with coordination with the Tribes prior to construction of the proposed facility consistent with Recommended Historic, Cultural and Archeological Condition 1 above.~~

The SHPO guidance for the duration of the SHPO Archaeological Permits is one year, with a one-time option of extending the permit coverage for an additional year, according to its policy

(Archaeology Bulletin 2 dated October 2019). The Department notes that these permits are under EFSC jurisdiction and are subject to EFSC approval. Therefore, t~~T~~he duration of the permit governance should be consistent with the timeframe identified in Recommended 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. ~~to coverprotect and excavation or survey activities conducted prior to construction and during construction. SHPO has indicated there are procedural pathways for EFSC energy facilities and Archaeological Permits under EFSC jurisdiction to extend or amend the permit to align with activities protected under the permits for the proposed facility.~~

Commented [A36]: ODOE: the ESFC site certificate controls. SHPO guidance is irrelevant for purposes of the permit terms.

The conditions in the SHPO Archaeological Permits are conditions of approval in the site certificate that the applicant must comply with including the general conditions from SHPO, and specific conditions from DSL~~l~~ and the Tribes. Further the applicant shall extend the permit coverage to align with pre-construction and construction activities, as appropriate. Therefore, the Department recommends ~~-~~Recommended Historic, Cultural and Archeological Condition 2 below:

Recommended Historic, Cultural and Archeological Condition 2: The certificate holder shall:

a. Prior to and during construction, and during operation, conduct field testing, excavation and removal of archaeological, historical, prehistoric, and anthropological materials within archaeological sites or objects under ORS 358.920 and ORS 390.235 in compliance with the SHPO Archaeological Permits AP2816, AP2817, AP2818, and AP2819, Attachment S-4 of the Final Order on ASC.

~~b. Amend, renew, or extend SHPO Archaeological Permits with SHPO for any work governed by the permits to be consistent with the construction commencement DATE and construction completion DATE, as stated in General Standard Condition 1. [GEN-HC 02]~~

Commented [A37]: ODOE: see comment above, EFSC site certificate controls not SHPO's procedures.

Conclusions of Law

Based on the foregoing recommended findings of fact and conclusions of law, and based upon compliance with the recommended conditions, the Department recommends Council find that the proposed facility would comply with the Council's Historic, Cultural, and Archeological Resources standard. ~~Upon submission by the applicant of the proper applications and payment of the proper fees, but without hearings or other proceedings, the Oregon State Historic Preservation Office (SHPO) shall issue Archaeological Permits AP2816, AP2817, AP2818, and AP2819, unredacted, subject only to conditions set forth in the Final Order on ASC Attachment S-4.~~

Commented [A38]: ODOE: The applications were already filed with SHPO resulting in the permits attached as S-4. This does not need to occur again.

IV.L. Recreation: OAR 345-022-0100

(1) Except for facilities described in section (2), to issue a site certificate, the Council must find that the design, construction and operation of a facility, taking into account mitigation, are not likely to result in a significant adverse impact to important recreational opportunities in the analysis area as described in the project order. The

Council shall consider the following factors in judging the importance of a recreational opportunity:

(a) Any special designation or management of the location;
(b) The degree of demand;
(c) Outstanding or unusual qualities;
(d) Availability or rareness;
(e) Irreplaceability or irretrievability of the opportunity.
*****[100]

Findings of Fact

The Recreation standard requires the Council to find that the design, construction, and operation of a facility would not likely result in significant adverse impacts to "important" recreational opportunities. Therefore, the Council's Recreation standard applies only to those recreation areas that the Council finds to be "important," utilizing the factors listed in the sub-paragraphs of section (1) of the standard. The importance of recreational opportunities is assessed based on five factors outlined in the standard: special designation or management, degree of demand, outstanding or unusual qualities, availability or rareness, and irreplaceability or irretrievability of the recreational opportunity.

The applicant evaluates impacts to important recreational opportunities based on the potential of construction or operation of the proposed facility to result in any of the following: direct or indirect loss of a recreational opportunity, excessive noise, increased traffic, and visual impacts of facility structures or plumes. ASC Exhibit T provides information about recreational opportunities. The analysis area for impacts to recreational opportunities is the area within and extending 5 miles from the site boundary.

To analyze the proposed facility against this standard, the Council must first evaluate whether an identified recreational opportunity is important. The Council must then evaluate whether the design, construction or operation of the facility could adversely impact the identified important recreational opportunity within the analysis area. If the proposed facility could adversely impact the resource, then the Council must consider the significance of the possible impact.

Recreational Opportunities within the Analysis Area

In accordance with OAR 345-001-0010(59)(d), and consistent with the study area boundary, the analysis area for recreational opportunities is the area within and extending 5 miles from the proposed site boundary. As presented in ASC Exhibit T, the applicant used the Oregon Parks and Recreation Department website, Bureau of Land Management's Lakeview Resource

[100] The proposed facility is not a special criteria facility under OAR 345-0015-0310; therefore, OAR 345-022-0100(2) is not applicable.

Management Plan, and Public Lands Interpretive Association website to review and assess the importance of recreational opportunities within the analysis area. Based on this review, the applicant identified two recreational opportunities within the analysis area and assessed their potential for being considered important recreational opportunities, as presented in Table 7 below. As also described in the ASC Exhibit T, the BLM has designated much of its land in north Lake County as a "special recreation management area," (SRMA), approximately 800,000 acres of land. Some of this land is within the analysis area. Both the Devil's Garden Lava Bed ACEC and Connley Hills ACEC are subsets in the larger SRMA. Both of these areas are discussed further in Section IV.F., *Protected Areas*, of this order.

The applicant states in ASC Exhibit T, and the Department agrees, that the entirety of the SRMA should not be considered an important recreation area, particularly because there are subset areas, such as the two ACECs considered here, that focus on specific recreational opportunities. Additionally, the types of recreation generally available on the broader SRMA are such opportunities as hiking, off-highway vehicle (OHV) riding, and mountain biking, which would not be considered "important" by the EFSC criteria for assessing recreational importance as they are not rare, unusual, unique, irreplaceable, or have a high degree of demand.

Only small portions of the Devil's Garden Lava Bed ACEC are within the 5-mile analysis area for the facility, and the entirety of the Connley Hills ACEC is outside the 5-mile analysis area, but only by 0.3 miles. As such, the applicant assessed both resources against the Council's "importance" criteria, as shown in Table 7*: Analysis of Potential Important Recreational Opportunities within the Analysis Area.*

Table 7: Analysis of Potential Important Recreational Opportunities within the Analysis Area

Recreational Opportunity	Distance and Direction from Site Boundary	Special Designation/ Management	Degree of Demand	Outstanding/ Unusual Recreational Quality	Availability/ Rareness	Irreplaceable/ Irretrievable
Devil's Garden Lava Bed	4.0 miles to north	Area of Critical Environmental Concern/ Wilderness Study Area by BLM	Low	Off-highway vehicle use; day use; Derrick Cave lava tube and other lava tubes within the ACEC.	Recreational opportunities are somewhat common in the area.	Relatively irreplaceable
Connley Hills	5.3 miles to southwest	ACEC / Research Natural Area by BLM	Low	Off-highway vehicle use; day use.	Recreational opportunities are somewhat common in the area.	Replaceable
Source: OSCAPPDoc4 ASC 20 OSC ASC Exhibit T 2019-10-17, Table T-1.						

In ASC Exhibit T, the applicant characterizes one recreational opportunity as important (Devil's Garden Lava Bed) and one recreational opportunity (Connley Hills) as not important. Based on the evaluation presented below, the Department agrees with the applicant's conclusions

related to these opportunities. The Department's evaluation of the applicant's recreational opportunity "importance" assessment is presented below.

Recreational Opportunity Importance Assessment

Devil's Garden Lava Bed

As presented in ASC Exhibit T, Devil's Garden Lava Bed is a historic basaltic lava field of the Newberry volcano, located approximately four miles to the north of the site boundary. However, only a very small portion of this ACEC/WSA is within the 5-mile analysis area. Per the applicant, this resource is described by the BLM as having extremely rugged terrain due to geologically recent lava flows. There are several lava tubes within Devil's Garden, the largest of which is known as Derrick Cave and is listed on the BLM recreation web map as a day use and hiking area. Derrick Cave is located approximately 12.5 miles north of the site boundary, and therefore 7.5 miles beyond the analysis area.[101] Devil's Garden Lava Bed ACEC/WSA offers off-highway vehicle (OHV) use and general day use, including hiking to and into Derrick Cave. OHV use is permitted on designated roads and trails within the ACEC/WSA. Day use is permitted within the ACEC/WSA, but not overnight camping.

Based on the unique geologic formations (i.e., lava fields and lava tubes; specifically, Derrick Cave) within this recreational resource, this recreational opportunity is deemed relatively irreplaceable; therefore, the applicant has analyzed it as an important recreational opportunity. The Department agrees with the applicant's reasoning and conclusions and recommends Council find this recreational opportunity to be "important" under the Council's standard.

Connley Hills ACEC/RNA

As presented in ASC Exhibit T, Connley Hills ACEC/RNA is located approximately 5.3 miles to the southwest of the site boundary, which is close, but beyond the analysis area. This resource was established as an ACEC/RNA due to its historical and cultural significance and its botanical and ecological values—specifically, as an important representation of four different native plant communities. This ACEC/RNA includes the Connley Hills, a small, low elevation mountain range located southwest of the proposed facility site. According to the Lakeview Resource Management Plan (RMP) as described in ASC Exhibit T, this resource offers OHV use and general day use. Although the Connley Hills provide a change in elevation and vegetation from the surrounding area, there are similar small mountain ranges in the area that offer similar recreational opportunities and, therefore, this recreational opportunity is not considered important and is not further analyzed in the Exhibit.

The Department agrees with the applicant's reasoning that the area is not overly unique or irreplaceable and agrees with the applicant conclusions and recommends Council find this recreational opportunity not to be "important" under the Council's standard.

[101] OSCAPPDoc4 ASC 20 OSC ASC Exhibit T 2019-10-17, T.2.1.

Potential Direct or Indirect Loss of Recreational Opportunity

Direct Loss

A direct loss to an important recreational opportunity occurs when construction or operation of the proposed facility would impact a recreational opportunity by directly altering the resource so that it no longer exists in its current state. The applicant states that it would not construct or operate the proposed facility within or near the one identified important recreational opportunity (Devil's Garden Lava Bed ACEC/WSA). Given the location of the proposed facility, four miles from Devil's Garden Lava Bed, the proposed facility would not result in direct loss of recreational opportunities within the resource. Therefore, based upon review of the location and proximity of important recreational opportunities to the proposed facility site, the Department recommends the Council find that the proposed facility would not be expected to result in direct impacts to any important recreational opportunities.

Indirect Loss

Like the assessment of direct loss, indirect loss occurs if construction or operation of the proposed facility would impact a recreational opportunity by indirectly altering the resource or some component of it. To evaluate indirect loss resulting from the construction and operation of the proposed facility, the Department considers potential noise, traffic and visual impacts to the above mentioned important recreational opportunities. The applicant's assessment is included in ASC Exhibit T, Section T.3, and is summarized below.

Potential Noise Impacts

The significance of potential noise impacts to identified protected areas is based on the magnitude and likelihood of the impact on the affected human population or natural resources that uses the important recreational opportunity. The only important recreational opportunity within five miles of the proposed site boundary is Devil's Garden Lava Bed, located approximately four miles from the proposed site boundary. Potential noise impacts from proposed facility construction and operation are evaluated below.

Construction

In the ASC, the applicant explains that construction of the proposed facility would take approximately two years, as recommended in Section IV.A., *General Standard of Review*, construction may occur up to three years after beginning. The applicant explains that construction staging would likely limit any particular construction area to approximately 60-acres at a time. As such, potential noise impacts at any recreational opportunity or protected area, if audible, would not last longer than the construction period within the vicinity of that area. Section IV.Q.1., *Noise Control Regulations*, of this order and ASC Exhibit X Appendix X-1, the applicant provides a noise analysis that includes these operational sources and sound

power levels. The noise analysis was produced by Michael Minor & Associates, a consultant who conducts noise, vibration, and air environmental analysis. The noise analysis included an assessment of construction (and operational, see below) noise at the nearest protected area/recreational opportunity, the BLM Devil's Garden Lava Bed ACEC. The applicant explains the results from the noise analysis, as demonstrated in Figure 8 of Appendix X-1, show that noise attenuates (diminishes) the further from the noise source. According to this Section, it is estimated that during construction, the loudest potential sound at the nearest protected area, Devil's Garden Lava Bed BLM ACEC (approximately four miles from the site boundary), could be up to 48 dBA during intermittent pneumatic pile driver use (loudest equipment used), but general construction equipment would be anticipated at 35 dBA or less, and typical construction may be 20 dBA or less, which is essentially inaudible.

Based on review of the applicant's construction-related noise impact assessment, as described above, the Department recommends that Council find that proposed facility construction would not result in significant adverse noise impacts at Devil's Garden Lava Bed BLM ACEC.

Operation

Proposed facility components that would generate noise during operations include: transformers and inverters associated with the solar arrays, inverters and cooling systems associated with battery storage systems; the collector and step-up substations, and corona discharge noise (buzz or crackling during wet conditions) from the 115-kV transmission line. In ASC Exhibit X, the applicant provides a noise analysis inclusive of the operational sources and sound power levels (in A-weighted decibels) for proposed facility components. Section IV.Q.1, *Noise Control Regulations*, of this order summarizes the statistical noise modeling methodologies and results. The results of the modeling indicate that maximum operational noise levels of the proposed facility would be inaudible beyond 1 mile, see Section 6.3 of Attachment X-1. Therefore, because the Devil's Garden Lava Bed CEC is four miles from the proposed facility, the Department recommends Council find that operational noise from the proposed facility would not impact any recreational opportunity within the analysis area.

Traffic Impacts (Construction and Operation)

Potential traffic impacts to recreational opportunities are described in ASC Exhibit T. As discussed in Section IV.M., *Public Services* of this order, peak construction/worst case scenario could result in up to approximately 120 one-way (or 240 round trip) construction worker commuter trips, plus the addition of up to 160 delivery (round trip) truck trips per day for material delivery.[102] ASC Exhibit L Section L.4.2 describes that the anticipated commuter routes to the site during construction would primarily be from the west of the proposed facility, using US-97 and SR-31, and a network of county roads including Fort Rock Road (County Road 5-10), Christmas Valley Road (County Highway 5-14) and County Road 5-12. See Section IV.M, *Public*

[102] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, Appendix U-1, p. 4.

Services, for a discussion of these roads and highways including a description of road conditions.

Access to the Devil's Garden Lava Bed ACEC is via County Road 5-12 and visitors to the ACEC would likely also use SR-31, both of which would be used by facility-related traffic. As stated above, the expected increases in traffic are well within the operating capacities of these roads. Therefore, significant adverse impacts on visitor access to this recreational opportunity are not likely.

During operations, the proposed facility would generate an additional 6 to 10 daily two-way trips on existing local roads for workers, with additional, occasional material delivery trucks. Based on the minimal number of operational trips, there is unlikely to be any impact on recreational opportunities or access roads to recreational opportunities.

Based on the analysis presented here, the Department recommends Council find that potential traffic-related impacts during construction and operation of the proposed facility would not likely result in significant adverse impacts to any important recreational opportunity within the analysis area.

Potential Visual Impacts

The applicant conducted a visual impact assessment with a geoprocessing 'Visibility' tool, which is discussed in Section IV.F., *Protected Areas*, of this order. The viewshed analysis does not take into account the visibility effects of existing vegetation or structures, which in practice would block or screen views in some places. In addition, the model does not account for distance, lighting and atmospheric factors (such as weather) that can diminish visibility under actual field conditions. In other words, the results of the viewshed analysis, which present potential lines of site of proposed facility components, is conservative in identifying potential visibility impacts.

The Devil's Garden Lava Bed ACEC is located four miles to the north of the site boundary. As discussed above, the main attraction at Devil's Garden Lava Bed ACEC is hiking to and into Derrick Cave, which is approximately 12.5 miles north of the site boundary and 7.5 miles beyond the 5-mile recreation analysis area. The applicant's viewshed analysis discussed in this order and provided in ASC Exhibit L, portions of the proposed facility are in the line of site from about 20 percent of this ACEC. However, at a distance of four miles separation from the southern portion of this recreational opportunity, the proposed facility is likely to appear only as a dark line on the horizon. Further, because the main recreational attraction is Derrick Cave, many visitors to the ACEC would be further distant from the facility, approximately 12.5 miles north of the site boundary (and 7.5 miles beyond the analysis area), where, due to the topography the proposed facility would likely not be visible and visitors would be unlikely to notice the facility or discern it.

Based on the analysis presented here, the Department recommends Council find that the proposed facility would not cause a significant, adverse visual impact to the Devil's Garden Lava Bed ACEC/WSA.

Conclusions of Law

Based on the foregoing recommended findings of fact, the Department recommends that the Council find that the design, construction and operation of the proposed facility are not likely to result in a significant adverse impact to any important recreational opportunities in the analysis area and therefore the proposed facility would comply with the Council's Recreation standard.

IV.M. Public Services: OAR 345-022-0110

> *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to the ability of public and private providers within the analysis area described in the project order to provide: sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools.*
>
> *(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.*
> ****[103]*

Findings of Fact

The Council's Public Services standard requires the Council to find that a proposed facility is not likely to result in significant adverse impacts on the ability of public and private service providers to supply sewer and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care, and schools. Pursuant to OAR 345-022-0110(2), the Council may issue a site certificate for a facility that would produce power from solar energy without making findings regarding the Public Services standard; however, the Council may impose site certificate conditions based upon the requirements of the standard.

As discussed in Section II.B, *Project Order* of this order, the analysis area for potential impacts to public services from construction and operation of the proposed facility is the area within

[103] OAR 345-022-0110(3) does not apply to this ASC because the proposed facility would not meet the criteria for a special criteria facility as defined in ORS 469.373(1).

and extending 15-miles from the site boundary. Information about construction phasing and potential impacts to public and private service providers can be found in ASC Exhibits B and U.

Assumptions used in Applicant's Impact Assessment

Important assumptions relied upon by the applicant to evaluate potential impacts from proposed facility construction and operation to private and public providers of services include number of workers needed, population shifts and use of transportation routes.

Construction is anticipated to include approximately 24 months of activities. Construction-related activities would include site preparation and vegetation mowing; access road and foundation construction; substation, inverter/transformer units, and electrical transmission line construction; solar module installation; electrical connection to the grid; materials transportation; and other related construction activities. Based on this activity, peak construction would result in up to 150 daily workers onsite with the majority of workers consisting of non-local skilled electricians. The applicant assumes approximately one-third (50) of construction workers would reside temporarily within the analysis area. The remaining two-thirds (100) of workers would likely travel to the work site from outside the analysis area, including La Pine and Bend. During operation, approximately 6 to 10 permanent maintenance personnel would be hired to work at the proposed facility.

The applicant describes that local construction workers would be hired from Christmas Valley and Silver Lake, to the extent that qualified workers are available. However, the applicant expects that many construction workers would reside outside of the 15-mile analysis area and would travel to the work site. To the extent possible, operations and maintenance staff would be hired locally. Additionally, specialized outside contractors might be hired for tasks that cannot be completed by onsite personnel. The approximately 6 to 10 full-time or part-time workers employed during proposed facility operation would result in 12 to 20 one-way vehicle trips per workday. Truck deliveries would occur infrequently during operation, on an as-needed basis, for delivery of equipment or materials to the site.

The applicant assumes that approximately 100 construction personnel would travel to the work site from outside the analysis area, including the La Pine and Bend areas, but also potentially the Lakeview area. The applicant also estimates that 50 personnel would be hired and commute to the work site from nearby communities such as Christmas Valley and Silver Lake. The primary transportation and haul routes to the site (Christmas Valley area) would be from areas farther away and to the west of the analysis area, including La Pine, Bend, and Klamath Falls, including US-97 and State Route 31. Possible alternative routes to the Christmas Valley area include US-395 from the east, via US-20 to Bend. As discussed in Section III.A., *Proposed Facility Components,* of this order, there are three areas that make up the site boundary: Areas

A, D, and the generation tie transmission line to connect these areas.[104] Access to Area A would primarily occur from Oil Dri Road (County Road 5-14G) on the east side of Area A, via County Road 5-12 to the north or Area A, and Fort Rock Road. Access to Area D would occur from Connley Lane (County Road 5-10C), via Fort Rock Road.[105]

Sewers and Sewage Treatment

The proposed facility would not connect to any public or private sewer or sewage treatment facilities. Sewage generated during construction would be managed by onsite portable toilets, managed by a third-party contractor. An average of six portable toilets would be used onsite during construction year-round, and 12 portable toilets would be used during peak construction. Sewage generated during operation would be managed by an onsite septic system, requiring an Onsite Sewage Disposal Construction Installation Permit (sewage disposal permit). Sewage disposal permits are regulated by the Oregon Department of Environmental Quality (DEQ), but have been delegated to Lake County through the Lake County Building Department. As evaluated in Section IV.E. *Land Use* of this order, the Department recommends Council impose Land Use Condition 1, requiring that the certificate holder obtain all necessary local permits, including an onsite septic system permit prior to construction.

No municipal sewer service or septic tank service would be required.[106] However, the applicant may opt to not install a bathroom and sink for operational staff and site visitors to use, in which case applicant would contract with a local service provider for portable toilets and handwashing stations. Because public or private providers of sewage disposal facilities would not be utilized by the proposed facility, the Department recommends that the Council find that significant adverse impacts would not be expected.

Water Supply

Water used during construction would primarily be used for dust control, road construction and maintenance, and for washing of equipment and vehicles (i.e., washing concrete trucks after delivery of concrete). ASC Exhibit O also provides that water would be used for fire suppression and potable water use. The applicant estimates that, under worst-case conditions during dry, summer months; it will use up to 17,150,000 gallons of water annually. This equates to approximately 68,600 gallons per day under worst-case conditions (34,300 gallons of water per construction day under average working conditions). During construction, applicant estimates it will use up to 34,300,000 gallons of water over the assumed two-year construction period under worst-case conditions. See Table 16 in Section IV.Q.3., *Water Rights*, for a summary of annual worst-case water use during construction and operation of the proposed facility. Water

[104] ASC Exhibit U contains information about potential impacts to public and serve provides. The ASC Exhibit has information about Area C within the site boundary. However, the applicant removed Areas C and B from consideration in the ASC, so it is not included in the evaluation int his order.
[105] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.2.6.
[106] OSCAPPDoc4 ASC 22 OSC ASC Exhibit V 2019-10-17, Appendix V-1.

for construction will primarily be purchased from municipal sources, which already have the permits and water rights to the sources of water.

The applicant provided correspondence with the Christmas Valley Domestic Water Supply District, which has agreed to provide water for construction and operation of the proposed facility, as their system demand allows.[107] However, the water district maintains its priorities are to serve its water customers and provide water for fire suppression, they strongly advise the applicant maintain a secondary water source in case the district has to discontinue use if there is an issue with their system. The applicant explains in Exhibit O, that it will construct up to two on-site wells, one at each O&M building which would be located on separate tax lots. The applicant also explains it will implement measures to reduce the amount of water needed during construction such as not completely clearing the site of vegetation which is expected to help control dust. Additionally, wood waste will be chipped in the onsite grinder and used (together with other measures, such as straw and silt fencing) for road and landscape stabilization in order to reduce water needs for reduction of dust generation.

The applicant's proposal for use of groundwater from groundwater wells qualifies for an exemption under ORS 537.545(1)(f).[108] Under ORS 537.745, an onsite well drawing less than 5,000 gallons per day does not require a water right permit, therefore no registration, certificate of registration, application for a permit, permit, certificate of completion or ground water right certificate is required. See Section IV.Q., *Other Applicable Regulatory Requirements Under Council Jurisdiction*: IV.Q.3., *Water Rights*, of this order, for additional discussion of the exempt wells. Each O&M building, if on a separate tax lot, and on its own water system (unique well, pump, and piping) would each qualify for its own commercial exemption of 5,000 gallons per day.

During operation, the applicant expects to use approximately 1,364,000 gallons per year under worst-case conditions, and 1,201,00 gallons of water per year under average conditions.[109] Water will primarily be used for solar panel washing activities, for potable water in the O&M buildings, water use if septic systems are installed. The primary sources of water during operation will be the one to two wells dug on site, which will each provide up to 5,000 gallons of water per day. For more information about the on-site wells and compliance with reporting requirements for exempt wells to the Oregon Water Resource Department, see Section IV.Q.3., *Water Rights*. The applicant continues to explain that if, during operations, more water is needed, they will purchase it from a private or municipal source that has the necessary permits.

Based upon the applicant's proposed water sources, the Department recommends that the Council find that the construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of water service providers to provide water.

[107] OSCAPPDoc4 ASC 15 OSC ASC Exhibit O 2019-10-17, Appendix O-1.
[108] ORS 537.545(1)(f) "No registration, certificate of registration, application for a permit, permit, certificate of completion or ground water right certificate under ORS 537.505…is required for the use of ground water for:** (f)Any single industrial or commercial purpose in an amount not exceeding 5,000 gallons a day..."
[109] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.2.2.

Stormwater Drainage

The proposed facility would be located in rural north Lake County and would not be connected to publicly or privately managed stormwater providers. The applicant explains that the area within the site boundary is relatively flat and stormwater is expected to infiltrate into the ground or evaporate without the need for collection in stormwater swales or retention basins. As described in ASC Exhibits I and U, construction related stormwater would be managed in accordance with the requirements of National Pollution Discharge Elimination System (NPDES) 1200-C Construction Stormwater Permit and associated Erosion and Sediment Control Plan, which establishes controls and best management practices (BMPs) to implement to minimize potential for offsite contamination. For an additional discussion of potential impacts and mitigation measures to reduce potential impacts see Section IV .D., *Soil Protection*, of this order and Recommended Soil Protection Condition 1 requiring the submission of the DEQ-issued NPDES 1200-C permit, including final Erosion Sediment Control Plan, and to conduct all construction activities in compliance with the permit.

Operational stormwater would be minimal and would follow existing drainage patterns, which would not be impacted by the proposed facility. Because the proposed facility would not interconnect nor impact any public or private stormwater drainage systems, the Department recommends Council find that the construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of stormwater drainage service providers to provide water.

Solid Waste Management

Proposed facility construction, operation and decommissioning would result in solid waste generation. The applicant estimates that 10-20 metric tons of solid waste would be generated during construction of the proposed facility, consisting of solid waste, including discarded construction materials, packaging materials, spent erosion control materials, wood form work, scrap metal from damaged pilings or racking equipment, or unused wiring. ASC Exhibit U describes that there will be large volumes of cardboard generated during construction which would be consolidated on site and then recycled. Construction waste would be stored in onsite debris bins, including separate bins for hazardous and non-hazardous materials. Materials suitable for recycle include some packaging materials, metals, glass, paper, wood and concrete, which the applicant commits to recycling to the extent possible.

To handle transport of solid construction waste and recycling materials generated during construction, the applicant would contract with a local waste management provider, likely Lakeview Sanitation, for solid waste pickup and removal service. The most likely end recipient of non-hazardous solid waste from construction will be the Lake County Landfill in Lakeview, which is outside the analysis area. In ASC Exhibit U, the applicant references verification of this waste disposal service provider as having adequate capacity to assist with disposing waste from the facility construction. Due to the large volumes of corrugated cardboard expected from

construction of the proposed facility, cardboard will likely be delivered to Mid Oregon Recycling in Bend, which is also outside the analysis area. Cardboard can also be delivered to the Knott Landfill Recycling and Transfer Station near Bend, but only for disposal in the landfill.[110]

As presented in ASC Exhibit U, the applicant commits to minimizing onsite solid waste through appropriate material estimating and recycling, to the extent feasible. In addition, to ensure onsite waste is minimized to the extent feasible, the Department recommends Council impose Waste Minimization Condition 1 under the Waste Minimization standard (see Section IV.N., *Waste Minimization*, of this order), which would require the applicant develop and implement a Solid Waste Management Plan during all phases of construction, operation and decommissioning. The applicant also provides confirmation from Lakeview Sanitation (ASC Exhibit V, Appendix V-1) confirming they can handle the waste and sanitation needs for construction and operation of the proposed facility. Therefore, based on the quantity and type of solid waste generated by the proposed facility, and compliance with the recommended waste minimization condition, the Department recommends Council find that the construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of solid waste disposal providers to dispose generated waste.

Traffic Safety

Potential impacts from the proposed facility on the ability of public and private providers of traffic safety are based on the volume and weight of vehicles, including worker vehicles and trucks delivering equipment and materials, and the capacity and existing condition of the transportation routes that would be utilized during construction and operation to support the increase in traffic volume and type of use.

Traffic in the analysis area will temporarily increase during construction of the proposed facility due to material deliveries and personnel accessing the site. The applicant contracted with Kittelson & Associates, a Transportation Engineering firm, to evaluate the potential traffic impacts associated with the construction and operation of the proposed facility, this evaluation is included in ASC Exhibit U, Appendix U-1 and as Attachment U-1 Kittelson Traffic Impact Assessment, attached to this order. Attachment U-1 provides a traffic evaluation and activities proposed by the applicant or its contractors during construction, information is based from the 2016 Lake County Transportation System Plan (TSP), which was also submitted to the Department by Lake County during the NOI phase in January 2018.[111]

As discussed at the beginning of this *Public Services* section, the primary transportation routes to the site will be from areas to the west of the analysis area, including La Pine, Bend, and Klamath Falls, using US-97 and State Route 31 to reach the Christmas Valley area. Possible alternative routes to the Christmas Valley area include US-395 from the east, via US-20 to Bend. Construction-related materials will be delivered by haul trucks primarily using US-97 from the

[110] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.4.4.
[111] OSCNOIDoc14-13 Lake County SAG Comments Transportation System Plan 2016-06.

Bend and Klamath Falls areas, and State Route 31 from La Pine. The primary and secondary access route descriptions and road conditions described in the Lake County TSP for each area are presented below in Table 8: *Roadway Network Characteristics of Proposed Access Routes*. According to the Lake County TSP, Lake County struggles to maintain roadways to acceptable standards, and cites that ongoing maintenance funding is a challenge for the County.[112]

Table 8: Roadway Network Characteristics of Proposed Access Routes

Road	Functional Classification	Access use	Lake County TSP Road Conditions [1]
County Road 5-10 (Fort Rock Road)	Major Collector	Provides main access to the communities of Fort Rock and Christmas Valley to/from OR 31	Good. Fort Rock Rd. between OR 31 and US 395 are not currently designated as freight routes but are often used by freight vehicles.
Country Road 5-12	Minor Collector	Provides access from La Pine/Fort Rock area to Area A	Poor.
County Road 5-12 A	Local Road	Gravel road. Access to Area A	NA
County Road 5-10 C (Connley Lane)	Local Road	Local access road for properties east of Country Road 5-10. Does not provide through connections to Area A. Access to Area D (Substation) and two-mile 115 kV Transmission Line	Bad.
County Road 5-14 (Christmas Valley Road)	Major Collector	Provides main access to, from and through Christmas Valley.	Good. Christmas Valley Rd. between OR 31 and US 395 are not currently designated as freight routes but are often used by freight vehicles.
County Road 5-14 G (Oil Dri Road)	Local Road	Local access road in the vicinity of the site. Provides connection between Christmas Valley Road and Country Road 5-12 A.	Poor. Blowing dust and sand can limit visibility.

[1]Source: OSCNOIDoc14-13 Lake County SAG Comments Transportation System Plan 2016-06. Designations of road conditions are rated from Good, Fair, Poor, and Bad.

[112] OSCNOIDoc14-13 Lake County SAG Comments Transportation System Plan 2016-06.

Because approximately two-thirds (100) of the workers are expected to commute from areas such as La Pine and Bend, an increase in workers commuting from outside the analysis area would have the potential to increase traffic on the roads within the analysis area. During peak construction periods, 150 construction employees will be on site daily with an average vehicle occupancy of 1.25 people per car, which equals 120 vehicle trips to and 120 trips from the site per day on average, for a total of 240 vehicle trips per day during peak worker levels, not including delivery trucks as discussed below. During average construction levels, 120 construction employees will be onsite daily with an average vehicle occupancy of 1.25 people per car, which equal 96 vehicle trips to and 96 trips from the site per day on average, for a total of 192 vehicle trips per day during average worker levels.

The applicant's traffic evaluation also includes estimates for the construction related deliveries such as such as water, solar panels, racks, and posts for panels during construction. The applicant estimates that truck deliveries to the site boundary would include 20 to 40 trips during the workday, 2 to 4 of which are expected per hour throughout the estimated 10-hour workday. The applicant provides that this results in an average of 60 truck trips per day (30 in and 30 out of the proposed facility site boundary). The Department notes that using these totals, and during peak construction truck deliveries may result in 80 trips per day (40 in and 40 out of the proposed facility site boundary). Table 9: *Expected Trip Generation During Peak Construction Levels* below represents the total expected trips generated by workers and deliveries during peak construction.[113]

Table 9: Expected Trip Generation During Peak Construction Levels

Trip Description	Daily Trips (round trip)	Trips During AM Commute (one way)	Trips During PM Commute (one way)
Worker Trips	240	120	120
Delivery Trips	160	80	80
Total	400	200	200

As shown in Figure 2 of Attachment U-1, the primary and secondary access routes to the proposed site boundary will generally follow major Lake County travel routes.[114] It is noted, however, that the primary access route to Area A for those traveling to/from La Pine would add turning movements to the County Road 5-10 (Fort Rock Road)/County Road 5-12 A intersection. The configuration of this intersection and the route to/from Area A is shown in Figure 3 of Attachment U-1 and shows vehicles traveling to/from Area A would need to turn off County Road 5-10 (Fort Rock Road) at the start of a horizontal curve, in order to continue traveling east along County Road 5-12.[115] To minimize and avoid potential collisions or traffic safety issues at

[113] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, Appendix U-1. Table 1 of Appendix U-1 provides the expected trip generation during average construction levels, the Department provides the trip estimates in Table 9 based on the applicant's estimates in ASC Exhibit U during peak construction.

[114] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, Appendix U-1, Figure 2. Note that the Kittelson Traffic Memorandum, including Figure 2, contains previously proposed Area C in its evaluation, however the applicant has removed this area from the ASC evaluated by EFSC.

[115] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, Appendix U-1, p. 6.

this intersection, the applicant states it will install permanent new traffic signs at the intersection of Fort Rock Road and County Road 5-12 to improve traffic safety during construction and operation and will coordinate with Lake County to define stopping locations and establish clear right-of-way and turning movement priority. The Department notes that the applicant must coordinate with Lake County to install or provide funding for the sign installation, as included in the Recommended Public Services Condition 1 below for the inclusion in the Construction Traffic Management Plan. Detailed figures of the recommended sign placement are in Appendix U-1 Figures A1 and A2. Additional impacts to traffic service providers (public road department and law enforcement) associated with construction of the proposed facility is increased fugitive dust. Dust generated from construction activities and vehicles may aggravate existing condition where blowing dust limits visibility, especially on County Road 5-14 G (Oil Dri Road). The applicant describes in the ASC it will water roads for dust suppression, especially during dry months. The applicant also states that it will reduce the risk of accidents by posting signs for low-speed zones near access points, route intersections and pull-outs and require speed limits within the site boundary. The discussion in the Lake County TSP regarding the condition of rural county roads within the project area indicates concerns with the conditions and safety issues associated roads.

Further, during the NOI comment period, the Department received several comments about concerns with visibility, general road conditions, and equipment on roadways posing access and safety issues. The Lake County Road Department (or Lake County Road Superintendent) is responsible for maintaining and improving roadways within the County, and do not have sufficient resources to ensure County roadways are not impacted by construction of the proposed facility. Therefore, as provided in the Construction Traffic Management Plan, the Department recommends the applicant execute a road use agreement or funding agreement with Lake County to ensure that damage or wear to state or county roads that is caused by facility construction related traffic and road use is repaired by the applicant. The agreement would include financial security as well as a system to evaluate conditions and monitor road conditions.

Based on applicant proposed conditions, and Department recommendations to reduce potential impacts to traffic service providers for impacts from proposed facility construction, the Department recommends the Council require the submission and compliance with a final a Construction Traffic Management Plan by imposing the following condition:

Recommended Public Services Condition 1:

a. Prior to construction of the facility, the certificate holder shall submit to the Department for review and approval in consultation with Lake County Planning and County Road Department, a Construction Traffic Management Plan that includes, at a minimum, the best management practices, County road use agreement, and traffic sign coordination provided in Attachment U-2 of the Final Order on the ASC;
b. During construction of the facility, the certificate holder shall implement the Construction Traffic Management Plan, as approved by the Department in consultation with Lake County.

[GEN-PS-01]

During operation, there will be approximately 6 to 10 full-time or part-time workers employed to support operations of the solar modules, substation and possible battery storage facilities. This results in up to 6 to 10 one-way passenger vehicle or light truck trips to and from the site per day, totaling 12 to 20 one-way vehicle trips per workday. Truck deliveries will occur infrequently during operation, on an as-needed basis, for delivery of equipment or materials to the site. These totals are not expected to significantly impact providers of traffic services within the analysis area.

Based on compliance with the recommended Public Service Condition 1, and the temporary nature of potential construction-related impacts, the Department recommends Council find that the construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of transportation providers to provide traffic safety.

Air Traffic

Within the Public Services analysis area, there are several public and private airstrips which provide access for general aviation. Potential impacts to navigable airspace from the proposed facility could result from panel glare, impacting pilots vision ability. The applicant identifies in ASC Exhibit E that a glare analysis would be completed, pursuant to Federal Aviation Act (FAA) of 1958 (49 U.S.C. Section 44718) 14 Code of Federal Regulations Section 77, prior to construction to ensure that the proposed facility receives a Determination of No Hazard from the Federal Aviation Administration. Recommended Land Use Condition 5 would require that, prior to construction, the certificate holder identify all State and Federal permits and approvals necessary for the facility, and that copies of such permits and approval be provided to the Department. If an FAA Determination of No Hazard is required for the facility, evidence would be provided through the recommended condition.

Police and Fire Protection

Police

As discussed in the preceding sections, of the 150 estimated maximum workers on site during peak construction approximately two-thirds (100) workers are expected to commute from areas such as La Pine and Bend, which are outside the analysis area. Approximately 50 workers are assumed to travel to the work site from within the analysis area. During peak construction periods, 150 construction employees will be on site daily with an average vehicle occupancy of 1.25 people per car, which equals 120 vehicle trips to and 120 trips from the site per day on average, for a total of 240 vehicle trips per day during peak worker levels. Including the estimates for truck deliveries, the total amount of trips to and from the work site is approximately 400 trips per day. An increase in workers commuting and deliveries from outside the analysis area would have the potential to increase traffic and traffic safety risks on the roads within the analysis area.

Law enforcement and traffic safety services within the analysis would be primarily from the Lake County Sheriff's Office, with secondary service provided by the Oregon State Police, as needed. The Lake County Sheriff's Office has an office in Silver Lake and an annex in the town of Christmas Valley, and the Oregon State Police have offices in La Pine and Lakeview. In ASC Exhibit U, Appendix U-2, the applicant provides a letter of correspondence from the Lake County Sheriff's Office that they provide primary law endorsement services in Fort Rock near the proposed solar site. The letter also requests the applicant update the Sheriff's Office about size, location, personnel and possible service needs from construction of the proposed facility. Because this is the primary law enforcement agency that would service the proposed facility in the event of an emergency or incident, the Department recommends the applicant provide this information to the Sheriff's Office, as required in Recommended Public Services Condition 2 below and added to the Attachment U-3 Draft Fire Protection and Emergency Response Plan. The applicant does not provide verification of service to potential risks at the facility from the Oregon State Police, whose offices in La Pine and Lakeview are outside the 15-mile service area.

As discussed in the traffic service provider section above, in ASC Exhibit U, and in Recommended Public Services Condition 1, the applicant identified a potential measure that could increase traffic safety during construction and operation at the intersection of Fort Rock Road and County Road 5-12. Further, the applicant proposes to use measures to reduce the amount of fugitive dust caused by construction of the proposed facility, which would potentially impact visibility of drivers within the analysis area.

The approximately 6 to 10 full-time or part-time workers employed to support operations would not be anticipated to impact law enforcement providers within the analysis area.

Fire

The proposed facility could result in increased fire risk within the analysis area during both construction and operation. Construction-related fire risks include accidental grass/shrub fires primarily caused by running vehicles and equipment. The risks of fires during operation of the proposed facility would be the potential for electrical fires from electrical equipment associated with the solar modules and collector connections, collector substations, transmission line, and the step-up substation components. In ASC Exhibit U, the applicant discusses operational fire risk being caused from outside sources or from possible arcing faults at electrical connects. The three common types of arch faults that can cause a fire are:

- A series arc occurs when a connection is broken while the PV equipment is providing electric current. These connections may include soldered joints within the module, compression type wire connections, connectors used on the wire leads attached to PV modules, connections in direct current (dc) isolators and inverters, any dc circuitry in the inverter, or any of the dc cabling in the string circuit.
- A parallel arc occurs when there is a breakdown in the insulation system and current flows between positive and negative. The insulation between the two wires of opposite polarity can become ineffective due to animals chewing on them, UV breakdown,

embrittlement, cracking, moisture ingress, and mechanical damage. Parallel arc faults can continue along the conductors towards the array, burning materials along the way.
- A ground fault only requires the failure of one insulation system to ground. This can occur in the solar module frame, the solar array racking, or a grounded surface.

The Christmas Valley Rural Fire Protection District (CVRFPD) is located within the analysis area for the EFSC review, however, in a letter from the CVRFPD, they state that the current site boundary for the proposed facility is not within the jurisdiction of the District. The letter from CVRFPD does indicate that the applicant may request to annex the location of the proposed facility into the service area of the District, however, the applicant states in ASC Exhibit U, that it does not plan to apply for annexation at the time of application submittal.[116] The CVRFPD does indicate that if there was a structural fire within the site boundary, the CVRFPD may respond, but only on a voluntary basis. They indicate that in the event of a brushfire of wildland fire, the Bureau of Land Management (BLM) and the High Desert Rangeland Fire Protection Association (RFPA) would likely respond, with the CVRFPD.

The applicant does not provide verification of service from the BLM but does include correspondence from the RFPA in ASC Exhibit U, Appendix U-2. The RFPA is a non-profit, volunteer organization that is governed and directed by its members and managed by a board of directors that services the location of the proposed facility. Using grant funds, member fees, and donations, the RFPA obtains equipment through the Federal Excess Personal Property Program for the prevention and suppression of rural and wildland fires and prescribed burning.[117] The applicant anticipates applying for membership in the RFPA and to make an appropriate donation, the RFPA then would work with the applicant to locate fire suppression equipment at the proposed facility. Through its participation in the High Desert RFPA, and the applicant will have access to federal excess personal property (FEPP), including excess U.S. Forest Service wildland fire engines and equipment.[118] The equipment, along with nearby equipment owned by other RFPA members, would be available for quick response to fires. The most likely location will be at the eastern proposed facility site access gate just off Oil Dri Road. Alternatively, or perhaps in addition, equipment may be stored just off Connley Lane. Members of the RFPA agree to respond to fires in the service territory, which would then include the applicant.

The applicant discusses additional measures it will implement to reduce the risk of fires from and to the proposed facility potentially impacting nearby fire service providers. The applicant states it will adhere to all federal, state, and local requirements for fire safety, including Oregon Fire Code sections 605.12.1 through 605.12.3 and National Fire Protection Association Standard 70 (the National Electric Code). [119] Further, the perimeter road will be at least 20 feet wide and the inter-array access roads will be at least 12 feet wide, to allow for access by emergency

[116] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.2.7.
[117] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.2.7.
[118] OSCAPPDoc20 ASC Applicant Responses to Additional RAIs_Combined 2020-02-24 to 2020-03-09.
[119] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.2.7.

vehicles. Any small or early state fires are expected to be controlled and monitored by trained on-site staff. In most cases, the applicant expects trained, on-site staff to contain fires (but not extinguish them) and let them burn out. In response to additional information requests from the Department, the applicant provided its SOLV Vegetation Management and Fire Prevention Plan. SOLV, Swinerton Builder's will conduct vegetation and electrical equipment inspections (visual inspection and infra-red scanning, as appropriate for the particular area) and vegetation would be managed with mowing and spraying as necessary to avoid any hazardous conditions. SOLV will also be notified via the SCADA system, (as discussed in Section III.A., *Proposed Facility Components)* which provides constant electrical equipment monitoring.

Across several ASC exhibits, the applicant represents fire prevention and emergency control measures that would be enacted during construction and operation of the proposed facility. Based on representations in the ASC and comments from service providers, the Department consolidated fire response and prevention measures and emergency response measures into a Draft Fire Protection and Emergency Response Plan, as provided in Attachment U-3 of this order. The Department includes in the plan that the applicant either submits an application for annexation to the Christmas Valley Rural Fire Protection District or becomes a lifetime member of the Rangeland Fire Protection Association, to provide fire protection and response to the site, and provides verification to the Department. To ensure the applicant implements measures to minimize impacts to fire and law enforcement agencies, the Department recommends Council impose the following condition:

Recommended Public Services Condition 2:

a. Prior to construction of the facility, the certificate holder shall submit a Final Construction Fire Protection and Emergency Response Plan to the Department, consistent with the components included in the draft plan provided in Attachment U-3 of the Final Order on the ASC, for review and approval. The plan shall also include an updated Emergency and Fire contact list.
b. Prior to operation of the facility, the certificate holder shall submit an Operational Fire Protection and Emergency Response Plan to the Department, consistent with the components included in the draft plan provided in Attachment U-3 of the Final Order on the ASC). The plan shall also include an updated Emergency and Fire contact list. [GEN-PS-02]

For the reasons stated in this section, construction or operation of the proposed facility is not anticipated to have a significant adverse impact on the ability of the Lake County sheriff's office, the Christmas Valley Rural Fire Protection District, or the local RFPA to provide services in the analysis area.

Based on compliance with the recommended Public Services Condition 2, the Department recommends Council find that the construction and operation of the proposed facility is not likely to result in significant adverse impacts to the ability of police protection or fire services providers to provide services.

Housing

The applicant anticipates being able to hire some construction workers who permanently reside within the analysis area, however, to estimate a "worse-case" scenario of potential impacts to public and proves housing providers, the applicant's evaluation is of a work force that temporarily resides within and outside of the analysis area. Of the 150 workers expected during peak construction periods, the applicant estimates that approximately one-third (50) of workers to temporarily reside within the analysis area in nearby communities, such as Christmas Valley, Fort Rock, and Silver Lake. The remaining two-thirds (100) of workers will likely travel to the work site from outside the analysis area, including the cities of La Pine and Bend. The applicant assumes that the average household size during construction will be 2.0 persons, up to 300 temporary new residents may be associated with construction of the proposed facility.[120] Actual numbers of new residents would likely be lower, depending on the amount of local, qualified staff hired. Temporary construction workers within and outside of the analysis area are expected to stay in travel trailer/recreational vehicle (RV) parks, motels, hotels, or short-term rentals. Some workers may secure short-term rentals such as apartments or houses or already live in a nearby community and would commute to the work site.

In Lake County, Oregon Housing and Community Services reports that vacancy rates between 2011 and 2015 were 7.1 percent for rental units in Lake County, and the United States Census Bureau notes that there was a total of 4,519 housing units in Lake County in 2017.[121] Within the 15-mile analysis area, there are approximately 34 hotel rooms in the communities of Christmas Valley and Silver Lake, and approximately 64 travel trailer/RV park sites in the towns of Christmas Valley, Silver Lake, and Fort Rock. There are also at least 13 travel trailer/RV parks with approximately 385 trailer sites as well as at least nine non-luxury, traveler hotel/motel options with approximately 150 rooms available within a 1-hour driving distance of the location of the proposed facility.

Of the six to 10 permanent employees required for operation of the proposed facility, the applicant assumes some will already reside within the analysis area or within a commutable distance to the analysis area. If operational employees permanently relocated to within the analysis area or within a nearby community, it is not anticipated to have an impact on housing providers.

Based on the applicant's information in the ASC and availability of temporary housing within the analysis area and within driving distance to the proposed facility, the Department recommends Council find that construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of housing providers to provide housing.

Healthcare and Schools

Healthcare

[120] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.2.5.
[121] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.4.5.

On-site emergencies may occur during construction and operation of the proposed facility. Accidents that occur on site or on public roads will require use of services from the North Lake County Emergency Medical Service in the community of Christmas Valley, which transports patients to Bend by ambulance; additionally, services from Air Ambulance, which also transports patients to Bend, may be used for accidents on public roads. A description of health care providers within the analysis area and hospitals with the capability to provide more advance trauma medical services are provided below in Table 10: *Health Care Providers within Analysis Area*.

Table 10: Health Care Providers within Analysis Area

Provider	Distance from Site Boundary
North Lake County Emergency Medical Services – Ambulance service to St. Charles Health System Hospital	Christmas Valley, Oregon (11 miles from Facility)
La Pine Community Health Center – No urgent care available at this facility	Christmas Valley, Oregon (16 miles from Facility)
St. Charles Health System Hospital – Level II Trauma Center	Bend, Oregon (83 miles from Facility)
Lake District Hospital – Level IV Trauma Center	Lakeview, Oregon (105 miles from Facility)
Oregon Health and Science University – Level I Trauma Center	Portland, Oregon (258 miles from Facility)
Air Ambulance – Applicant will contract with Air Ambulance for emergency helicopter medical transport. The Air Ambulance is able to utilize the Christmas Valley Airport.	Lands at Christmas Valley Airport

Construction 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. Construction workers with moderate injuries will be transported by vehicle to St. Charles Medical Center in Bend. For severe injuries, the applicant may require the services of the Air Ambulance to transport patients to Bend.

The applicant maintains that there will be trained emergency medical technicians on-site during construction and will arrange for medical transport during medical emergencies that occur at the proposed facility. For accidents that occur on the site, or on the travel and access routes to the site boundary, construction workers would be transported to the type and size of facility that is best able to handle their type of injury. These provisions are included in the draft Fire Protection and Emergency Response Plan Attachment U-3, to this order, to reduce the potential impacts to health service providers. The applicant provides reference of correspondence with the Christmas Valley/North Lake Chamber of Commerce) indicated that the North Lake County Emergency

Medical Services (ambulance service) and the Air Ambulance will provide primary emergency medical transport service at the location of the proposed facility.[122]

During operation, emergency medical technicians will not be retained onsite, and the applicant will rely on services from the North Lake County Emergency Medical Service and from Air Ambulance in the rare occasion a medical emergency occurs.

Proposed facility construction could result in increased demand of health care providers. However, due to the relatively small number of new temporary residents and new permanent residents within the analysis area, significant new demands are not expected from health care facilities that serve the area. Therefore, no significant adverse impact on the ability of communities to provide health care is anticipated as a result of proposed facility construction or operation.

Schools

The applicant estimates that approximately 15 percent of the average work force would bring families with at least one school-aged child (children up to the age of 18). It is expected that one-third (6 students) would require schooling within the analysis area, and two-thirds (12 students) in the La Pine area, if families relocated with their families. It is anticipated that some children would be home-schooled, some may attend school in the Christmas Valley area at the North Lake County School or in La Pine, and some children may attend the private Solid Rock Christian School in the community of Christmas Valley. Based on conversations referenced by the applicant with a representative at the North Lake School District, the anticipated number of additional students attending school due to construction of the proposed facility will not exceed the school's capabilities.[123] As discussed in Section IV.E.3., *Goal 3 Exception,* portion of the *Land Use* section in this order, based on an applicant-representation to provide local economic benefits as a result of the construction and operation of the proposed facility, the Department recommends Land Use Condition 7, which includes a one-time contribution to the North Lake County School District based on $10,000 per MWac capacity, based on final design of the facility.

Of the anticipated six to 10 staff required for operation of the proposed facility, some may reside within the analysis area, in towns such as Christmas Valley, Fort Rock, and Silver Lake, but others will likely reside in the La Pine area or even the Bend area. The applicant notes that even if all operational personnel have school-aged children, the increase in the number of school-aged children will likely be similar to or smaller than during construction. Due to the small number of expected school-aged children, adverse impacts on the schools are not expected. Therefore, the Department recommends Council find that construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of school providers to provide schools.

[122] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.7.
[123] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.7.

Conclusions of Law

Based on the foregoing analysis, compliance with the recommended conditions, and in compliance with OAR 345-022-0110(2), the Department recommends Council find that the proposed facility would comply with the Council's Public Services Standard.

IV.N. Waste Minimization: OAR 345-022-0120

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

(a) The applicant's solid waste and wastewater plans are likely to minimize generation of solid waste and wastewater in the construction and operation of the facility, and when solid waste or wastewater is generated, to result in recycling and reuse of such wastes;

(b) The applicant's plans to manage the accumulation, storage, disposal and transportation of waste generated by the construction and operation of the facility are likely to result in minimal adverse impact on surrounding and adjacent areas.

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

Findings of Fact

The Waste Minimization Standard requires the Council to find that the applicant would minimize the generation of solid waste and wastewater, and that the waste generated would be managed to minimally impact surrounding and adjacent areas. Pursuant to OAR 345-022-0020(2), the Council may issue a site certificate for a solar facility without making findings regarding the Waste Minimization standard; however, the Council may impose site certificate conditions based upon the requirements of the standard.

Solid Waste

Construction and operation of the proposed facility would result in the generation of solid waste. However, ASC Exhibit V explains that the applicant will manage solid waste in a manner that will minimize the generation of solid waste and would result in minimal impacts on

surrounding and adjacent areas, as well as manage solid waste consistent with the Lake County Water Waste Ordinance (Ordinance 23).[124]

The applicant estimates that 10-20 metric tons of solid waste would be generated during construction of the proposed facility.[125] The solid waste generated include general construction debris such as scrap metal (steel, copper, and aluminum), packing materials (corrugated cardboard packaging for new solar panels), office waste, wood (pallets), waste concrete, and excavated soil. Erosion control materials, such as straw and silt fencing, would also be generated during construction. The waste generated from construction may also include small amounts of hazardous waste, such as oil rags, spent small appliance batteries (e.g., from flashlights or radios), and equipment and vehicle maintenance solvents and oils.

To minimize the amount of solid waste generated, during construction, a grinder will be kept on site and pallets and other wood waste would be ground and used on site for soil stabilization and ground cover, as necessary. In addition, a cardboard bailer will be kept on site during construction and waste cardboard will be bailed and deposited with a local contractor, hauled or delivered to a local sanitation provider or recycler. Non-hazardous solid waste would likely end up with Lakeview Sanitation in the Lake County landfill. Corrugated cardboard will likely be delivered for recycling to Mid Oregon Recycling in Bend. Additional discussion of waste disposal and recycling facilities within the analysis area, see Section IV.M., *Public Services*. Excavated soil would be used on site as fill or transported off site for disposal, and waste concrete would be disposed of as solid waste, recycled, or used on site as fill, as appropriate.

The applicant describes that waste generated during construction would be minimized by implementing efficient construction practices and ensuring that detailed amounts of materials are delivered. Materials used during construction will be recycled or re-used as feasible. Waste that can be recycled includes metals, glass, paper, and yard debris. The applicant expects that Lakeview Sanitation (or a similar provider) would be expected to handle waste disposal and recycling for the proposed facility during construction and be responsible for providing and disposing of wastewater associated with portable toilets and handwashing stations used during construction of the facility.

During operation, the primary waste generated would be office waste in the operations and maintenance building(s) and packaging from equipment used for replacements and repairs, including carboard from replacement solar panels. Office waste will be composed primarily of paper, packaging, and food scraps. During operation, the applicant estimates that in ASC Exhibit

[124] Based on information provided by applicant, the Lake County Solid Waste Management Plan was prepared in 2005 but was not adopted by ordinance and is not used as a binding planning document.
[125] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.2.4.

U that approximately 300 pounds or less of waste per month, and less than 220 pounds of hazardous waste per month will be generated.

The applicant explains in ASC Exhibit G that, during operation, any oils, lubricants, and solvents on site would be stored within covered containers such as work trailers and Conex boxes to prevent incidental spills or drips from reaching the environment. Fuels would be stored in mobile, double-walled tanks. The hazardous materials required for maintenance will be stored in accordance with U.S. Environmental Protection Agency and U.S. Occupational Safety and Health Administration regulations, as applicable.[126] Safety data sheets of each hazardous material would be stored onsite. Properly trained operational personnel would be responsible for managing the handling, storage, transport, and disposal of hazardous materials. Hazardous materials would be stored inside the O&M building(s) and substation(s) and hazardous material containment and cleanup kits would be maintained and available on site to minimize the impact resulting from a spill. These measures are discussed in ASC Exhibit G and the Department recommends they be included in the final Spill Management Plan (a draft of which is included as Attachment I-2 to this order). See also Recommended Soil Protection Condition 2 in Section IV .D., *Soil Protection*.

The applicant states that solar PV modules to be installed on the project are not classified as hazardous waste. During operation and facility retirement, some solar PV panels may need to be replaced, the applicant explains that many solar module manufacturers have "take-back" and recycling programs for their products, but that panels that are nonfunctional or are retired would be recycled to the maximum extent feasible through the Solar Energy Industries Association National PV Recycling Program or a similar program. Battery components, including the non-hazardous electrolyte fluid, would also be recycled and disposed of in accordance with the manufacturer's instructions at a permitted facility during operation and retirement of the proposed facility.

During operation of the proposed facility, cardboard and packaging waste would either be delivered to be recycled or collected by a local waste disposal provider, likely Lakeview Sanitation or Mid Oregon Recycling. As noted in Section IV.M., *Public Services*, the applicant provides documentation from Lakeview Sanitation of their ability and capacity to dispose of and recycle waste associated with the proposed facility.

At the time of facility retirement and decommissioning, as discussed further in Section IV.G., *Retirement and Financial Assurance*, aboveground equipment would be removed and sold for scrap, reused or recycled, or disposed of at a local landfill. Electrical cables would be rendered inert; aboveground cables would be removed, and underground cables would be left in place if below three feet below ground. The applicant maintains that similar procedures for minimizing, recycling, and disposing of solid waste during construction will be employed during retirement of the proposed facility.

[126] OSCAPPDoc4 ASC 07 OSC ASC Exhibit G 2019-10-17, G.3.

Based on the applicant's proposed solid waste minimization measures, the Department recommends Council impose the following condition:

Recommended Waste Minimization Condition 1: During construction, operation, and retirement of the facility, the certificate holder shall develop and implement a Solid Waste Management Plan that includes at a minimum the following measures:

a. Measures for recycling steel and other metal scrap;
b. Measures for reusing or recycling wood waste;
c. Measures for recycling packaging wastes such as paper and cardboard;
d. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler;
e. Segregating hazardous wastes such as oil, oily rags and oil-absorbent materials, mercury containing lights and lead-acid and nickel-cadmium batteries for disposal by a licensed firm specializing in the proper recycling or disposal of such materials.

[GEN-WM-01]

Wastewater

Wastewater generated during construction will result from the use of portable toilets. Portable toilets and handwash stations will be managed by a local solid waste hauler, likely Lakeview Sanitation, and wastewater will be properly disposed of. An average of six portable toilets will be used onsite during construction, including 12 portable toilets during peak construction.

Other than washwater periodically generated from washing panels, industrial wastewater will not be generated during operation of the proposed PV only facility. If used, solar panel washwater would not have added cleaning solvents and would be discharged on-site and would by evaporate and seep into the sandy soils. Water for panel washing may be covered under an Oregon General Water Pollution Control Facilities 1700-B Permit, which, if required, would be obtained by a third-party contractor and is not included in this Application for Site Certificate.[127] For additional discussion of third-party contractor permits, including the 1700-B permit, see Section IV.B., *Organizational Expertise*, of this order.

As discussed in Section IV.M., *Public Services,* the applicant may install septic system(s) at the O&M building(s) but may also rely on portable toilets and handwashing stations during construction and operation. Sanitary wastewater generated on site would be confined to portable toilets and handwash stations and would be disposed of by Lakeview Sanitation or a similar provider in accordance with applicable regulations. If a septic system is used, daily sewage flow would be directed to an onsite septic system and managed and hauled by a licensed disposal provider.

[127] It is unclear if DEQ continues to require the 1700-B permit related to solar panel washwater. Nevertheless, if such a permit is required, the application states that the applicant's third-party contractor would secure the permit, if necessary, and as such it is not subject to EFSC jurisdiction nor is it governed by the site certificate.

Based on the limited sources of wastewater, the Department recommends Council find that it would be unlikely for the surrounding area to be impacted by proposed facility wastewater generation.

Conclusions of Law

Based on the foregoing analysis, and in compliance with OAR 345-022-0120(2), the Department recommends that the Council find that, based upon negligible sources of facility-related wastewater and compliance with the recommended solid waste management plan condition, waste would be minimized during proposed facility construction, operation and decommissioning and therefore the applicant has sufficiently addressed the Council's Waste Minimization Standard.

IV.O. Division 23 Standards

The Division 23 standards apply only to "nongenerating facilities" as defined in ORS 469.503(2)(e)(K), except nongenerating facilities that are related or supporting facilities. The proposed facility would not be a nongenerating facility as defined in statute and therefore Division 23 is not applicable.

IV.P. Division 24 Standards

The Council's Division 24 standards include specific standards for the siting of energy facilities, including wind projects, underground gas storage reservoirs, transmission lines, and facilities that emit carbon dioxide.

The proposed facility would include approximately 2 miles of new 115 kilovolt (kV) double circuit transmission line to interconnect the power output of new solar facilities to a proposed new substation. For approximately 1/2 miles at the eastern portion of the route, the double circuit transmission line would be centered within a 60-foot wide right of way (ROW). For approximately 1 1/2 miles at the western portion of the route, the double circuit transmission line would be located about 5-feet away from the northern ROW edge. The Council's Division 24 Siting Standards for Transmission Line standard applies, as evaluated below.

IV.P.1. Siting Standards for Transmission Lines: OAR 345-024-0090

To issue a site certificate for a facility that includes any transmission line under Council jurisdiction, the Council must find that the applicant:

(1) Can design, construct and operate the proposed transmission line so that alternating current electric fields do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public;

(2) Can design, construct and operate the proposed transmission line so that induced currents resulting from the transmission line and related or supporting facilities will be as low as reasonably achievable.

Findings of Fact

The Siting Standards for Transmission Lines address issues associated with alternating current electric fields and induced currents generated by high-voltage transmission lines. OAR 345-024-0090(1) sets a limit for electric fields from transmission lines of not more than 9 kV per meter at one meter above the ground surface in areas that are accessible to the public. Section (2) requires implementation of measures to reduce the risk of induced current.

The proposed facility includes an approximately 2-mile 115-kV transmission line. The proposed transmission line corridor would be 60 feet in width and would extend approximately 2 miles from the proposed collector substation in Area A to the proposed 115/500 kV step-up substation in Area D. For approximately 0.5 miles from Area A, the transmission corridor would be located within private property, within a 60-foot-wide transmission easement, to be secured prior to construction. For the remaining 1.5 miles to Area D, the transmission corridor would be located within an existing 60-foot county road (Connley Lane) right-of-way, to be authorized by the county prior to construction.

ASC Exhibit AA provides the applicant's analysis to support Council's review of the proposed facility's compliance with the standard.

Electric Fields

Electric fields around transmission lines are produced by the presence of an electric charge, measured as voltage, on the energized conductor. Electric field strength is directly proportional to the line's voltage; increased voltage produces a stronger electric field. The strength of the electric field is inversely proportional to the distance from the conductors; the electric field strength declines as the distance from the conductor increases. The minimum distance from the proposed 115 kV transmission line center to the existing county road right of way (ROW) edge is 5 feet (in the westernmost 1.5 miles of the transmission line), and 30 feet (in the easternmost 0.5 miles of the transmission line), with an overall ROW width of 60 feet.

The applicant provides an Electric and Magnetic Field Study included as Appendix AA-1 to ASC Exhibit AA which calculated electric and magnetic field levels from the proposed center line to 200 feet on each side of the proposed center line, at 1-meter aboveground level. The Electric and Magnetic Field Study was conducted, and report generated by EMDEX LLC who provide EMF measurement, modeling, calibration, and equipment for transmission lines substations computer modeling services. Electric and magnetic field calculations were conducted using "EMF Workstation 2015" which is a software program developed for the Electric Power Research Institute (EPRI). Modeling was conducted at 1-meter (3.28 feet) above ground level in accordance with American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE) Standards. Electric field calculations were performed assuming a worst-case adding 5 percent overvoltage condition (i.e., 121 kV instead of the nominal 115 kV).

Radio noise calculations were conducted at 6.6 feet above ground level in accordance with ANSI/IEEE Standards.

The results of the study, as provided in ASC Exhibit AA, for the double circuit configuration centered in the proposed transmission line easement on private land, calculated electric fields ranging from 0.248 to 0.251 kV/m at the 60-foot easement edges, with a maximum of 0.985 kV/m within the easement. Calculated magnetic fields range from 44.1 to 45.0 milligauss (mG) at the easement edges, with a maximum of 148.1 mG within the easement area.

For the double circuit configuration located within 5 feet of the county road ROW on Connley Lane, calculated electric fields range from 0.031 to 0.982 kV/m at the ROW edges, with a maximum of 0.985 kV/m within the ROW. Calculated magnetic fields range from 13.0 to 140.9 mG at the ROW edges, with a maximum of 148.1 mG within the ROW. Therefore, under both configurations, the maximum electric fields are 0.985 kV/m within the ROW. This total is well below the 9 kV/m at one meter above the ground surface in areas that are accessible to the public determined in OAR 345-024-0090(1).

Based upon review of the applicant's modeling results presented in ASC Exhibit AA, the Department recommends that the Council find that the proposed 115 kV transmission line would not exceed 9 kV per meter at one meter above ground level.

Induced Voltage and Current

The Siting Standards for Transmission Lines requires the Council to find that the applicant "can design, construct and operate the proposed transmission line so that induced currents resulting from the transmission line and related or supporting facilities will be as low as reasonably achievable." Recommended General Standard Condition 8 [based on the mandatory condition contained in OAR 345-025-0010(4)], presented in Section IV.A. *General Standard of Review* requires, in part, the applicant to develop and implement a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or structures of a permanent nature that could become inadvertently charged with electricity are grounded or bonded throughout the life of the line. To further reduce the risk of induced current and nuisance shocks, the Department recommends the Council adopt the following condition:

> **Recommended Siting Standards for Transmission Lines Condition 1**: Prior to operation of the facility, the certificate holder shall provide landowners within 500 feet of the site boundary a map of the 115-kV transmission line and inform landowners of possible health and safety risks from induced currents caused by electric and magnetic fields. [PRO-TL-01]

Conclusions of Law

Based on the foregoing findings of fact and conclusions, and subject to compliance with the recommended site certificate conditions, the Department recommends that the Council find

that the proposed facility would comply with the Council's Siting Standards for Transmission Lines.

IV.Q. Other Applicable Regulatory Requirements Under Council Jurisdiction

Under ORS 469.503(3) and under the Council's General Standard of Review (OAR 345-022-0000), the Council must determine whether the proposed facility complies with "all other Oregon statutes and administrative rules…as applicable to the issuance of a site certificate for the proposed facility." This section addresses the applicable Oregon statutes and administrative rules that are not otherwise addressed in Council standards, including noise control regulations, regulations for removal or fill of material affecting waters of the state, and regulations for water rights.

IV.Q.1. Noise Control Regulations: OAR 340-035-0035

(1) Standards and Regulations:
*****
(b) New Noise Sources:
*****
(B) New Sources Located on Previously Used Sites:
i. No person owning or controlling a new industrial or commercial noise source located on a previously unused industrial or commercial site shall cause or permit the operation of that noise source if the noise levels generated or indirectly caused by that noise source increase the ambient statistical noise levels, L10 or L50, by more than 10 dBA in any one hour, or exceed the levels specified in Table 8, as measured at an appropriate measurement point, as specified in subsection (3)(b) of this rule, except as specified in subparagraph (1)(b)(B)(iii).
ii. The ambient statistical noise level of a new industrial or commercial noise source on a previously unused industrial or commercial site shall include all noises generated or indirectly caused by or attributable to that source including all of its related activities. Sources exempted from the requirements of section (1) of this rule, which are identified in subsections (5)(b)–(f), (j), and (k) of this rule, shall not be excluded from this ambient measurement.
*****
(3) Measurement:
(a) Sound measurements procedures shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1), or to such other procedures as are approved in writing by the Department;
(b) Unless otherwise specified, the appropriate measurement point shall be that point on the noise sensitive property, described below, which is further from the noise source:

A. 25 feet (7.6 meters) toward the noise source from that point on the noise sensitive building nearest the noise source;
B. That point on the noise sensitive property line nearest the noise source.

(4) Monitoring and Reporting:

(a) Upon written notification from the Department, persons owning or controlling an industrial or commercial noise source shall monitor and record the statistical noise levels and operating times of equipment, facilities, operations, and activities, and shall submit such data to the Department in the form and on the schedule requested by the Department. Procedures for such measurements shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1);

*****

(5) Exemptions: Except as otherwise provided in subparagraph (1)(b)(B)(ii) of this rule, the rules in section (1) of this rule shall not apply to:

*****

(c) Sounds created by the tires or motor used to propel any road vehicle complying with the noise standards for road vehicles;

*****

(g) Sounds that originate on construction sites.

(h) Sounds created in construction or maintenance of capital equipment;

(i) Sounds created by lawn care maintenance and snow removal equipment;

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(k) Sounds created by the operation of road vehicle auxiliary equipment complying with the noise rules for such equipment as specified in OAR 340-035-0030(1)(e);

*****

Findings of Fact

OAR 340-035-0035 provides the Oregon Department of environmental Quality (DEQ) noise rules for industry and commerce and establishes noise limits for new industrial or commercial noise sources based upon whether those sources would be developed on a previously used or previously unused site.[128] Pursuant to OAR 340-035-0015(47), a "previously unused industrial or commercial site" is defined as property which has not been used by any industrial or commercial noise source during the 20 years immediately preceding commencement of construction of a new industrial or commercial source on that property. There is no evidence in the record that the proposed facility site has been in industrial or commercial use at any time

[128] A "previously unused industrial or commercial site" is defined in OAR 340-035-0015(47) as property which has not been used by any industrial or commercial noise source during the 20 years immediately preceding commencement of construction of a new industrial or commercial source on that property.

during the last 20 years, therefore the site is considered a previously unused site and evaluated per the requirements of OAR 340-035-0035(1)(b)(B).[129]

Noise generated by a new industrial or commercial source located on a previously unused site must comply with two standards: the "ambient noise degradation standard" and the "maximum allowable noise standard." Both of these standards represent allowable noise levels at "real properties normally used for sleeping," otherwise referred to as a "noise sensitive property."[130] The analysis area for evaluating compliance with the DEQ noise rules includes the area within and extending one-mile from the proposed site boundary, however the applicant conducted its evaluation out to 1.1 miles from the site boundary because of a noise sensitive property (R-7) located 1.1 miles southwest of the facility. Within the analysis area and extended area evaluated by the applicant, the applicant identified 17 noise sensitive properties. Therefore, compliance with the DEQ noise rules, as further described below, is based upon modeled noise levels of proposed facility operation at the identified 17 noise sensitive properties.

Under the ambient noise degradation standard, facility-generated noise must not increase the ambient hourly L10 or L50 noise levels at any noise sensitive property by more than 10 dBA, with ambient noise levels established based on noise measurements taken at an appropriate noise measurement location (point on the noise sensitive property line nearest to the noise source).[131] Under the maximum allowable noise standard at OAR 340-035-0035(1)(b)(B)(i), new industrial or commercial noise sources may not exceed the noise levels specified in the noise rules, as represented in Table 11: *Statistical Noise Limits for Industrial and Commercial Noise Sources* below.

Table 11: Statistical Noise Limits for Industrial and Commercial Noise Sources

Statistical Descriptor[1]	Maximum Permissible Hourly Statistical Noise Levels (dBA)	
	Daytime (7:00 AM - 10:00 PM)	Nighttime (10:00 PM - 7:00 AM)
L50	55	50
L10	60	55
L1	75	60

[129] As provided in OAR 340-035-0110, in 1991, the Legislative Assembly withdrew all funding for implementing and administering DEQ's noise program; therefore, Council assumes the authority as the decision maker to implement the DEQ noise rules.

[130] OAR 340-035-0015(38) defines noise sensitive property as, "real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meets the above criteria in more than an incidental manner."

[131] OAR 340-035-0035(3)(b) establishes appropriate measurement points as also inclusive of "25 feet toward the noise source from that point on the noise sensitive building nearest the noise source," which was not referenced above because the applicant evaluated ambient based on the point on the property line nearest to the noise source, as also allowed by the rule.

Table 11: Statistical Noise Limits for Industrial and Commercial Noise Sources

Statistical Descriptor[1]	Maximum Permissible Hourly Statistical Noise Levels (dBA)	
	Daytime (7:00 AM - 10:00 PM)	Nighttime (10:00 PM - 7:00 AM)

Notes:
1. The hourly L50, L10 and L1 noise levels are defined as the noise levels equaled or exceeded 50 percent, 10 percent, and 1 percent of the hour, respectively.

Source: OAR 340-035-0035, Table 8

Potential Noise Impacts

The applicant's evaluation of compliance with DEQ's noise rules is presented in ASC Exhibit X. Based upon review of ASC Exhibit X, the Department presents its assessment for Council review of the applicant's ability to comply with the noise requirements.

Construction

OAR 340-035-0035(5)(g) specifically exempts noise caused by construction activities; however, an evaluation of construction-related noise is presented in accordance with OAR Chapter 345 Division 21 information requirements and to inform the construction-related noise analysis required under the Council's Protected Areas and Recreation standards, found in Sections IV.F., *Protected Areas*, and IV.L., *Recreation*, of this order.

Proposed facility construction, including solar components, step up substation, battery storage components, and the 115-kV transmission line, would include site preparation, brush clearing, onsite access road preparation; array foundation installation, conductor installation. Activities would also include construction of collector substation(s); solar panel assembly and construction electrical components; inverter pad construction; commissioning of solar array and grid interconnection; installation of transmission structure foundations, erection of support structures and conductor stringing. Construction noise levels were estimated using the methods described in the Federal Highway Administration Highway Construction Noise: Measurement, Prediction and Mitigation, the applicant's analysis used equipment sound levels documented in the Federal Highway Administration's Roadway Construction Noise Model (FHWA RCNM). Table 12: *Typical Construction Noise Levels for Phases of Construction* below represents the following typical construction equipment and predicted sound pressure levels at specific distances from proposed construction activities.

Table 12: Typical Construction Noise Levels for Phases of Construction

Construction Phase	Loudest Equipment	Maximum Noise Level at 50 feet (dBA Lmax) [a]
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

a. Maximum noise level measured at 50 feet under normal use.
Source: FHWA (2006) Roadway Construction Noise Model. OSCAPPDoc4 ASC 24 OSC ASC Exhibit X 2019-10-17, Table X-2.

The maximum hourly noise levels at 50 feet for equipment noise in Table 12: *Typical Construction Noise Levels for Phases of Construction*, listed above are evaluated as the "worst case" noise levels. The applicant states that the maximum levels would occur during the installation of the support posts using a pneumatic pile driver, with levels of 101 dBA at 50 feet average hourly noise levels would be substantially lower, with typical hourly L50 noise levels of 72 to 75 dBA.[132] The applicant conducted noise monitoring to establish ambient baseline noise levels for its noise analysis, as discussed in the below section. The applicant notes that some of the daytime measures from normal daily agricultural activities in the vicinity of the monitoring sites was 70 dBA to 86 dBA, which can be compared to the maximum noise levels expected from construction equipment. To demonstrate how noise levels attenuate the farther away from the noise source, the applicant evaluated various equipment at distances ranging from 3,000 feet and 25,000 feet. These are illustrated in Figures 7 and 8 of the noise analysis in ASC Exhibit X, Appendix X-1.

ASC Exhibit X, Section 8.4 outlines applicant-represented measures to limit potential impacts from construction noise. The applicant states that its 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.[133] Further, ASC Exhibit X explains that if a noise complaint is received during construction that several noise mitigation measures will be considered. The measures are included in Noise Control Regulations Condition 1 below. Based on the applicant-represented measures, the Department recommends the Council impose the following condition to reduce potential impacts from DEQ noise rules exempted construction noise.

Recommended Noise Control Condition 1:

[132] OSCAPPDoc4 ASC 24 OSC ASC Exhibit X 2019-10-17, Appendix X-1, 8.3.
[133] OSCAPPDoc4 ASC 24 OSC ASC Exhibit X 2019-10-17, 8.4.

a. Prior to construction, the certificate holder shall establish a noise complaint response system to address noise complaints during construction and make it available at the construction manager's office. The Certificate holder shall submit a copy of noise complaint response system to the Department. Records of noise complaints during construction must be made available to the Department upon request. The noise complaint response system shall include, but not be limited to:
   i. Locate stationary engine-powered construction equipment as far from nearby noise sensitive properties as possible.
   ii. Shut off idling equipment.
   iii. Consideration of reschedule construction activities to avoid periods of noise annoyance identified in the complaint.
   iv. Notify nearby residents before extremely noisy work occurs.
   v. Locate stationary engine-powered construction equipment as far from nearby noise sensitive properties as possible.
   vi. Restrict the installation of solar module support posts using the pneumatic pile driver to weekdays and Saturdays, during daytime hours of 7~~8~~:00 am to 5~~6~~:00 pm, and notify the residences near the site prior to performing the work.
b. During construction, all engine powered equipment must have mufflers installed according to the manufacturer's specifications, and all equipment must comply with pertinent equipment noise standards of the U.S. Environmental Protection Agency. [GEN-NC-01]

Operations

As described above, OAR 340-035-0035(1)(b)(B)(i) requires a demonstration that noise generated during proposed facility operation must not cause the ambient hourly L10 and L50 noise levels at any noise-sensitive property to exceed 10 dBA above ambient, with ambient noise levels established using noise measurements at the location on the noise sensitive property line nearest to the proposed noise source.

Within the analysis area and extended area evaluated by the applicant, the applicant identified 17 noise sensitive properties by using aerial photos and on-site inspections to determine residential structures.

Proposed facility components that would generate noise during operations include: transformers and inverters associated with the solar arrays, battery storage system components, the collector substations as well as the 115 kV to 500 kV step up substation. The 115-kV transmission line would also emit noise associated with the corona effect (buzz or crackling during wet conditions). In ASC Exhibit X Appendix X-1, the applicant provides a noise analysis that includes these operational sources and sound power levels (in A-weighted decibels). The noise analysis was conducted by Michael Minor & Associates, a consultant who conducts noise, vibration, and air environmental analysis.

Table 13: *Operational Noise Sources and Sound Power Levels* below lists the sound power levels representing the standard performance of each of these components and includes assumptions that were incorporated into the evaluation. The level of corona noise produced from transmission lines is dependent on many factors, and for most lines only occurs when there is a high level of moisture in the air, so the applicant assumed noise from the 115-kV transmission line would occur under wet conditions. The sound power levels were assigned based either on data supplied by manufacturers, or field measurements of similar equipment made at other existing facilities and data from other similar types of EFSC facilities.[134] The reference noise levels were also reviewed against product design information found in the technical literature provided by the National Electrical Manufacturers Association (NEMA).

Table 13: Operational Noise Sources and Sound Power Levels

Equipment	Number of Units [a]	Sound Power Level (dBA)
Solar Array Invertors/Transformers [b]	159	87
Battery/Energy Storage Units [c]	64	88
Collector Substation Transformers (34.5 kV to 115 kV) [d]	4	97
115 kV Transmission Line [e]	1	46
Step-up Substation Transformer (115 kV to 500 kV) [f]	1	105

Noise Study Assumptions:
[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.
[c] Based on General Electric Battery/Energy Storage Unit Specifications of <60 dBA at 3 meters.
[d] Based on sound power level for a typical solar collector 35.5-kV to 115-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 115-kV to 500-kV step-up transformer of 97 to 105 dBA; the higher 105 dBA level was used to assure a conservative analysis (See EFSC Carty Generating Station 2011)
Source: OSCAPPDoc4 ASC 24 OSC ASC Exhibit X 2019-10-17, Appendix X-1, Table 5.

Ambient Noise Measurements

OAR 340-035-0035(1)(b)(B)(i) restricts noise levels of new industrial or commercial noise sources located on a previously unused industrial or commercial site from increasing the ambient statistical noise level, L10 or L50, by more than 10 dBA in any one hour, where ambient noise levels must be based on an appropriate noise measurement, as previously discussed, and

[134] Manufacture representative specifications found as Attachment B to the Noise Analysis: OSCAPPDoc4 ASC 24 OSC ASC Exhibit X 2019-10-17, Appendix X-1, Attachment B.

noise measurement procedures established in OAR 340-035-0035(3)(b). OAR 340-035-0035(3)(b) establishes acceptable procedures as the Sound Measurement Procedure Manual (NPCS-1) adopted by the DEQ Commission in the 1970's or as otherwise approved by the Department.

Existing ambient noise monitoring was conducted to establish the existing noise environment, with the purpose of demonstrating compliance with the allowable 10 dB increase in the L10 and L50 criteria set forth in OAR 340-035-0035(1)(b)(B)(i). 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. 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. 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. System calibration was performed before and after each measurement session with a Bruel & Kjaer Type 4231 sound level calibrator.[135] 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 three systems, and performing monitoring at all three sites simultaneously. Weather was clear, and there was no precipitation during the measurement period. Noise from the existing 500-kV lines and other existing transmission line and energy related noise sources was included in the background noise level measurements taken near the proposed site. ASC Exhibit X, Appendix X-1 Figure 2 demonstrates the layout of the proposed facility, noise sensitive properties, and the noise monitoring positions. To account for the time-varying nature of noise, several noise metrics are useful. Commonly used noise descriptors include the Lmax, Lmin, and Leq. 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). Table 14: *Summary of Measured Background Noise Levels*, below represents the minimum, maximum and average baseline sound levels at the two monitoring positions.

Table 14: Summary of Measured Background Noise Levels [1]

Monitoring Site	L10 (dBA)	L50 (dBA)	Leq (dBA)
Minimum			
M-1	30 (night)	28 (night)	29 (night)
M-2	20 (night)	20 (night)	20 (night)

[135] OSCAPPDoc4 ASC 24 OSC ASC Exhibit X 2019-10-17, Appendix X-1, p. 7.

Table 14: Summary of Measured Background Noise Levels [1]

Monitoring Site	L10 (dBA)	L50 (dBA)	Leq (dBA)
Maximum			
M-1	54 (day)	47 (day)	55 (day)
M-2	51 (day)	43 (day)	47 (day)
Average			
M-1	42	37	45
M-2	34	28	34

[1] Rounded
Source: OSCAPPDoc4 ASC 24 OSC ASC Exhibit X 2019-10-17, Appendix X-1, Attachment C.

As presented in Table 14: *Summary of Measured Background Noise Levels* above, ambient conditions as measured at the representative monitoring positions in proximity to proposed facility components ranged from 20 to 47 dBA for L50 for the 48-hour recordation period.

Based on ambient noise monitoring and noise sensitive properties within the analysis area, ambient noise levels at potentially affected property locations are presented in Table 15 below.

Statistical Noise Modeling

To evaluate the "worse-case" noise generated from the operation of the proposed facility, the applicant's noise analysis assumed the facility will be in constant operation, with power transmission during nighttime hours from the battery storage. The applicant explains in the noise analysis that 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 would not produce any energy or sound, so assuming the batteries will discharge during these quiet periods, compliance with the DEQ noise rules can be supported during those periods with the lowest measured L50 noise levels.

The applicant conducted additional noise modeling for the evaluation of impacts under the EFSC Protected Area and Recreation standards, located four miles north of the proposed facility, and discussed further in Sections IV .F., *Protected Areas*, and IV.L., *Recreation*, of this order.

Noise modeling was performed using SoundPlan Noise Modeling Software (Essential Version 4.1). 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.[136] The software allows the input of geographical and topographical information and provides a true 3-D acoustical model for noise propagation. Facility-specific inputs inserted into the model included topographical information from Google Earth, computer-aided drafting (CAD) information for the locations of facility equipment provided in

[136] OSCAPPDoc4 ASC 24 OSC ASC Exhibit X 2019-10-17, Appendix X-1, p. 17.

Table 14, above, and locations of noise sensitive properties within 1.1-miles of the site boundary. The applicant states that no additional attenuation was assumed for groundcover shielding, such as from trees or shrubs, and that the noise levels presented were calculated assuming wet conditions and include noise from the 115 kV transmission lines where applicable. Corona noise can occur from electronic ionization of the air surrounding transmission lines. 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.

Noise sensitive properties R-1, R-4, and R-5 have the highest predicted noise levels in this part of the study area due to the proximity to the 115-kV to 500-kV step-up substation transformer for (R-1) and the set of four 34.5-kV to 115-kV collector substations (for R-4 and R-5). Modeled noise levels for residences located to the east of the solar array, represented by noise sensitive properties R-8 through R-17, ranged from 21 to 28 dBA due to the close proximity to the nearby solar array invertor/transformer units and battery storage units. ASC Exhibit X, Appendix X-1, Attachment D, Figure D-1 illustrates the proposed facility location, the location of noise sensitive properties as well as the predicted noise levels at each property.

Ambient Noise Degradation and Maximum Allowable Standards

The ambient noise degradation standard requires a demonstration that noise generated during proposed facility operation must not cause the hourly L50 noise level at any noise-sensitive property to exceed 10 dBA above measured ambient conditions or, in this case, ambient conditions ranging from 20 to 47 dBA. Based upon the applicant's noise analysis and noise contour maps, maximum increases in ambient noise level from proposed facility operation would not exceed 9 dBA, as presented in Table 15: *Ambient, Predicted, and Change in L50 Noise Levels* and Figure 3: *Proposed Facility Operational Noise Contour Map* below. Therefore, the ambient noise degradation standard would not be exceeded at any noise sensitive property, even during maximum operational noise and rainy conditions.[137]

[137] The 115-kV transmission line was modeled based on typical corona noise levels provided in ASC Appendix AA -1 of Exhibit AA: < 15 dBA for wet conditions at 50 feet and 0 dBA for dry conditions at 50 feet; for the analysis, the sound power of 46 dBA is based on the worst-case level of 15 dBA at 50 feet.

Figure 3: Proposed Facility Operational Noise Contour Map

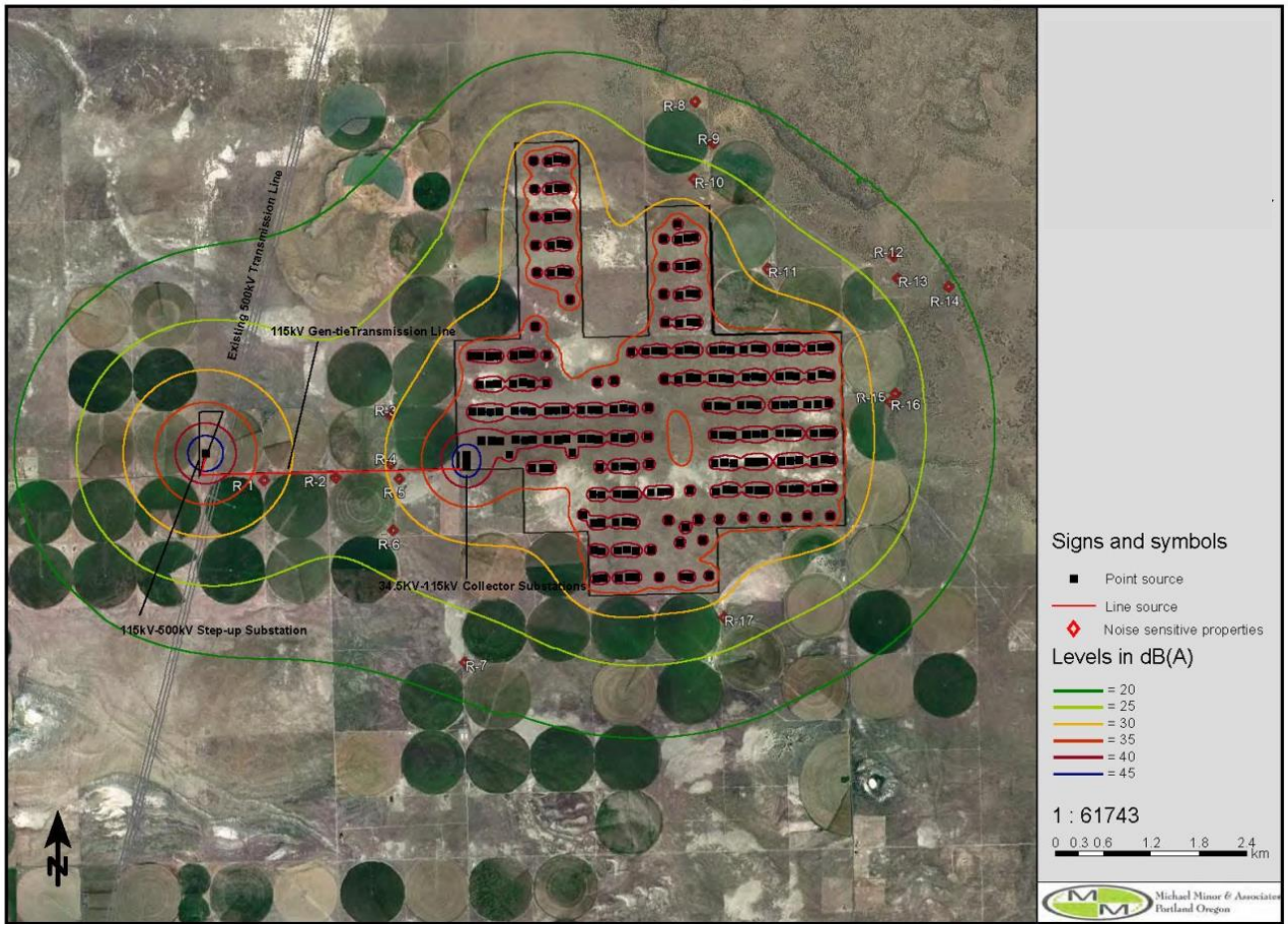


Table 15: Ambient, Predicted, and Change in L50 Noise Levels

Noise Sensitive Property		Existing Background L50 (dBA) [a]	Total Noise of Facility Equipment (dBA) [b]	Combined Noise (Background + Total Noise of Facility Equipment, dBA) [c]	Total Change in L50 Noise (dBA) [d]
ID	Address				
R-1	83394 Connley Lane Silver Lake, OR	28	33	34	+6
R-2	83136 Connley Lane Silver Lake, OR	28	28	31	+3
R-3	83391 Connley Lane Silver Lake, OR	28	30	32	+4
R-4		28	31	33	+5
R-5	83394 Connley Lane Silver Lake, OR	28	31	33	+5
R-6	83136 Connley Lane Silver Lake, OR	28	28	31	+3
R-7 [e]	PO Box 69 Fort Rock, OR	28	22	29	+1
R-8	PO Box 39 Fort Rock, OR	20	21	24	+4
R-9		20	23	25	+5
R-10	PO Box 437 Christmas Valley, OR	20	27	28	+8
R-11	PO Box 39 Fort Rock, OR	20	28	29	+9
R-12	PO Box 1031 Ferndale, CA	20	22	24	+4
R-13		20	23	25	+5
R-14	2422 Lara Court Medford, OR	20	21	24	+4
R-15	PO Box 784 Christmas Valley, OR	20	27	28	+8
R-16	2614 1st St. Tillamook, OR	20	28	29	+9
R-17	PO Box 784 Christmas Valley, OR	20	28	29	+9

Notes:
a. Background measured noise level: L50, using minimum M-1 for R-1 through R-7 and M-3 for R-8 through R-17.
b. Total noise from Facility operation at noise sensitive properties.
c. Total noise, background and Facility operations, predicted by logarithmically summing the background noise and operational noise.
d. Change in total noise at noise sensitive properties, (existing levels to Facility operation).

Table 15: Ambient, Predicted, and Change in L50 Noise Levels

Noise Sensitive Property		Existing Background L50 (dBA) [a]	Total Noise of Facility Equipment (dBA) [b]	Combined Noise (Background + Total Noise of Facility Equipment, dBA) [c]	Total Change in L50 Noise (dBA) [d]
ID	Address				
R-1	83394 Connley Lane Silver Lake, OR	28	33	34	+6
R-2	83136 Connley Lane Silver Lake, OR	28	28	31	+3
R-3	83391 Connley Lane Silver Lake, OR	28	30	32	+4
R-4		28	31	33	+5
R-5	83394 Connley Lane Silver Lake, OR	28	31	33	+5
R-6	83136 Connley Lane Silver Lake, OR	28	28	31	+3
R-7 [e]	PO Box 69 Fort Rock, OR	28	22	29	+1
R-8	PO Box 39 Fort Rock, OR	20	21	24	+4
R-9		20	23	25	+5
R-10	PO Box 437 Christmas Valley, OR	20	27	28	+8
R-11	PO Box 39 Fort Rock, OR	20	28	29	+9
R-12	PO Box 1031 Ferndale, CA	20	22	24	+4
R-13		20	23	25	+5
R-14	2422 Lara Court Medford, OR	20	21	24	+4
R-15	PO Box 784 Christmas Valley, OR	20	27	28	+8
R-16	2614 1st St. Tillamook, OR	20	28	29	+9
R-17	PO Box 784 Christmas Valley, OR	20	28	29	+9

e. R-7 is a noise sensitive property identified by the applicant located 1.1 miles from the site boundary.
Source: OSCAPPDoc4 ASC 24 OSC ASC Exhibit X 2019-10-17, Appendix X-1, Table 7.

Under the maximum allowable noise standard at OAR 340-035-0035(1)(b)(B)(i), a new industrial or commercial noise source to be located on a previously unused site may not exceed the noise levels specified in Table 8 of the noise rules. The nighttime L50 value of 50 dBA is used because

it represents the most restrictive portion of the noise standard. The applicant's noise modeling results show that noise generated during proposed facility operation would not exceed the maximum allowable standard of 50 dBA at any noise sensitive property within the analysis area, with maximum statistical noise levels modeled at 34 dBA. Therefore, the maximum allowable standard would not be exceeded at any noise sensitive property, even during maximum operational noise/rainy conditions.

To ensure that operational noise associated with the proposed facility, at final design, is consistent with or less than the modeled noise levels presented in ASC Exhibit X, and due to discrepancies in the number of modeled noise sources (step-up substation transformers, battery system enclosures), the Department recommends Council impose the following condition to afford the Department the ability to verify compliance with DEQ's noise rules, based on consistency of sound power levels associated with final equipment selection compared to equipment information relied upon in ASC Exhibit X:

Recommended Noise Control Condition 2: Prior to construction of the facility, the certificate holder shall:

a. Submit to the Department a noise summary report presenting the sound power levels (in dBA) of noise generating equipment including solar array inverters and transformers, substation transformers, and battery system inverters and cooling systems, as applicable to final design. The sound power levels shall be supported by equipment manufacturer specifications and noise data. The certificate holder shall provide, in tabular format, a comparison of the sound power levels used in ASC Exhibit X for noise generating equipment and sound power levels validated by manufacturer specifications.
b. If the sound power levels used in ASC Exhibit X to evaluate compliance with DEQ's noise rules are lower than sound power levels of final equipment selected, the certificate holder shall provide an updated noise analysis to demonstrate compliance with the ambient degradation standard and maximum allowable threshold. The ambient noise level utilized in ASC Exhibit X may be used for the updated noise analysis, if required.

[PRE-NC-01]

In ASC Exhibit X, the applicant represents that it will set back the inverters and transformers associated with the solar array components 500 feet from the site boundary in proximity to noise sensitive properties. The applicant does not specify which noise sensitive properties the condition would apply to, nor does the applicant provide specific information about which inverter/transformers would be set back. As discussed above, the applicant's noise analysis demonstrates compliance with both the ambient noise degradation and maximum allowable noise standards in the DEQ noise rules. As noted in Table 15 above, the noise sensitive properties that would experience the greatest potential increase from noise generated by the operation of the proposed facility are R-10, R-11, R-15, R-16, and R-17, however each of these is below the allowable noise increase of 10 dBA and as such, no additional mitigation is required by Council rule.

Conclusions of Law

Based on the foregoing findings of fact and conclusions, and subject to compliance with the recommended site certificate conditions, the Department recommends that the Council find that the proposed facility would comply with the Noise Control Regulations in OAR 340-035-0035(1)(b)(B).

IV.Q.2. Removal-Fill

The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and Department of State Lands (DSL) regulations (OAR 141-085-0500 through 141-085-0785) require a removal-fill permit if 50 cubic yards or more of material is removed, filled, or altered within any "waters of the state."[138] The Council, in consultation with DSL, must determine whether a removal-fill permit is needed and if so, whether a removal-fill permit should be issued. The analysis area for wetlands and other waters of the state is the area within the site boundary. If a removal-fill permit is needed for the facility, it is Council that makes a determination whether or not DSL should issue such a permit.

Findings of Fact

The applicant describes its assessment of potential impacts to waters of the state, including wetlands and non-wetlands, in ASC Exhibit J. In ASC Exhibit J, the applicant describes that there are 35 non-wetland "playas" in the site boundary, and no wetlands, or other waters of the state. Playas are considered waters of the state and subject to regulation under the DSL removal-fill permit requirements. The playas at the site range in size from 0.01 acre to 3.4 acres. As described in ASC Exhibit J, playas are also called "playa lakes" or "dry lakes," and are characterized as dry for extended periods of time, sometimes years, and inundated with shallow levels of water during large or extended precipitation events. Additional description of playas is included in ASC Exhibit J. The applicant completed a wetland delineation report for the facility; the report is included as an attachment to ASC Exhibit J. In 2019, DSL issued a letter concurring with the applicant's wetland delineation report.[139]

The applicant describes that the proposed facility will be built on playas. However, only solar module rack support posts will be installed in playas, not other facility components. The posts would be pile-driven, and electrical cables between the modules would be suspended in trays aboveground, and not trenched below ground, to avoid impacts. It is anticipated that water would still be able to flow and pond at the playas, under the solar arrays, after construction. As is described in ASC Exhibit J and the ASC Exhibit J Supplement, the facility is anticipated to impact approximately 14 cubic yards of playa, mostly based on the impact of installing the solar module rack posts.

[138] ORS 196.800(15) defines "Waters of this state." The term includes wetlands and certain other waterbodies.
[139] OSCAPPDoc31 pASC Reviewing Agency Comment Letter WD#2018-0581 Concurrence DSL_McAllister 2019-5-09.

In the wetland concurrence letter and also in an additional email from DSLin 2019, confirmed that if direct impacts are less than 50 cubic yards, no removal-fill permit is needed. The email from DSL also noted that if the applicant wanted a letter from DSL stating that no removal-fill permit is needed for the proposed facility, a joint permit application (or JPA) would need to be completed and submitted to DSL.[140]

The DSL threshold for requiring a removal-fill permit is 50 cubic yards in playas, the Department agrees with the applicant that no removal-fill permit is required for the proposed facility, based on the anticipated level of impacts to playas as describes in ASC Exhibit J and the ASC Exhibit J.

Therefore, the Department recommends the Council find that the proposed facility maintains compliance with the removal-fill law and the certificate holder is not currently required to obtain a removal-fill permit.

Conclusions of Law

Based on the foregoing findings of fact and conclusions, the Department recommends that the Council find that a removal-fill permit is not needed for the proposed facility.

IV.Q.3. Water Rights

Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources Department (OWRD) administers water rights for appropriation and use of the water resources of the state. Under OAR 345-022-0000(1)(b), the Council must determine whether the proposed facility would comply with these statutes and administrative rules. OAR 345-021-0010(1)(o)(F) requires that if a proposed facility needs a groundwater permit, surface water permit, or water right transfer, that a decision on authorizing such a permit rests with the Council.

Findings of Fact

As discussed in Section IV.M., *Public Services* of this order and in ASC Exhibit O, under high temperatures and dry climactic conditions (i.e. "worst-case conditions"), proposed facility construction would use over 17 million gallons of water per year for dust suppression, road compaction, on-site worker drinking and sanitation use. Proposed facility operation would use approximately 1.3 million gallons of water per year to support O&M building drinking water use, possible septic system, and solar panel washing. Estimated water use from proposed facility construction and operation is presented in Table 16: *Estimated Worst-Case Annual Water Use from Construction and Operation* below.

[140] OSCAPPDoc20 ASC Applicant Response to Additional RAIs_Combined 2020-02-24 to 2020-03-09.

Table 16: Estimated Worst-Case Annual Water Use from Construction and Operation

Water Use Description	Quantity/Units
Construction	Gallons/Year
Dust Suppression	16,208,500
Soil Maintenance	677,500
Equipment Washing	8,500
Fire Suppression	171,500
Potable Water (bottled/tap drinking water)	84,000
Annual Estimated Construction Water Use =	17,150,000
Operation	Gallons/Year
O&M Building/Septic Systems	875,000
Solar Panel Washing	489,000
Annual Estimated Operational Water Use =	1,364,000
Source: OSCAPPDoc4 ASC 15 OSC ASC Exhibit O 2019-10-17, Tables O-1 and O-2.	

The applicant maintains it would obtain water for construction and operation of the proposed facility from the Christmas Valley Domestic Water Supply District, which has agreed to provide as their system demand allows. In a comment letter provided to the applicant (ASC Exhibit O Appendix O-1), the water district manager/operator, Erica Anderson, describes that the districts' priorities are to serve its water customers and provide water for fire suppression and therefore strongly advised the applicant to maintain a secondary water source in case the district had to discontinue services due to an issue or shortage with their system. The applicant would also construct up to two on-site wells, one at each O&M building, to be located on separate tax lots according to ASC Exhibit F, Figure F-1. The applicant's proposal for use of groundwater from groundwater wells qualifies for an exemption under ORS 537.545(1)(f), therefore no registration, certificate of registration, application for a permit, permit, certificate of completion or ground water right certificate is required.[141]

In accordance with OAR 690-340-0010(1)(d), each O&M building, if on a separate tax lot, and on its own water system (unique well, pump, and piping) would qualify for its own commercial exemption of 5,000 gallons per day. Under ORS 537.545(5) through (7), the landowner where an exempt well is constructed must file a record of the well, with appropriate fee, with the OWRD.[142] The provisions of ORS 537.765 outline water log requirements and apply to any person who constructs, alters, abandons or converts a well, which would apply to bonded contractors installing the wells, and not the applicant.

[141]ORS 537.545(1)(f) "No registration, certificate of registration, application for a permit, permit, certificate of completion or ground water right certificate under ORS 537.505…is required for the use of ground water for:** (f) Any single industrial or commercial purpose in an amount not exceeding 5,000 gallons a day..."

[142] See OAR 690-190-0005 for exempt groundwater use recording requirements in rule.

During operation, the applicant expects to use approximately 1,364,000 gallons per year under worst-case conditions, and 1,201,00 gallons of water per year under average conditions.[143] Water will primarily be used for solar panel washing activities, for potable water in the O&M buildings, water use if septic systems are installed. The primary sources of water during operation will be the one to two wells dug on site, which will each provide up to 5,000 gallons of water per day. The primary sources of water during operation will be the one to two wells dug on site (as described above), which will each provide up to 5,000 gallons of water per day. If more water is needed, applicant will purchase it from a private or municipal source that has the necessary permits.

Because the applicant proposes to use water from the up to two on-site wells during construction and operation of the facility, and to ensure compliance with statutory requirements under ORS Chapters 537, the Department recommends the following condition:

> **Recommended Water Rights Condition 1:** Within 30 days after well completion for each new exempt well under ORS 537.545, the certificate holder shall follow the recording requirements under OAR 690-190-0100. If the certificate holder is not the landowner, the certificate holder shall facilitate the landowner submission of required materials to Oregon Water Resources Department. The certificate holder shall submit to the Department a copy of the file submitted to Oregon Water Resources Department.
> [GEN-WR-01]

Based on the recommended findings and proposed condition, the Department recommends Council find that the applicant does not need a groundwater permit, surface water permit, or water right transfer. If such a permit is required by the applicant at a later time, a site certificate amendment would be required to review and consider such a permit application if secured by the applicant (certificate holder) directly.

Conclusions of Law

Based on the foregoing findings of fact and recommended condition of compliance with other applicable rules, the Department recommends that the Council conclude that the proposed facility does not need a groundwater permit, surface water permit, or water right transfer.

[143] OSCAPPDoc4 ASC 21 OSC ASC Exhibit U 2019-10-17, U.2.2.

V. PROPOSED CONCLUSIONS AND ORDER

The applicant submitted an application for site certificate to construct and operate approximately 400 MWac of solar photovoltaic power generation equipment and its related or supporting facilities (2-mile 115 kV transmission line; collector substation; operations and maintenance building; communication and supervisory control and data acquisition system; temporary staging areas; battery storage) to be located in northern Lake County. Subject to compliance with the recommended site certificate conditions and based on the preponderance of evidence on the record, the Department recommends Council find that:

1. The proposed Obsidian Solar Center complies with the requirements of the Oregon Energy Facility Siting Statutes, ORS 469.300 to 469.520.

2. The proposed Obsidian Solar Center complies with the standards adopted by the Council pursuant to ORS 469.501.

3. The proposed Obsidian Solar Center complies with all other Oregon statutes and administrative rules identified in the second amended project order as applicable to the issuance of a site certificate for the proposed facility.

Based on the recommended findings of fact, reasoning, recommended conditions and conclusions of law in this draft proposed order, the Department recommends that Council conclude that the applicant has satisfied the requirements for issuance of a site certificate for the proposed Obsidian Solar Center. The Department further recommends that, pursuant to ORS 469.401, the Chairperson execute the site certificate authorizing the applicant to construct, operate and retire the facility subject to the conditions set forth in the site certificate.

Issued this 12th day of March 2020

The OREGON DEPARTMENT OF ENERGY

By: _____

Todd Cornett
Assistant Director, Energy Facility Siting Division
Oregon Department of Energy

Attachments:

Attachment A: Draft Site Certificate Conditions
Attachment B: [Reserved for Draft Proposed Order Comment Index]
Attachment C: Reviewing Agency Comment Letters Referenced in the DPO
Attachment I-1: Draft Erosion and Sediment Control Plan
Attachment I-2: Draft Spill Management Plan
Attachment P-1: Draft Habitat Mitigation Plan
Attachment P-2: Wildlife Monitoring Plan
Attachment P-3: Draft Revegetation and Noxious Weed Control Plan
Attachment S-1: Archaeological Testing and Excavation Methodologies Plan
Attachment S-2: Inadvertent Discovery Plan
Attachment S-3: Draft Cultural Mitigation and Monitoring Plan
Attachment S-4: SHPO Archaeological Permits (Redacted)
Attachment U-1 Kittelson Traffic Impact Assessment
Attachment U-2 Draft Construction Traffic Management Plan
Attachment U-3 Draft Fire Protection and Emergency Response Plan

Notice of the Right to Appeal

[Text to be added to Final Order]

Attachment S-3 ~~Draft~~ Cultural Mitigation and Monitoring Plan

I. INTRODUCTION

This Cultural Mitigation and Monitoring Plan (CMMP) describes how Obsidian Solar Center LLC (Applicant) will avoid, minimize, mitigate, and monitor for impacts to cultural resources from the Obsidian Solar Center (Facility) located in Lake County, Oregon. The C~~C~~MMP was developed in consultation with the Oregon Department of Energy (ODOE), the Oregon State Historic Preservation Office (SHPO), the Klamath Tribes, Burns Paiute Tribe, and Confederated Tribes of Warm Springs. Applicant will implement this C~~C~~MMP during Facility construction.

II. ~~PROPOSED~~ AVOIDANCE AND MINIMIZATION ~~MITIGATION~~ MEASURES

~~**ASC Exhibit S:**~~

~~The below information is preliminary and shall be updated when finalizing this Cultural Mitigation and Monitoring Plan based on the pre-construction surveys defined in Final Order on ASC, Attachment S-1: Archeological Testing and Excavation Methodologies Plan, and SHPO and Tribal coordination.~~

Applicant ~~will~~has taken the following measures to prevent destruction of historical, cultural and archaeological resources~~, all with the agreement of the Klamath Tribes and in accordance with the CMMP~~:

- Revised site layout to avoid archeological sites on ~~Excluding isolated finds, eligible or potentially eligible sites cover approximately 202.24 acres within the site boundary. Applicant will avoid~~ approximately 156 acres within Area A – represents more than three quarters of the areas identified with archeological resources.

- ~~, which amounts to almost 80% of the total acres not accounting for appropriate buffers.1 To help offset any disturbance of sites or potential sites not being avoided, Obsidian also agreed to e~~Eliminated 2,430 acres originally included in the Facility site boundary ~~the area studied for potential development~~ after it was determined that approximately 850 acres may contain eligible or potentially eligible resources. ~~In addition, construction will be subject to the Inadvertent Discovery Plan (see Attachment S.5.3.3) and the Tribal Monitoring Agreement, both components of the CMMP.~~

- ~~To further avoid and minimize impacts to historic, cultural and archeological resources, Applicant has R~~revised ~~its proposed~~ site layout to avoid topographical features (specifically, an area of sandy dune ridges), identified by the Klamath Tribes as an area of particular concern that human remains may be uncovered during construction. ~~Applicant's revised site layout avoids this area.~~

  ~~Four of the five multicomponent archeological areas recorded within the site boundary described in the pASC have been preliminarily classified as eligible or potentially eligible~~

~~resources. Applicant has agreed to avoid all four areas.~~
~~There are three areas with a preliminary designation of "potentially eligible historical site." Applicant has agreed with the Klamath Tribes that Applicant will avoid approximately 9.5 acres (1 site) and may impact approximately 2 acres (2 sites) in this category.~~
~~There are 29 areas with a preliminary designation of "eligible prehistoric site" or "potentially eligible prehistoric site" and, of the approximately 157 acres in this category, Applicants has agreed with the Klamath Tribes that Applicant will avoid approximately 132 acres (14 sites) and may impact just over 25 acres (15 sites).~~

- ~~In its agreement with the Klamath Tribes, all areas and resources not identified in the CMMP as being avoided may be impacted and the Tribes have agreed that the total mitigation measures described in the CMMP, which include the Tribal Monitoring Agreement and the Inadvertent Discovery Plan, each described below, are adequate to offset for and mitigate against resulting impacts.~~

- Prepared Inadvertent Discovery Plan (IDP) included as Attachment S-2 to the Final Order to implement during Facility during construction. See Section IV below for the IDP requirements.

III. MITIGATION MEASURES

- Implement the Archeological Testing and Excavation Methodologies Plan, included as Attachment S-1 to the Final Order, prior to and during Facility construction.

- Implement Inadvertent Discovery Plan (IDP) included as Attachment S-2 to the Final Order during Facility during construction. See Section IV below for the IDP requirements.

- Obtain and comply with SHPO archeological permits issued as a part of the Facility site certificate and included as Attachment S-4 to the Final Order during Facility construction. See Section V below for SHPO archeological permit requirements.

- Comply with the mitigation obligations agreed to by Applicant and the Klamath Tribes, as confirmed in a letter from the Klamath Tribes Tribal Council to SHPO, dated August 8, 2019. In its agreement with the Klamath Tribes, all areas and resources not identified in the CMMP as being avoided may be impacted and the Tribes have agreed that the ~~total~~ mitigation measures described in the CMMP, which include the Tribal Monitoring Agreement and the Inadvertent Discovery Plan, each described below, are adequate to offset for and mitigate against resulting impacts.

IV. INADVERTENT DISCOVERY PLAN AND CONSTRUCTION MONITORING

Applicant will implement the IDP included as Attachment S-1 to the Final Order and have monitors onsite during Facility construction as described in the following sections.

A. Inadvertent Discovery Plan

Applicant will adhere to the Inadvertent Discovery Plan, included~~ing~~ as Attachment S-2 to the Final Order, during Facility construction. ~~–~~The Inadvertent Discovery Plan outlines protocols to be followed if previously unidentified cultural resources or human remains are encountered during construction of the Facility. The primary function of the Inadvertent Discovery Plan is to prevent impacts to human remains or exceptionally important archaeological materials.

B. Monitoring During Construction

The professionally-qualified tribal monitor leads will provide weekly reports describing work activities and any findings. This information will be comp~~l~~iled in a monitoring report to be distributed to the area tribes, ODOE, SHPO, and as appropriate the Oregon Department of State Lands (DSL), at the completion Facility construction. ~~In addition, Applicant will enter into Tribal Monitoring Agreements with the Klamath Tribes and Burns Paiute Tribe, as described under Section IV.C below.~~

C. Tribal Monitoring Agreements

Applicant will enter into monitoring agreements Klamath Tribes and the Burns Paiute Tribe. The monitoring agreements provide an opportunity for the Tribes to have monitors onsite during ground disturbing activities.~~,~~ These agreements contain notification and reporting obligations, and outline terms for compensation, reimbursement, and monitoring protocols.

~~**PROPOSED MONITORING PROGRAM**~~

~~**ASC Exhibit S:**~~

~~**OAR 345-021-0010(1)(s)(E)** *The applicant's proposed monitoring program, if any, for impacts to historic, cultural and archaeological resources during construction and operation of the proposed facility.*~~

- ~~Response. An archeological monitor will be on site during Facility construction activities. The monitor will provide weekly reports describing work activities and any findings. This information will be complied in a monitoring report to be distributed to the area tribes, SHPO and the Oregon Department of Energy at the completion Facility construction. The monitor(s) will follow the monitoring plan, which will be finalized between Applicant and the Klamath Tribes, with the following agreed-upon material terms:~~

The Director of Culture and Heritage Department or other designee, will be the primary point of contact and will assign up to 2 cultural monitors during the Facility construction (or such greater number as may be appropriate given the rate and schedule of construction). The Director, along with the Cultural Resource Protection Specialist, if applicable, will be reimbursed for their time spent on the project overseeing the monitors and responding to reports as necessary. In order to be reimbursed detailed invoices showing time and activities must be submitted to Applicant in a timely manner.

- Monitors will be paid hourly for each hour of on-site observation and will be entitled to a per diem payment each day on site for observation. It is expected that the construction schedule will consist of 4 ten-hour work days per week and, depending on construction phases, may last up to two years. Cultural monitors will be paid on the terms and frequency agreed upon by the parties.

~~To the extent that the cultural monitors are required to travel more than 75 miles from their homes to the facility site, Obsidian will reimburse a specified amount per night for lodging, provided that the monitors are responsible for securing their own reservations or make other arrangements. This lodging stipend is in addition to the per diem.~~

~~Monitors will be responsible for providing their own transportation to and from the site. For transportation around the site, the monitors will be provided with two four-wheel drive pick-up trucks (only crew members that have been cleared by the Klamath Tribe Administration policies through the Culture and Heritage Department will be allowed to operate any vehicle). Fuel costs for monitoring on this project will be a reimbursable expense.~~

~~In order to work on the site, Monitors will be required to have steel tipped boots, hard hats, reflective vests, GPS units, digital cameras, cell phones, ear and eye protection, and first aid kits.~~

~~The cultural monitors will be expected to attend all safety meetings and follow all safety and other instructions of the EPC contractor. Cultural monitors will be expected to be on site to observe all excavation work. The cultural monitors will coordinate their daily activities with Applicant's construction contractor and Applicant's archeologist, if applicable, and provide written weekly summary reports to Applicant describing observed items or issues.~~

~~The Tribes may employ a professional archaeologist to support the monitoring and archaeological work being conducted in connection with construction of the facility. Applicant will reimburse the Tribes for the actual direct costs of hiring the archaeologist incurred by the Tribes provided the Tribes submit a reasonably detailed invoice to Applicant. The archaeologist will provide guidance on various archaeological matters throughout the term of the project. The archaeologist will work closely with representatives of the Applicant on behalf of the Klamath Tribes.~~

- ~~The Tribes may incur legal costs in association with entering into the Monitoring Agreement. Obsidian has agreed to reimburse the Tribes for a portion of such costs.~~

~~In advance of construction, all monitors and others involved in construction activities will have received appropriate training regarding the types of cultural resources that may be present below the ground surface and appropriate actions to take in case of a find. In the case of a post-review discovery, the archeological monitor will follow the Inadvertent Discovery Plan protocol described in Appendix S05 to this Supplement to Exhibit S.~~

V. SHPO ARCHAEOLOGICAL PERMITS ~~CONDITIONS~~

Applicant sought archeological permits under ORS 390.235 through the EFSC process because Facility construction would occur in an area of known archeological objects and sites. In addition to EFSC review, SHPO circulated the archeological permit applications for review and comment pursuant to OAR 736-051-0080 and OAR 736-051-0090. Comments received under OAR 736-

051-0080 and OAR 736-051-0090 were incorporated as comments into the EFSC record and formed the basis of conditions contained in the archeological permits.

~~SHPO Archaeological Permits~~

The ~~following conditions are included in the~~ four (one for each landowner) ~~SHPO~~ a~~A~~rchaeological p~~P~~ermits (AP2816, AP2817, AP2818, and AP2819) and their respective conditions are included and governed by the EFSC site certificate. ~~Permit ID's: AP2816, AP2817, AP2818, and AP2819~~ Complete application materials and the four permits~~, along with their conditions,~~ can be found in the Final Order on ASC, Attachment S-1: Archeological Testing and Excavation Methodologies Plan. The archaeological permits allow for archaeological excavations where construction impacts to archaeological sites are expected. The archaeological excavations serve as mitigation for those expected construction impacts. The permits also provide for construction monitoring by the Klamath Tribes and the Burns Paiute Tribe, as described above.

The following outline the archeological permit conditions Applicant must comply with during Facility construction:

- Applicant will enter into a monitoring agreement with Klamath Tribes as described in Section IV above.
- Applicant will enter into a monitoring agreement with the Burns Paiute Tribe as described in Section IV above.
- Diagnostic artifacts identified during monitoring may be collected. The landowner will provide artifacts collected from privately owned land to the Klamath Tribes for curation. On public lands, the artifacts will be sent to an appropriate repository.
- Applicant will implement the Archeological Testing and Excavation Methodologies Plan prior to and during Facility construction (Attachment S-1 to the Final Order) and implement the Inadvertent Discovery Plan (Attachment S-2 to the Final Order).
- Applicant will provide copies of all reports for monitoring and discoveries within the Facility site boundary to ODOE, SHPO, the Klamath Tribes, and the Burns Paiute Tribe. Applicant will also provide copies of all reports for monitoring and discoveries within Section 16 of the Facility site boundary to the Oregon Department of State Lands.

The applicant's archaeologist prepared the archaeological permit applications in coordination with the SHPO and Tribes. Reviewing Tribes and agencies approved the permits and requested additional conditions. The additional conditions were accepted by the applicant and made part of each permit. These conditions are available in Attachment S-1 and are summarized below.

Klamath Tribes

The Klamath Tribes' will have our employed Archaeologist will be onsite for review of work related to this permit and will be overseeing the Klamath Tribes' interests.

Definitions; Monitoring Agreement, tThe Klamath Tribes may have Tribal Monitor(s) onsite during all excavation activities under theis permits. A notification of at least 24 hours must be given to the Klamath Tribes, Culture and Heritage Department or Tribal Archaeologist, before the starting of work.

Trenching within a Recorded Archaeological Site; D. (b) Diagnostic artifacts identified during monitoring may be collected. Artifacts collected from privately-owned lands will be and turned over to the permitee's archaeological field director who will, in turn, give them to the private landowners. The private land owners have agreed to provide these artifacts to the Klamath Tribes for curation. On public lands, state law requires curation at specific respositories and the Klamath Tribes do not currently operate one of these respositories. However, the Klamath Tribes requested that Iif lands held by Oregon Department of State Lands, at a later time became property of Obsidian Solar Center LLC the project proponent,. The Klamath Tribes request thatthe artifacts collected would be given to the Klamath Tribes, Culture and Heritage Department for curation.

Testing at Project Related (non-archaeological) Excavation; C. All Project-related Excavationground disturbance will be monitored by one or more tribal monitors as the tTribal aArchaeologist sees appropriate. A 24 hour notification must be given to the Klamath Tribes, Culture and Heritage Department or Tribes' Archaeologist from the project proponent or their construction contractor; Swinerton, Dog Lake Construction or Obsidian Solar Center. Bbefore non-archaeological work related to ground disturbing activities on the project is started.

Artifact Analysis; A. aA total of 51 obsidian artifacts will be selected for source characterization and hydration analysis on the project. That No Destructive analysis will be performed on collected artifacts (no lapidary sawing of formed tools for sample preparation), rather a debitage

flake from the sample area selected will be used for hydration analysis. B. aA total of 10 artifacts will be selected for residue analysis. The Klamath Tribes, Culture and Heritage Department, concurs with theis method to be used for residue analysis.
Reporting. That The Klamath Tribes, Culture and Heritage Department also requests a copy of the report of findings from the archaeological testing phase of the project.
Archaeological Permit; This Methodologies planThe Archeological Testing and Excavation Methodologies Plan provides the archaeological mitigation for impact to archaeological resources for the planned project. However, the Klamath Tribes, Culture and Heritage Department reserve the opportunity to request that more mitigation may beif needed for other (new) cultural/archaeological resources unearthed during; the archaeological testing phase of the permit and construction related activities.

Burns Paiute Tribe

WeThe Burns Paiute Tribe requests the ability to have a Burns Paiute tribal cultural monitor on-site for all or part of the excavations - at the Burns Paiute Tribe's discretion.
The Burns Paiute Tribe We would like the ability to review and potentially comment on the draft report generated as a result of the excavation.
The Burns Paiute Tribe We requests a bound copy of the final report.
The Burns Paiute Tribe We reserves the right to review the collected cultural items prior to their permanent curation. If cultural items are taken from private lands we ask that the private land owner consider gifting the cultural items to the Burns Paiute Tribe so that we may take care of them in a culturally appropriate manner.
The Burns Paiute Tribe We would also like an executed copy of the inadvertent discovery plan prior to initiation of ground disturbing activities, and we want to be listed as one of the primary contacts for inadvertent discoveries.

Oregon Department of State Lands (DSL - Landowner)

DSL requests:
A copy of the of the Final Report that addresses the survey & testing done on Section 16 of DSLs land and;
A copy of the GIS shape files that identifies the areas surveyed & the location of the Sites & Isolates documented on section 16 of DSL Land.

Gmail

Brad T <blthorsted@gmail.com>

(no subject)

1 message

Brad T <blthorsted@gmail.com> Mon, May 11, 2020 at 8:17 PM
To: Brad Thorsted <blthorsted@gmail.com>

Dear Kellen Tardaewether;

My name is Brad Thorsted,I work for Lake County Road Dept. I am very concerned about these solar projects in north lake co. I take care of the rds up here in north lake county, and this past year has cost the co. extensive time, materials and labor because of these solar projects.I have seen many wrecks, they drive to fast, and are tearing up the gravel rds, freshly bladed. The workers have no respect for the county they are working in. The company doing these projects should be maintaining the rds they are using to and from, and held liable to restore rds while they are there and before they leave.
The local community are calling the co. complaining about these rds, wanting these rds fixed on a weekly basis that the solar people are using.
I also understand that these companies can walk away and not have to deal with removal or clean up if they don't work out.
Iam against these projects, and hope you deny their proposed sites in north lake county.

thank you for your time in this matter;

Brad Thorsted

TARDAEWETHER Kellen * ODOE

From: Melanie Boozenny <mboozenny@co.lake.or.us>
Sent: Monday, May 18, 2020 4:11 PM
To: TARDAEWETHER Kellen * ODOE
Cc: Michelle Slater; dbrown@obsidianrenewables.com; Brad Winters
Subject: Lake County Comment Letter
Attachments: 20200518163805799.pdf

Hello Ms. Tardaewether,

Please find the response from Lake County attached in regards to a comment submitted from a County Employee on his own behalf.

Best,

Melanie

Melanie Boozenny
She/Her/Ms
PIO, Lake County Commissioner's Administrative Assistant
513 Center Street
Lakeview, Oregon 97630
(541) 947-6003

-----Original Message-----
From: Melanie Boozenny <mboozenny@co.lake.or.us>
Sent: Monday, May 18, 2020 4:38 PM
To: Melanie Boozenny <mboozenny@co.lake.or.us>
Subject: Message from "RNP00267395C397"

This E-mail was sent from "RNP00267395C397" (MP C3003).

Scan Date: 05.18.2020 16:38:05 (-0700)
Queries to: DoNotReply@co.lake.or.us

Lake County Board of Commissioners
513 Center Street
Lakeview, Oregon 97630
(541) 947-6003
Fax: (541) 947-5775

Bradley J. Winters, Chairperson
James Williams, Vice-Chairperson
Mark Albertson, Commissioner

May 18, 2020

Ms. Kellen Tardaewether,

Mr. Brad Thorsted wrote a personal comment on May 11, 2020 expressing his own beliefs to EFSEC. He is employed by Lake County, but his comment was not representing the beliefs of Lake County; he was acting as a private citizen. Lake County is in favor of the proposed project. Lake County has experience with solar farm construction and with the impacts to road construction projects can cause. Obsidian has built responsibly in Lake County for several years. Lake County has the tools to supervise roads and a commitment from Obsidian to be responsible for damage. If a problem arises, we will be prepared to respond to it.

Sincerely,

Bradley J. Winters
Chairperson

James Williams
Vice-Chair

Mark Albertson
Commissioner

TARDAEWETHER Kellen * ODOE

From: Melanie Boozenny <mboozenny@co.lake.or.us>
Sent: Monday, July 20, 2020 2:58 PM
To: TARDAEWETHER Kellen * ODOE
Cc: kmoore@obsidianrenewables.com; Laurie Hutchinson; James Williams
Subject: Lake County - Obsidian Solar Center Project
Attachments: Obsidian Solar Center Project - Road Repair.pdf

Ms. Tardaewether,

Please find the attached letter in support of the conversations for road damage mitigation.

Best,

Melanie Boozenny

Melanie Boozenny
She/Her/Ms
PIO, Lake County Commissioner's Administrative Assistant
513 Center Street
Lakeview, Oregon 97630
(541) 947-6003

Lake County Board of Commissioners
513 Center Street
Lakeview, Oregon 97630
(541) 947-6003
Fax: (541) 947-5775

Bradley J. Winters, Chair
James Williams, Vice-Chair
Mark Albertson, Commissioner

July 10, 2020

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301

via electronic mail:
Kellen.Tardaewether@oregon.gov

RE: Obsidian Solar Center, LLC project at Fort Rock

Ms. Tardaewether,

We are writing today to update the Oregon Department of Energy and Oregon Energy Facilities Siting Council as it pertains to the Lake County Road Department, regarding the Obsidian Solar Center project at Fort Rock. Managing the maintenance and repair of the Lake County roads is a challenging endeavor for our County Road Superintendent, with a limited budget to cover such a large geographic area. Any large construction projects that could cause damage to roads in the County are of high concern to us, him and the Road Department. That is why we are appreciative that Obsidian Renewables, LLC, the manager of Obsidian Solar Center, has reached out proactively to work with the County in coming up with a solution to any road maintenance and repair issues caused by the Project.

Obsidian has developed multiple solar projects in Lake County. On each of those projects, Obsidian has engaged Swinerton Renewable Energy as its general contractor. In our experience, Obsidian and Swinerton have consistently worked to maintain the roads around their projects in a satisfactory manner during the construction of their projects and have worked with us to repair any damage after completion of such projects.

Regarding the Project, We and our Road Superintendent have had multiple discussions with the Obsidian and Swinerton teams. We have begun outlining a plan for road maintenance and repair in connection with the Project. These discussions have been constructive. We are confident that Lake County, Obsidian and Swinerton will be able enter into a satisfactory Road Maintenance/Use and Repair Agreement that will ensure the roads are well maintained during the Project and repaired as necessary after the Project's completion.

Thank you.

Bradley J. Winters
Chair

James Williams
Vice-Chair

Mark Albertson
Commissioner

TARDAEWETHER Kellen * ODOE

From: Sarah J Reif <Sarah.J.Reif@state.or.us>
Sent: Monday, May 18, 2020 4:27 PM
To: TARDAEWETHER Kellen * ODOE; ESTERSON Sarah * ODOE
Cc: DONALD Erin L; MUIR Jonathan D
Subject: RE: Obsidian - Comments on DPO and CMMP
Attachments: Obsidian_DPO_ODFW Supplemental Comment FINAL_05.18.20.pdf

Kellen and Sarah,

Please see attached for some Supplemental Comments from ODFW, in response to Obsidian's comments on the DPO. We will speak to these comments during our presentation at the hearing.

Sarah Reif
ODFW Energy Coordinator
o:503-947-6082; m: 503-991-3587

From: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Sent: Thursday, April 30, 2020 12:34 PM
To: REIF Sarah J <Sarah.J.Reif@state.or.us>; MUIR Jonathan D <Jonathan.D.Muir@state.or.us>
Cc: DONALD Erin L <erin.l.donald@state.or.us>; ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
Subject: FW: Obsidian - Comments on DPO and CMMP

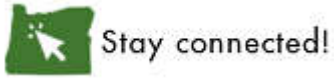
Hey Sarah, Jon, and Erin,

We received Obsidian's comments on the DPO. ODFW requested to view the Working Lands Improvement Program Lease Agreement, if it was provided. The applicant notes that it intends to submit this in a subsequent filing, but did not provide it in these comments. If we receive it, I'll send it along. Thanks,

Kellen

OREGON DEPARTMENT OF ENERGY

Kellen Tardaewether
Senior Siting Analyst
550 Capitol St. NE Salem, OR 97301
P: 503-373-0214
C: 503-586-6551
P (In Oregon): 800-221-8035



From: Albrich, Elaine <ElaineAlbrich@dwt.com>
Sent: Thursday, April 30, 2020 8:29 AM

To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Cc: ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>; WOODS Maxwell * ODOE <Maxwell.Woods@oregon.gov>; David Brown <dbrown@obsidianrenewables.com>; Michelle Slater <mslater@obsidianrenewables.com>; Albrich, Elaine <ElaineAlbrich@dwt.com>; Bainter, Allison <AllisonBainter@dwt.com>
Subject: Obsidian - Comments on DPO and CMMP

Hi Kellen –

Thank you for the opportunity to provide comments on the Obsidian Solar Center DPO. Attached you will find the following:

- A cover letter that summarizes the comments and provides reasons to support the requested change.
- A redline DPO that provides the requested changes in redline along with additional explanation for the revisions (in bubble comments).
- A redline CMMP that finalizes it as an implementable plan.

I tried to come up with a different method for sending you the redline sections of the DPO but it ended up being more confusing than sending the entire DPO document – sorry for not being able to better minimize the volume of paper. I have included PDFs for ease of review and also Word documents for your convenience. Please let me know if there are questions.

Thank you – Elaine

Elaine R. Albrich | Davis Wright Tremaine LLP
1300 SW Fifth Avenue, Suite 2400 | Portland, OR 97201
Direct: (503) 778-5423 | Cell: (503) 250-4429 | elainealbrich@dwt.com
Assistant: Allison Bainter | Direct: (503) 778-5424 | allisonbainter@dwt.com

Anchorage | Bellevue | Los Angeles | New York | Portland | San Francisco | Seattle | Washington, D.C.

Oregon
Kate Brown., Governor

Department of Fish and Wildlife
Wildlife Division
4034 Fairview Industrial Drive SE
Salem, OR 97302
(503) 947-6300
FAX: (503) 947-6330
Internet: www.dfw.state.or.us

May 18, 2020

Kellen Tardaewether
Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

RE: Supplemental Comments on the Draft Proposed Order for Obsidian Solar Center

Dear Ms. Tardaewether,

The Oregon Department of Fish and Wildlife (ODFW) provides the following supplemental comments for the Obsidian Solar Center Draft Proposed Order (DPO; dated March 12, 2020). The purpose of this supplement is to address the Obsidian Renewables, LLC (Applicant) response to the DPO, specifically as it relates to the comparisons drawn between Fish and Wildlife Habitat Conditions drafted for this site certificate application and those approved for the Bakeoven Solar Facility (site certificate April 24, 2020).

In the Applicant's April 28, 2020 response to Oregon Department of Energy's (ODOE's) DPO, the Applicant requested modification of the fish and wildlife habitat mitigation findings and conditions to create consistency with the Bakeoven Solar Project Final Order. ODFW disagrees that the EFSC should apply the findings and conditions from the Bakeoven Solar Project Final Order to Obsidian Solar Center's project because of the significant site-specific differences in the predevelopment quality of the habitat between the two projects.

While both projects do fall within ODFW's mapped big game winter range and are therefore considered essential habitat with a mitigation goal of no net loss – plus net benefit (Category 2 Habitat; See OAR 635-415-0025), the similarities end there. The Bakeoven Solar Project site is previously-disturbed agricultural land that is now enrolled in the Natural Resources Conservation Service Conservation Reserve Program (CRP)[1], and had a notably high proliferation of noxious weeds present on site. And while the site did play an important role for wintering big game in terms of habitat connectivity between higher-quality areas, its predevelopment condition was such that ODFW believed achieving improved habitat quality at the mitigation site (thereby accomplishing the "net benefit" component of the Category 2 mitigation goal) would not be difficult. ODFW began with a standard 2:1 mitigation recommendation to ODOE and the Bakeoven applicant during early scoping of the project. However, ODFW ultimately agreed with the Bakeoven applicant that a 1.1:1 mitigation ratio would be sufficient because the

[1] The Conservation Reserve Program (CRP) provides technical and financial assistance to eligible farmers and ranchers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as tame or native grasses, wildlife plantings, trees, filterstrips, or riparian buffers. Farmers receive an annual rental payment for the term of the multi-year contract. Cost sharing is provided to establish the vegetative cover practices.

conditions of the degraded CRP site would be more easily offset by the proposed mitigation than if the impact site were functioning as native shrub-steppe habitat. Had the Bakeoven Project site been functioning as native, intact shrub-steppe, ODFW would have held firm on its recommendation of 2:1 mitigation, and potentially looked at whether it qualified as Category 1 given how little intact sage steppe remains in the Columbia Plateau. However, the site-specific conditions of the Bakeoven project site gave reasonable justification for variation in ODFW recommendations.

The Obsidian Solar Center's proposed project area differs from that of Bakeoven in that it is native, sagebrush-steppe habitat in proper functioning condition. The prevalence of non-native weeds on Obsidian is low, it has not seen the degree of heavy ground disturbance and habitat conversion that Bakeoven has, and the forage quality for wintering elk and deer is higher than on the Bakeoven site due to the presence of sagebrush and native grasses and forbs. In fact, the Obsidian proposed site is within a wintering area that provides wintering habitat to more deer and elk than all but one other winter range in the state of Oregon. Furthermore, the Obsidian site functions as habitat for pygmy rabbits, a State Sensitive species, due to its deeper soils and presence of mature sagebrush. The risks of not offsetting the impacts of Obsidian are higher than Bakeoven because of the uplift involved in trying to replicate the lost functions and values at the Obsidian impact site. In other words, it takes less work to offset the lost habitat quality at a degraded site like Bakeoven than it does to offset the lost habitat quality at highly functioning site like Obsidian. Therefore, to account for the lost functions and values in native sagebrush steppe, and to address the risks of under-performing or failing mitigation, ODFW's 2:1 ratio recommendation for the Obsidian Solar Center is warranted and justified.

The Applicant also recommends including a further description of Habitat Categories within the Category 2 designation (see page 98 of the Applicant's response to the DPO). ODFW did not support this kind of further designation of Habitat Categories on the Bakeoven Solar Project and recommended during early scoping meetings that these further designations be removed. Similarly, ODFW has recommended against this type of further designation in the Obsidian Solar Center Project as well. OAR 635-415-0025(1)-(6), which establishes the general fish and wildlife habitat goals and standards, categorizes habitat based on the function the habitat provides for a fish and wildlife species or population. Assigning multiple habitat categorizations to the same habitat type is inconsistent with OAR 635-415-0025, and invites the error of requiring mitigation that is inconsistent with the applicable mitigation goal.

When two projects differ in their site-specific habitat functions and values, differing wildlife recommendations are appropriate and justified. While the degraded predevelopment condition of the Bakeoven site warranted deviating from the 2:1 mitigation ratio that ODFW has routinely recommended, and that EFSC has routinely ordered, for impacts to big game winter range, the same is not true for the Obsidian site. Accordingly, ODFW continues to recommend that EFSC impose a 2:1 mitigation ratio for this proposed project.

Sincerely,

Sarah Reif

Sarah Reif
Energy Coordinator

Cc: Jonathan Muir, ODFW Lakeview District
Erin Donald, DOJ

TARDAEWETHER Kellen * ODOE

From: Sarah J Reif <Sarah.J.Reif@state.or.us>
Sent: Thursday, June 11, 2020 1:55 PM
To: TARDAEWETHER Kellen * ODOE
Cc: ESTERSON Sarah * ODOE; MUIR Jonathan D; DONALD Erin L
Subject: RE: Obsidian Solar Center - WLIP Survey and Treatment Plans

Hello Kellen,

Below is our feedback on the applicant's juniper survey and treatment plans. We are not prepared to provide feedback on the WLIP agreement quite yet, as this is still being discussed and reviewed within DOJ. Please feel free to share this with Michelle and her team at Obsidian. Also please include this feedback in the project record. Thank you.

WLIP Pre-Treatment Juniper Survey:
ODFW has reviewed this document and find it serves its intended purpose. The results are clear, and the treatment polygons look appropriate.

WLIP Juniper Treatment Plan:
ODFW supports the treatment design, layout, methodology, and weed management as described in the plan.

As for monitoring, ODFW sees the need for some additional clarification. In ODFW's view, there are two tracks for the monitoring:

1) to ensure the treatments successfully reduce juniper density and limit encroachment by young juniper
    - ODFW finds the proposed approach to monitoring for success in juniper treatments (following Barrett 2007) to be clearly described, and appropriate
2) to ensure that treatments do not result in noxious weed establishment
    - The plan refers to methodology in a weed contract between Obsidian and the Lake County CWMA, however the only existing contract is for the smaller CUPs. ODFW recommends that the methodology for weed monitoring be spelled out in the juniper treatment plan (and the HMP) and not refer to a document that has yet to be developed.
    - ODFW recommends using the same methodology found Noxious Weed/Revegetation Plan Attachment P-3 of the Draft Proposed Order (it's our understanding that P-3 covers the facility, but not the mitigation area).

During ODFW's review of the juniper treatment plan, we were looking for specific success criteria to be listed for both the juniper and weed monitoring within the mitigation areas (OAR 635-415-0020 (8)(h)(A)). However, the treatment plan does not specifically list success criteria. Though not specifically titled 'success criteria', would it be correct to assume that the following statement in the 'Maintenance' section of the document was intended to function as success criteria?

> "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."

If our interpretation is correct, then ODFW supports this success criteria for the juniper monitoring, and recommends that it be simply labeled as such.

That said, we are not able to find any success criteria for the weed monitoring. Again, ODFW would support criteria similar to those found in the Noxious Weed/Revegetation Plan but recommends that it live explicitly within the juniper treatment plan and/or the HMP. In addition, ODFW would like to see what remedial actions will be taken if thresholds are exceeded.

And one final request for clarification. There are success criteria in the draft HMP that do not show up in the juniper treatment plan (Section 4.0 – herbaceous cover, % juniper overstory, response of sagebrush and/or bitterbrush). Can you please clarify if there is still an intent to carry these success criteria forward and if so, how will they be monitored? If there is not an intent to carry these forward, ODFW recommends the draft HMP be updated to align with the juniper treatment plan and subject to the above requests for clarification.

Sarah Reif
ODFW Energy Coordinator
o:503-947-6082; m: 503-991-3587

From: Michelle Slater <mslater@obsidianrenewables.com>
Sent: Friday, May 22, 2020 4:57 PM
To: Sarah J Reif <Sarah.J.Reif@state.or.us>
Cc: Jonathan Muir (jonathan.d.muir@state.or.us) <jonathan.d.muir@state.or.us>; ElaineAlbrich@dwt.com; David Brown <dbrown@obsidianrenewables.com>
Subject: Obsidian Solar Center - WLIP Survey and Treatment Plans

Sarah,

In accordance with the Obsidian Solar Center draft Habitat Mitigation Plan, attached please find the Pre-Treatment Juniper Survey of the potential land to be included in the Obsidian Solar Center Working Lands Improvement Program (WLIP), as well as the WLIP Juniper Treatment Plans. As you will recall, ODOE and ODFW reviewed and approved the survey protocols for the pre-treatment juniper survey on or about April 3, 2020 (see attached email). The Treatment Plans are based on the result of the Pre-Treatment Survey. Also attached is a draft WLIP Agreement, which we are reviewing with the WLIP landowners along with the Survey and Plans.

Thank you.
Michelle

TARDAEWETHER Kellen * ODOE

From: Jon Germond <Jon.p.Germond@state.or.us>
Sent: Thursday, July 16, 2020 2:13 PM
To: TARDAEWETHER Kellen * ODOE; ESTERSON Sarah * ODOE
Cc: DONALD Erin L; MUIR Jonathan D; VAUGHAN Joy R; REIF Sarah J
Subject: Obsidian Solar DPO - ODFW Round 3 Comments
Attachments: Obsidian Solar DPO Comments - ODFW Round 3 - Final 7-16-20.pdf

Kellen – Sarah is out today, so I'm sending this comment letter over to you. Please include it in the Obsidian Solar record. Thanks!

Jon Germond
Habitat Resources Program Manager
Wildlife Division
Oregon Department of Fish & Wildlife
4034 Fairview Industrial Drive SE
Salem, OR 97302
503-947-6088 (w)
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Jon.P.Germond@state.or.us

Oregon
Kate Brown, Governor

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July 16, 2020

Kellen Tardaewether
Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

RE: Supplemental Comments on the Draft Proposed Order for Obsidian Solar Center

Dear Ms. Tardaewether,

The Oregon Department of Fish and Wildlife (ODFW) provides the following additional supplemental comments for the Obsidian Solar Center Draft Proposed Order (DPO; dated March 12, 2020). The purpose of this supplement is to address the Obsidian Renewables, LLC (Applicant) May 22, 2020 Draft Working Lands Improvement Program (WLIP) Agreement. The Habitat Mitigation Plan (HMP) identified the WLIP Agreement in Option 3 as the Applicant's primary mitigation action to achieve no net loss in habitat quantity. ODFW evaluated the WLIP Agreement specifically for its reliability and durability of the proposed mitigation, which is necessary to achieve the Energy Facility Siting Council (EFSC) Fish and Wildlife Habitat Standard (OAR 345-022-0060).

Again, ODFW appreciates the responsiveness of the applicant to ODFW's concerns and recommendations as stated in our previous comment letters. ODFW takes this opportunity to highlight several remaining issues in the Obsidian Solar Center's HMP and WLIP Agreement that need resolution to ensure consistency with the ODFW Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0025) and by extension the EFSC Fish and Wildlife Habitat Siting Standard. ODFW shared these recommendations with ODOE staff in advance:

- Incorporate the provisions within the Applicant's proposed WLIP Agreement into the HMP. This would provide EFSC with a direct link to enforcement of the Applicant's proposed mitigation. Since the proposed WLIP is an agreement between the Applicant and the landowner, ODOE staff tells ODFW that they believe the WLIP lacks a clear nexus to EFSC authority.
- Add enforcement language to the WLIP agreement and the HMP that requires periodic visits by ODOE (and ODFW by extension). This would provide EFSC with a solid nexus to ensure the durability of the proposed mitigation.

- Include language in the HMP about not only entering into the lease agreement, but also maintaining it for the life of the project. Currently, the HMP Option 3 reads as though the Applicant will meet their mitigation obligation when the Applicant enters into an agreement with the landowner, but leaves the continuity of that agreement unaddressed.
- In the event ownership of the mitigation property(ies) transfers during the life of the project, the HMP should require that Obsidian give notice to ODOE, and enter into/maintain a new agreement with the new landowner. This requirement should go into the HMP and the WLIP agreement. In addition, if there is a time gap between the loss of one mitigation site and the start of a new mitigation site (it may be difficult to find willing landowners), the Applicant is still obligated to meet their mitigation commitment. If there is a time gap, that time obligation maintains.
- Attach the finalized HMP to the WLIP agreement. Currently, the HMP is referenced in the WLIP, but not attached. Attaching the HMP to the WLIP would avoid a situation where the landowner might claim s/he was unaware of the wildlife habitat goals associated with the HMP in the event s/he were to use the land in a manner that conflicted with the wildlife habitat goals.
- Improve the list of allowable/prohibited uses in the WLIP, and include as conditions in the HMP.
    - All land uses, developments, and associated activities, which represent conflicting uses to wildlife habitat, are prohibited. This includes, but is not limited to:
        - Temporary or permanent residential, commercial or industrial development for private or public use.
        - Roads and associated infrastructure
        - Transmission lines and energy development
        - Land divisions
        - Exploration and mining activities
        - Airports, schools, churches
        - Recreation facilities, including golf courses, parks, campgrounds, youth camps, recreational vehicle parks, hunting and fishing preserves
        - Establishment of a feedlot
    - Remove the recreation, hunting access, and quiet enjoyment by the applicant sections from the WLIP agreement. These activities are beyond the goals of the HMP, and could conflict with the habitat goals.
- For allowable uses, exclude the landowner's desired buildable areas from the WLIP lease area
- Improve baseline information (prior to finalization of the HMP and WLIP agreement). The WLIP states the mitigation property(ies) shall not exceed existing thresholds for a variety of things, but there are no metrics associated with this statement. Providing EFSC with baseline data to compare against during future periodic visits by ODOE staff to monitor mitigation will help to ensure future land management activities remain consistent with the Fish and Wildlife Habitat Siting Standard.
    - Identify and map all existing structures
    - Identify and map all existing impervious surfaces or access road networks
    - Identify and map the final mitigation area
    - Identify the current grazing management practices (e.g., AUMs, pasture rotation schedule, etc.).

Again, ODFW extends its appreciation to the Oregon Department of Energy for the opportunity to provide technical assistance in the review of the Obsidian Solar Center. Should staff have any questions or require additional discussion with ODFW, please do not hesitate to contact Sarah Reif (Energy Coordinator) or Jon Muir (Lakeview District Wildlife Biologist). Thank you.

Sincerely,

Sarah Reif

Sarah Reif
Energy Coordinator
sarah.j.reif@state.or.us; 503-947-6082

TARDAEWETHER Kellen * ODOE

From: Justin Ferrell <lakecountyswcd@hotmail.com>
Sent: Tuesday, May 19, 2020 6:28 AM
To: TARDAEWETHER Kellen * ODOE
Subject: Obsidian solar site
Attachments: Appendix A maps 24March2020.pdf; Appendix B Craigg-Bio 24March2020.pdf; SWCD TCraigg Final report 24March2020.pdf

Oregon Department of Energy, May 15,2020

Fort Rock/ Silver Lake Soil and Water Conservation District (SWCD) takes its responsibility in both soil and water conservation and natural resource development seriously. To that end the SWCD has consulted with Terry L. Craig (PhD Master of science, soil science University of California Davis) to look into land disturbances and development related to the Obsidian Solar Site application of the 3,921 acre site on North Oil Dri road in Lake County. The full document developed by Mr. Craig is attached. This document further applies to the conditions of approval of all solar siting CUP'S within Lake County.

The SWCD is very aware of the potential for unintentional affects on our light soils in the area which can lead to catastrophic wind erosion events comparable to scenes from the "Dust Bowl" era. It is the intent and mission of the SWCD to help guide soil disturbance so as that it will have the least possible effect on the land. North Lake county has very little topsoil, it is very light and prone to erosion when disturbed.

North Lake County also sits within a water moratorium imposed by the Oregon Water Resources Department (OWRD). Under this restriction new agriculture and commercial water uses/developments are most likely not permitted. It is another goal/mission of the SWCD to help facilitate the proper and legal use of both surface and ground water within the North Lake Area.

Fort Rock/Silver Lake SWCD takes it roll in Soil & Water conservation and development on all lands for all purposes seriously and strides to assist such developments with the least risk of negative impacts as possible.

Justin Ferrell
Manager
Fort/ Rock Silver Lake SWCD
541-219-2698 Cell
541-947-5855 Office

Fort Rock/ Silver Lake Soil and Water Conservation District

Date: March 24, 2020

Subject: Fort Rock/ Silver Lake Soil and Water Conservation District Solar Power Generation Facility Conditional Use Permit Application Review

Introduction

This report documents a review of the Obsidian Solar Center Application for Site Certification by the Fort Rock/ Silver Lake Soil and Water Conservation District (SWCD). This report was developed by the SWCD Board with the assistance of a consulting United States Department of Agriculture (USDA) retired soil scientist. While the report focuses on the application submitted by Obsidian Solar, this review is also intended to have broader applications for future solar installations. Thus, the information contained in this report will be used as a reference of recommendations put forth by the SWCD for future solar projects.

The SWCD Board investigated soil types, site potentials, soil interpretations, and soil limitations within the proposed Obsidian Solar Center Facility boundaries. The purpose of this review was to assure soil conservation efforts identified in the Obsidian Solar Facility application meet criteria set forth by the SWCD. This report also comments on selected Exhibit files as they pertain to selected actions identified by Obsidian Solar and uses that review to provide rational for Conditional Use Permit application "conditions for approval" listed at the end of this report.

Fort Rock/ Silver Lake SWCD Key Issues of Concern

The Fort Rock/ Silver Lake SWCD identified the following key issues of concern with the installation of future solar facilities in general. In this report, Obsidian Solar Exhibit files and Appendices were reviewed in regard to the following SWCD key issues and recommendations made based on the Obsidian Solar Application.

1. The high risk of wind erosion occurring on disturbed soils which have a "Wind Erodibility Group 1" (soils most susceptible to wind erosion) both during and after Facility installation (Obsidian Solar 2019 Exhibit I).
2. Adequate mitigation measure to prevent excessive wind erosion during the construction phase of the Facility and the feasibility of establishing adequate vegetative cover to protect the soil from wind erosion long term (Obsidian Solar 2019 Appendix P-3).
3. Grading and leveling of soil in areas of slopes ranging from 2 to 20% and the potential to expose and/or mix near neutral pH surface soils and subsurface soil horizons having a moderately to

strongly alkaline reaction. Thus, further inhibiting the establishment of vegetative cover for erosion protection (Obsidian Solar 2019 Appendix P-3).

4. Soil compaction occurring as a result of construction activities resulting in loss of soil macro porosity and increased soil strength that could result in increased water runoff, surface erosion, as well as create soil conditions that provide an advantage to undesirable weed species over native or desired vegetation (Obsidian Solar 2019 Exhibit I).
5. Identification and control of non-native invasive weeds and noxious weeds (Obsidian Solar 2019 Exhibit I and Appendix P-3).
6. Monitoring of the above issues of concern and the implementation of adaptive management when needed (Obsidian Solar 2019 Exhibit I and Appendix P-3).

Soil Types and Soil Mapping Units within the Facility Boundaries

Five soil map units have been identified within the Facility boundaries (Table 1). Soil map units 200, 470, and 472 are soil map unit conassociations (consisting of one major soil series) which are then phased based on slope. Soil map units 217 and 667 are soil map unit complexes (consisting of two major soil series in a complex pattern) which are then phased based on slope or climate.

Table 1: Soil map unit names and map unit acres within the proposed Facility boundary

Soil Map Unit #	Soil Type (Map Unit) Name	Area A (acres)	Area D (acres)	Total
200	Abert ashy loamy sand, 0 to 2 percent slopes	1,546	0	1,546
470	Morehouse ashy loamy fine sand, 0 to 2 percent slopes	1,082	44	1,126
472	Morehouse ashy loamy fine sand, 0 to 20 percent slopes	932	0	932
217	Bonnick-Fort Rock complex, 0 to 2 percent slopes	290	0	290
667	Wegert-Kunceider, complex, cool, 0 to 15 percent slopes	13	0	13
	Total	3,863	44	3,907

NRCS; Soil Survey Staff, NRCS 2017

Soil Series Descriptions and interpretations

Official soil series descriptions were used to obtain the following general soil descriptions, taxonomic class, drainage and permeability, along with use and vegetation information for each of the soil series listed in Tables 2 and 3. The Official soil series descriptions were then interpreted using soil taxonomy (USDA, 2006) to better understand the soil profile and important management considerations. Soil survey interpretations along with the above information were then used to describe any management concerns/limitations under the Obsidian Solar Exhibit file discussions.

ABERT SOIL SERIES (summary of official series description)

The Abert series consists of very deep (greater than 60 inches), well drained soils that formed in eolian material derived from volcanic ash over lacustrine deposits derived from mixed volcanic rocks and volcanic ash. Abert soils are on lakebeds. Slopes are 0 to 2 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 7 degrees C (NRCS Official Soil Series, 2010).

MOREHOUSE SOIL SERIES (summary of official series description)

The Morehouse series consists of very deep, somewhat excessively drained soils that formed in eolian sands and volcanic ash over lacustrine deposits derived from volcanic rocks. Morehouse soils are dominantly on stable dunes in basins on lakebeds. Slopes are 0 to 35 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 7 degrees C (NRCS Official Soil Series, 2011).

BONNICK SOIL SERIES (summary of official series description)

The Bonnick series consists of very deep, somewhat excessively drained soils that formed in lacustrine deposits derived from volcanic rocks and pumiceous volcanic ash. Bonnick soils are on lake terraces. Slopes are 0 to 5 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 7 degrees C (NRCS Official Soil Series, 2010).

FORT ROCK SOIL SERIES (summary of official series description)

The Fort Rock series consists of very deep, somewhat excessively drained soils that formed in volcanic ash over lacustrine deposits derived from basalt and tuff. Fort Rock soils are on lake terraces. Slopes are 0 to 8 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 7 degrees C (NRCS Official Soil Series, 2010).

Soil Map unit 667 Wegert-Kunceider, cool, 0 to15 percent slopes

Note: Soil map unit 667 Wegert-Kunceider, cool, 0 to15 percent slopes is of minor extent within the Facility boundary (approximately 13 acres) and thus was not analyzed in detail.

Table 2: Soil series names identified in Table 1 (Soil Map Unit Names) and soil taxonomic classification.

Soil Series Name	Soil Taxonomic Classification
Abert	Ashy, glassy, frigid Sodic Xeric Haplocambids
Morehouse	Ashy, glassy, nonacid, frigid Vitrandic Torripsamments
Bonnick	Ashy, glassy, frigid Vitritorrandic Haploxerolls
Fort Rock	Ashy over sandy or sandy-skeletal, glassy over mixed, frigid Vitritorrandic Haploxerolls
Wegert	Ashy, glassy, frigid Vitritorrandic Haploxerolls
Kunceider	Ashy-skeletal, glassy, frigid Aridic Lithic Haploxerolls

NRCS Official Series Descriptions (NRCS 2010, 2011)

Table 3: Soil series names and summary of soil landscape position and native rangeland vegetation species mix.

Soil Series Name	Landscape Position	Native Rangeland Vegetation Species Mix
Abert	Lakebeds	basin big sagebrush, green rabbitbrush, gray rabbitbrush, basin wildrye, and inland saltgrass
Morehouse	Stable dunes in basins on lakebeds	basin big sagebrush, green rabbitbrush, inland saltgrass, gray rabbitbrush, Indian ricegrass, bottlebrush squirreltail, and basin wildrye
Bonnick	Lake terraces	mountain big sagebrush, needleandthread, Ross sedge, Indian ricegrass, and basin wildrye
Fort Rock	Lake terraces	mountain big sagebrush, needleandthread, Ross sedge, Indian ricegrass, and basin wildrye
Wegert	Lava plains and lava plateaus	mountain big sagebrush, needleandthread, Ross sedge, Indian ricegrass, and basin wildrye
Kunceider	Lava plains and lava plateaus	mountain big sagebrush, needleandthread, Ross sedge, Indian ricegrass, Idaho fescue, and antelope bitterbrush

NRCS Official Series Descriptions (NRCS 2010, 2011)

Fort Rock/ Silver Lake SWCD Issues of concern, review of Obsidian Solar Exhibit files/Appendices, and Rational for Conditions for Approval

Issue 1: Risk of Accelerated Wind Erosion in Disturbed Areas

- The high risk of wind erosion occurring on disturbed soils which have a "Wind Erodibility Group 1" (soils most susceptible to wind erosion) both during and after Facility installation (Obsidian Solar 2019 Exhibit I).

Obsidian Solar Center Preliminary Application for Site Certification Exhibit I

Quote

I.2.1 Definitions of Relevant Soils Properties (Obsidian Solar 2019 Exhibit I page I-2)

Wind Erodibility Groups (WEGs)

"WEGs are soils that have a similar susceptibility to wind erosion in cultivated areas. The soils are assigned to Groups 1-8, with Group 1 being the most susceptible to wind erosion, and those assigned to Group 8 being the least susceptible (NRCS 2007). There is a close correlation between wind erosion potential and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction (NRCS 2007). Soil moisture and frozen soil layers also influence wind erosion (NRCS 2012)."

Response: Fort Rock/Silver Lake SWCD

Climatic conditions in the vicinity of the proposed Obsidian Solar Facility will also promote wind erosion on disturbed soils due to low rainfall (mean annual precipitation approximately 9 inches); low humidity, high temperatures, and high winds which are common in the area (Plaster, 2003).

Quote

I.4.2 Wind Erosion (Obsidian Solar 2019 Exhibit I page I-9)

"Most of the soils within the analysis area are inherently susceptible to high rates of wind erosion, mainly as a result of their sandy texture and limited cover by vegetation (refer to Section I.2.2). All five soil types belong to WEG 1, which is the group containing the soils that are most easily eroded by wind.

The reduced vegetation cover and potential reduced vegetation vigor (as discussed in Section I.4.4) may exacerbate wind erosion during construction and during the first year or two of Facility operation until vegetation is reestablished. Excavations for roads and trenches will also temporarily expose soils to wind erosion during construction. Vehicle travel in areas may also reduce vegetation cover and destabilize soils; further exposing soils to wind erosion. By the end of construction or soon afterward, grass cover will reestablish in areas of direct soil disturbance activities and thereby reduce the potential for wind erosion to pre-disturbance levels. During operation of the Facility, vehicle traffic and soil disturbance will be much lower than during construction, allowing grasses and other herbaceous vegetation to establish and thrive across most of the Facility site. The solar arrays will also serve as impediments to wind shear strength, further reducing erosion potential. Similar to the construction phase, retirement of

the Facility will likely lead to a temporary increase in potential wind erosion from grading and excavation necessary to remove roads, gravel or concrete pads, buried conduits, and other Facility components, and from vegetation mowing and vehicle traffic on areas with unstable soils."

Quote

"Wind erosion will not likely cause significant, adverse impacts on soils because Applicant will limit the extent of soil disturbance activities and implement an Erosion and Sediment Control Plan (ESCP) and other measures to avoid or minimize the potential for impacts described in Section I.5."

Response: Fort Rock/Silver Lake SWCD

This assumes that adequate mitigation measures are taken during construction to prevent accelerated wind erosion. This also assumes that adequate vegetative cover can be grown to prevent wind erosion long term. The SWCD Board is concerned that exposure of bare soil during construction without adequate mitigation measures will result in excessive accelerated soil erosion. The Board is also concerned that the native grasses identified in Obsidian Solar Appendix P-3 (Revegetation and Noxious Weed Control Plan) will be difficult to establish and therefore will not provide adequate erosion control in the coming years. See Issue 2 (Revegetation of Disturbed Areas) for further comments and discussion.

Issue 2: Revegetation of Disturbed Areas

- Adequate mitigation measure to prevent excessive wind erosion during the construction phase of the Facility and the feasibility of establishing adequate vegetative cover to protect the soil from wind erosion long term (Obsidian Solar Appendix P-3).

Obsidian Solar Center Preliminary Application for Site Certification Appendix P-3

Revegetation and Noxious Weed Control Plan

Quote

1.0 Introduction (Obsidian Solar 2019 Appendix P-3 page 1)

"This Revegetation and Noxious Weed Control Plan outlines the objectives, methods, and success criteria that Applicant will use to direct revegetation efforts in areas of soil disturbance not associated with permanent Facility components, and to control noxious weeds on the Facility site."

"Applicant's two primary goals are (1) encouraging revegetation within the site boundary to reduce the potential for windblown and water erosion by reestablishing vegetation ground cover and root structure, and (2) avoiding or controlling the introduction and spread of noxious weeds."

2.0 Revegetation Methods (Obsidian Solar 2019 Appendix P-3 page 1)

"In most of these areas, Applicant will allow vegetation to restore "passively," without re-seeding. Noxious weed prevention and control will still be necessary."

Response: Fort Rock/Silver Lake SWCD

Soils within the Facility boundary and identified as being highly erodible as indicated by a "wind erodible rating of 1" (NRCS 2012). It is our professional opinion that even minor soil disturbance resulting from the installation of the Facility will result in increases in wind erosion. For that reason a "passive" approach to restoring adequate vegetative cover on the site to prevent wind erosion would not be adequate and would result in both on and off site undesirable movement of large amounts of soil.

Quote

2.1 Soil Management (Obsidian Solar 2019 Appendix P-3 page 2)

"Soil management measures will begin at the start of construction. Construction crews will adhere to the soil management measures and practices listed below.

- Establish stable surface and drainage conditions and use standard erosion control devices and techniques to minimize soil erosion and sedimentation, including the installation of silt fencing, straw bales, straw wattle, erosion control fabric, and slope breakers, as appropriate. Applicant will use certified weed-free straw bales, straw mulch, hydromulch, and/or appropriate weed-free mulch materials."

Response: Fort Rock/Silver Lake SWCD

Fort Rock/Silver Lake SWCD Board has observed some of the "standard erosion control devices and techniques" which Obsidian Solar is using to minimize soil erosion and sedimentation and we commend Obsidian Solar for their intent and efforts. However, the techniques being implemented, which work well in a more typical urban environment with more harden surfaces such as pavement, may not be needed in agriculture settings where exposure of large areas of soil and wind erosion is the major soil erosion risk.

Fort Rock/Silver Lake SWCD Board has also observed the removal of vegetation to provide an apparent temporary road within in a portion of the Obsidian Solar Facility. The Board questions the need to expose highly erosive soils in this way. Our recommendations are to not scalp off vegetation and expose soils for a road but rather simply mow existing vegetation, thus retaining some root structure to prevent wind erosion. The establishment of a grass vegetative cover prior to these activities as discussed in the following section of this report would also provide addition protection of soils from wind erosion. As always avoidance is the best option and we would like Obsidian Solar to limit such activities as much as possible.

Quote

2.2 Revegetation (Obsidian Solar 2019 Appendix P-3 page 2)

"Applicant will initiate revegetation measures immediately after construction activities are completed."

2.2.1 Seed Mixture (Obsidian Solar 2019 Appendix P-3 page 3)

"Applicant will consult the ODFW to develop a final seed mixture appropriate for revegetation efforts on the Facility site. Table 1 provides Applicant's preliminary proposed revegetation seed mixture developed by consulting the Natural Resources Conservation Service office in Lakeview, Oregon (Corning 2019) and the Lake County CWMA (Jaeger 2019). Applicant may modify this preliminary seed mixture ahead of revegetation at the request of landowners, Lake County, or further coordination with CWMA or ODFW. The preliminary seed mixture uses four native and one non-native species that are adapted to the conditions of the Facility site to help ensure the greatest probability of germination and long-term survival."

Table 1: Obsidian Solar Preliminary Revegetation Seed Mixture (Obsidian Solar 2019 Appendix P-3 page 3)

Common Name	**Latin Name**	**Variety**	**Pure Live Seed Pounds per Acre**	**Purpose**
Bluebunch wheatgrass	Pseudoregneria spicata	Secar	4	(N) (EC)
Thickspike wheatgrass	Elymus lanceolaus	Critana	4	(N) (EC)
Indian ricegrass	Achnatherum hymenoides	Nezpar	3	(N) (EC)
Basin wildrye	Elymus cinereus	Magnar	4	(N) (EC)
Crested Wheatgrass	Agropyron desertorum	Hycrest	4	(I) (EC)
TOTALS			19	

Notes to Table 1.1 assume drill seeding methods will be employed. If broadcast seeding methods are used, the seed application rates in Table 4 will be doubled. Key: (N) = Native, (I) = Introduced, NA = not applicable, (EC) = Erosion Control

Response: Fort Rock/Silver Lake SWCD

Based on the SWCD Board members experience in farming in the area, the SWCD questions the ability of Obsidian Solar to accomplish establishment of adequate vegetation cover by planting native grasses, thus providing adequate protection against excessive wind erosion. While the SWCD Board recognizes that native grasses may provide some benefit from a wildlife habitat standpoint, it has been our experience that native grasses can be difficult to establish compared to a monoculture of non-native grasses such as crested wheatgrass (*Agropyron desertorum).* As an alternative to the Obsidian Solar proposal, the SWCD Board would like to recommend a different approach.

Our recommendations include the establishment of a monoculture of more easily established nonnative crested wheatgrass planted a year or more prior to the installation of the solar panels. The SWCD Board believes this approach would better provide a vegetative cover that would both help mitigate wind erosion during construction of the Facility and provide long term vegetative cover into the future.

Timing of treatment and planting of different areas within the Facility is also important for a couple of reasons. First, while we hope for good vegetative cover the first year after planting, the Board recognizes that a time period of two to three years would be ideal for growing good vegetative cover that would provide the best protection of soils (Corning 2020). Second, we would not recommend starting soil disturbing activities on an entire Facility site the same year and trying to grow vegetative cover due to the increased risk of accelerated wind erosion resulting from the large size of the open area (Plaster 2003).

Therefore, we recommend staging the establishment of vegetative cover prior to installation of the solar panels by treating and planting in stages. There also may be opportunities to leave existing vegetation strips at pre-determined intervals that are perpendicular to prevailing wind directions to slow the movement of wind-blown soil during the establishment period for crested wheatgrass.

The SWCD Board noted the above Obsidian Solar preliminary Revegetation Seed Mixture table has a component of crested wheatgrass to be seeded at a rate of four pounds per acre along with other native grasses. As another option, SWCD Board would support using the above seed mixture with an increased rate of crested wheatgrass of 8 to 10 pounds per acre. This may help to address any concerns ODFW may have with a monoculture of grass vs the habitat that native grass may provide.

The relatively low average annual precipitation in the Christmas Valley area (9 inches) along with other climate factors such as high winds, adds to the difficulty in establishing a vegetative cover of grass. The SWCD experience has been that varying degrees of success are obtained depending upon the weather conditions in a given year. Additionally, wind frequency and strength associated to weather patterns, has been low to mild compared to the past 10 years. Due to this fact the SWCD Board would like to suggest one additional option for Obsidian Solar to consider in regard to helping assure the establishment of a fully functioning grass vegetation cover. This option is to irrigate the crop within the first year. Staging the planting and only planting a few hundred acres per year may help to facilitate this option. Should Obsidian Solar decide to pursue this option, the SWCD would be willing to assist with this process.

Issue 3: Grading and Leveling

- Grading and leveling of soil in areas of slopes ranging from 2 to 20% and the potential to expose and/or mix near neutral pH surface soils and subsurface soil horizons having a moderately to strongly alkaline reaction. Thus, further inhibiting the establishment of vegetative cover for erosion protection (Obsidian Solar Appendix P-3).

Quote

2.1 Soil Management (Obsidian Solar 2019 Appendix P-3 page 2)

"Soil management measures will begin at the start of construction. Construction crews will adhere to the soil management measures and practices listed below.

- "Due to the limited extent of grading during construction, and due to the relatively narrow areas (approximately 3 to 4 feet wide) where trenching will occur, Applicant does not foresee the need to strip and segregate topsoil. However, if large areas of soil disturbance (e.g., 50 by 50 feet or larger) that require revegetation are identified during construction, Applicant may implement topsoil stripping and segregation to reserve topsoil. In such instances, Applicant would strip

topsoil (generally defined as the upper 6 to 12 inches of soil) from subsoil, segregate it into stockpiles, and then reapply the topsoil to its original location after construction."

Response: Fort Rock/Silver Lake SWCD

Four dominant soil mapping units occur within the Facility boundary and include the following:

- Soil map units (NRCS 2007, 2012)
  - 200 Abert ashy loamy sand, 0 to 2% slopes
  - 470 Morehouse ashy loamy fine sand, 0 to 2% slopes
  - 472 Morehouse ashy loamy fine sand, 2 to 20% slopes
  - 217 Bonnick-Fort Rock complex, 0 to 2% slopes

We agree that due to the topography (0 to 2% slopes) a limited extent of grading during construction should occur on soil map units 200, 470, and 217. The exception is soil map unit 472 which has steeper slopes in the range of 2 to 20%. It is also important to note that in all of these soil types the soil reaction class increases in lower soil horizons going from slightly alkaline at the surface to moderately or strongly alkaline in lower soil horizons. Our concern is that soil grading during construction will expose or mix lower soil horizons that have moderately or strongly alkaline conditions thereby making it difficult to establish a vegetative cover to protect soils from accelerated wind erosion.

Issue 4: Soil Compaction

- Soil compaction occurring as a result of construction activities resulting in loss of soil macro porosity and increased soil strength that could result in increased water runoff, surface erosion, as well as create soil conditions that provide an advantage to undesirable weed species over native or desired vegetation (Obsidian Solar Exhibit I).

Quote

I.4.1 Compaction (Obsidian Solar 2019 Exhibit I page I9)

"During construction, trucks will drive within the site boundary, but will not likely affect underlying soils due to the physical conditions of the soils. Soils within the site boundary possess qualities that make them inherently resistant to soil compaction. The vast majority of the soils within the site boundary are poorly graded and have loamy sand texture (refer to Table I-1). Moreover, soils within the site boundary are typically dry due to limited precipitation and high permeability.

Soil compaction, which is the increase in soil bulk density as a result of applied loads or pressure, typically alters soil structure and reduces porosity, water infiltration, and root penetration (NRCS 2012). These effects can lead to increased erosion, nutrient loss, reductions in primary productivity, and changes in soil biota, as well as plant species composition. The extent of soil compaction mainly depends on soil conditions as well as magnitude and frequency of loads/pressures placed upon the soil (Osman 2014). Soils and soil horizons that are well graded (consisting of a mix of different-sized soil particles interspersed with each other), have limited organic matter, and are mostly saturated are generally more

susceptible to compaction. Soils that are coarse-grained (loamy sands or coarser), or mainly consist of particles that are very similarly sized, are resistant to compaction (NRCS 2012).

Compaction will not likely cause significant, adverse impacts on soils due to soils within the site boundary being inherently resistant of compaction and the implementation of the proposed BMPs and other avoidance and minimization measures described in Section I.5.

Response: Fort Rock/Silver Lake SWCD

An adequate assessment of soil compaction requires more than a measured change in soil bulk. It is our concern that equipment operations resulting in soil compaction will have a negative effect on soil functions. Thereby, resulting in increased water runoff, surface erosion, and creating soil conditions that provide an advantage to undesirable weed species over native or desired vegetation.

Soil compaction resulting from equipment operations can result in an alteration of basic soil properties such as soil density, soil strength, total pore volume, pore size distribution, and macropore continuity (Greacen and Sands 1980). Each of these soil indices provide somewhat different information about physical changes occurring in the soil as a result of compaction. These soil changes can, in turn, negatively affect soil functions leading to increased erosion, nutrient loss, reductions in primary productivity, and changes in soil biota and plant species composition.

Many soils in the Inland Northwest have been influenced by ashfall deposits from the eruption of Mt. Mazama as well as other Cascade volcanoes (Harward and Youngblood 1969). All of the soils identified within the Obsidian Solar Facility boundary have a volcanic ash influence as indicated by their soil taxonomic ashy soil particle size class and glassy composition. The Vitrandic and Vitrtorrieandic soil taxonomic sub-groups also indicate the presence of volcanic ash in these soils (Soil Taxonomy, 2007). It has been shown that soil strength (as measured by resistance to penetration) can increase exponentially in soils having a volcanic ash influence (Craigg 2007, Chitwoood 1994). An increase in soil strength to this degree can reduce root penetration by native grasses and increase the opportunity for competing undesirable weed species to occupy the site.

We would like Obsidian Solar not to assume soil compaction will not have a negative effect on soil functions. Additionally, we advise Obsidian Solar to not only avoid soil compaction resulting from equipment operations to the greatest extent possible, but also till or rip disturbed areas in conjunction with revegetation efforts to reduce compaction thus allowing areas to recover at an accelerated rate.

Issue 5: Invasive and Noxious Weeds

- Identification and control of non-native invasive weeds and noxious weeds (Obsidian Solar 2019 Exhibit I and Appendix P-3).

Quote

3.1 Prevention and Control Measures (Obsidian Solar 2019 Appendix P-3 page 5)

"Applicant will implement noxious weed control measures in accordance with existing state and Lake County regulations. Applicant will attempt to prevent and eradicate new populations of noxious weeds that are identified during construction or operation, and that are caused by the Facility. Applicant's consultants did not document noxious weed populations during habitat mapping efforts and other field surveys within the site boundary (refer to Exhibit P, Appendix P-1). Should noxious weeds be identified within the site boundary prior to, during, or after construction, the goal will be to prevent further spread, unless eradication is feasible.

Applicant will implement the following measures, as appropriate:

- Environmental training
- Pre-construction surveys
- Signage
- Pretreatment
- Treatment during construction
- Clean vehicles/equipment
- Cleaning station
- Mobile cleaning stations
- Weed-free straw bales
- Post-construction monitoring"

See Obsidian Solar Appendix P-3 for more detail…

3.2 Treatment Methods (Obsidian Solar 2019 Appendix P-3 page 6)

"Noxious weed treatment methods typically include manual methods (e.g., mowing or burning), chemical methods (i.e., application of herbicides), or biological methods (e.g., introduction of insects for biological control). For construction and operation of the Facility, applicant expects to utilize manual or chemical weed control methods only. Applicant will coordinate with Lake County and the CWMA to determine appropriate treatment methods and schedules.

Applicant will hire a state-licensed weed control contractor to apply herbicides according to EPA and ODA standards.

The state licensed weed control contractor will follow all applicable state requirements and guideline in effect at the time."

Response: Fort Rock/Silver Lake SWCD

The SWCD Board supports weed control methods and treatment methods as described in Appendix P-3 of the Obsidian Solar Application as well as the use of this approach for future solar projects.

Issue 6: Monitoring and Adaptive Management

- Monitoring of the above issues of concern and the implementation of adaptive management when needed (Obsidian Solar 2019 Exhibit I and Appendix P-3).

Quote

4.0 Monitoring, Success Criteria, and Reporting

"As stated above, after construction of the Facility Applicant will comply with requirements of specific Facility Permit conditions, including the 1200-C Construction Storm water permit, and of any applicable conditions of approval to the Site Certification. In addition, Applicant will comply with state and county requirements to control noxious weeds. Applicant's primary goals for post-construction monitoring are (1) meet the Oregon Department of Environmental Quality's final vegetative stabilization measures, as will be described in the 1200-C Construction Storm water permit, and (2) avoid the introduction to or spread from the Facility of noxious weeds."

Response: Fort Rock/Silver Lake SWCD

The SWCD would like to have the opportunity to assist in the monitoring of soil protection and restoration activities occurring during the installation of all existing and future Solar Facilities within the Fort Rock/ Silver Lake SWCD. Our goal is to provide technical assistance as well as assure mitigations are applied and providing desired results. If issues arise, we would like to have the opportunity to assist with adaptive management measures that address potential problems.

Fort Rock/ Silver Lake SWCD Summary of Conditions for Approval of Solar Facility Applications within the Fort Rock/ Silver Lake District

The following summarizes conditions for Solar Facility approval. These conditions were compiled based upon review by the Fort Rock/ Silver Lake SWCD of the Obsidian Solar Facility application and are for the Lake County Planning Commission to include in future Solar Facility Conditional Use Permits.

All solar facilities utilizing solar resources shall be subject to the following standards:

Issue 1: Risk of Accelerated Wind Erosion in Disturbed Areas

1. Facilities shall establish a monoculture of nonnative crested wheat grass (*Agropyron desertorum*) at least one year prior to the installation of the solar panels to help mitigate the risk of accelerated wind erosion both during Facility construction and after the Facility is installed.

Issue 2: Revegetation of Disturbed Areas

2. To establish a vegetative cover of crested wheat grass that will protect highly erosive soils from accelerated wind erosion, facilities shall apply the follow methods.
    a. Applicant shall initially spray existing vegetation with herbicide to remove competing vegetation. Timing of application of herbicide is critical and should occur in the spring when there is still good soil moisture, typically before mid to late June.
    b. Applicant shall then mow off dead vegetation to help prepare site for planting.
    c. Applicant shall use a range drill to plant crested wheatgrass. Planting of crested wheatgrass will occur in the fall of the year once there is adequate soil moisture (typically mid-October) at a rate of 8 to 10 lbs per acre. The Natural Resource Conservation Service has experienced good success planting "*Hycrest"* cultivar on similar range sites.
    d. Depending on the year, adequate vegetation cover of crested wheatgrass should occur in one year; however, allowing two to three years for good establishment would be ideal and better protect highly erosive soils.
    e. Applicant shall avoid soil disturbing activities on large acres of land that would be more susceptible to wind erosion. Applicant shall instead stage the establishment of vegetative cover prior to installation of the solar panels by identifying 60 acre parcels that are planned for installation of panels within the next two or three years and planting those areas as needed.
    f. Applicant shall leave existing vegetation strips at pre-determined intervals and perpendicular to prevailing wind directions to slow the movement of wind-blown soils.
    g. To help assure establishment of crested wheatgrass vegetative cover, Applicant may consider options to irrigate the first year to help assure adequate vegetative cover. The SWCD would be willing to assist the applicant with developing this option should they decide to peruse this option.

Issue 3: Grading and Leveling

3. Facilities shall limit massive ground leveling only to those areas needed for heliostat and structure installation. Other facility grounds shall retain the natural ground contour to the greatest extent practical. A plan to mitigate potential wind erosion from leveled areas shall be submitted for all proposed facilities.

Issue 4: Soil Compaction

4. Facilities shall limit equipment travel during construction of the Facility to avoid soil disturbance and resulting soil compaction as much as possible. In heavily used areas such as temporary roads in which soil compaction has occurred, facilities shall subsoil or rip these areas to restore soil porosity and reduce soil strength to more natural conditions.

Issue 5: Invasive and Noxious Weeds

5. Facilities shall implement noxious weed control measures in accordance with existing state and Lake County regulations. Applicant will attempt to prevent and eradicate new populations of noxious weeds that are identified during construction of operation, and that are caused by the Facility. Should noxious weeds be identified within the site boundary prior to, during, or after construction, the goal will be to prevent further spread, unless eradication is feasible.
    a. Applicant shall implement the following measures, as appropriate:
        i. Environmental training: Applicant shall conduct environmental awareness and sensitivity training before soil and vegetation disturbance activities to educate all personnel regarding environmental concerns and requirements, including weed identification (particularly diffuse knapweed, ventenata, and medusahead), prevention, and control methods. Qualified personnel will conduct this training.
        ii. Pre-construction surveys: Applicant shall conduct surveys for designated noxious weeds within proposed Facility disturbance areas concurrently with other pre-construction surveys, such as pre-construction surveys for migratory bird nests.
        iii. Signage: Applicant shall demarcate any problem noxious weeds areas in the site (e.g. infestations of ODA or Lake County category A species, or potentially large but well-defined areas of ODA or Lake County category B, C, T species) with signs, as appropriate.
        iv. Pretreatment: Prior to vegetation or soil disturbance, applicant shall treat areas of known noxious weeds with herbicides or manually remove them, if practicable.
        v. Treatment during construction: During construction, applicant shall treat identified new noxious weed populations, as necessary. Treatment methods and timing will be based on species specific and area-specific conditions (e.g., proximity to water, agricultural areas, topography, land use, and time of year) and will be coordinated with and follow requirements and guidelines of Lake County or the ODA.
        vi. Clean vehicles/equipment: Applicant shall thoroughly clean all vehicles and equipment of soil and plant material before mobilizing to the Facility site, and

will clean all clearing and grading equipment prior to leaving any identified noxious weed sites.

vii. Cleaning station: If some vehicles or equipment cannot be cleaned prior to mobilization to the Facility site. Applicant shall construct a fixed water cleaning station at the point of Facility site entry for construction equipment and vehicles. The Facility environmental inspectors and management staff will determine the need for a fixed water cleaning station, taking the findings of pre-construction surveys into consideration. The water cleaning station will use high-pressure water over a non-permeable synthetic fabric so that the soil and plant material from the cleaning operation can be removed and disposed of without contaminating the underlying soil. Cleaning efforts will be concentrated on tracks, feet, or tires and on the undercarriage, with special emphasis on axles, frames, cross members, motor mounts, the underside of running boards, and front bumper/brush guard assemblies.

viii. Mobile cleaning stations: As needed, construction crews shall clean seeds, roots, and rhizomes off equipment and vehicles used to move vegetation and topsoil in identified noxious weed-infested areas during the clearing phases before proceeding to other parts of the Facility site. In most infestation locations, personnel will clean vehicles with compressed air.

ix. Weed-free straw bales: The contractor shall ensure that all straw bales used for sediment and erosion controls, mulch distribution, and restoration seed mixes if used are certified as weed free from the supplier.

x. Post-construction monitoring: After construction, during operation, Facility staff shall monitor for noxious weeds and treat weeds, as appropriate. If needed, a state-licensed weed control contractor will be used to treat noxious weeds.

b. Applicant shall coordinate with Lake County and the CWMA to determine appropriate treatment methods and schedules.

c. Applicant shall hire a state-licensed weed control contractor to apply herbicides according to EPA and ODA standards.

i. The state-licensed weed control contractor will follow all applicable state requirements and guidelines in effect at the time.

Issue 6: Monitoring and Adaptive Management

6. Facilities shall consult with the Fort Rock/ Silver Lake SWCD to develop a monitoring plan both during Facility construction and longer term. Implementation and effectiveness monitoring will address each of the key issues described in this document and listed below. Monitoring methods will be agreed upon by the Applicant and the Fort Rock/ Silver Lake SWCD. If it is decided that a given action is not providing the desired result the Applicant will work with the Fort Rock/ Silver Lake SWCD to address the problem and develop an adaptive management solution. Facilities shall provide the Fort Rock/ Silver Lake SWCD with monitoring result on regular scheduled bases.

a. Applicants monitoring plan shall address the following Fort Rock/ Silver Lake SWCD key issues of concern:

i. Issue 1: Risk of Accelerated Wind Erosion in Disturbed Areas

ii. Issue 2: Revegetation of Disturbed Areas
iii. Issue 3: Grading and Leveling
iv. Issue 4: Soil Compaction
v. Issue 5: Invasive and Noxious Weeds
vi. Issue 6: Monitoring and Adaptive Management

Respectfully Submitted,

Consulting Soil Scientist:

Terry L. Craigg

Terry L. Craigg PhD, Soil Scientist, US Forest Service, Retired

Fort Rock / Silver Lake SWCD Directors:

Scott Duffner	Zone 1	
LeeRoy Horton	Zone 2	Chair
Chaylon Shuffield	Zone 3	Secretary/Treasurer
Leon Baker	At Large 1	
Louis Roy (Sonny) Forman	At Large 2	

References

Chitwood, L. 1994. Soil compaction study phase A, Deschutes National Forest. DRAFT report.

Corning, Max. 2020 Personal communication. Natural Resources Conservation Service, Lakeview, Oregon. Telephone conservation with District Conservationist. February 21, 2020.

Craigg, T.L. and S.W. Howes. 2007. Assessing quality in volcanic ash soils. P. 47-66 in Volcanic-Ash-Derived Forest Soils of the Inland Northwest: Properties and Implications for Management and Restoration, D. Page-Dumroese, R. Miller, J. Mital, P. McDaniel, D. Miller (tech. eds.). USDA For. Serv., Proceedings RMRS-P-44, Rocky Mountain Research Station, Fort Collins, CO.

Greacen, E.L., and R. Sands, 1980. Compaction of forest soils. Aust. J. Res., 18:163-189.

Harward, M.E.; Youngberg, C.T. 1969. Soils from Mazama ash in Oregon: Identification, distribution and properties. Pedology and quaternary research symposium: Proceedings; 1969 May 13-16, Edmonton, AB: University of Alberta: 163-178.

Plaster E.J. 2003. Soil science and management. Fourth edition. Thomson Delmar Learning.

Soil Survey Staff, NRCS (Natural Resources Conservation Service). 2017. Soil Survey Geographic Database (SSURGO). United States Department of Agriculture. Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/ Accessed January 20, 2020.

Soil Survey Staff, NRCS (Natural Resources Conservation Service). 2012. Soil Survey of Lake County, Oregon, Northern Part, Parts of Lake and Klamath Counties. United States Department of Agriculture.

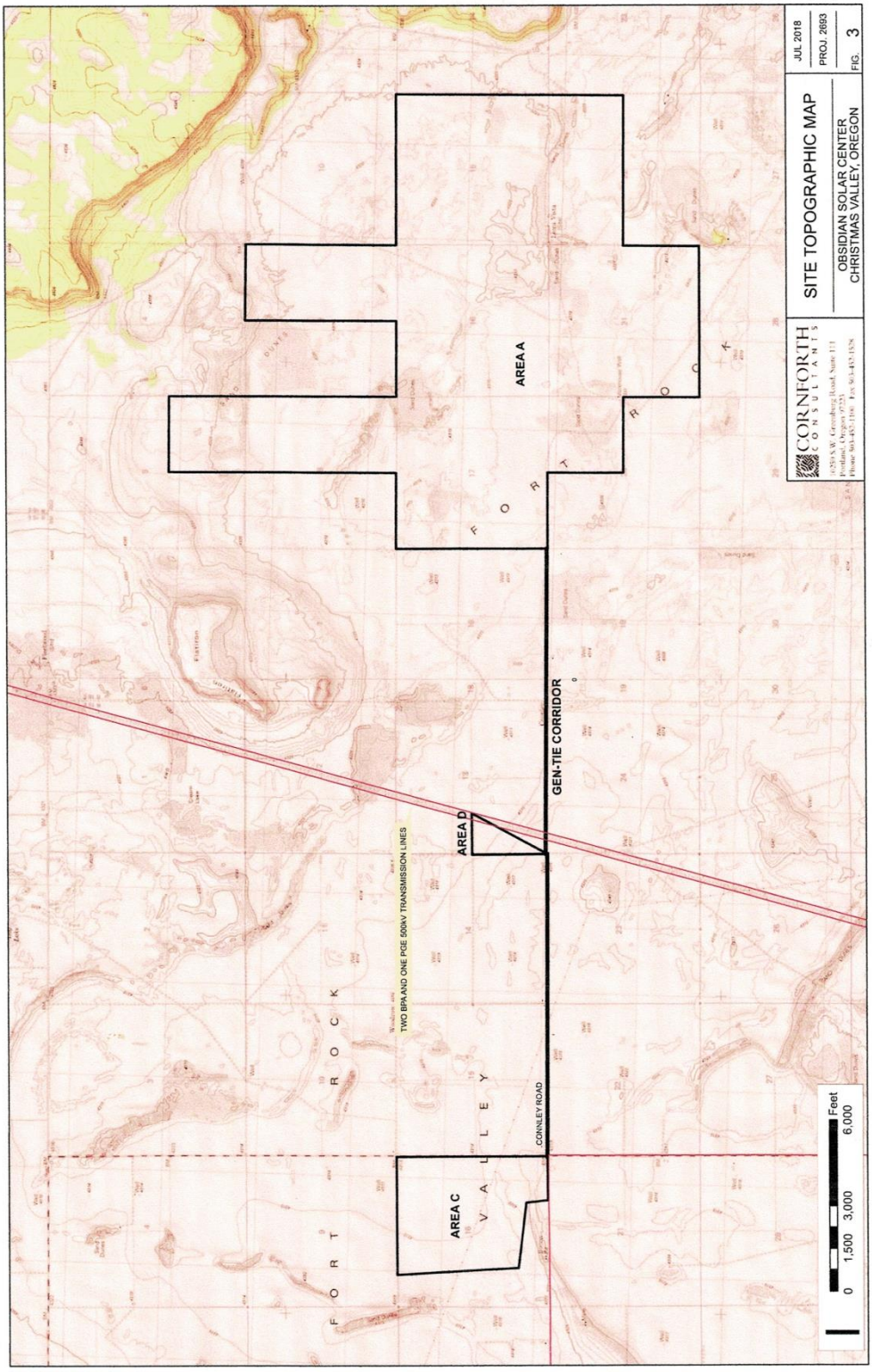
Soil Survey Staff, NRCS (Natural Resources Conservation Service). 2020 Official Soil Series Description https://soilseries.sc.egov.usda.gov/osdname.aspx Accessed January 20, 2020.

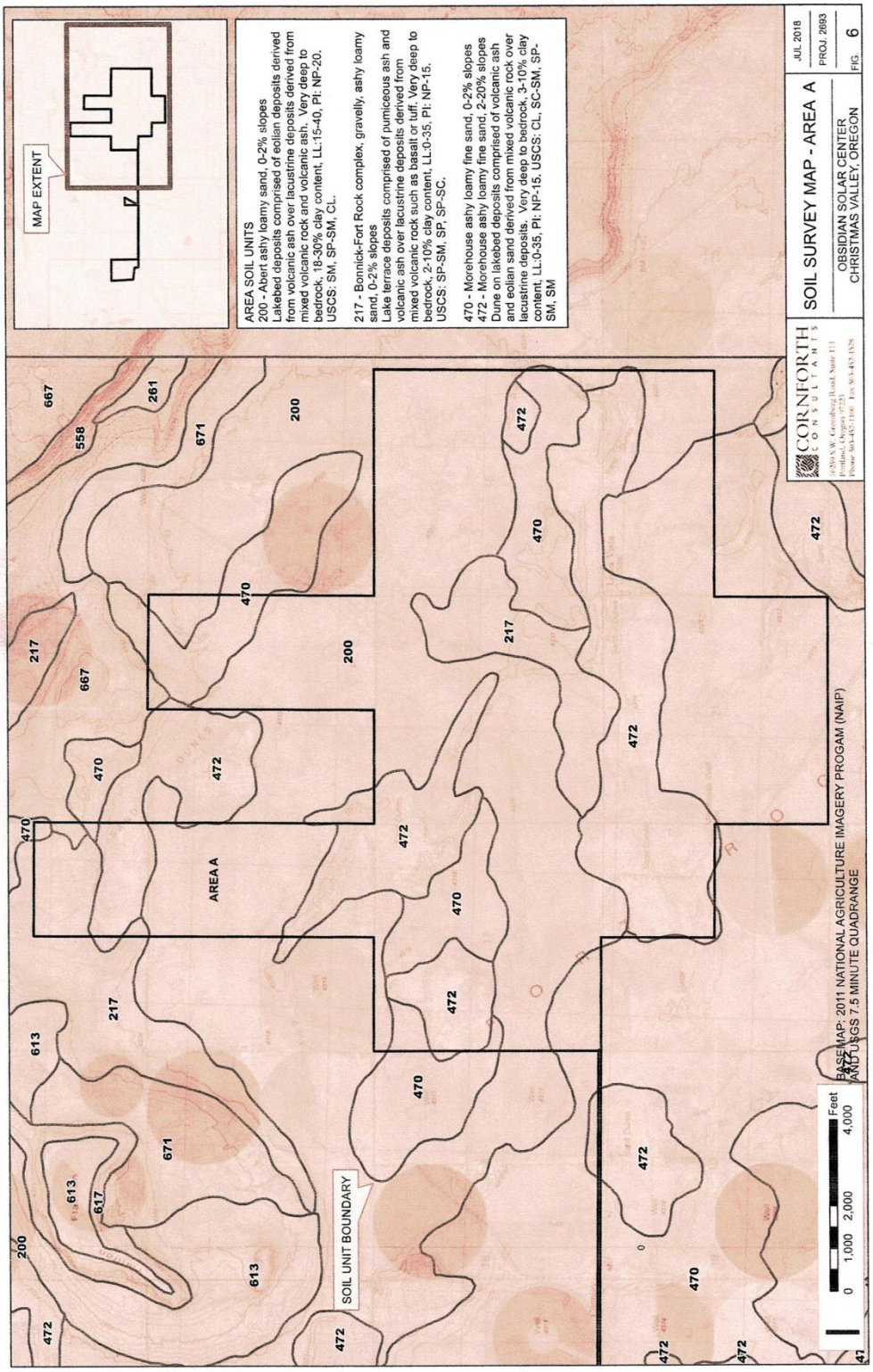
USDA 2006. Keys to soil taxonomy. Tenth Edition. United States Department of Agriculture, Natural Resources Conservation Service.

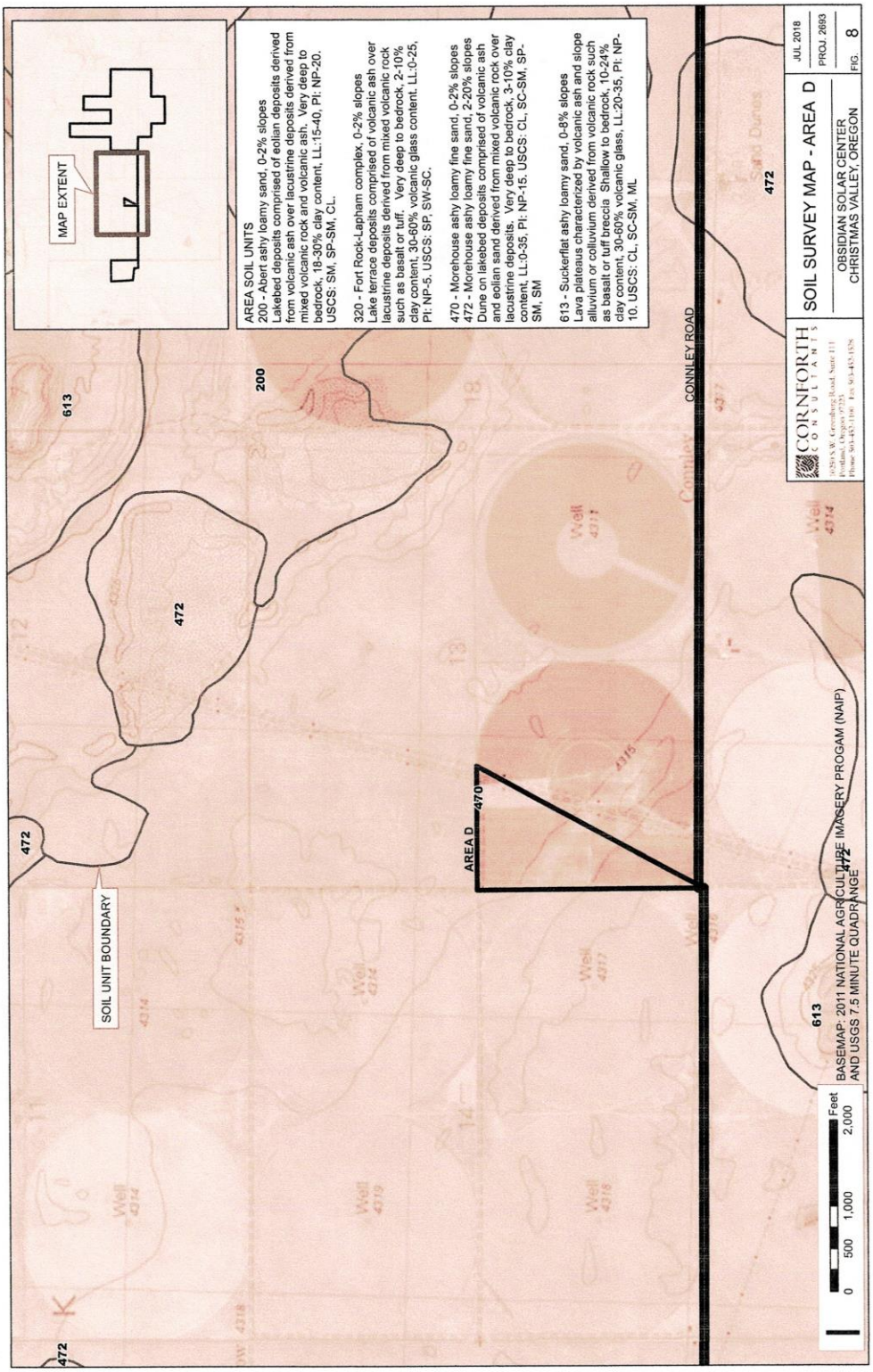
Attachments:

Appendix A (Obsidian Solar location and soil maps)

Appendix B (Terry L. Craigg PhD, Professional Bio)


SITE TOPOGRAPHIC MAP
OBSIDIAN SOLAR CENTER
CHRISTMAS VALLEY, OREGON
JUL 2018
PROJ. 2693
FIG. 3
CORNFORTH CONSULTANTS
AREA A
AREA C
AREA D
GEN-TIE CORRIDOR
TWO BPA AND ONE PGE 500kV TRANSMISSION LINES
CONNLEY ROAD
FORT ROCK VALLEY
0 1,500 3,000 6,000 Feet


MAP EXTENT
AREA SOIL UNITS
200 - Abert ashy loamy sand, 0-2% slopes
Lakebed deposits comprised of eolian deposits derived from volcanic ash over lacustrine deposits derived from mixed volcanic rock and volcanic ash. Very deep to bedrock, 18-30% clay content, LL-15-40, PI: NP-20. USCS: SM, SP-SM, CL.
217 - Bonnick-Fort Rock complex, gravelly, ashy loamy sand, 0-2% slopes
Lake terrace deposits comprised of pumiceous ash and volcanic ash over lacustrine deposits derived from mixed volcanic rock such as basalt or tuff. Very deep to bedrock, 2-10% clay content, LL-0-35, PI: NP-15. USCS: SP-SM, SP, SP-SC.
470 - Morehouse ashy loamy fine sand, 0-2% slopes
472 - Morehouse ashy loamy fine sand, 2-20% slopes
Dune on lakebed deposits comprised of volcanic ash and eolian sand derived from mixed volcanic rock over lacustrine deposits. Very deep to bedrock, 3-10% clay content, LL:0-35, PI: NP-15. USCS: CL, SC-SM, SP-SM, SM
AREA A
SOIL UNIT BOUNDARY
0 1,000 2,000 4,000 Feet
BASE MAP: 2011 NATIONAL AGRICULTURE IMAGERY PROGAM (NAIP)
AND USGS 7.5 MINUTE QUADRANGLE
CORNFORTH CONSULTANTS
SOIL SURVEY MAP - AREA A
OBSIDIAN SOLAR CENTER
CHRISTMAS VALLEY, OREGON
JUL 2018
PROJ: 2693
FIG. 6


MAP EXTENT
AREA SOIL UNITS
200 - Abert ashy loamy sand, 0-2% slopes
Lakebed deposits comprised of eolian deposits derived from volcanic ash over lacustrine deposits derived from mixed volcanic rock and volcanic ash. Very deep to bedrock, 18-30% clay content, LL:15-40, PI: NP-20. USCS: SM, SP-SM, CL.
320 - Fort Rock-Lapham complex, 0-2% slopes
Lake terrace deposits comprised of volcanic ash over lacustrine deposits derived from mixed volcanic rock such as basalt or tuff. Very deep to bedrock, 2-10% clay content, 30-60% volcanic glass content. LL:0-25, PI: NP-5, USCS: SP, SW-SC.
470 - Morehouse ashy loamy fine sand, 0-2% slopes
472 - Morehouse ashy loamy fine sand, 2-20% slopes
Dune on lakebed deposits comprised of volcanic ash and eolian sand derived from mixed volcanic rock over lacustrine deposits. Very deep to bedrock, 3-10% clay content, LL:0-35, PI: NP-15. USCS: CL, SC-SM, SP-SM, SM
613 - Suckerflat ashy loamy sand, 0-8% slopes
Lava plateaus characterized by volcanic ash and slope alluvium or colluvium derived from volcanic rock such as basalt or tuff breccia Shallow to bedrock, 10-24% clay content, 30-60% volcanic glass, LL:20-35, PI: NP-10. USCS: CL, SC-SM, ML
SOIL UNIT BOUNDARY
AREA D
CONNLEY ROAD
BASEMAP: 2011 NATIONAL AGRICULTURE IMAGERY PROGAM (NAIP) AND USGS 7.5 MINUTE QUADRANGE
0 500 1,000 2,000 Feet
CORNFORTH CONSULTANTS
SOIL SURVEY MAP - AREA D
OBSIDIAN SOLAR CENTER
CHRISTMAS VALLEY, OREGON
JUL 2018
PROJ. 2893
FIG. 8

Appendix B (Professional Bio) **March 24, 2020**

Terry L. Craigg PhD

Education

Master of Science, Soil Science, University of California Davis

Master of Forestry, Oregon State University

Doctor of Philosophy, Forest Engineering, Oregon State University

Professional work experience

1987 – 1989 Soil Scientist, USDA PSW Forest and Range Research Station, Redding CA

1989 – 1991 Soil Scientist, USDA Soil Conservation Service, Winnemucca NV

1991 – 1994 Soil Scientist, US Forest Service, Targhee NF, Ashton ID

1994 – 2019 Soil Scientist, US Forest Service, Deschutes NF, Sisters OR

2019 Retired from US Forest Service

Early in my career, working as a professional Soil Scientist, my duties primarily included field soil mapping and drafting of soil survey manuscripts to National Cooperative Soil Survey Standards. I worked on soil surveys in both east and west Humboldt County, Nevada, and on the Targhee National Forest in southeastern Idaho. My background in mapping soils and drafting soil surveys has provided the foundation for using and interpreting soil information in resource planning later in my career.

In 1994 I accepted a position on the Deschutes NF in Central Oregon where my duties shifted from soil mapping to forest planning. During this time I worked within interdisciplinary teams to plan large scale forest management projects and was often selected to lead these teams in the planning process. My forest planning work included primarily watershed restoration, timber harvest, and wildfire rehabilitation.

Selected Publications

Craigg T.L., P.W. Adams, K.A. Bennett, 2015. Soil Matters: Improving forest landscape planning and management for diverse objectives with soils information and expertise. Journal of Forestry, Vol 113.

Craigg, T.L., and S.W. Howes. 2007. Assessing quality in volcanic ash soils. In Volcanic-Ash-Derived Forest Soils of the Inland Northwest: Properties and Implications for Management and Restoration, 9-11 November 2005; Coeur d'Alene, ID. Proceedings RMRS-P-44; Fort Collins, CO; U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 220p.

Craigg, T.L., 2000. Subsoiling to restore compacted soils. In: Proceedings, "Twenty-first Annual Forest Vegetation Management Conference," January, 2000; Redding, CA.

TARDAEWETHER Kellen * ODOE

From: Jana Kittredge <bellagrafa@yahoo.com>
Sent: Monday, May 18, 2020 5:41 PM
To: TARDAEWETHER Kellen * ODOE
Subject: Obsidian Solar Center comments

Hello,

Here are my comments for May 21 hearing for the Obsidian Solar Center proposed project:

Doris Kittredge
Kittredge Ranch
P.O. Box 25
Fort Rock, OR 97735
541.576.2237

May 18, 2020

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301

Dear Ms. Tardaewether:

I am commenting about the proposed Obsidian Renewables solar project in N. Lake County Oregon.

1. Opposition of more solar installed in our area; the solar panels and power poles are an eyesore in our landscape. Many questions of the impact the projects have been raised about infrastructure and the community in general, and the visual unpleasantness.
2. Displacement of rodents after brush removal and construction of solar panels with potential damage to our crops.
3. Displacement of big game populations in the area, eating our crops and damaging our fences.
4. Damage to our area infrastructure. Pressure on local resources.
5. These solar projects tear up our county roads and access roads. The contractors rely on Lake county road department to maintain and repair them. The road department is in lack of funds and operators.
6. As far as payment in lieu of taxes for these projects; the solar companies boast how much they will benefit our school, our school is in fine financial shape, and from what we understand if our local schools receive these funds, the funds that are supported but the State of Oregon are returned to Salem, thus the funds should be used in other ways, we need these payments in lieu of taxes for our deteriorating roads and financially suffering Lake County road department. Perhaps these payments in lieu of taxes can payoff the school bond for construction that recently passed!
7. Light pollution! Substations/battery packs on these sites look like cruise ships sailing in the night. We feel it is unnecessary to light these up! We do not appreciate these highly powered lights in our view and way! One idea is they should have to plant trees around these and also improve the landscape that they've torn out.
8. Solar projects are a detriment to the community. They may support a couple of businesses, but not farmers or ranchers or the community in general. Our community is supported mainly by the agricultural industry. Once these solar projects are completed, there is no more support, their presence is temporary.
9. Dust problems, road damage.

10. Should require buffers around projects with trees, plants, vegetation.
11. Adverse heat conditions from many many panels in the community.

Respectfully submitted,

Doris Kittredge

May 18, 2020

To: Oregon Dept. of Energy

Re: DPO Comment Period/
c/o Kellen Tardewether

Greetings;

Thank you for the opportunity to submit written comment regarding the proposal for siting a Photovoltaic Solar Energy System in North Lake County, Oregon. Please approve the Obsidian Solar Center LLC Application for Site Certificate at the proposed Christmas Valley location 8 miles NE of the XV Townsite. I believe this is the highest and best use for this 3921 acres located in North Lake County, Oregon.

Respectfully,

Paul Koreiva

Paul Koreiva
Landowner
87527 E. Thorn St.
Christmas Valley, OR

DINSDALE FARM & EQUIPMENT, LLC
Sam and Alice Dinsdale
57673 FORT ROCK ROAD
SILVER LAKE, OR 97638
541-576-2440

5/13/20

To whom it may concern:
Re: Solar projects in North Lake County, OR

I am in favor of allowing these projects to proceed and I believe the impact to the area will be a positive one. This clean power facility will not interfere with farming, sage rats and rabbits. We try to mow sagebrush when it gets in the way of grazing, etc. Competition on the edges of alfalfa fields is a familiar battle aided by weekend warriors with 22's and other ordinance. It is a normal sight in winter to see antelope, deer and elk grazing in the high desert. Farmers use best practices in terms of ground cover to limit dust blowing.

Sam Dinsdale

TARDAEWETHER Kellen * ODOE

From: Jana Kittredge <hay2ufortrock@yahoo.com>
Sent: Wednesday, May 20, 2020 11:29 AM
To: TARDAEWETHER Kellen * ODOE
Subject: Comments: Obsidian Solar Center hearing 5/21/20

Scott and Jana Kittredge
Kittredge Ranch II, LLC
P.O. Box 149
Fort Rock, OR 97735
541.576.2237
email: hay2ufortrock@yahoo.com

May 20, 2020

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301
sent via Email

Re: Obsidian Solar Center, LLC Public Hearing 5/21/20

Dear Ms. Tardaewether:

We are commenting on the proposed Obsidian Solar Center project in North Lake County. Our comments include , but not limited to, the use of Obsidian on our Oregon Department of State Lands Agricultural Lease and comments of the project in general. We are including our public comment that was submitted to Oregon Department of State Lands in 2017.

This letter also includes Kittredge Ranch II, LLC's response to the October 19, 2017 notice for public comment on Obsidian Solar Center, LLC ("**Obsidian**") application for an energy solar lease on Division of State Lands ("**DSL**") property located at the intersection of Connely Road and Fort Rock Road ("**Property**"), and neighboring properties. The said Property is currently subject to Agricultural Lease AL-115 with Kittredge Ranch II, LLC ("**DSL Kittredge lease**").

The DSL Kittredge lease grants the right to farm 71.6 irrigated acres on the western portion of the Property and the right to graze livestock across the additional 553 acres, excluding a 15 acre quarry site on the south side of the Property. The term began on April 1, 2005 and has been renewed until March 31, 2040. The terms of DSL Kittredge lease do not permit additional leasing for solar development purposes, and it is the intention of Kittredge Ranch II, LLC to renew the lease for additional terms. Kittredge Ranch believes that the Property, particularly the irrigated acreage, contributes meaningfully to the commercial agricultural economy of Lake County, and we would object to conversion of these irrigated acres to non-agricultural use.

According to the state lands website, the original application was submitted on October 6, 2017 and then amended on October 17 – apparently to exclude certain, but not all, areas subject to the DSL Kittredge lease. We do know Obsidian has retained lease of a portion of our leased grazing land. We support the preservation of the agricultural economy in our state. As a result, we are in favor of Obsidian giving up their lease with DSL so we can move on with future projects with our ag lease.

Our other concerns are more specific and technical as we are in opposition of more solar installed in our area; the solar panels and power poles are an eyesore in our landscape. Many questions of the impact the projects have been raised about infrastructure and the community in general, and the visual unpleasantness.

Furthermore, we have underlying conditions and comments related to the *entire* project as follow:

1. Displacement of rodents after brush removal and construction of solar panels with potential damage to our crops.
2. Displacement of big game populations in the area, devastating our crops and damaging our fences.
3. Damage to our area infrastructure by construction personnel. Pressure on local resources.

4. These solar projects tear up our county roads and access roads. The contractors rely on Lake county road department to maintain and repair them. The road department is in lack of funds and operators.
5. As far as payment in lieu of taxes for these projects; the solar companies boast how much they will benefit our school, our school is in fine financial shape, and from what we understand if our local schools receive these funds, the funds that are supported but the State of Oregon are returned to Salem, thus the funds should be used in other ways, we need these payments in lieu of taxes for our deteriorating roads and financially suffering Lake County road department.
6. Light pollution! Substations/battery packs on these sites look like cruise ships sailing in the night. We feel it is unnecessary to light these up! We do not appreciate these highly powered lights in our view and way! One idea is they should have to plant trees around these and also improve the landscape that they've torn out.
7. Solar projects are a detriment to the community. They may support a couple of businesses, but not farmers or ranchers or the community in general. Our community is supported mainly by the agricultural industry. Once these solar projects are completed, there is no more support, their presence is temporary.
8. Dust problems, road damage.
9. Should require buffers around projects with trees, plants, vegetation.
10. Adverse heat conditions from many many panels in the community.

Respectfully submitted,

J. Scott & Jana Kittredge

TARDAEWETHER Kellen * ODOE

From: Ryan Nielsen <rnielsen@osidcl.org>
Sent: Wednesday, June 3, 2020 9:59 AM
To: TARDAEWETHER Kellen * ODOE
Subject: Comment on Obsidian Solar Center
Attachments: Obsidian solar center comment.docx

Dear Kellen,

My name is Ryan Nielsen, and I am a Strategic Researcher at the Oregon & Southern Idaho District Council of Laborers. Please find attached my comment for the Obsidian Solar Center project draft proposed order. Please let me know if there is anything else I need to do for submitting this comment.

--
Ryan Nielsen
Strategic Researcher
Oregon & Southern Idaho District Council of Laborers
17230 NE Sacramento St, Suite 201
Portland, OR 97230

Cell: 630-408-4490
rnielsen@osidcl.org

LiUNA! OREGON & SOUTHERN IDAHO DISTRICT COUNCIL OF LABORERS
Feel the Power

The Laborers International Union of North America (LIUNA) represents workers across many sectors, including the energy sector. As such, we believe that the Obsidian Solar Center—a truly groundbreaking facility in its size and scope—must set the tone for how renewable energy facilities will benefit Oregonians. LIUNA strongly supports renewable energy projects, and we believe that such projects must come with excellent labor standards that benefit our local workers in Oregon. While we recognize that most labor issues are outside the immediate scope of EFSC, we wish to state our belief that all energy facilities proposed in the state of Oregon should be in line with building an equitable and just society for the working people of Oregon.

As more and more land is put into renewable energy production around our state for wind and solar projects, our union believes that we must ensure that local Oregonians are employed in the building of these projects. Land use is an issue that has deep impacts on local communities, and when land is taken out of farm production, there is an impact on the community. A common critique of converting farmland into renewable energy production facilities is that such a transition does not bring wealth and stable jobs to the local community. We believe that land use is therefore deeply connected to the labor practices that follow in building energy facilities on that land. Renewable energy projects must have strong wages, benefits, and workplace protections, and only then can we justify transitioning land from agricultural or other uses into energy production. There is a long history of bringing in out of state workers to build renewable energy facilities in Oregon. Aside from the added cost of this practice, it is immoral to take land that benefits the local community—through agriculture or other means—and not even employ local workers on the project.

We implore developers to use union labor to build these renewable projects. By using union workers from Oregon, we ensure that renewable energy projects keep money in our state and local communities, rather than going to out of state workers who are frequently brought in by companies employing non-union workers on renewable projects. Using union labor ensures the building trades can sustain apprenticeship programs that help Oregon maintain a qualified, well-educated workforce. Using union labor ensures that workers have access to strong retirement benefits that will impact communities long after workers leave the workforce. Using union labor ensures that work is done safely, allowing workers to return home to their families after being on the jobsite. Using union labor ensures that work is done to the highest standard of quality and efficiency, keeping costs lower in the long-term.

Further, we implore the state and local governments to attach standards to the development of renewable energy projects. Ensuring that renewable projects have apprenticeship requirements, responsible contractor standards, and minority participation requirements will help make the transition to renewable energy a just, community-strengthening process.

LIUNA will fight to make Oregon's transition to renewable energy one that benefits the working people of Oregon, and we ask industry and government to be our partners in making this happen.

Ryan Nielsen
Strategic Researcher
Oregon and Southern Idaho District Council of Laborers

LiUNA! OREGON & SOUTHERN IDAHO DISTRICT COUNCIL OF LABORERS
Feel the Power

TARDAEWETHER Kellen * ODOE

From: Mike Reeder <mreeder@oregonlanduse.com>
Sent: Friday, May 15, 2020 8:42 AM
To: TARDAEWETHER Kellen * ODOE
Cc: Albrich, Elaine; Shipsey Steven; DONALD Erin L
Subject: [Fortimail Spam Detected] Request to Cancel and Reschedule May 21, 2020 Hearing - Obsidian Solar Center
Attachments: Reeder to HO 05.15.2020.pdf; Executive Order 20-16.pdf

Importance: High

Dear Kellen Tardaewether:

Please see the attached letter to the Oregon Energy Facilities Siting Council Hearings Official. Please forward to the Hearings Official and enter into the record on this matter. Thank you.

Best,

Mike

Law Office of Mike Reeder
Oregon Land Use Law

Office: (458) 210-2845 | oregonlanduse.com
375 W. 4th Ave., Suite 205, Eugene, OR 97401

Law Office of Mike Reeder
Oregon Land Use Law

May 15, 2020

Via Email Only
Kellen.Tardaewether@oregon.gov

Hearing Official
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Captial Street NE
Salem, OR 97301

Re: Objection to Public Hearing via Zoom
Request to Schedule In-Person Public Hearing

Dear Hearing Official:

I represent Jerald Simmons, LeeRoy Horton, Aaron Borror, Larry Turnbow and Jeremiah and Mariam Thorshed. I am in receipt of the Oregon Department of Energy's ("ODE") Public Notice regarding the Obsidian Solar Center issued March 12, 2020 for a public hearing to be held via Zoom and webinar on May 21, 2020. Please accept this letter as my clients' formal objection to the Zoom/teleconference hearing as unlawful and request that the current hearing be cancelled and a new public hearing complying with the requirements of OAR 345-022-0220 be rescheduled to a date after Lake County has been re-opened and the Governor has lifted her executive order restricting the gathering of crowds of more than 25 people.

As a threshold matter, ODE's reliance on the Governor's Executive Order 20-16 as justification to forego the requirements of OAR 345-015-0220, including that the public hearing be held "in the vicinity of the site of the proposed facility," is woefully misplaced. By its plain terms, the Governor's order only applies to "public meetings and hearings" by the "governing body". Of course, you are not the governing body of ODE – that is the Council. Even if the Council were to conduct the hearing, the Governor's order would still not excuse holding the meeting via Zoom/teleconference because the order only allows hearings by the governing body by virtual or telephonic means "whenever possible." As discussed below, it is not possible in this case to hold such a virtual hearing. I have attached a copy of the Governor's Executive Order 20-16 for your convenience.

Failure to conduct the prescribed public hearing in accordance with OAR 345-015-0220 will invalidate all subsequent action including the Council's review "following the close

of the record of the public hearing conducted under OAR 345-015-0220" and Council's issuance of proposed order following their review. See OAR 345-015-0230(1) & (2).

The purpose and protections afforded by OAR 345-015-0220 are obvious. Requiring that the public hearing be held "in the vicinity of the site of the proposed facility" allows the public directly affected by the facility to opportunity to physically appear and present evidence and argument in favor or opposition of the facility in person. Holding a remote hearing via Zoom or by teleconference is inherently prejudicial and woefully deficient in these circumstances. While ODE and the applicants no doubt have access to the internet, a personal computer, reliable phone service and Zoom, such access is not universally true for the public residing in rural northern Lake County. Many residents in Christmas Valley are without means, especially during the COVID pandemic and do not have ready access to a personal computer with any or reliable internet service and therefore cannot participate in the "public" hearing for their benefit. Other residents do not have internet or phone service at all or if so, the service is unreliable and often incapable of facilitating streaming content such as a Zoom meeting. Cell service can be equally unreliable. Many residents are elderly and simply unfamiliar with the complexities of setting up and logging into a Zoom-style webinar or teleconference or have poor hearing making participation through Zoom or teleconference difficult if not impossible. Even in the best of circumstances, and with the best hearing, Zoom meetings can be very difficult for the participants to hear and participate. The larger the number of participants, the more difficult it is to hear and meaningfully participate in a virtual public hearing. The option to provide written testimony via email is also inadequate. The public has a right to participate in the hearing process itself. That means the ability to listen to and respond (orally) to issues and matters raised at the hearing and to visually see demonstrative evidence and materials presented at hearing. Even if a person could attend by teleconference, they have no way of seeing evidence that is presented. For all professionals who have ever participated in a phone hearing, we readily understand its limitations and shortcomings which increase exponentially the more people who are involved.

If the facility were being cited in Lake Oswego, these issues may not be a concern and such a hearing might be possible. That is not, however, the case. This facility is being sited in rural Oregon and the means chosen to hold the public hearing are highly prejudicial, if even available, to those residents impacted by the proposed 3,921-acre facility while greatly favoring the applicant and ODE. A public hearing that by design unduly imposes burdensome access barriers and is heavily biased in favor of one party does not comport with the statutory requirements for the public hearing or with the spirit of the Governor's executive order. After all, the Governor issued her order with the understanding that she was doing so to ensure "public participation in decision-making." Applying her order as ODE has done, does the opposite; it narrowly proscribes which portion of the public may participate – those with means, while excluding the very people that would be impacted by the facility. If you are looking for a way to dampen public participation, ODE's suggested public hearing does just that. There is no statutory deadline driving this matter. A short delay of several months to

hold the in-person hearing required by OAR 345-015-0220 is surely better than committing reversible error causing the entire process to be repeated 1 to 3 year from now.

In light of the foregoing, my clients respectfully request that the current hearing be cancelled and rescheduled to a future date allowing for in person participation with crowds of more than 25 people. I suggest that we schedule a conference call with the applicant and ODE to discuss this issue prior to the May 21, 2020 hearing.

Please include this letter in the record for this application.

Respectfully,

/s/Micheal M. Reeder

Micheal M. Reeder

Cc: Applicants, c/o Elaine Albrich, Legal Counsel

Office phone: (458) 210-2845
mreeder@oregonlanduse.com
375 W. 4th Ave., Suite 205
Eugene, Oregon 97401
oregonlanduse.com

EXECUTIVE ORDER NO. 20-16

KEEP GOVERNMENT WORKING: ORDERING NECESSARY MEASURES TO ENSURE SAFE PUBLIC MEETINGS AND CONTINUED OPERATIONS BY LOCAL GOVERNMENTS DURING CORONAVIRUS (COVID-19) OUTBREAK

On February 28, 2020, I appointed the State of Oregon's Coronavirus Response Team.

On February 29, 2020, the Department of Human Services issued strict guidelines, restricting visitation at congregated care facilities, including nursing homes.

On March 2, 2020, the State of Oregon Emergency Coordination Center was activated.

On March 8, 2020, I declared an emergency under ORS 401.165 *et seq*. due to the public health threat posed by the novel infectious coronavirus (COVID-19).

On March 12, 2020, I prohibited gatherings of 250 or more people, and announced a statewide closure of Oregon K-12 schools from March 16, 2020, through March 31, 2020.

On March 13, 2020, the President of the United States declared the COVID-19 outbreak a national emergency.

On March 17, 2020, I prohibited gatherings of 25 or more people, banned on-site consumption of food and drink at food establishments statewide, and extended school closures until April 28, 2020. I also encouraged all businesses not subject to the prohibitions to implement social distancing protocols.

On March 18, 2020, I suspended in-person instructional activities at higher education institutions through April 28, 2020.

On March 22, 2020, I imposed a temporary moratorium on residential evictions for nonpayment, prohibiting law enforcement from serving, delivering, or acting on any notice, order or writ of termination of tenancy, relating to residential evictions for nonpayment.

On March 23, 2020, I ordered Oregonians to "Stay Home, Save Lives," directing individuals to stay home to the greatest extent possible, ordering the closure of specified retail businesses, requiring social distancing measures for other public and private facilities, and imposing requirements for outdoor areas and licensed childcare facilities.

On April 1, 2020, I imposed a temporary moratorium on the termination of residential and nonresidential rental agreements and evictions for nonpayment, to ensure that individuals can stay at home to the greatest extent possible, and to ensure the provision of necessary goods and services during this emergency.

On April 8, 2020, I announced that school closures and the suspension of in-person instructional activities at higher education institutions would be extended through the end of the current academic term and school year.

COVID-19 may cause respiratory disease leading to serious illness or death. The World Health Organization considers COVID-19 to be a global pandemic. COVID-19 spreads person-to-person through coughing, sneezing, and close personal contact, including touching a surface with the virus on it and then touching your mouth, nose, or eyes.

State and local public health officials advise that the virus is circulating in the community and expect the number of cases to increase. The United States Centers for Disease Control and Prevention (CDC) reports that COVID-19 is most contagious when the individual is most symptomatic, but may also spread before symptoms appear. CDC recommends measures to limit spread of the disease in the community, including limitations on events and gatherings.

The number of COVID-19 cases continues to rise in Oregon. On March 8, 2020, at the time I declared an emergency, there were 14 presumptive or confirmed cases in Oregon. As of today, there are at least 1,663 confirmed cases and 58 deaths.

In a short time, COVID-19 has spread rapidly. To slow the spread of COVID-19 in Oregon, and to protect the health and lives of Oregonians, particularly those at highest risk, I find that immediate implementation of additional measures is necessary to protect the health, safety, and the financial stability of all Oregonians.

During this emergency, state and local governments must continue to operate, provide essential services, and make decisions in a public and transparent manner. Governments must do so safely, consistent with my emergency directives. Public participation is essential to the functioning of our state and local governments, but in-person attendance at public meetings presents a risk to the public health and safety of Oregonians, unless appropriate measures are taken. Thus, during this emergency, public meetings should be held via telephone, video, electronic or other virtual means, whenever possible, to keep Oregonians safe, and to mitigate the spread of COVID-19. Likewise, local governments need to be able to hold budget meetings in a way that comports with my stay-at-home directives, so they can complete their upcoming budget processes and ensure continued delivery of essential government services.

NOW THEREFORE, IT IS HEREBY DIRECTED AND ORDERED THAT:

Pursuant to ORS 433.441, ORS 401.168, ORS 401.175, ORS 401.188, and ORS 401.192, I am issuing the following directives, which authorize state and local governments to take necessary measures to ensure continued operations, public participation in decision-making, and the provision of essential government services in a safe manner during the COVID-19 outbreak:

1. Definition. "COVID-19 emergency period" means the period during which the COVID-19 state of emergency declared by Executive Order 20-03 is in effect, including any extensions of that state of emergency.

2. Public Meetings. During the COVID-19 emergency period:

    a. The governing body of a public body (as defined by ORS 192.610(3) and (4)) shall hold public meetings and hearings by telephone, video, or through some other electronic or virtual means, whenever possible. For all public meetings and hearings held by telephone, video, or through other electronic or virtual means, the public body shall make available a method by which the public can listen to or virtually attend the public meeting or hearing at the time it occurs, and the public body does not have to provide a physical space for the public to attend the meeting or hearing. This paragraph does not apply to executive sessions, as defined by ORS 192.610(2).

b. When public meetings or hearings of a governing body of a public body cannot be held by telephone, video, or through some other electronic or virtual means pursuant to paragraph 2(a) of this Executive Order, persons attending those meetings must maintain appropriate social distancing (six feet or more between individuals), to the maximum extent possible.

c. Any requirements by law or policy that testimony during a public meeting or hearing be taken in person do not apply if the public body provides an opportunity for submission of testimony by telephone, video, or through some other electronic or virtual means, or provides a means of submitting written testimony, including by email or other electronic methods, that the public body may consider in a timely manner. This paragraph does not apply to contested case hearings held pursuant to ORS chapter 183.

d. Unless otherwise required by law, a quorum of the governing body of a public body and the number of its members required for an affirmative act consists of a majority of its members, excluding those unable to attend because of illness due to COVID-19.

3. Local Budget Meetings. During the COVID-19 emergency period:

a. Any requirement under ORS 294.305 to 294.565, or ORS 294.900 to 294.930, to provide members of the public or taxpayers an opportunity to ask questions and comment, or to appear before or meet with, or to attend a hearing of, either a budget committee established under ORS 294.414 or ORS 294.905, or the governing body of a municipal corporation as defined by ORS 294.311) or council of local governments (as defined by ORS 294.900), may be satisfied by providing a method of appearing or meeting by telephone, video, or other electronic methods and by also providing a means of submitting written communications, including email or other electronic methods, that the committee or governing body may consider in a timely manner.

b. Publication of any notice, summary, or other document required under ORS 294.305 to 294.565, or ORS 294.900 to 294.930, may be satisfied by posting the notice, summary, or other document in a prominent manner on the internet.

c. If the public health threat underlying the COVID-19 state of emergency, or compliance with an Executive Order issued pursuant to ORS 401.165 to 401.236 in connection with that emergency, causes a municipal corporation to fail to comply with ORS 294.305 to 294.565 or ORS 294.900 to 294.930, then, notwithstanding ORS 294.338(1) or any other law, the municipal corporation may make reasonable expenditures for the continued operation of the municipal corporation within its existing or most recently adopted budget, provided it cures any failure to comply with ORS 294.305 to 294.565 or ORS 294.900 to 294.930 as soon as reasonably practicable.

d. Any requirement of the tax supervising and conservation commission to conduct a hearing under ORS 294.640 or 294.655 may be satisfied by providing a method of appearing or meeting by telephone, video, or other electronic methods, and by also providing a means of submitting written communications, including email or other electronic methods, that the commission may consider in a timely manner before making any objection, recommendation, certification, or order regarding a municipal corporation's proposed budget, special tax levy, or bond issue.

e. The certification requirements specified in ORS 221.770(1)(b) and (c) may be satisfied by holding a hearing and allowing written comment in accordance with paragraph 3(a) of this Executive Order, and by making certification to the Oregon Department of Administrative Services as soon as reasonably practicable upon adoption of the budget.

EXECUTIVE ORDER NO. 20-16
PAGE SIX

This Executive Order is issued under the authority conferred to the Governor by ORS 401.165 to 401.236. Pursuant to ORS 401.192(1), the directives set forth in this Executive Order shall have the full force and effect of law, and any existing laws, ordinances, rules and orders shall be inoperative to the extent they are inconsistent with this exercise of the Governor's emergency powers.

This Executive Order is effective immediately, and remains in effect until terminated by the Governor.

Done at Salem, Oregon, this 15th day of April, 2020.

Kate Brown

Kate Brown
GOVERNOR

ATTEST:

Bev Clarno

Bev Clarno
SECRETARY OF STATE

TARDAEWETHER Kellen * ODOE

From: Mike Reeder <mreeder@oregonlanduse.com>
Sent: Wednesday, June 3, 2020 12:12 PM
To: TARDAEWETHER Kellen * ODOE
Cc: Albrich, Elaine; Shipsey Steven; DONALD Erin L; shannon.ofallon@doj.state.or.us; Aaron Noteboom
Subject: [Fortimail Spam Detected] RE: Request to Cancel and Reschedule June 23, 2020 Hearing - Obsidian Solar Center
Attachments: Reeder to HO (re Public Hearing with Attachments) 06.03.2020 Resized.pdf

All: Sending the .pdf doc attached resized. Best, Mike

Law Office of Mike Reeder
Oregon Land Use Law

Office: (458) 210-2845 | oregonlanduse.com
375 W. 4th Ave., Suite 205, Eugene, OR 97401

From: Mike Reeder
Sent: Wednesday, June 3, 2020 12:49 PM
To: 'TARDAEWETHER Kellen * ODOE' <Kellen.Tardaewether@oregon.gov>
Cc: Albrich, Elaine <ElaineAlbrich@dwt.com>; Shipsey Steven <steve.shipsey@doj.state.or.us>; DONALD Erin L <erin.l.donald@state.or.us>; 'shannon.ofallon@doj.state.or.us' <shannon.ofallon@doj.state.or.us>; Aaron Noteboom <aaron@noteboomlaw.com>
Subject: Request to Cancel and Reschedule June 23, 2020 Hearing - Obsidian Solar Center

Dear Kellen:

Please see the attached letter to the Oregon Energy Facilities Siting Council Hearings Official. Please forward to the Hearings Official and enter into the record on this matter. Thank you.

Best,

Mike

Law Office of Mike Reeder
Oregon Land Use Law

Office: (458) 210-2845 | oregonlanduse.com
375 W. 4th Ave., Suite 205, Eugene, OR 97401

From: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Sent: Friday, May 15, 2020 10:05 AM
To: Mike Reeder <mreeder@oregonlanduse.com>
Cc: Albrich, Elaine <ElaineAlbrich@dwt.com>; Shipsey Steven <steve.shipsey@doj.state.or.us>; DONALD Erin L <erin.l.donald@state.or.us>
Subject: RE: Request to Cancel and Reschedule May 21, 2020 Hearing - Obsidian Solar Center

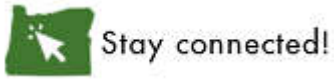
Mr. Reeder,

I'm confirming receipt of your letter. Thank you,

Kellen

OREGON DEPARTMENT OF ENERGY

Kellen Tardaewether
Senior Siting Analyst
550 Capitol St. NE Salem, OR 97301
P: 503-373-0214
C: 503-586-6551
P (In Oregon): 800-221-8035



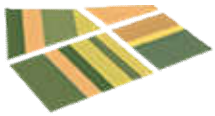
From: Mike Reeder <mreeder@oregonlanduse.com>
Sent: Friday, May 15, 2020 8:42 AM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Cc: Albrich, Elaine <ElaineAlbrich@dwt.com>; Shipsey Steven <steve.shipsey@doj.state.or.us>; DONALD Erin L <erin.l.donald@state.or.us>
Subject: [Fortimail Spam Detected] Request to Cancel and Reschedule May 21, 2020 Hearing - Obsidian Solar Center
Importance: High

Dear Kellen Tardaewether:

Please see the attached letter to the Oregon Energy Facilities Siting Council Hearings Official. Please forward to the Hearings Official and enter into the record on this matter. Thank you.

Best,

Mike



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375 W. 4th Ave., Suite 205, Eugene, OR 97401

Law Office of Mike Reeder
Oregon Land Use Law

June 3, 2020

Via Email Only
Kellen.Tardaewether@oregon.gov

Hearing Official
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

Re: Objection to Public Hearing
Request to Cancel June 23rd Public Hearing

Dear Hearing Official:

I represent Jerald Simmons, LeeRoy Horton, Aaron Borror, Larry Turnbow and Jeremiah and Mariam Thorshed. I am in receipt of the Oregon Department of Energy's ("ODOE") Public Notice regarding the Obsidian Solar Center Proposed Order issued March 12, 2020 for a public hearing to be held via In-Person, Teleconference and Webinar (Zoom) on June 23, 2020. Please accept this letter as my clients' formal objection to the rescheduled hearing as unlawful and request that the rescheduled hearing be cancelled and a new public hearing complying with the requirements of ORS 469.370(2) be rescheduled to a date after Lake County has been re-opened and the Governor has lifted her executive order restricting the gathering of crowds of more than 25 people.

While my clients appreciate ODOE's efforts to reschedule the original public hearing, both the rescheduled hearing and notice of the rescheduled hearing are deficient. Moreover, the rescheduled public hearing violates the Governor's executive order.

Failure to Give Proper Notice

ORS 469.730 obligates ODOE to mail notice of the public hearing at least 20 days prior to the hearing. The notice must advise that "copies of the application and draft proposed order are available for inspection at no cost and will be provided at a reasonable cost" (emphasis added). The notice issued by ODOE fails to satisfy either of those mandates. The notice purports that copies of the application and proposed order are "available" at

Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301.

Such documents may be there physically but they are by no means "available" to the public for inspection as required by statute. First, ODOE's building is currently "closed to the public" as noted on its website as a result of the COVID-19 pandemic. There is no indication of when it will be opened back up. See the attached screen shot taken June 3, 2020 at 10:30am. The materials must be actually "available" for inspection. That is not possible when the building it closed to the public. Moreover, they must be available, the entire 20-day period prior to the hearing. Even if ODOE's building were open to the public and even if the materials were available for the entire 20 day period, the materials are not "available" to the public when the proposed facility (and public hearing) are located in rural northern Lake County and the materials are "available" in Salem, Oregon some 464 miles and a 8 hour, 8 minute round trip from the hearing location. At a minimum, they must be physically available to the public at the location of the public hearing for a period of 20 days prior to the hearing during normal working hours. There must be at least two full sets of documents as the statute requires "copies" be available for inspection. As it stands, it is already too late to have everything in place from the June 23, 2020 hearing. The currently scheduled hearing must be reset to a later date.

The notice is further deficient in that it fails to advise the public that copies "will be provided at a reasonable cost." Nowhere in the published notice is there any mention of this as plainly required by ORS 469.370(2)(d)("The notice shall, at a minimum . . . state that copies of the application and draft proposes order . . . will be provided at a reasonable cost.").(emphasis added). Beyond being required by statute, this is critical for a variety of reasons. First, the project is to be located in northern rural Lake County where many of the residents lack the means, time (e.g. working) or physical health to either travel to inspect the documents in person or lack the capability to view the documents online (e.g. no computer, no internet). It is imperative that those folks be able to request and receive a hard copy of the documents. Second, the Application (including exhibits) is 1,191 pages and the draft proposed order is 410 pages for a total of 1,601 pages. These materials must be made available at a "reasonable cost." What may be reasonable in Lake Oswego is not necessarily reasonable in rural northern Lake County, during a pandemic where the public is suffering historical levels of unemployment. My clients suggest that in these circumstances what is reasonable under the circumstances is no more than $.01 per page with postage charges not to exceed $3.99 for a total of $20.00 for the application and proposed order. My clients also note that ODOE may be required to provide copies for free to persons who ask pursuant to Oregon's public records law. The public should be notified of this as an option. It would be unreasonable to fail to do so under the present circumstances. Given the voluminous nature of the application and proposed order combined with the relatively short time frame to review everything (20 days at most), it is critical that the documents be available immediately upon request. Failing

to timely provide documents will result in substantial prejudice to the public and jeopardize the validity of the hearing. Keep in mind, the hearing is for the benefit of the public, not ODOE or the Applicant. If the public is substantially prejudiced in its ability to prepare and attend the public hearing because of the failure of ODOE to comply with the requirements of law, the public hearing and any acts taken thereafter are invalid.

Failure to Provide Public Hearing

ORS 469.370(2) requires the Council to hold "one or more public hearings on the application for a site certificate . . ." (emphasis added). The proposed location, social distancing protocols and Governor's executive orders prohibit the holding of the required "public" hearing. To qualify as a public hearing, it axiomatic that the public must be able to attend. They must be able to attend the full hearing, not just a portion of it. They must be able to hear and see all evidence, argument and instruction including that from the Hearing Officer. It is simply unacceptable and highly prejudicial to require the public to wait outside while a select few (including ODE and the Applicant) are allowed to enter and remain in the premises during the entire hearing. For example, by law, at the commencement of the proceeding the Hearings Officials must notify the public regarding certain instructions on what the public needs to do to present evidence and argument and protect their rights to participate in the contested case hearing. Members of the public who fail meet these requirements are prohibited from participating in the contested case hearing. The entire public must be able to hear these statements. Members of the public must be able to see and hear what others are saying and what evidence they are presenting so that they may be able to competently respond to such when they are presenting their testimony, evidence and argument.

Violation of Governor's Executive Order 20-16.

Notwithstanding the recent Baker County Circuit Court decision (which has been stayed by the Oregon Supreme Court), the Governor's order 20-16 is still in full force and effect when it comes to public meetings and hearings. The Governor's order remains – only public meetings or hearings of the "governing body' of the public body are authorized where such meetings or hearings are for the "provision of essential government services." First and foremost, the public hearing is not needed for the "provision of essential government services." Second, the Hearing Official is not the governing body of ODOE, that is the Council. This is not a meeting or hearing of the Council; it is a public hearing before the Hearing Official (See notice - "A public hearing on the DPO, conducted by the EFSC-appointed third party OAH hearings officer . . . "). The proposed public hearing is clearly banned by the Governor's Executive Order 20-16. A public hearing held in violation of the Governor's executive order prohibiting such is not a valid public hearing.

The public should not be put in the position of having to choose between: (a) protecting their health (by not attending) and complying with the law, or (b) protecting their property interests (by attending) and violating the law. It is difficult to imagine a more gross

and plain violation of a citizen's constitutional rights – attend, speak your mind, and risk civil and criminal penalties for violating the law and the possibility of contracting a highly contagious, potentially fatal disease for which there is no known cure or obey the law, stay home and forfeit your rights. ODOE's reckless decision to risk the lives of local Lake County residents for the benefit of the Applicant shocks the consciences and clearly violates the Governor's order as well as my clients' constitutional rights and appears designed to tip the scales in favor of Applicant by limiting potential opposition. To my knowledge, ODOE has not sought guidance from either the Governor or the Oregon Health Authority on the propriety of the rescheduled hearing or even how to conduct such a hearing safely.

Some of my clients are vulnerable persons. They are older citizens which exposes them to greater risk of serious illness or death should they contract COVID-19. Gatherings such as the rescheduled public hearing are generally recognized as "super spreader" events hence the Governor's order banning them. There are inadequate health care facilities in Lake County to handle an outbreak. The notion that the State of Oregon is violating its own order and exposing its citizens to such a threat is outrageous especially when there is no statutory deadline driving the timing of this hearing. Holding this hearing under these circumstances is the epitome of an arbitrary and capricious act by the government. An act that strips my clients of their constitutionally protected rights and property interests. The rescheduled hearing must be cancelled and postponed until the Governor has revoked her order prohibiting public hearings and gatherings of more than 25 people.

Please include this letter in the record for this application. Please send me copies of all future notices, decisions and mailings in this matter. My clients reserve all rights, remedies, claims and defenses available to them and nothing herein is or should be construed as a waiver of the same.

Respectfully,

/s/Micheal M. Reeder

Micheal M. Reeder

cc: Clients

Via Email Only
elainealbrich@dwt.com

Obsidian Solar Center, LLC
c/o Elain Albrich
Davis Wright Tremaine LLP
1300 SW 5th Ave Ste 2400
Portland OR 97201

Via Email and Regular Mail
shannon.ofallon@doj.state.or.us

Oregon Health Authority
c/o Shannon K O'Fallon
Oregon Department of Justice
100 SW Market St
Portland OR 97201

Attachments:

Notice of Public Hearing for June 23, 2020

Screenshot ODOE Website, June 3, 2020, 10:30 am

Mapquest – Christmas Valley to Salem, Oregon

Oregon Governor Executive Order 20-16

Oregon Governor Executive Order 20-25

Office phone: (458) 210-2845
mreeder@oregonlanduse.com
375 W. 4th Ave., Suite 205
Eugene, Oregon 97401
oregonlanduse.com

PUBLIC NOTICE

Obsidian Solar Center

Rescheduled Public Hearing on the Draft Proposed Order and Request for Comments

Summary:
Notice Date: June 1, 2020
Draft Proposed Order Issuance Date: March 12, 2020
Date of Public Hearing: June 23, 2020, 5:30 p.m.

Proposal: Application for Site Certificate (ASC) from Obsidian Solar Center LLC (owned by Obsidian Renewables, LLC and Lindgren Development, Inc; applicant) for a proposed approximately 400 megawatt alternating current (MWac) photovoltaic solar energy facility on approximately 3,921 acres of nonarable land (includes a "reasons exception" request to the statewide policy embodied in Goal 3, *Agricultural Lands*).

Proposed Facility Location: North Lake County, approximately eight miles northwest of Christmas Valley and seven miles southeast of Fort Rock.

Draft Proposed Order Review: The draft proposed order (DPO) was issued on March 12, 2020, which opened a public comment period. Written comments may be summitted per the instructions in this notice. An opportunity to submit oral and written comments at a hearing on the DPO will be presided over by a third-party hearing officer from the Oregon Office of Administrative Hearings (OAH), appointed by the Energy Facility Siting Council (EFSC). Under ORS 469.370(2), the hearing will be held in the affected area of the proposed facility as well as held remotely in accordance with Governor Kate Brown's Executive Order 20-16, via teleconference/webinar detailed below. The Oregon Department of Energy (ODOE) will provide equipment for individuals to give oral testimony via the webinar described below to EFSC members and the hearing officer.

The Oregon Department of Energy will hold the in-person portion of the public hearing according to policies and guidelines for social distancing, safety of the public and staff in place at the time of the hearing. ODOE will update the project webpage in advance of the hearing with these details:
https://www.oregon.gov/energy/facilities-safety/facilities/Pages/OSC.aspx

In-Person/Teleconference/Webinar Public Hearing Information:

Date:	June 23, 2020
Start Time:	5:30 p.m.
End Time:	7:00 p.m., or later based on public participation
Location:	Christmas Valley Community Hall 87345 Holly Lane Christmas Valley, OR 97641

Teleconference/Webinar Presentation:
https://odoe.webex.com/odoe/onstage/g.php?MTID=e826a9a37cc8819eb15290118166d73cc

ODOE strongly recommends joining the Webex meeting online, if possible. When you join, please use your full name to sign in to help staff manage public comments. Additional information will be provided at the hearing about how to provide an oral comment using Webex features.

Join by Phone: (408) 418-9388
Access Code: 711 028 400

Comment Deadline: June 23, 2020, at the close of the hearing listed above.

Description of Proposed Facility: The proposed facility, including related or supporting facilities, includes approximately 400 MWac of photovoltaic solar energy generation equipment to be located on approximately 3,921 acres of nonarable land.

Equipment includes solar modules, tracking systems, posts, cabling, inverter/transformer units (approx. 160); 34.5 kilovolt (kV) collection system; up to 4 collector substations (1 acre/each); up to two operations and maintenance buildings; perimeter/internal roads (approx. 50 miles) and perimeter fencing (approx. 18 miles); 50 MW of battery (flow) storage equipment; 115 kV transmission line (approx. 2 miles); and, a 115/500 kV step-up substation and point of interconnection.

Location of Proposed Facility: The proposed facility would be located within a site boundary of approximately 3,921 acres. The proposed site

boundary is located within Lake County, approximately eight miles northwest of Christmas Valley. A map of the proposed facility and site boundary is included at the end of this notice. Specific locational maps can be found in ASC Exhibit C at: https://www.oregon.gov/energy/facilities-safety/facilities/Pages/OSC.aspx and on ODOE's online mapping tool: https://tinyurl.com/EFSCmap.

Overview: On October 17, 2019, ODOE, staff to EFSC, received a complete ASC from the applicant. The complete ASC seeks approval from EFSC to construct and operate the Obsidian Solar Center (proposed facility). Under Oregon law, the applicant must obtain approval of the ASC and be granted a site certificate from EFSC in order to construct and operate the proposed facility. On March 12, 2020, ODOE posted additional information to the ASC on the project webpage listed above. On the same date, ODOE issued a DPO on the ASC. The DPO recommends EFSC approve the ASC and issue a site certificate, subject to recommended conditions of approval. The purpose of this notice is to inform the public of an in-person and webinar/teleconference public hearing on the DPO on Tuesday, June 23, 2020 and of an opportunity to provide comments on the DPO, extending from March 12, 2020 through June 23, 2020 at the close of the DPO hearing. Please note that this is the third public notice of the availability of the DPO and any comments already submitted to ODOE after the first March 12, 2020 public notice do not need to be resubmitted.

Public Hearing and Comment Period: A public hearing on the DPO, conducted by the EFSC-appointed third-party OAH hearings officer will be held in-person and remotely via teleconference/webinar on Tuesday, June 23, 2020. The hearing will begin at 5:30 p.m. and will include a brief overview by ODOE staff on the siting process and proposed facility, followed by the hearing officer, who will provide an overview of the hearing format. Oral and written comments may be provided at the in-person/teleconference/webinar public hearing described above.

Written comments **must be received by the comment deadline of Tuesday, June 23, 2020 at the close of the public hearing**, submitted by mail, email hand-delivery or fax to the hearing officer, in care of:

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301
Phone: (503) 373-0214
Fax: 503-373-7806
Email: Kellen.Tardaewether@oregon.gov

Comments on the DPO will not be accepted after June 23, 2020, which represents the close of the record on the DPO for the proposed facility.

EFSC Review Process: The site certificate process is a consolidated, comprehensive siting process. The applicant must demonstrate that the proposed facility meets EFSC standards established under Oregon Revised Statute (ORS) 469.501 and set forth in Oregon Administrative Rule (OAR) Chapters 345, Divisions 22 and 24, as well as all other applicable Oregon statutes, rules and standards. ODOE serves as staff to EFSC and conducts the application review process.

The proposed facility is an energy facility subject to EFSC jurisdiction under the definition in ORS 469.300(11)(a)(D)(iii). As such, the proposed facility must receive approval from EFSC of a site certificate prior to construction.

To be eligible to participate in a contested case proceeding, a person must raise an issue either in person at the public hearing or in a written comment submitted on or before June 23, 2020 and received by ODOE before the record closes on June 23, 2020 (close of the public hearing). Even if a person commented before March 12, 2020, that person must raise an issue(s), either via oral comment at the teleconference/webinar public hearing or in writing during the comment period to be eligible to participate in the contested case. For consideration in the contested case, issues raised must be within the EFSC's jurisdiction and must be raised with sufficient specificity so that EFSC, ODOE, and the applicant understand the issue being raised and are afforded an opportunity to respond to the issue. To raise an issue with sufficient specificity, a person must present facts that support the person's position on the issue. See OAR 345-015-0016(3).

Please note: All comments submitted to ODOE may be disclosed to the public, subject to Oregon Public

Records Laws (ORS Chapter 192). Public comments may be available on the ODOE webpage for the Obsidian Solar Center as an attachment to the Proposed Order, to be issued at a later date.

Comment submission does not register your contact information to receive future notices. If you would like to receive notices for this proposed facility or any other EFSC facility, and have not already done so, please follow the information in this notice to subscribe to the ClickDimensions email notification list.

EFSC Decision Process: Following the public hearing and after the close of the record of the hearing on the DPO, EFSC will review the DPO and comments received on the record of the DPO public hearing during a scheduled EFSC meeting. Following its review, either at that meeting or at a subsequent meeting, EFSC will direct staff to prepare and issue a proposed order. Along with the proposed order, ODOE will issue a notice of contested case. Following the contested case proceeding, EFSC will issue a final order on the ASC. The Siting Division Public Guide contains information on the EFSC process, including the contested case process.

To view this information on ODOE's website, please use the following link: https://www.oregon.gov/energy/facilities-safety/facilities/Documents/Fact-Sheets/EFSC-Public-Guide.pdf

Receipt of this Notice:
Please note that you may be receiving this notice for multiple reasons:

1. You own property within or adjacent to (within 500 feet) the property boundary on which the proposed facility would be located. You will automatically receive all future EFSC notices for this proposed facility.
2. You have requested to receive paper notices on the Obsidian Solar Center. If you wish to be removed from this mailing lists, please contact Kellen Tardaewether.
3. You have previously signed up via GovDelivery/ClickDimensions to receive email notices related to the Obsidian Solar Center or all EFSC project-related notices. You will automatically receive all future email notices per your request, unless you unsubscribe via ClickDimensions or by contacting ODOE.

More Information: More information about the proposed facility and updates on the review process is available using any of the following options.

1) Oregon Department of Energy's webpage:
The ASC and additional details regarding the proposed facility may be found at: https://www.oregon.gov/energy/facilities-safety/facilities/Pages/OSC.aspx

Additional resources to help you participate in the state siting process can be found at: https://www.oregon.gov/energy/facilities-safety/facilities/Pages/Fact-Sheets.aspx

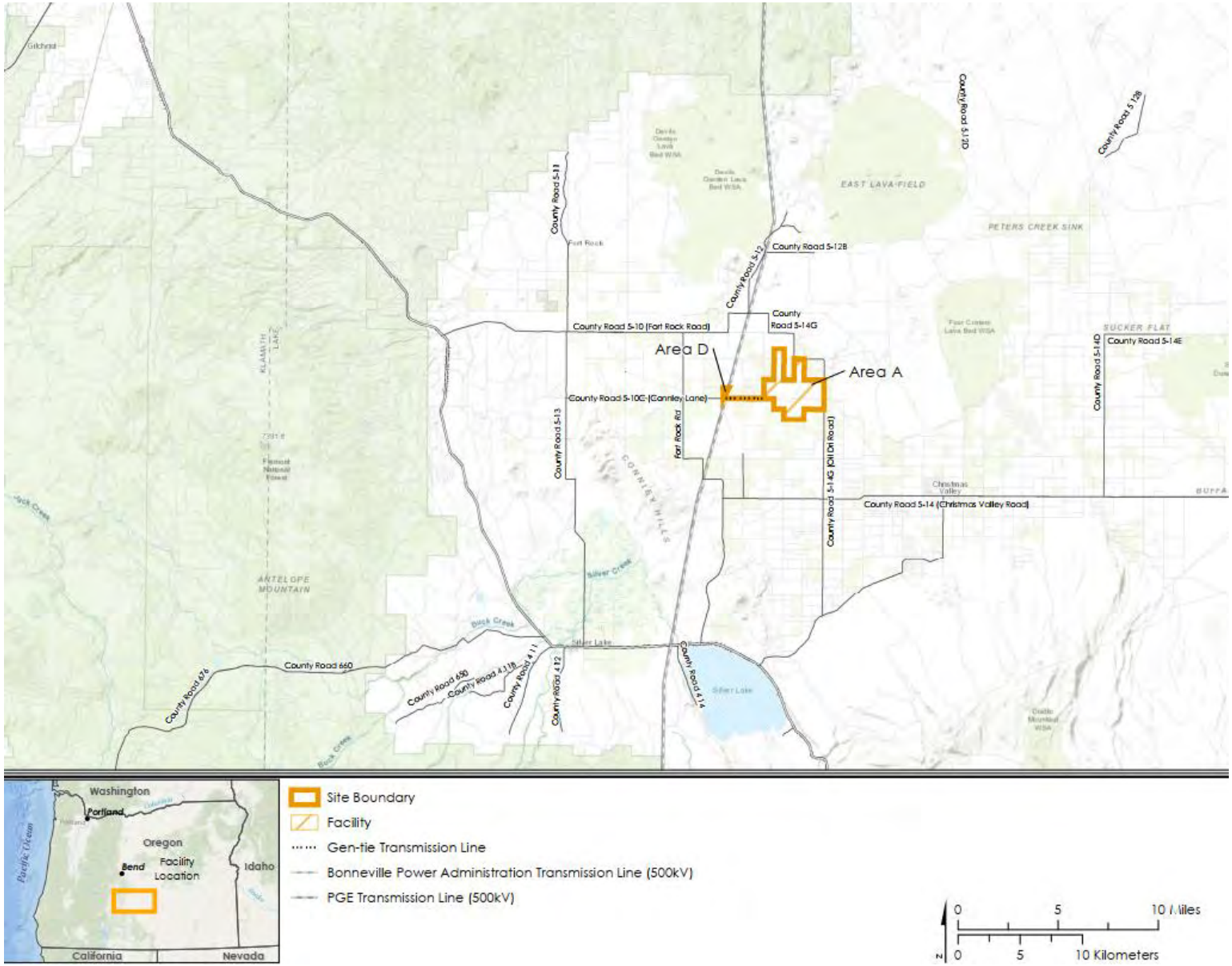
2) Updates by email/mail:
Subscribe to ClickDimensions, a self-managed, automated email system that sends notices and updates on the Obsidian Solar Center as well as any or all other energy facilities and events under EFSC jurisdiction. For more information, please visit: https://tinyurl.com/ODOE-EFSC. To receive notices by U.S. Mail, please contact Kellen Tardaewether (see contact information provided above).

3) In hardcopy:
Hard copies of the proposed Obsidian Solar Center ASC and DPO on the ASC are available for public inspection upon request at:

Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

Accessibility information: ODOE is committed to accommodating people with disabilities. For review of the DPO or attendance at the public hearing, if you require any special physical or language accommodations, or need information in an alternate format, please contact Michiko Mata at 503-378-3895, toll-free in Oregon at 800-221-8035, or email to michiko.mata@oregon.gov. For any other accommodation needed to attend the public hearing, please contact ODOE as soon as possible so we may provide the accommodation

Figure 1: Proposed Facility Location



Oregon Department of Energy

ODOE building closed to the public, services remain open:

CONTACT US

SAVE ENERGY

- Solar + Storage Rebate Program
- Home Energy Scoring
- Schools & Public Buildings
- On the Road
- Energy Code Hotline
- Help With My Project

SAFETY + RESILIENCE

- Energy System Resilience
- Guidebook for Local Energy Resilience
- Hanford and Nuclear Safety
- Emergency Preparedness
- Oregon Fuel Action Plan
- Nuclear Emergency Info

ENERGY FACILITIES

- About Facility Siting
- Energy Facilities in Oregon
- Energy Facility Siting Council
- Council Jurisdiction
- Facilities Under Review
- Liquefied Natural Gas

ENERGY IN OREGON

- Biennial Energy Report
- Oregon's Electricity Mix
- Renewable Portfolio Standard
- Find Your Utility
- Climate Change
- Electric Vehicles & Alternative Fuels
- Oregon Renewable Energy Siting Assessment (ORESA)
- Renewable Energy

Hot Topics

- ODOE's Salem office is **closed to the public** until further notice to reduce the spread of the COVID-19 virus. Our services remain open – contact us.
- ODOE launches new Oregon Solar + Storage Rebate Program
- ODOE announces $1.6 million in grant funding for 19 renewable energy projects.
- ODOE publishes Oregon Guidebook for Local Energy Resilience.
- Click through our Oregon Solar Dashboard

Tweets by @ODOEnergy

Oregon Dept. of Energy
@ODOEnergy

Want to make your home more energy efficient? A Home Energy Score can help homeowners better understand a home's energy use & identify improvements they can make to increase energy efficiency. Learn more about HES on our website #KnowledgeIsPower oregon.gov/energy/save-en...

23h

Oregon Dept. of Energy
@ODOEnergy

Landfills emerge as promising battery storage sites to

Agency Calendar

askenergy@oregon.gov

Today | Wednesday, June 3

Showing events after 6/3. Look for earlier events
Showing events until 7/15. Look for more

YOUR TRIP TO:

550 Capitol St NE

4 HR 4 MIN | 232 MI

Est. fuel cost: $17.20

87345 Holly Ln

1. Start out going **east** on Holly Ln/County Hwy-9-68 toward Jingle Bell Rd/County Hwy-9-47 (Portions unpaved).

Then 0.03 miles — 0.03 total miles

2. Take the 1st **right** onto Jingle Bell Rd/County Hwy-9-47.

If you reach Silver Tip St you've gone about 0.1 miles too far.

Then 0.07 miles — 0.10 total miles

3. Turn **right** onto Christmas Valley Hwy/County Hwy-5 14.

Then 10.53 miles — 10.63 total miles

4. CHRISTMAS VALLEY HWY.

Your destination is 0.2 miles past Thomas Rd.

If you reach Freemont St you've gone about 0.7 miles too far.

43.235627, -120.883598

This leg of your trip is:

13 minutes · 10.63 miles

Start of next leg of route

5. Start out going **west** on Christmas Valley Hwy/County Hwy-5 14 toward Freemont St.

Then 0.77 miles — 11.40 total miles

6. Take the 2nd **right** onto Fort Rock Rd/County Hwy-5/10/County Hwy-5 10.

Fort Rock Rd is just past Freemont St.

Then 10.39 miles — 21.80 total miles

7. 60171 FORT ROCK RD is on the **right**.
Your destination is 0.7 miles past Labrador Ln.

If you reach Labrador Ln you've gone about 0.2 miles too far.

C 60171 Fort Rock Rd

This leg of your trip is:
18 minutes · 11.16 miles

Start of next leg of route

8. Start out going **west** on Fort Rock Rd/County Hwy-5/10/County Hwy-5 10 toward Labrador Ln.

Then 4.42 miles — 26.21 total miles

9. FORT ROCK RD.
If you reach Bowers Rd you've gone about 0.1 miles too far.

D 43.356035, -121.031219

This leg of your trip is:
7 minutes · 4.42 miles

Start of next leg of route

10. Start out going **west** on Fort Rock Rd/County Hwy-5/10/County Hwy-5 10 toward Bowers Rd/County Hwy-5 10B/County Hwy-5-10.

Then 7.52 miles — 33.73 total miles

11. Turn **right** onto Highway 31/Outback Scenic Byway/OR-31. Continue to follow Outback Scenic Byway/OR-31.

Then 29.20 miles — 62.94 total miles

12. Turn **left** onto Highway 97/US-97 S.

Then 15.66 miles — 78.60 total miles

13. Turn **right** onto Crescent Cut Off Rd.
Crescent Cut Off Rd is just past Jones Rd.

If you reach Main St you've gone about 0.3 miles too far.

Then 0.06 miles — 78.65 total miles

14. Crescent Cut Off Rd becomes County Hwy-61.

Then 11.15 miles — 89.80 total miles

15. County Hwy-61 becomes Cascade Lakes Scenic Byway/NFD Road 61.

Then 0.81 miles — 90.61 total miles

16. Turn **right** onto Highway 58/OR-58.

Then 72.44 miles — 163.05 total miles

17. Merge onto I-5 N toward **Eugene/OR-99 N**.

Then 65.44 miles — 228.50 total miles

18. Take the **OR-22/OR-99E Bus** exit, EXIT 253, toward **Bend/Detroit Lake**.

Then 0.25 miles — 228.75 total miles

19. Turn **left** onto Mission St/OR-99E Bus/OR-22.

Then 2.31 miles — 231.06 total miles

20. Take the **OR-99 Bus/OR-22 W** ramp toward **City Center/Willamette U**.

Then 0.28 miles — 231.34 total miles

21. Merge onto 12th St.

Then 0.59 miles — 231.92 total miles

22. Turn **left** onto Marion St.

Marion St is just past Center St.

If you are on Union St and reach Capitol St you've gone about 0.1 miles too far.

Then 0.10 miles — 232.02 total miles

23. Turn **right** onto Capitol St.

Capitol St is just past 12th St.

If you reach Summer St you've gone a little too far.

Then 0.03 miles — 232.05 total miles

24. 550 CAPITOL ST NE is on the **right**.

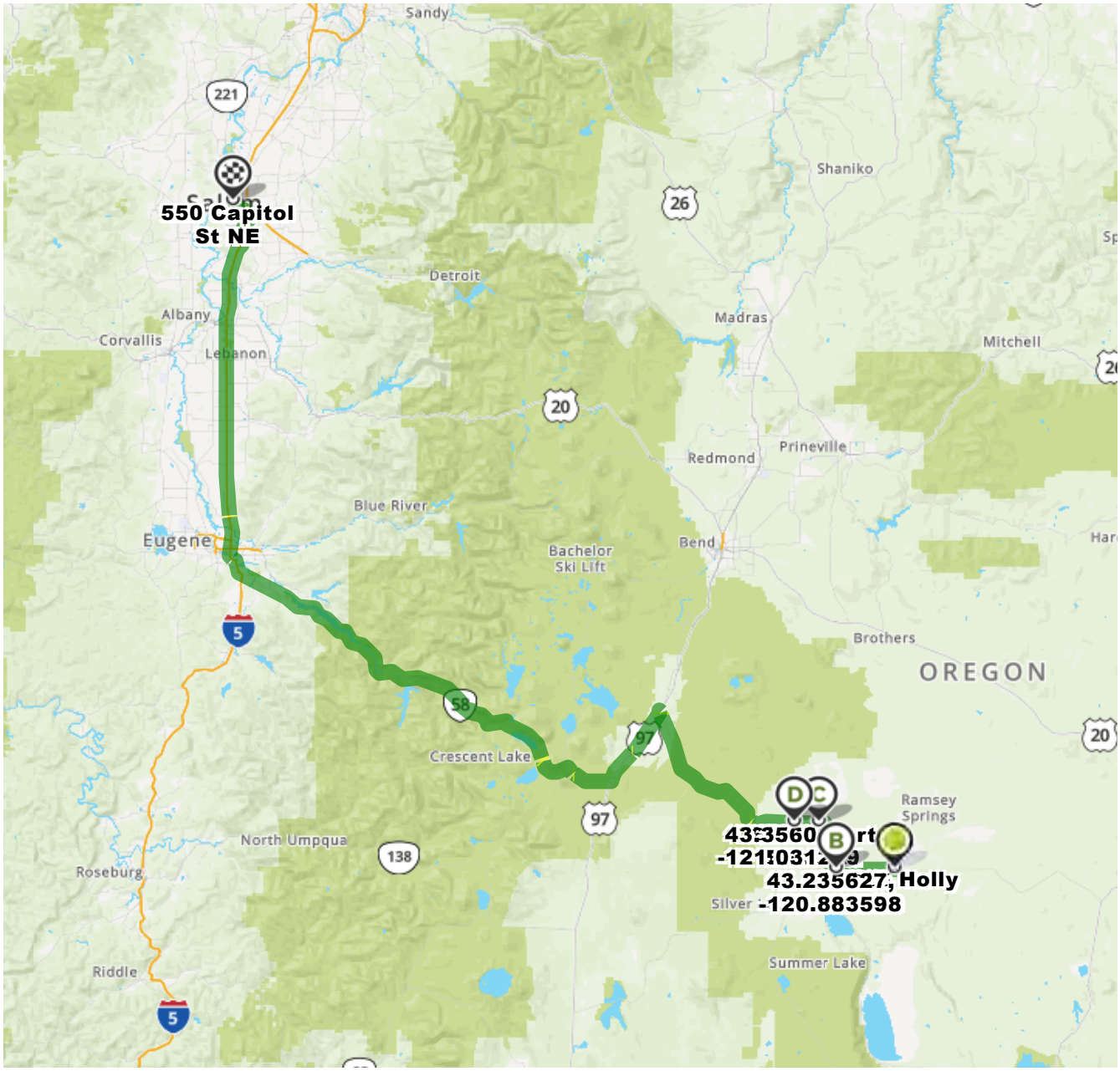
If you reach S Union St N you've gone a little too far.

550 Capitol St NE

This leg of your trip is:

3 hours 40 minutes · 205.84 miles

Save to My Maps


550 Capitol St NE
43.235627, Holly
-120.883598
Sandy
221
Shaniko
26
Detroit
Albany
Corvallis
Lebanon
Madras
Mitchell
20
Redmond
Prineville
Blue River
Eugene
Bachelor Ski Lift
Bend
5
Brothers
OREGON
58
97
Crescent Lake
Ramsey Springs
North Umpqua
138
Roseburg
Silver
Summer Lake
Riddle

EXECUTIVE ORDER NO. 20-16

KEEP GOVERNMENT WORKING: ORDERING NECESSARY MEASURES TO ENSURE SAFE PUBLIC MEETINGS AND CONTINUED OPERATIONS BY LOCAL GOVERNMENTS DURING CORONAVIRUS (COVID-19) OUTBREAK

On February 28, 2020, I appointed the State of Oregon's Coronavirus Response Team.

On February 29, 2020, the Department of Human Services issued strict guidelines, restricting visitation at congregated care facilities, including nursing homes.

On March 2, 2020, the State of Oregon Emergency Coordination Center was activated.

On March 8, 2020, I declared an emergency under ORS 401.165 *et seq.* due to the public health threat posed by the novel infectious coronavirus (COVID-19).

On March 12, 2020, I prohibited gatherings of 250 or more people, and announced a statewide closure of Oregon K-12 schools from March 16, 2020, through March 31, 2020.

On March 13, 2020, the President of the United States declared the COVID-19 outbreak a national emergency.

On March 17, 2020, I prohibited gatherings of 25 or more people, banned on-site consumption of food and drink at food establishments statewide, and extended school closures until April 28, 2020. I also encouraged all businesses not subject to the prohibitions to implement social distancing protocols.

On March 18, 2020, I suspended in-person instructional activities at higher education institutions through April 28, 2020.

On March 22, 2020, I imposed a temporary moratorium on residential evictions for nonpayment, prohibiting law enforcement from serving, delivering, or acting on any notice, order or writ of termination of tenancy, relating to residential evictions for nonpayment.

On March 23, 2020, I ordered Oregonians to "Stay Home, Save Lives," directing individuals to stay home to the greatest extent possible, ordering the closure of specified retail businesses, requiring social distancing measures for other public and private facilities, and imposing requirements for outdoor areas and licensed childcare facilities.

On April 1, 2020, I imposed a temporary moratorium on the termination of residential and nonresidential rental agreements and evictions for nonpayment, to ensure that individuals can stay at home to the greatest extent possible, and to ensure the provision of necessary goods and services during this emergency.

On April 8, 2020, I announced that school closures and the suspension of in-person instructional activities at higher education institutions would be extended through the end of the current academic term and school year.

COVID-19 may cause respiratory disease leading to serious illness or death. The World Health Organization considers COVID-19 to be a global pandemic. COVID-19 spreads person-to-person through coughing, sneezing, and close personal contact, including touching a surface with the virus on it and then touching your mouth, nose, or eyes.

State and local public health officials advise that the virus is circulating in the community and expect the number of cases to increase. The United States Centers for Disease Control and Prevention (CDC) reports that COVID-19 is most contagious when the individual is most symptomatic, but may also spread before symptoms appear. CDC recommends measures to limit spread of the disease in the community, including limitations on events and gatherings.

The number of COVID-19 cases continues to rise in Oregon. On March 8, 2020, at the time I declared an emergency, there were 14 presumptive or confirmed cases in Oregon. As of today, there are at least 1,663 confirmed cases and 58 deaths.

In a short time, COVID-19 has spread rapidly. To slow the spread of COVID-19 in Oregon, and to protect the health and lives of Oregonians, particularly those at highest risk, I find that immediate implementation of additional measures is necessary to protect the health, safety, and the financial stability of all Oregonians.

During this emergency, state and local governments must continue to operate, provide essential services, and make decisions in a public and transparent manner. Governments must do so safely, consistent with my emergency directives. Public participation is essential to the functioning of our state and local governments, but in-person attendance at public meetings presents a risk to the public health and safety of Oregonians, unless appropriate measures are taken. Thus, during this emergency, public meetings should be held via telephone, video, electronic or other virtual means, whenever possible, to keep Oregonians safe, and to mitigate the spread of COVID-19. Likewise, local governments need to be able to hold budget meetings in a way that comports with my stay-at-home directives, so they can complete their upcoming budget processes and ensure continued delivery of essential government services.

NOW THEREFORE, IT IS HEREBY DIRECTED AND ORDERED THAT:

Pursuant to ORS 433.441, ORS 401.168, ORS 401.175, ORS 401.188, and ORS 401.192, I am issuing the following directives, which authorize state and local governments to take necessary measures to ensure continued operations, public participation in decision-making, and the provision of essential government services in a safe manner during the COVID-19 outbreak:

1. Definition. "COVID-19 emergency period" means the period during which the COVID-19 state of emergency declared by Executive Order 20-03 is in effect, including any extensions of that state of emergency.

2. Public Meetings. During the COVID-19 emergency period:

    a. The governing body of a public body (as defined by ORS 192.610(3) and (4)) shall hold public meetings and hearings by telephone, video, or through some other electronic or virtual means, whenever possible. For all public meetings and hearings held by telephone, video, or through other electronic or virtual means, the public body shall make available a method by which the public can listen to or virtually attend the public meeting or hearing at the time it occurs, and the public body does not have to provide a physical space for the public to attend the meeting or hearing. This paragraph does not apply to executive sessions, as defined by ORS 192.610(2).

b. When public meetings or hearings of a governing body of a public body cannot be held by telephone, video, or through some other electronic or virtual means pursuant to paragraph 2(a) of this Executive Order, persons attending those meetings must maintain appropriate social distancing (six feet or more between individuals), to the maximum extent possible.

c. Any requirements by law or policy that testimony during a public meeting or hearing be taken in person do not apply if the public body provides an opportunity for submission of testimony by telephone, video, or through some other electronic or virtual means, or provides a means of submitting written testimony, including by email or other electronic methods, that the public body may consider in a timely manner. This paragraph does not apply to contested case hearings held pursuant to ORS chapter 183.

d. Unless otherwise required by law, a quorum of the governing body of a public body and the number of its members required for an affirmative act consists of a majority of its members, excluding those unable to attend because of illness due to COVID-19.

3. Local Budget Meetings. During the COVID-19 emergency period:

a. Any requirement under ORS 294.305 to 294.565, or ORS 294.900 to 294.930, to provide members of the public or taxpayers an opportunity to ask questions and comment, or to appear before or meet with, or to attend a hearing of, either a budget committee established under ORS 294.414 or ORS 294.905, or the governing body of a municipal corporation as defined by ORS 294.311) or council of local governments (as defined by ORS 294.900), may be satisfied by providing a method of appearing or meeting by telephone, video, or other electronic methods and by also providing a means of submitting written communications, including email or other electronic methods, that the committee or governing body may consider in a timely manner.

b. Publication of any notice, summary, or other document required under ORS 294.305 to 294.565, or ORS 294.900 to 294.930, may be satisfied by posting the notice, summary, or other document in a prominent manner on the internet.

c. If the public health threat underlying the COVID-19 state of emergency, or compliance with an Executive Order issued pursuant to ORS 401.165 to 401.236 in connection with that emergency, causes a municipal corporation to fail to comply with ORS 294.305 to 294.565 or ORS 294.900 to 294.930, then, notwithstanding ORS 294.338(1) or any other law, the municipal corporation may make reasonable expenditures for the continued operation of the municipal corporation within its existing or most recently adopted budget, provided it cures any failure to comply with ORS 294.305 to 294.565 or ORS 294.900 to 294.930 as soon as reasonably practicable.

d. Any requirement of the tax supervising and conservation commission to conduct a hearing under ORS 294.640 or 294.655 may be satisfied by providing a method of appearing or meeting by telephone, video, or other electronic methods, and by also providing a means of submitting written communications, including email or other electronic methods, that the commission may consider in a timely manner before making any objection, recommendation, certification, or order regarding a municipal corporation's proposed budget, special tax levy, or bond issue.

e. The certification requirements specified in ORS 221.770(1)(b) and (c) may be satisfied by holding a hearing and allowing written comment in accordance with paragraph 3(a) of this Executive Order, and by making certification to the Oregon Department of Administrative Services as soon as reasonably practicable upon adoption of the budget.

This Executive Order is issued under the authority conferred to the Governor by ORS 401.165 to 401.236. Pursuant to ORS 401.192(1), the directives set forth in this Executive Order shall have the full force and effect of law, and any existing laws, ordinances, rules and orders shall be inoperative to the extent they are inconsistent with this exercise of the Governor's emergency powers.

This Executive Order is effective immediately, and remains in effect until terminated by the Governor.

Done at Salem, Oregon, this 15th day of April, 2020.

Kate Brown

Kate Brown
GOVERNOR

ATTEST:

Bev Clarno

Bev Clarno
SECRETARY OF STATE

EXECUTIVE ORDER NO. 20-25

A SAFE AND STRONG OREGON: MAINTAINING ESSENTIAL HEALTH DIRECTIVES IN RESPONSE TO COVID-19, AND IMPLEMENTING A PHASED APPROACH FOR REOPENING OREGON'S ECONOMY

On February 28, 2020, I appointed the State of Oregon's Coronavirus Response Team.

On February 29, 2020, the Department of Human Services issued strict guidelines, restricting visitation at congregated care facilities, including nursing homes.

On March 2, 2020, the State of Oregon Emergency Coordination Center was activated.

On March 8, 2020, I declared an emergency under ORS 401.165 *et seq.* due to the public health threat posed by the novel infectious coronavirus (COVID-19).

On March 12, 2020, I prohibited gatherings of 250 or more people, and announced a statewide closure of Oregon K-12 schools from March 16, 2020, through March 31, 2020.

On March 13, 2020, the President of the United States declared the COVID-19 outbreak a national emergency.

On March 16, 2020, the Department of Human Services imposed its most recent protective measures to restrict visitors to long-term care facilities and other residential facilities. The Oregon Health Authority has adopted similar measures at the Oregon State Hospital and other behavioral health settings and has limited admissions to the Oregon State Hospital. The Oregon Department of Corrections has suspended all visits to state prisons.

On March 17, 2020, I prohibited gatherings of 25 or more people, banned on-site consumption of food and drink at food establishments statewide, and extending school closures until April 28, 2020. I also encouraged all businesses not subject to the prohibitions to implement social distancing protocols.

On March 18, 2020, I suspended in-person instructional activities at higher education institutions through April 28, 2020.

On March 19, 2020, I ordered the postponement of non-urgent health care procedures, in order to conserve personal protective equipment (PPE) and hospital beds for the state's COVID-19 emergency response efforts. I also directed the Oregon Health Authority to provide guidance regarding limitations and screening for visitors to hospitals and ambulatory surgical centers.

On March 22, 2020, I imposed a temporary moratorium on residential evictions for nonpayment, prohibiting law enforcement from serving, delivering, or acting on any notice, order or writ of termination of tenancy, relating to residential evictions for nonpayment.

On March 23, 2020, I ordered Oregonians to "Stay Home, Save Lives," directing individuals to stay home to the greatest extent possible, ordering the closure of specified retail businesses, requiring physical distancing measures for other public and private facilities, and imposing requirements for outdoor areas and licensed childcare facilities.

On April 1, 2020, I imposed a temporary moratorium on the termination of residential and nonresidential rental agreements and evictions for nonpayment, to ensure that individuals can stay at home to the greatest extent possible, and to ensure the provision of necessary goods and services during this emergency.

On April 8, 2020, I announced that school closures and the suspension of in-person instructional activities at higher education institutions would be extended through the end of the current academic term and school year.

On April 13, 2020, I announced that Oregon had entered into a Western States Pact with the states of Washington and California, to coordinate our individual state efforts to combat COVID-19 and reopen our economies. Colorado and Nevada have since joined the Western States Pact.

On April 15, 2020, I ordered certain necessary measures to ensure safe public meetings by public bodies and to facilitate continued operations by local governments during the COVID-19 outbreak.

On April 27, 2020, I issued an order that allows for the gradual resumption of non-urgent health care procedures, as long as those procedures are performed in compliance with Oregon Health Authority guidance that ensures adequate hospital capacity and supply of PPE.

The World Health Organization considers COVID-19 to be a global pandemic. COVID-19 may cause respiratory disease leading to serious illness or death. COVID-19 spreads person-to-person through coughing, sneezing, and close personal contact, including touching a surface with the virus on it and then touching your mouth, nose, or eyes.

State and local public health officials advise that the virus is circulating in the community and expect the number of cases to increase as restrictions are lifted. As of today, there are at least 3,416 cases and 134 deaths in Oregon, with more than 80,000 deaths from COVID-19 nationwide. Given that risk for a resurgence of COVID-19 remains if protective measures are not maintained, we must maintain preparedness, as we plan to ease these restrictions over time.

Physical distancing, the "Stay Home, Save Lives" order, and the other essential actions mentioned above have helped slow the spread of COVID-19 in Oregon. As outlined in this Executive Order, the State shall undertake a phased, data-driven, and regionally tailored approach to reopening social, economic, and other activities in Oregon. This reopening process must balance the need to restore and strengthen our overall social and economic wellbeing with the prevention of a resurgence of COVID-19 that would undermine the important public health outcomes achieved to date. The goals of this reopening process include minimizing hospitalizations and deaths; minimizing risk to frontline workers; avoiding overwhelming health systems; allowing people to safely return to work so they can support themselves and their families; protecting those at highest risk of severe illness, especially communities of color; and supporting small local gatherings that preserve community cohesion and cultural practices.

The success of this phased reopening will depend in large part on the ability of employers, employees, and the public to adhere to the public health, safety, and physical distancing measures. Preventing and controlling outbreaks and limiting the spread of COVID-19 is the only way to avoid future business and social disruption, and to allow Oregon's economic and social life to thrive. The hard work Oregonians have done to date to flatten the curve gives me confidence that our State can move forward successfully with gradual phased reopening.

NOW THEREFORE, IT IS HEREBY DIRECTED AND ORDERED THAT:

Pursuant to ORS 433.441, ORS 401.168, ORS 401.175, and ORS 401.188, I am ordering the following:

Framework for Reopening a Safe and Strong Oregon

1. This Executive Order rescinds and replaces certain earlier Executive Orders, establishes baseline requirements, and a statewide phased reopening process.

   a. Baseline Requirements. This Executive Order sets forth certain baseline requirements—essential statewide protective measures—that Oregonians and Oregon businesses must continue to adhere to, to keep our communities safe and to allow the phased reopening process to move forward. These baseline requirements apply statewide, except as modified by the phased reopening directives and guidance, or as otherwise modified as allowed under this Executive Order.

   b. Phased Reopening. This Executive Order establishes the phased process by which Oregon's social and economic life will gradually reopen, including the criteria the State will use to evaluate whether to ease or tighten restrictions, to keep Oregonians safe. That process will proceed in three phases—Phase I, Phase II, and Phase III. Counties will be allowed to move through the phases at different paces.

   c. Structure of this Executive Order. Paragraphs 2–12 of this Executive Order outline the baseline requirements that apply, statewide, before a county or the State enters Phase I, and continue to apply unless and until modified. Some of these baseline requirements will be modified in Phase I, and in future phases, as outlined below in paragraphs 13–22.

Baseline Requirements.

2. Stay Home, Save Lives. Keeping our community safe and reopening our economy depends on Oregonians continuing to stay at home to save lives, and their adherence to critical physical distancing requirements and other health measures. It is essential to the health, safety, and welfare of the State of Oregon during the ongoing state of emergency that individuals continue to stay at or near their home or place of residence, whenever possible. To that end, pursuant to ORS 433.441(3), ORS 401.168(1), ORS 401.175(3),

and ORS 401.188(2) to (3), and subject to the penalties described in ORS 401.990, I am ordering the following:

a. Individuals must continue to adhere to restrictions on gatherings, as set forth in paragraph 3 of this Executive Order.

b. Individuals are prohibited from patronizing businesses that remain closed pursuant to paragraph 5 of this Executive Order, and from engaging in conduct prohibited by any Executive Order or inconsistent with guidance provided by the Oregon Health Authority (OHA).

c. When individuals leave their home or place of residence, they should maintain physical distancing of at least six (6) feet from any person who is not a member of their household, when possible, and should adhere to any applicable OHA guidance, including but not limited to guidance on physical distancing and face coverings. OHA guidance is available at https://govstatus.egov.com/OR-OHA-COVID-19.

3. Gatherings. Gatherings present particular risks for the spread of COVID-19, as sustained contact with large groups presents an increased risk of spreading the disease and, in the event an infected person attends the gathering, makes the work of rapid, effective contact-tracing much more difficult. Accordingly, pursuant to ORS 433.441(3)(a), (b), (d) and (f), ORS 401.168(1), and ORS 401.188(2), I order that the following:

a. Cultural, Civic, and Faith-Based Gatherings. All cultural, civic, and faith-based gatherings of more than 25 people are prohibited. Cultural, civic, and faith-based gatherings of 25 or fewer people are allowed only if a distance of at least six (6) feet can be consistently maintained between individuals from different households, and if other applicable OHA physical distancing guidance are followed.

b. Social and Recreational Gatherings. Social and recreational gatherings outside of a home or place of residence continue to be prohibited, regardless of size, unless a distance of at least six (6) feet can be consistently maintained between individuals from different households, in which case social and recreational gatherings of up to ten (10) people are permitted.

c. Paragraph 3 of this Executive Order applies to gatherings only, and does not apply to workplaces, grocery stores, retail stores, convenience stores, banks and credit unions, gas stations, hotels or motels, health care facilities, pharmacies, child care facilities, schools, higher education institutions, and state or local government, which are subject to other directives.

d. The Governor may modify the directives of paragraph 3 of this Executive Order, as necessary. Any modifications will be made available at https://govstatus.egov.com/OR-OHA-COVID-19.

4. Food and Drink. Pursuant to ORS 433.441(3)(a), (b), (d) and (f), ORS 401.168(1), and ORS 401.188(1) to (3), the following baseline restrictions on food and drink establishments continue to apply until modified in Phase I (pursuant to paragraph 17(b) of this Executive Order), or otherwise:

a. Restaurants, bars, taverns, brew pubs, wine bars, cafes, food courts, coffee shops, clubs, or other similar establishments that offer food or drink may not offer or allow on-premises consumption of food or drink.

b. Establishments may offer food or drink for off-premises consumption (e.g., take-out or drive-through) or for delivery. Establishments offering such service must implement physical distancing protocols of at least six (6) feet between customers ordering, waiting, or in line, consistent with any applicable OHA guidance. Establishments also must implement physical distancing protocols of at least six (6) feet for staff, when possible. Any sale of alcoholic beverages for off-premises consumption must comply with ORS chapter 471 and any rules adopted thereunder.

c. Paragraph 4 of this Executive Order does not apply to health care facilities, child care facilities, workplaces, government buildings, emergency response facilities, school-based food programs, and shelter and meal programs serving vulnerable populations. Such places are encouraged to use physical distancing, staggered schedules, take-out, and other similar measures to reduce the risk associated with the spread of COVID-19.

d. The Governor may modify the directives of paragraph 4 of this Executive Order, as necessary. Any modifications will be made available at https://govstatus.egov.com/OR-OHA-COVID-19.

5. Closure of Certain Businesses. Pursuant to ORS 433.441(3)(a), (b) and (f), ORS 401.168(1), and ORS 401.188(1) to (3), the following baseline restrictions on businesses continue to apply until modified in Phase I (pursuant to paragraph 17(b) of this Executive Order), or otherwise:

a. Operation of the following businesses, for which close personal contact is difficult or impossible to avoid, continues to be prohibited:

Amusement parks; aquariums; arcades; barber shops and hair salons; bowling alleys; cosmetic stores; dance studios; esthetician practices; fraternal organization facilities; gyms and fitness studios (including climbing gyms); hookah bars; indoor and outdoor malls (i.e., all portions of a retail complex containing stores and restaurants in a single area); indoor party places (including jumping gyms and laser tag); medical spas, facial spas, day spas, and non-medical massage therapy services; museums; nail and tanning salons; non-tribal card rooms; skating rinks; senior activity centers; social and private clubs; tattoo/piercing parlors; tennis clubs; theaters; yoga studios; and youth clubs.

b. At the direction of the Governor, OHA shall modify the business closure list set forth in paragraph 5(a) of this Executive Order, as necessary. Any modifications of the business closure list announced through guidance will be made available at https://govstatus.egov.com/OR-OHA-COVID-19.

c. Paragraph 5(a) of this Executive Order does not apply to restaurants, bars, taverns, brew pubs, wine bars, cafes, food courts, coffee shops, or other similar establishments that offer food or drink, which remain subject to paragraph 4 of this Executive Order.

d. Indoor and outdoor malls, and other businesses subject to paragraph 5(a) of this Executive Order, are not prohibited from operating to provide food, grocery, health care, medical, pharmacy, or pet store services.

e. Ski resorts are no longer prohibited from operating, effective immediately, and art galleries, boutiques, furniture stores, and jewelry shops are no longer prohibited from operating, effective May 15, 2020, notwithstanding their inclusion on the initial business closure list set forth in paragraph 2 of Executive Order 20-12. Businesses set forth in this paragraph must comply with other applicable provisions of this Executive Order and OHA guidance, including but not limited to retail sector guidance.

6. Retail Businesses. Pursuant to ORS 433.441(3)(a), (b), (d), and (f), ORS 401.168(1), and ORS 401.188(1) to (3), I am ordering the following:

a. Any retail business not subject to paragraph 5(a) of this Executive Order may operate only if the business complies with any applicable OHA guidance, including but not limited to retail sector guidance, effective May 15, 2020. At the direction of the Governor, OHA may from time to time modify that guidance, as necessary.

b. Retail businesses that fail to comply with paragraph 6(a) of this Executive Order shall be closed until they demonstrate compliance.

c. Paragraph 6 of this Executive Order also applies to grocery stores and pharmacies, effective May 22, 2020. It does not apply to health care or medical services, which are strongly encouraged to establish and comply with physical distancing protocols.

7. Workplace Restrictions. Pursuant to ORS 433.441(3)(a), (b), (d) and (f), ORS 401.168(1), and ORS 401.188(1) to (3), I order that the following workplace restrictions continue to be in place:

a. All businesses and non-profit entities with offices in Oregon shall facilitate telework and work-at-home by employees, to the maximum extent possible. Work in offices is prohibited whenever telework and work-at-home options are available, in light of position

duties, availability of teleworking equipment, and network adequacy.

b. When telework and work-from-home options are not available, businesses and non-profits must designate an employee or officer to establish, implement, and enforce physical distancing policies, consistent with OHA guidance. Such policies also must address how the business or non-profit will maintain physical distancing protocols for business-critical visitors.

c. Businesses and non-profits must comply with any applicable OHA guidance, including but not limited to guidance for employers. At the direction of the Governor, OHA may from time to time modify or promulgate new guidance, as necessary.

d. Businesses and non-profits that fail to comply with paragraph 7 of this Executive Order will be closed until they demonstrate compliance.

8. Government Buildings. Pursuant to ORS 433.441(3)(a), (b), (d) and (f), ORS 401.168(1), and ORS 401.188(1) to (3), I order that the following restrictions on government offices and buildings shall remain in place:

a. All state executive branch offices and buildings, to the maximum extent possible, shall close to the public and provide public services by phone and online during regular business hours. To the extent that closure is not feasible, in-person interactions between staff and the public should be by appointment, whenever possible. When public services require in-person interactions, physical distancing measures must be established, implemented, and enforced, to the maximum extent possible.

b. State executive branch offices and buildings shall facilitate telework and work-at-home by employees, to the maximum extent possible. When telework and work-from-home options are not possible, agencies must designate an employee or officer to establish, implement, and enforce physical distancing policies, consistent with OHA guidance.

c. The Governor may modify the directives of paragraph 8 of this Executive Order, as necessary. Any guidance announcing such modifications will be made available at https://govstatus.egov.com/OR-OHA-COVID-19.

d. Paragraph 8 of this Executive Order applies to all offices and buildings owned or occupied by the state executive branch. This Executive Order does not apply to offices and buildings owned or occupied by the state legislative and judicial branches, federal government, local governments, and tribal governments, but those governments are nonetheless strongly encouraged to adhere to the policies underlying these directives.

9. Outdoor Recreation and Travel. Pursuant to ORS 433.441(3), ORS 401.168(1) and (3), and ORS 401.188(1) to (3), I am ordering the following:

a. Individuals may go outside for recreational activities (walking, hiking, etc.), but must limit those activities to non-contact, and are prohibited from engaging in outdoor activities where it is not possible to maintain appropriate physical distancing and follow applicable OHA guidance regarding outdoor recreation activities. Managers of recreation areas also must comply with applicable OHA guidance. At the direction of the Governor, OHA may from time to time modify that guidance, as necessary.

b. Individuals should continue to minimize non-essential travel, consistent with any applicable OHA guidance. Whenever possible, Oregonians should travel the minimum distance necessary to or from a home, residence, or workplace; for obtaining or providing food, shelter, consumer needs, education, health care, or emergency services; for receiving or rendering essential business and government services; for the care of family members, household members, elderly persons, minors, dependents, persons with disabilities, or other vulnerable persons, pets, or livestock; for travel as directed by government officials, law enforcement, or courts; and for other economic, social, or recreational activities allowed by or consistent with my Executive Orders and OHA guidance.

c. This Executive Order confirms my prior directive, effective May 5, 2020, allowing private and public campgrounds the option of opening if they are able to comply with OHA's guidance regarding outdoor recreation.

d. The Oregon Parks and Recreation Department retains authority to close any property or facility if proper physical distancing cannot be maintained.

e. At this time, pools, skate parks, outdoor sports courts, and playground equipment areas remain closed. At the direction of the Governor, OHA or another appropriate state agency may issue guidance allowing one or more of these types of facilities to open. Such guidance will be made available at https://govstatus.egov.com/OR-OHA-COVID-19.

10. Higher Education, Schools, Childcare, Youth Programs. The Governor has directed state education entities to work with school and education partners across Oregon on a reopening plan for schools, so Oregon students can return to the classroom for the 2020-2021 school year, in some form. Higher education institutions shall continue to comply with Executive Order 20-09, including as extended or modified by further Executive Orders, and any guidance from the Higher Education Coordinating Commission. Childcare facilities, and any expansion or restriction of childcare services, will proceed pursuant to Executive Order 20-19, including as modified by further Executive Orders, and any guidance from the Department of Education, Early Learning Division, Office of Child Care. K-12 schools continue to be subject to Executive Order 20-20, including as extended or modified by further Executive Orders, and any guidance from the Department of Education. If directed to do so by the Governor, OHA or other appropriate state agency may provide further guidance on youth programs, including but not limited to indoor, outdoor, and overnight summer camps.

11. Guidance. At my direction, and under the authority of this and other Executive Orders, OHA and other appropriate agencies have issued and will continue to issue and revise detailed guidance for the public, for employers, and for particular sectors of the economy. Oregon's continued forward movement towards reopening is reliant on all Oregonians continuing follow applicable general and sector-specific guidance from OHA and other state

agencies. Oregon has used a targeted, science-based approach to respond to the ongoing COVID-19 emergency. As we continue to learn more about combatting the novel coronavirus, Oregonians can expect that guidance may need to be modified over time, to ensure an effective emergency response. To that end, if directed to do so by the Governor, OHA or other agencies, as appropriate, shall modify or provide additional detail regarding any of the baseline requirements set forth in paragraphs 2 through 10 of this Executive Order, as necessary, and subject to approval by the Governor. Any such modifications and additional guidance will be made available to the public at https://govstatus.egov.com/OR-OHA-COVID-19.

12. Executive Order 20-07 and Executive Order 20-12 are rescinded, and replaced by the directives in this Executive Order.

Reopening Oregon Framework

13. Phased Reopening. The State shall undertake a phased, data-driven, and regionally tailored approach to modifying and further easing the baseline requirements set forth above, in order to reopen social, economic, and other activities in Oregon. Reopening will proceed in three phases—Phase I, Phase II, and Phase III. The phased reopening process will balance important health outcomes with the need to restore and strengthen Oregon's social and economic wellbeing.

14. Prerequisites for Entering Phase I. The Phase I directives set forth in paragraph 17 of this Executive Order take effect statewide when Oregon meets all prerequisites for Phase I. Those prerequisites shall be issued by OHA, subject to approval by the Governor, and may include but are not limited to:

    a. Declining prevalence of COVID-19;

    b. Adequate minimum testing regimen;

    c. Adequate contact tracing system;

    d. Adequate isolation/quarantine facilities;

    e. Issuance of statewide sector guidance for Phase I sectors;

f. Sufficient healthcare capacity; and

g. Sufficient personal protective equipment supply.

15. Process for Statewide Transition to Phase I. OHA shall notify the Governor when the statewide prerequisites set forth in paragraph 14 of this Executive Order have been met, at which time the Governor may determine that Phase I is in effect, in accordance with guidance issued by OHA. Once the Governor makes that determination, the Phase I directives of this Executive Order take effect statewide.

16. Process for Individual County Transition to Phase I. Even if the Governor has not yet issued a statewide determination pursuant to paragraph 15 of this Executive Order, a county may seek approval from the Governor to transition to Phase I if the county meets all Phase I prerequisites, as set forth in paragraph 14 of this Executive Order, and any applicable guidance issued by OHA. The Governor's Office and OHA may specify the process by which counties can apply for approval under this paragraph. Once the Governor approves a county application in writing, and no earlier than May 15, 2020, the Phase I directives take effect in that county.

17. Phase I Directives. Under Phase I, and notwithstanding any inconsistent baseline requirements set forth in paragraphs 2–11 of this Executive Order, the following is permitted in any county where the Phase I directives have taken effect, but only if the county and authorized activities comply with all applicable Phase I guidance issued by OHA:

a. Local Gatherings. In addition to gatherings authorized by paragraph 3 of this Executive Order, individuals may gather locally for any purpose in groups of up to 25—including social or recreational gatherings previously prohibited under paragraph 3(b) of this Executive Order—as long as they comply with any applicable physical distance requirements and other Phase I guidance issued by OHA. Local travel to such gatherings is allowed.

b. Sectors of the Economy. The following sectors may reopen or expand operations, provided that they operate consistent with OHA Phase I guidance and all other applicable OHA guidance:

(1) Food and drink establishments, including but not limited to restaurants and bars with food service;

(2) Personal care businesses and facilities, such as salons and gyms;

(3) Certain businesses previously closed under paragraph 5(a) of this Executive Order, if so identified in OHA guidance and approved by the Governor; and

(4) Such other sectors as the Governor may identify as eligible for reopening or expanded operations during Phase I.

18. Guidance. Subject to approval by the Governor, OHA (or another agency, when directed by the Governor) shall issue phased reopening guidance. That guidance may ease and modify certain baseline requirements; set forth requirements for Phase I, Phase II, or Phase III; and provide other general and sector-specific guidance. Guidance will be posted at the following web address: https://govstatus.egov.com/OR-OHA-COVID-19.

19. Subsequent Transitions. Neither the state nor any county may transition from Phase I to Phase II unless at least twenty-one (21) days have elapsed, to allow for evaluation of the public health effects of the prior transition.

20. Conditions for Re-imposing Restrictions. Reopening Oregon carries with it a risk of COVID-19 resurgence that may require increased restrictions, even after the state or individual counties transition to Phase I or subsequent phases. Subject to approval by the Governor, OHA shall specify conditions that could trigger re-imposition of increased restrictions. Those conditions may include but are not limited to:

a. Inability to meet contact tracing requirements;

b. Evidence of increasing prevalence of COVID-19 cases; or

c. Evidence of increasing burden of severe COVID-19 cases.

If any of the potentially triggering conditions are met, OHA will call an immediate meeting with local public health officials, for further discussion and evaluation. OHA will then make recommendations to the Governor, who has the authority to decide what action is necessary, as well as the authority to take that action at any time.

21. Phase II and Phase III. At the direction of and subject to the approval of the Governor, OHA and other appropriate state agencies shall issue guidance for Phase II and Phase III, including but not limited to any prerequisites, directives, transitions, processes, and conditions applicable to those phases.

22. Modifications. If directed to do so by the Governor, OHA or other agencies, as appropriate, shall modify or provide additional detail regarding any of the requirements set forth in paragraphs 13 through 21 of this Executive Order, as necessary, and subject to approval by the Governor. Any such modifications and additional guidance will be made available to the public at https://govstatus.egov.com/OR-OHA-COVID-19.

General Provisions

23. Legal Effect. This Executive Order is issued under the authority conferred to the Governor by ORS 401.165 to 401.236. Pursuant to ORS 401.192(1), the directives set forth in this Executive Order shall have the full force and effect of law, and any existing laws, ordinances, rules and orders shall be inoperative to the extent they are inconsistent with this exercise of the Governor's emergency powers.

24. Enforcement. The directives in this Executive Order and any guidance issued by OHA or other state agencies to implement this Executive Order are effective statewide, unless otherwise specified. This Executive Order and any guidance issued by OHA to implement this Executive Order are public health laws, as defined in ORS 431A.005, and may be enforced as permitted under ORS 431A.010. In addition to any other penalty that may be imposed under applicable laws, any person, business, or entity found to be in violation of this Executive Order or any guidance issued by OHA or other state agencies to implement this Executive Order is subject to the penalties described in ORS 401.990.

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25. Severability. If any section, subsection, paragraph, subparagraph, sentence, clause, phrase, or word of this Executive Order is for any reason held to be invalid, such holding shall not affect the validity of the remaining portions of this Order.

26. Discretion; No Right of Act. Any decision made by the Governor pursuant to this Executive Order is made at her sole discretion. This Executive Order is not intended to create, and does not create, any individual right, privilege, or benefit, whether substantive or procedural, enforceable at law or in equity by any party against the State of Oregon, its agencies, departments, or any officers, employees, or agents thereof.

27. Effective Date. The provisions of this Executive Order are effective immediately, unless otherwise specified, and remain in effect until terminated by the Governor.

Done at Salem, Oregon at 8:00 a.m. this 14th day of May, 2020.

Kate Brown

Kate Brown
GOVERNOR

ATTEST:

Bev Clarno
SECRETARY OF STATE

TARDAEWETHER Kellen * ODOE

From: Mike Reeder <mreeder@oregonlanduse.com>
Sent: Wednesday, July 1, 2020 10:17 PM
To: TARDAEWETHER Kellen * ODOE; rema.a.bergin@state.or.us
Cc: ROWE Patrick G; CORNETT Todd * ODOE; lrfarming; justluckyent@gmail.com; Albrich, Elaine
Subject: RE: Public Notice of Rescheduled In-Person and Webinar/Teleconference Public Hearing and Request for Comments on Draft Proposed Order on the Application for Site Certificate for the Proposed Obsidian Solar Center
Attachments: Reeder to HO - OAH (re Public Hearing) 07.01.2020.pdf

Dear Kellen Tardwether and Rema Bergin:

Please see the attached letter and enter into the record on this matter.

Thank you for your attention in this important matter.

Best,

Mike

Law Office of Mike Reeder
Oregon Land Use Law

Office: (458) 210-2845 | oregonlanduse.com
375 W. 4th Ave., Suite 205, Eugene, OR 97401

From: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Sent: Wednesday, June 17, 2020 9:27 AM
To: Mike Reeder <mreeder@oregonlanduse.com>
Cc: ROWE Patrick G <Patrick.G.ROWE@state.or.us>; CORNETT Todd * ODOE <Todd.Cornett@oregon.gov>
Subject: FW: Public Notice of Rescheduled In-Person and Webinar/Teleconference Public Hearing and Request for Comments on Draft Proposed Order on the Application for Site Certificate for the Proposed Obsidian Solar Center

Good morning Mr. Reeder,

As a courtesy, I'm forwarding the notice of the cancelation of the June 23 DPO hearing for the Obsidian Solar Center and rescheduling it for July 20, 2020. Let me know if you have any questions.

Kellen

Kellen Tardaewether
Senior Siting Analyst
550 Capitol St. NE Salem, OR 97301
P: 503-373-0214
C: 503-586-6551
P (In Oregon): 800-221-8035

Stay connected!

From: Oregon Department of Energy <ODOE@cd.energy.oregon.gov>
Sent: Wednesday, June 17, 2020 8:57 AM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Subject: Description of Public Notice of Rescheduled In-Person and Webinar/Teleconference Public Hearing and Request for Comments on Draft Proposed Order on the Application for Site Certificate for the Proposed Obsidian Solar Center

Description of Public Notice of Rescheduled In-Person and Webinar/Teleconference Public Hearing and Request for Comments on Draft Proposed Order on the Application for Site Certificate for the Proposed Obsidian Solar Center

Description: The applicant, Obsidian Solar Center LLC (a wholly owned subsidiary of Obsidian Renewables, LLC) submitted an application for site certificate (ASC) to the Oregon Department of Energy to construct and operate the proposed Obsidian Solar Center (proposed facility). The proposed facility, including related or supporting facilities, includes up to 400 megawatt alternating current (MWac) of photovoltaic solar energy generation equipment to be located within a site boundary of approximately 3,921 acres. The proposed facility is located within Lake County, approximately eight miles northwest of Christmas Valley.

The Department determined that the ASC was complete on October 17, 2019; the applicant filed the complete ASC on October 30, 2019. The Department posted additional information to the ASC submitted by the applicant to the project webpage and issued a Draft Proposed Order on the ASC on March 12, 2020. The Draft Proposed Order recommends the Energy Facility Siting Council (EFSC) approve the ASC and grant a site certificate, subject to the conditions presented in the Draft Proposed Order (see Attachment A).

Comment Period: The Oregon Department of Energy requests written comments on the Draft Proposed Order (staff's initial evaluation and recommendation) from March 12, 2020 through July 20, 2020. Written comments must be received by the comment deadline of Monday, July 20, 2020 at the close of the public hearing described below. Written comments must be submitted by mail, email, hand-delivery or fax per below before the close of the comment period:

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE, 1st Floor
Salem, OR 97301
Email: Kellen.Tardaewether@oregon.gov
Fax: 503-373-7806

Public Hearing: A third-party hearings officer from the Oregon Office of Administrative Hearings, appointed by EFSC, will hold an in-person and remote webinar/teleconference public hearing on the Draft Proposed Order at an EFSC meeting, as described below, where members of the public may provide oral and written comments on the record of the Draft Proposed Order:

Date: July 20, 2020
Start Time: 5:30 p.m.
End Time: 7:00 p.m., or later based on public participation
Location: Christmas Valley Community Hall
87345 Holly Lane
Christmas Valley, OR 97641
Teleconference/Webinar Presentation:
https://odoe.webex.com/odoe/onstage/g.php?MTID=e826a9a37cc8819eb15290118166d73cc

Join by Phone: (408) 418-9388
Access Code: 711 028 400

ODOE strongly recommends joining the Webex meeting online, if possible. When you join, please use your full name to sign in to help staff manage public comments. Additional information will be provided at the hearing about how to provide an oral comment using Webex features.

Written or oral comments must be received by the close of the Public Hearing to be eligible to participate in a contested case on this ASC.

Hard copies of the proposed Obsidian Solar Center ASC and DPO are available or have been provided to be available for public inspection at the following locations at no cost. Hard copies will be provided at reasonable cost upon request to ODOE. Please contact the below locations to arrange viewing of hard copies of the ASC and DPO:

Kellen Tardaewether, Senior Siting Analyst
(Agency Representative)
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

Christmas Valley Branch Library
57338 Christmas Tree Ln
Christmas Valley, OR 97641
(541) 576-2336
Hours: Tuesday &Thursday: 10:30 AM – 6 PM
Saturday: 10:30 AM – 3 PM

Silver Lake Branch Library
65522 Hwy 31, Silver Lake OR 97638
(541) 576-2146
Hours: Monday : 10:30 AM – 6 PM

The public notice prepared in accordance with OAR 345-015-0220(2) is provided as an attachment to this email and provide via hyperlink below.

More information about the proposed facility including the ASC and DPO, the public notice, and updates on the review process, are available at no cost online at:
https://www.oregon.gov/energy/facilities-safety/facilities/Pages/OSC.aspx

Additional resources to help you participate in the state siting process can be found at:
http://www.oregon.gov/energy/facilities-safety/facilities/pages/default.aspx

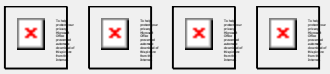
You received this notice either because you previously signed up for email updates through GovDelivery/ClickDimensions related to specific siting projects, all Energy Facility Siting Council activities (the "General List") or Rulemaking activities. You may manage your subscriptions to updates on various ODOE and Energy Facility Siting Council projects by logging in to our ClickDimensions page at: https://tinyurl.com/ODOE-EFSC.

If you have any questions or comments about ClickDimensions please feel free to contact michiko.mata@oregon.gov

---

Oregon Department of Energy
Leading Oregon to a safe, equitable, clean, and sustainable energy future.

The Oregon Department of Energy helps Oregonians improve the energy efficiency of their homes, provides policy expertise to prepare for Oregon's future energy needs, staffs the Energy Facility Siting Council, provides technical and financial assistance to encourage investments in energy efficiency and renewable energy resources, promotes the cleanup of the Hanford nuclear site, and ensures state preparedness to respond to emergencies at energy facilities.



AskEnergy@oregon.gov | 503-378-4040 | 550 Capitol St. NE in Salem

Law Office of Mike Reeder
Oregon Land Use Law

July 1, 2020

Via Email Only
Kellen.Tardaewether@oregon.gov

Hearing Official
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

Via Email Only
rema.a.bergin@state.or.us

Office of Administrative Hearings
4600 25th Ave. NE, Suite 140
Salem, OR 97301

Re: Objection to holding July 20, 2020 Public Hearing & Request to Postpone

Dear Hearing Official and Office of Administrative Hearings:

I represent Jerald Simmons, LeeRoy Horton, Aaron Borror, Larry Turnbow and Jeremiah and Mariam Thorshed who own property that is adjacent to or nearby the proposed 3,921-acre solar facility proposed by the applicant Obsidian Solar LLC ("Applicant").

I previously wrote to the Hearing Official ("HO") on May 15, 2020 and June 3, 2020 regarding the Oregon Department of Energy's ("ODOE") scheduling of public hearings for the siting of the solar facility to be held on May 21, 2020 and then rescheduled to June 23, 2020. In my letters, I noted that the Governor's emergency executive orders implemented to control the spread of COVID-19 prohibited in person hearings and advised that the holding of in person hearings raised potential safety issues for those wishing to exercise their statutory right to participate in person. Despite my prior objections, ODOE has rescheduled the public hearing to be held in-person, via teleconference and webinar on July 20, 2020.

Please accept this letter as my clients' formal objection to the rescheduled hearing as unlawful and as my clients' request that the rescheduled hearing be postponed to a later date

Office phone: (458) 210-2845
mreeder@oregonlanduse.com
375 W. 4th Ave., Suite 205
Eugene, Oregon 97401
oregonlanduse.com

when the Governor has lifted her executive orders and the risk of contraction of the virus has significantly abated so as to no longer present a public health risk for those attending in person.

Now is not the time to hold such hearings.

While ODOE has implemented measures to make the hearing more accessible than previously and to mitigate against potential health risks to a certain extent, the Governor's executive orders nevertheless remain in place and act to prohibit the rescheduled public hearing. I have heard no explanation for why this hearing must go forward at this time and under these conditions or how the Governor's orders do not apply to prohibit this hearing.

ODOE's rescheduling of the hearing during this uncertain time is more confounding given the continued progression of the disease throughout the state and escalating measures the Governor is imposing to mitigate its spread. Holding the hearing now is arguably more dangerous than it was on the previously scheduled dates. Several weeks ago, the Governor took the extraordinary step of placing the state into a "pause," halting further steps to reopen the state in light of the continued spread of the virus. That pause generally coincided with multiple public outbreaks including a church in rural Union County and a seafood processing plant in Newport. While there are reports that church goers were not adhering to social distancing precautions potentially facilitating the rapid spread of the disease, I have not seen similar reports suggesting that the employees in Newport were not following prescribed social distancing measures. Social distancing measures (including those which will be a part of the public hearing) are meant to ward against the possible spread of the disease but are by no means a guarantee against contracting it. Now, the Governor has ordered <u>all</u> Oregonians to wear face masks indoors effective July 1, 2020. "Modeling from the Oregon Health Authority shows that if we don't take further action to reduce the spread of the disease, our hospitals could be overwhelmed by new COVID-19 cases and hospitalizations within weeks," Governor Brown said in the news release announcing the mask requirement. The situation is getting worse, not better.

The Governor and ODOE look to be moving in opposite directions at this point. ODOE is an executive agency obligated to follow the Governor's orders and should be following the Governor's lead. To date, ODOE has offered no justification or rationale for why it is not subject to the Governor's orders or why those orders do not prohibit the holding of this hearing. I know of no court opinion or other authority that exempts ODOE from those requirements. If ODOE has some legal authority allowing it to proceed with the hearing as planned, then it should provide that for immediate consideration.

Equally problematic, it appears that ODOE has not shared its plans to move forward with a public hearing on July 20, 2020 with the Office of Administrative Hearings ("OAH") which I understand is the office responsible for assigning a hearing officer in this matter. Just recently, my colleague was notified by his assigned OAH administrative law judge in a separate

matter that OAH had postponed all "in-person" hearings until after August 31, 2020 (previously July 31, 2020) at the earliest. OAH's website confirms that no public hearings are currently being held.

> **In-Person Hearings: We are substantially limiting the number of in-person hearings being held by our office. Until further notice, the Office of Administrative Hearings will hold all scheduled hearings by telephone to the extent allowed by law.**
>
> **In most cases, in-person hearings can be converted to phone hearings or postponed. If you are scheduled for an in-person hearing and wish to have the hearing postponed or held by phone please contact our office as soon as possible at the number listed on your notice of hearing. (Emphasis OAH's)**

ODOE has noticed an in-person public hearing that OAH presumably won't conduct and which the Governor has directed executive agencies not to hold. For the reasons herein and my previous letters, I respectfully renew my prior objections and request that this matter be postponed.

Please include this letter in the record for this application.

Respectfully,

/s/Micheal M. Reeder

Micheal M. Reeder

cc (via email only):

Obsidian Solar Center, LLC
c/o Elaine Albrich
Davis Wright Tremaine LLP
1300 SW 5th Ave Ste 2400
Portland OR 97201
elainealbrich@dwt.com

Oregon Department of Energy
c/o Patrick Rowe
Oregon Department of Justice
1162 Court St NE
Salem OR 97301
patrick.g.rowe@doj.state.or.us

Law Office of Mike Reeder
Oregon Land Use Law

Office phone: (458) 210-2845
mreeder@oregonlanduse.com
375 W. 4th Ave., Suite 205
Eugene, Oregon 97401

TARDAEWETHER Kellen * ODOE

From: Rowe Patrick G <Patrick.G.Rowe@doj.state.or.us>
Sent: Monday, July 13, 2020 2:47 PM
To: CORNETT Todd * ODOE; TARDAEWETHER Kellen * ODOE; WOODS Maxwell * ODOE
Subject: Fwd: Public Notice of Rescheduled In-Person and Webinar/Teleconference Public Hearing and Request for Comments on Draft Proposed Order on the Application for Site Certificate for the Proposed Obsidian Solar Center

Please see below. Let's discuss when I'm back in town tomorrow.

Patrick

Begin forwarded message:

> **From:** Aaron Noteboom <aaron@noteboomlaw.com>
> **Date:** July 13, 2020 at 2:25:34 PM PDT
> **To:** ROWE Patrick G <Patrick.G.ROWE@state.or.us>
> **Cc:** "Albrich, Elaine" <ElaineAlbrich@dwt.com>, Mike Reeder <mreeder@oregonlanduse.com>
> **Subject: RE: Public Notice of Rescheduled In-Person and Webinar/Teleconference Public Hearing and Request for Comments on Draft Proposed Order on the Application for Site Certificate for the Proposed Obsidian Solar Center**
>
> Patrick,
>
> I am assisting Mike Reeder in connection with the upcoming July 20, 2020 public hearing for a solar facility in Lake County. Mike is out of the office and asked that I follow up with you on the status of his July 1, 2020 request to postpone the July 20, 2020 public hearing as we have yet to hear a response. On behalf of our clients, I renew our prior request to postpone the upcoming, scheduled hearing.
>
> As you may be aware, just this afternoon the Governor "sounded the alarm" on the pandemic spreading exponentially in Oregon unless immediate steps are taken. https://www.oregonlive.com/coronavirus/2020/07/gov-kate-brown-holds-press-conference-to-discuss-the-state-of-coronavirus-in-oregon-watch-live.html To that end, she announced that, beginning on July 15, 2020, she is imposing a statewide ban on indoor social gatherings of more than 10 persons (excluding businesses and churches) and imposing a requirement for wearing face masks outdoors when a 6 foot distance cannot be maintained. In imposing these requirements, she implored that, "We need to do absolutely everything we can to reduce transmissions in ways that do not require us to close down businesses again." Gov. Kate Brown, July 13, 2020.
>
> Would you kindly advise as soon as possible as to the status of the July 20, 2020 hearing? If ODOE intends to move forward with the scheduled July 20, 2020 hearing, notwithstanding the Governor's orders, please provide me with the legal authority for doing so. Our understanding

is that Governor Brown's orders carry the force of law and supersede any inconsistent state law which may otherwise apply. If you have a different understanding, please let me know. Please forward a copy of this email to Ms. Tardaeweather for inclusion into the record for the solar facility siting application.

Yours truly,

Aaron Noteboom | Attorney at Law
Noteboom Law LLC
375 W 4th Ave, Ste 204 | Eugene, Oregon 97401
Ph: (541) 513-2298 | aaron@noteboomlaw.com

From: Mike Reeder <mreeder@oregonlanduse.com>
Sent: Wednesday, July 1, 2020 10:17 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>; rema.a.bergin@state.or.us
Cc: ROWE Patrick G <Patrick.G.ROWE@state.or.us>; CORNETT Todd * ODOE <Todd.Cornett@oregon.gov>; lrfarming <lrfarming@sagerat.com>; justluckyent@gmail.com; Albrich, Elaine <ElaineAlbrich@dwt.com>
Subject: RE: Public Notice of Rescheduled In-Person and Webinar/Teleconference Public Hearing and Request for Comments on Draft Proposed Order on the Application for Site Certificate for the Proposed Obsidian Solar Center

Dear Kellen Tardwether and Rema Bergin:

Please see the attached letter and enter into the record on this matter.

Thank you for your attention in this important matter.

Best,

Mike

Law Office of Mike Reeder
Oregon Land Use Law

Office: (458) 210-2845 | oregonlanduse.com
375 W. 4th Ave., Suite 205, Eugene, OR 97401

From: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Sent: Wednesday, June 17, 2020 9:27 AM
To: Mike Reeder <mreeder@oregonlanduse.com>
Cc: ROWE Patrick G <Patrick.G.ROWE@state.or.us>; CORNETT Todd * ODOE <Todd.Cornett@oregon.gov>
Subject: FW: Public Notice of Rescheduled In-Person and Webinar/Teleconference Public Hearing and

Request for Comments on Draft Proposed Order on the Application for Site Certificate for the Proposed Obsidian Solar Center

Good morning Mr. Reeder,

As a courtesy, I'm forwarding the notice of the cancelation of the June 23 DPO hearing for the Obsidian Solar Center and rescheduling it for July 20, 2020. Let me know if you have any questions.

Kellen

Kellen Tardaewether
Senior Siting Analyst
550 Capitol St. NE Salem, OR 97301
P: 503-373-0214
C: 503-586-6551
P (In Oregon): 800-221-8035

OREGON DEPARTMENT OF ENERGY

Stay connected!

From: Oregon Department of Energy <ODOE@cd.energy.oregon.gov>
Sent: Wednesday, June 17, 2020 8:57 AM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Subject: Description of Public Notice of Rescheduled In-Person and Webinar/Teleconference Public Hearing and Request for Comments on Draft Proposed Order on the Application for Site Certificate for the Proposed Obsidian Solar Center

Click here if you are having trouble viewing this message.

Description of Public Notice of Rescheduled In-Person and Webinar/Teleconference Public Hearing and Request for Comments on Draft Proposed Order on the Application for Site Certificate for the Proposed Obsidian Solar Center

Description: The applicant, Obsidian Solar Center LLC (a wholly owned subsidiary of Obsidian Renewables, LLC) submitted an application for site certificate (ASC) to the Oregon Department

of Energy to construct and operate the proposed Obsidian Solar Center (proposed facility). The proposed facility, including related or supporting facilities, includes up to 400 megawatt alternating current (MWac) of photovoltaic solar energy generation equipment to be located within a site boundary of approximately 3,921 acres. The proposed facility is located within Lake County, approximately eight miles northwest of Christmas Valley.

The Department determined that the ASC was complete on October 17, 2019; the applicant filed the complete ASC on October 30, 2019. The Department posted additional information to the ASC submitted by the applicant to the project webpage and issued a Draft Proposed Order on the ASC on March 12, 2020. The Draft Proposed Order recommends the Energy Facility Siting Council (EFSC) approve the ASC and grant a site certificate, subject to the conditions presented in the Draft Proposed Order (see Attachment A).

Comment Period: The Oregon Department of Energy requests written comments on the Draft Proposed Order (staff's initial evaluation and recommendation) from March 12, 2020 through July 20, 2020. Written comments must be received by the comment deadline of Monday, July 20, 2020 at the close of the public hearing described below. Written comments must be submitted by mail, email, hand-delivery or fax per below before the close of the comment period:

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE, 1st Floor
Salem, OR 97301
Email: Kellen.Tardaewether@oregon.gov
Fax: 503-373-7806

Public Hearing: A third-party hearings officer from the Oregon Office of Administrative Hearings, appointed by EFSC, will hold an in-person and remote webinar/teleconference public hearing on the Draft Proposed Order at an EFSC meeting, as described below, where members of the public may provide oral and written comments on the record of the Draft Proposed Order:

Date: July 20, 2020
Start Time: 5:30 p.m.
End Time: 7:00 p.m., or later based on public participation
Location: Christmas Valley Community Hall
87345 Holly Lane
Christmas Valley, OR 97641
Teleconference/Webinar Presentation:
https://odoe.webex.com/odoe/onstage/g.php?MTID=e826a9a37cc8819eb15290118166d73cc

Join by Phone: (408) 418-9388
Access Code: 711 028 400

ODOE strongly recommends joining the Webex meeting online, if possible. When you join, please use your full name to sign in to help staff manage public comments. Additional information will be provided at the hearing about how to provide an oral comment using Webex features.

Written or oral comments must be received by the close of the Public Hearing to be eligible to participate in a contested case on this ASC.

Hard copies of the proposed Obsidian Solar Center ASC and DPO are available or have been provided to be available for public inspection at the following locations at no cost. Hard copies will be provided at reasonable cost upon request to ODOE. Please contact the below locations to arrange viewing of hard copies of the ASC and DPO:

Kellen Tardaewether, Senior Siting Analyst
(Agency Representative)
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

Christmas Valley Branch Library
57338 Christmas Tree Ln
Christmas Valley, OR 97641
(541) 576-2336
Hours: Tuesday &Thursday: 10:30 AM – 6 PM
Saturday: 10:30 AM – 3 PM

Silver Lake Branch Library
65522 Hwy 31, Silver Lake OR 97638
(541) 576-2146
Hours: Monday : 10:30 AM – 6 PM

The public notice prepared in accordance with OAR 345-015-0220(2) is provided as an attachment to this email and provide via hyperlink below.

More information about the proposed facility including the ASC and DPO, the public notice, and updates on the review process, are available at no cost online at:
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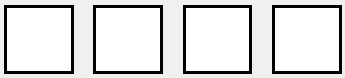
If you have any questions or comments about ClickDimensions please feel free to contact michiko.mata@oregon.gov

Oregon Department of Energy
Leading Oregon to a safe, equitable, clean, and sustainable energy future.

The Oregon Department of Energy helps Oregonians improve the energy efficiency of their homes, provides policy expertise to prepare for Oregon's future energy needs, staffs the Energy Facility Siting Council, provides technical and financial assistance to encourage investments in energy efficiency and renewable energy resources, promotes the cleanup of the Hanford nuclear site, and ensures state preparedness to respond to emergencies at energy facilities.



AskEnergy@oregon.gov | 503-378-4040 | 550 Capitol St. NE in Salem

TARDAEWETHER Kellen * ODOE

From: Rose M Gibson <rosie8075@gmail.com>
Sent: Tuesday, June 9, 2020 7:28 AM
To: TARDAEWETHER Kellen * ODOE
Subject: Obsidian Solar Center; Public Hearing on June 23, 2020

Obsidian Solar Center; Public Hearing on June 23, 2020

To Whom it may concern,

1. Sure and certain endangerment of wildlife appears to be knowingly and willfully over looked and disreguarded. Concerning the removal of, access to, and use of feeding, bedding, birthing areas for big game animals and birds as well by the replacement with solar panels, roads, buildings, fences, inverters, transformers, and transmission lines, power poles etc. On the Obsidian Solar Center site.

2. Sure and certain endangerment of our world ecology by and through the process of aiming solar panels at the sun, which reflects sunlight back toward the sun from the earth our ozone layer and increasing global warming on a grand scale.

3. Sure and certain endangerment of removal of wildlife viewing area available to certain local, respected residents whose privacy is proposed to be disreguarded by and through the construction and use of the Obsidian Solar Center site.

4. It is hereby recommended that the proposed Obsidian Solar Center site be permanently rejected for just cause.

TARDAEWETHER Kellen * ODOE

From: Gray Eagle <grayeagle2017@yahoo.com>
Sent: Saturday, June 13, 2020 12:14 PM
To: TARDAEWETHER Kellen * ODOE
Subject: Obsidian Solar Center Notice of Public Meeting

RE: Obsidian Solar Center Notice of Public Meeting

June 23, 2020
Start Time 5:30 PM
Christmas Valley Community Hall
87345 Holley Lane
Christmas Valley, OR 97641

To whom it may concern,

1. Concerning sure and certain endangerment of wildlife by knowingly and willfully destroying wildlife habitat on non-arable lands by proposed Obsidian Solar Center – which purposes to remove access to and use of feeding, bedding, birthing areas for big game animals, small game animals, non-game animals and birds by permanent destruction of flora and fauna and replacement of the same by scarification of the land itself, and placement of electrified fencing, roads, buildings, inverters, transformers, transmission lines, power poles, thousands of solar panels, etc. on the proposed Obsidian Solar Center site.

2. Concerning sure and certain endangerment of our world ecology by and through the process of aiming solar panels at the sun, which reflects sunlight back toward the sun from the earth through our ozone layer, disintegrating ozone and increasing global warming on a grand scale. Every action has an equal and opposite reaction. Continued disregard for the laws of physics will produce undesirable results. Consider for examples; the destruction of fish and wildlife by and through the construction and use of dams on our nation's rivers. The end results do not justify the means.

3. Concerning the sure and certain endangerment of, and removal of wildlife by permanent processes by and through the proposed Obsidian Solar Center, the area of land now viewable by certain local respected residents and the residents themselves are now held in a state of complete and total disrespect by the person or persons responsible for proposing the Obsidian Solar Center. The immense size of that proposed solar project should in no wise be permitted to over-rule or over-ride the rights of adjacent property owners.

4. It is hereby recommended that the proposed Obsidian Solar Center site be permanently rejected for “JUST CAUSE”

Mr. Gray Eagle
Grayeagle2017@yahoo.com

Sent from Mail for Windows 10

TARDAEWETHER Kellen * ODOE

From: paul.hawkins@daimler.com
Sent: Tuesday, July 14, 2020 3:52 PM
To: TARDAEWETHER Kellen * ODOE
Subject: Why not a solar field?

Hi,

I know big companies don't always do the obvious thing first– because I work for one. I've seen the solar fields in Nevada and Owyhee County, Idaho seems like an ideal place for this technology.

I just had to ask.

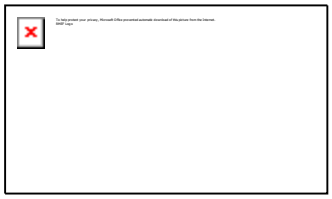
Thank you,
Paul Hawkins
Milwaukie, Oregon

TARDAEWETHER Kellen * ODOE

From: Bill Richardson <brichardson@RMEF.ORG>
Sent: Thursday, July 16, 2020 11:51 AM
To: TARDAEWETHER Kellen * ODOE
Cc: Karie Decker; Dave Wiley (davewiley@wvi.com)
Subject: RMEF Comments: Obsidian Solar
Attachments: RMEF Comments_Obsidian Solar Draft Proposed Order.pdf

Please find attached RMEF comments on the Obsidian Solar Draft Proposed Order. Please let me know if you have any questions or if you need additional information.

Thank you,
Bill



Bill Richardson | Oregon and Washington Senior Lands Program Manager
Rocky Mountain Elk Foundation
541.929.3011 office | 541.760.5083 cell
866.399.6089 toll free
24550 Ervin Road, Philomath OR 97370
brichardson@rmef.org | www.rmef.org

ROCKY MOUNTAIN ELK FOUNDATION

July 16, 2020

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301
Email: Kellen.Tardaewether@oregon.gov

RE: Obsidian Solar Center LLC proposed solar photovoltaic energy generation facility

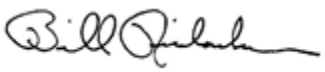
Dear Oregon Department of Energy,

The Rocky Mountain Elk Foundation's (RMEF) mission is to ensure the future of elk, other wildlife, their habitat and our hunting heritage. We represent more than 234,000 members nationwide and over 17,300 members in Oregon. Since its inception in 1984, RMEF has permanently protected or enhanced more than 7.9 million acres of North America's most vital habitat for elk and other wildlife, including over 830,000 acres in Oregon.

RMEF was made aware of an Oregon Department of Energy Draft Proposed Order for the Obsidian Solar Center LLC solar photovoltaic energy generation facility. Given the habitat fragmentation that may occur due to new fencing installed across the facility site of 3,921 acres, RMEF recommends continued, close coordination with the Oregon Department of Fish and Wildlife to ensure minimal impacts to movement of elk and other wildlife through the proposed facility area.

Thank you for the opportunity to provide comments on this project.

Sincerely,



Bill Richardson
Oregon & Washington Sr. Lands Program Manager
Rocky Mountain Elk Foundation

Bill Richardson | Oregon and Washington Senior Lands Program Manager
24550 Ervin Road | Philomath, OR 97370 | (541) 929-3011 | brichardson@rmef.org
5705 Grant Creek Rd. | Missoula, MT 59808-8249 | (800) CALL ELK | WWW.RMEF.ORG

TARDAEWETHER Kellen * ODOE

From: Jim Walls <jim.walls@lcri.org>
Sent: Friday, July 17, 2020 11:06 AM
To: TARDAEWETHER Kellen * ODOE
Subject: Letter of support
Attachments: 2020 DOE Letter - Jim LCRI.pdf

Ms. Tardaewether,
Attached is a letter of support for the Obsidian Project in Christmas Valley and the July 20, 2020 public hearing.
Any questions, please give me a call.

--
James K. Walls
18337nPadget Rd
Lakeview, OR 97630

phone: (541) 219-1811

July 16, 2020

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301

Dear Ms. Tardaewether:

I am Chairman of the Board of Directors and former Executive Director of Lake County Resources Initiative (LCRI) and writing to endorse the Obsidian Renewables 400 MW photovoltaic solar energy project in Christmas Valley.

In 2013 LCRI completed a study that assessed what percent of Lake County's greenhouse gas emissions were being offset through renewable energy projects hosted in the County. The study found that 97% of Lake County's abiotic carbon emissions had been offset. Lake County Commissioners, the Town of Lakeview, and the City of Paisley endorsed this study and corresponding climate change mitigation plan. Today, we believe, with the addition of the Obsidian Renewables Christmas Valley solar project, Lake County will have offset both biotic and abiotic emissions, plus more. LCRI has contracted Oregon Institute of Technology (OIT) to have a graduate student update the 2013 study that will result in a peer reviewed and published report. This way, we'll know if our claims are correct or not. We hope this objective and peer reviewed study will show metropolitan areas that don't have the vast spaces we have in Eastern Oregon that they can invest here to help offset their climate change emissions. We fully realize this is not the complete answer to climate change, but it can be a big part.

Please review the Renewable Energy and Climate Change pages on LCRI's webpage, www.lcri.org. Recently, another group has done a documentary on the renewable energy efforts in Lake, Sherman and Wallowa Counties in Eastern Oregon. There was a planned debut of the documentary in March 2020 but Covid-19 put it on hold. Here is a trailer for the documentary, https://vimeo.com/403409317.

The last point I would like to make is that Lake County consists of 78% government owned land and has a population density of less than 1 person per square mile. There is plenty of room for solar and other renewable energy projects without impacting prime agricultural land and wildlife habitat. As demonstrated by LCRI's opposition to a project that was going to be built on irrigated agricultural ground.

We need more projects like Obsidian's if we are going to get a handle on climate change.

Thank you for the opportunity to comment.

Sincerely,

James K. Walls
18337 Padget RD
Lakeview, OR 97630
541-219-1811

TARDAEWETHER Kellen * ODOE

From: Tonya Mobley <doglakeconst@gmail.com>
Sent: Monday, July 20, 2020 1:54 PM
To: TARDAEWETHER Kellen * ODOE
Subject: Comments for Obsidian Solar
Attachments: Letter in support of North Lake Solar.pdf

Kellen,

We would like to have this letter added to the comments for Obsidian Solar to build in North Lake County.

Thank you
Tonya Mobley

--

Dog Lake Construction, Inc
PO Box 702
Shop: 18225 Kadrmas Road
Office: 1452 South M Street
Lakeview, OR 97630
Ph: 541-947-2265
Fax: 541-947-2260

DOG LAKE CONSTRUCTION INC.
P.O. BOX 702
LAKEVIEW, OREGON 97630

Phone: 541-947-2265 Fax: 541-947-2260
Cell: 541-219-1240
doglakeconstruction@hotmail.com

To whom it may concern, Oregon Department of Energy:

Re: Obsidian Solar

We have worked with Obsidian Solar and Swinerton Builders on many projects in Lake County, and they are both great companies to work with. They are a great team and have done some great work in Lake County.

The solar site in North Lake County that Obsidian and Swinerton are planning to build is an economic benefit to the community through taxes, these solar projects make the ground worth much more money per acre for property tax purposes, and this benefits all of Lake County. There are also some incentives to the North Lake Schools.

This project will employ many Lake County residents as well as some from each of those companies. Dog Lake will have 10 to 30 employees working at different stages of the project and we are just doing the dirt work. Along with Dog Lake there will be several other sub-contractors that have worked on the solar projects and all of them will be able to keep their employees working with this job available. All of us try to hire as many local residents as possible.

We all hope that the decision is to let this project happen. It would benefit all of Lake County, especially North Lake County.

Thank you for your time and consideration in this project.

Tonya Mobley

Scott and Tonya Mobley
Dog Lake Construction.

TARDAEWETHER Kellen * ODOE

From: Michael O'Casey <mocasey@trcp.org>
Sent: Monday, July 20, 2020 2:08 PM
To: TARDAEWETHER Kellen * ODOE
Subject: Theodore Roosevelt Conservation Partnership Comments on Obsidian Solar Project
Attachments: TRCP Comments Obsidian Solar_Final_07_20_20.pdf

Dear Mrs. Tardaewether,

Please find the attached comments submitted by the Theodore Roosevelt Conservation Partnership in regards to the Proposed Draft Order for the Obsidian Solar Project.

Do not hesitate to reach out with any questions.

Thanks,

Michael

Michael O'Casey
Oregon Field Representative
Theodore Roosevelt Conservation Partnership
(541) 668-2316 (cell)
21122 Tumalo Road
Bend, OR 97703
trcp.org

July 20th, 2020

Kellen Tardaewether
Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301
Kellen.Tardaewether@oregon.gov

RE: Draft Proposed Order for the Obsidian Solar Facility – Theodore Roosevelt Conservation Partnership Comments

Dear Mrs. Tardaewether,

The Theodore Roosevelt Conservation Partnership is a national conservation organization working to guarantee all Americans quality places to hunt and fish. The TRCP works with 60 formal partners and represents over 100,000 individual members nationally and 4,000 throughout the state of Oregon. Given the significant increase in renewable energy development on public and private land throughout the West, the future management and siting decisions for these projects administered by the State of Oregon is of great interest to us, our partners, and all of Oregon's hunters and anglers.

We appreciate this opportunity to submit comments on the Draft Proposed Order for the Obsidian Solar Project. **Our comments are regarding the habitat mitigation measures being proposed**. Your consideration and incorporation of our comments and recommendations into your decision-making process on this potential project is greatly appreciated.

Big Game Winter Range and Habitat Mitigation Planning:
The TRCP recognizes the need for responsible renewable energy development on public and private lands. However, proper siting and review of each proposed project is a critical component to ensure 'no net loss' and in many cases even 'a net benefit' to quality fish and wildlife habitat. This proposed facility is located entirely within a more than one million acre-area mapped by ODFW as known elk winter range and a large portion of the facility is located within mapped mule deer winter range.

According to the Draft Proposed Order (DPO), there are 3,587 acres of Category 2 habitat identified by the Oregon Department of Fish and Wildlife that will be permanently impacted within the proposed development zone of the project. As described from the DPO below;

> *"Pursuant to OAR 635-415-0025(2), Category 2 habitat is defined as essential habitat for a fish or wildlife species, population, or unique assemblage of species and is limited either on a physiographic province or site-specific basis depending on the individual species, population or unique assemblage**. The mitigation goal if impacts are unavoidable, is no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality.**"*

The impacts from this proposed project are unavoidable and as such, the Department should better ensure that any proposed mitigation plan is robust enough to provide not only no net loss, but also provide a net benefit. According to the DPO;

> *"The applicant proposes acreage ratios to meet ODFW's mitigation goal for Category 2 habitat impacts**. The applicant proposes to secure landowner agreements covering lands equivalent to 1.1 acre for every 1 acre of Category 2 habitat permanently impacted**, to meet the Category 2 mitigation goal of net loss in habitat quantity. Based on this proposed methodology, the land area included in WLIP sites for the proposed facility would include approximately 3,946 acres as mitigation for permanent habitat loss. "*

The TRCP is requesting that the council increase the acreage ratio for in kind mitigation to a standard that has been applied previously to other facilities mitigating for Category 2 habitat. Our request is **2 acres for every one acre of Category 2 habitat that is permanently impacted.**

In addition, the TRCP is concerned about the implementation of the proposed mitigation by the developer because of limited staff time and funding available from the Department necessary to monitor the projects progress once construction begins. Most importantly, the TRCP urges the Department to ensure the following requirement as stated in the DPO is carried out before any construction begins;

> ***"Applicant will provide copies of the executed working lands leases to ODOE prior to construction of the Facility."***

Conclusion

We request that the Department ensures the projects direct and permanent loss of 3,500+ acres of Category two big game winter range is adequately mitigated for through a robust and fully implemented Habitat Mitigation Plan. The TRCP recommends that the council require a 2:1 ratio rather than 1.1:1 that is currently proposed.

Finally, we recommend that the Department works towards a solution for the growing effects of cumulative projects across a region such as is beginning to occur in Lake County. Currently, projects are reviewed on a case by case basis and the department does not analyze the cumulative effect of renewable energy projects. As more and more solar and wind projects are sited on public and private lands, the Department should consider convening a working group to address the impacts on fish and wildlife habitat from energy development in a proactive manner.

We greatly appreciate the opportunity to provide comments on this proposed solar facility. If you have any questions regarding these comments, please do not hesitate to contact us.

Respectfully,

Michael O'Casey
Oregon Field Representative
Theodore Roosevelt Conservation Partnership
(541) 668-2316 (cell)
21122 Tumalo Road
Bend, OR 97703

Comment submitted via email to the following address Kellen.Tardaewether@oregon.gov.

TARDAEWETHER Kellen * ODOE

From: Mike Reeder <mreeder@oregonlanduse.com>
Sent: Monday, July 20, 2020 3:08 PM
To: TARDAEWETHER Kellen * ODOE
Cc: aaron@noteboomlaw.com
Subject: FW: Objection to ASC for Obsidian Solar Center
Attachments: Reeder to HO (Objection to Application) FINAL SUBMITTED - 07.20.2020.pdf

Resending as we have not heard confirmation that you received the earlier submission. There will be five follow on emails. Thanks.

Law Office of Mike Reeder
Oregon Land Use Law

Office: (458) 210-2845 | oregonlanduse.com
375 W. 4th Ave., Suite 205, Eugene, OR 97401

From: Aaron Noteboom <aaron@noteboomlaw.com>
Sent: Monday, July 20, 2020 2:04 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Cc: ROWE Patrick G <Patrick.G.ROWE@state.or.us>; Mike Reeder <mreeder@oregonlanduse.com>
Subject: Objection to ASC for Obsidian Solar Center

Dear Ms. Tardaewether,

I am forwarding for inclusion into the record the attached letter from Mike Reeder. Due to their large size, I will be sending in one or more separate emails the exhibits that accompany this letter. Please confirm receipt of this email and attachment.

Yours truly,

Aaron Noteboom | Attorney at Law
Noteboom Law LLC
375 W 4th Ave, Ste 204 | Eugene, Oregon 97401
Ph: (541) 513-2298 | aaron@noteboomlaw.com

Law Office of Mike Reeder
Oregon Land Use Law

July 20, 2020

Via Email and Certified Mail, Return Receipt Requested
Kellen.Tardaewether@oregon.gov

Hearing Official
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Captial Street NE
Salem, OR 97301

Re: Objection to Application for Site Certificate – Obsidian Solar Center

Dear Hearing Official:

I represent Jerald Simmons, LeeRoy and Nancy Horton, Patrick Barker, Larry Turnbow and Jeremiah and Mariam Thorsted, Dave Hogan and Aaron Borror ("Ft Rock Neighbors" or "FRN"). I am writing on behalf of my clients to object to the application for site certificate for the proposed 3,921 acre Obsidian Solar Center renewable energy solar facility ("Facility") in Lake County ("LC"), Oregon (the "Application" or "App.") filed with the Oregon Department of Energy ("ODOE") by Obsidian Solar Center, LLC (a wholly owned subsidiary of Obsidian Renewable, LLC)(the "Applicant" or "Developer"). My clients own property directly abutting or in the nearby vicinity of the proposed solar Facility and will be directly and adversely impacted by it. (See FRN Ex. A). As detailed in the attached testimony (FRN Ex. B) and FRN objections submitted herewith, the Application fails to comply with the applicable approval criteria. Further, the Developer has not sought alternate grounds for approval by demonstrating that the overall public benefits of the Facility outweigh the adverse effects on protected resources and interests including those of my clients.

Therefore, the Oregon Energy Facility Siting Council ("Council") must DENY the Application. Should the Council nevertheless approve the Application over my clients' objections, the Council should further condition the Application to require the Developer to fully mitigate its offsite impacts to surrounding resources and interests, including my clients' property. Please include this letter, attached objections and the testimony submitted herewith as part of the record.

Sincerely,

/s/Micheal M. Reeder

Micheal M. Reeder

Office phone: (458) 210-2845
mreeder@oregonlanduse.com
375 W. 4th Ave., Suite 205
Eugene, Oregon 97401
oregonlanduse.com

Cc: Clients (Email only)
Elaine Albrecht, Developer Attorney (Email only)

FORT ROCK NEIGHBOR OBJECTIONS

TABLE OF CONTENTS

I. BACKGROUND.

The Christmas Valley and Ft Rock Neighbors have resided and worked in rural north Lake County for decades. With several of the Ft Rock Neighbors raising crops and livestock on farms that either directly abut or are situated in the nearby vicinity of the proposed solar Facility. (See Exhibit A). Their agricultural activities stand to be irreparably harmed and their livelihoods adversely impacted by the Developer's proposal to develop over 3,900 acres of A-2 zoned land, removing much of its natural vegetative cover in the process, to install 1.74 million solar panels all encompassed by a 7-foot high chain link fence. What needs to be understood by all at the outset is just how massive the proposed Facility is. To put the size of the Facility in perspective, 3,921 acres is 6.12 square miles! That is nearly 2 times the size of the City of Burns, Oregon (3.57 sq. miles)[1] and over ½ the size of the Developer's home town of the City of Lake Oswego, Oregon (10.77 sq. miles).[2] If you are unfamiliar with either of those communities, the proposed Facility is the size of 2,265 football fields. It is enough space to construct 31,368 single family homes each on a standard 0.1-acre lot assuming standard 80% developable, 20% infrastructure.

The scale of the proposed Facility is astounding by any measure. The proposal calls for up to 1.742 million solar modules erected on 246,444 posts and connected by up to 2 million miles of trenched and buried cable. Should the Facility include battery storage, up to 5.6 million gallons of electrolytes fluid will be used onsite – enough to fill nearly 8.5 Olympic sized swimming pools. The perimeter fence is approximately 18 miles around. There are nearly 50 miles of perimeter and internal dirt roads. Construction will take 2 years to complete with up to 150 workers a day onsite during peak construction. This is a supersized industrial facility located outside of any urban growth boundary. Yet, despite its enormous size, there is little, if any, recognition of or plan to mitigate the offsite impacts inevitable with such a development.

Developing nearly 6 square miles of desert including the removal, destruction and/or disturbance of natural vegetation/ground cover to install the 1.74 million solar arrays will allow the powerful winds that blow across Oregon's high desert to strip the remaining top soil down to the hardpan resulting in drifting sand dunes and airborne dust choking out neighboring fields, livestock and residents, setting the conditions for noxious weeds to thrive and hindering the return of the site to its current condition upon retirement; it is setting the conditions for a modern day dust bowl. Likewise, the planned removal (through mowing and crushing) of vegetation as part of the construction will force resident rodents and animals ("refugees") from the subject property onto adjacent properties (including the Fort Rock Neighbors') seeking asylum in search of food and habitat and wreaking havoc on commercial agricultural crops and fields of adjacent property owners in the process.

To facilitate the construction and ongoing cleaning of the solar arrays, the Developer proposes using groundwater (in a legislatively designated groundwater restricted area) through multiple wells competing with existing permitted and prior use agricultural operations. What water it cannot lawfully take from the ground (potentially millions of gallons), Developer proposes to truck in from as far away a La Pine, Oregon (90 miles roundtrip). The massive facility will also severely clutter and replace the pristine views of rural eastern Oregon High Desert with

[1] https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2018_Gazetteer/2018_gaz_place_41.txt
[2] *Id.*

miles upon miles of large industrial development as well as nighttime light pollution where none currently exists. All of the foregoing will have substantial, adverse impacts to the environment and to the Ft Rock Neighbors and others. As discussed below, the Application fails to adequately account for and mitigate those impacts and to show compliance with the applicable approval criteria; the Application must therefore be DENIED.

II. OBJECTIONS – FAILURE TO COMPLY WITH APPLICABLE APPROVAL CRITERIA.

The Application fails to demonstrate compliance with the following approval criteria by a preponderance of the evidence as required by OAR 345-022-0000(1) and therefore must be DENIED. Developer does not seek alternate approval under OAR 345-022-0000(2) by demonstrating that the overall public benefits of the Facility outweigh any adverse effects on protected resources or interests.

While the Application is lacking across the board (as detailed below), there are two criteria for which no amount of new evidence or conditions can cause compliance and result in denial of the Application:

a. Lack of Water. The Developer lacks the groundwater permits necessary to obtain 30.65 million gallons of water needed to complete the construction of the proposed project. Further, the water district that the Developer is relying upon to provide any shortfall in water is prohibited under its own permits from selling water to be used on property within Township 26S where Developer's Facility will be located. See Section II, 2. a. and 2. b.

b. Fort Rock Development Limitation. Developer proposes to build a portion (approx. half) of the Facility within the Fort Rock Planning Area. Under the LC Comprehensive Plan, all development in this area must be located within 600 ft of existing roads. The majority of the proposed development within the Ft Rock Planning Area is located *more than 600 ft* from existing roads (e.g. County Road 5-12, Connley Ln and County Road 5-10C) and is therefore, prohibited. See Section II, 3. c.

1. SOIL (EXHIBIT O)

Facts

The subject property comprises 3,921 acres of which approximately 3,700 acres will be developed (~94%). See App., Exhibit B. The entire property is covered by one of five different soil types all of which are classified as "Group 1 being the most susceptible to wind erosion." App., Pg I-3. Winds of greater than 9 miles per hour are strong enough to create dust and displace soil. FRN Ex. C. During construction, the majority of the area within the site boundary will be mowed within 6 inches of the ground surface and driven on and "crushed" by construction vehicles. App., Pg I-8. Permanent soil disturbance, including excavation and grading, will occur for the construction of access roads, gravel/concrete pads for structures (e.g. operation and maintenance buildings), and inter-connection of equipment. *Id.* Upwards of 2 million miles of cable may be trenched and buried except where site conditions prohibit. App., Pg B-7. A careful

review of the Developer's site plan shows that the 200 acres not proposed for development generally consist of existing dunes and playas with little to no vegetative cover. No noxious weeds were observed on the subject property. App., Pg. I-12. It is expected by Developer, however, that noxious weeds will infiltrate following commencement of construction and require ongoing mitigation. App., Pg. I-12. Developer proposes to manage, but does not promise to eradicate, the problem it is creating through its Revegetation and Noxious Weed Control Plan. App., Pg. I-13.

Vehicle traffic will not be restricted to paved and/or graveled roads within the development site. Rather, Developer proposes "limiting" off road vehicle traffic to the entirety of the 3,921-acre site; in other words, no limit at all. App., Pg. I-13. Developer plans to mow to 6-inches in height and "crush" vegetation within the development area with vehicles. App., Pg. I-8. Developer proposes to clean the panels by use of a water tanker which will necessitate driving in between the 130 rows of solar modules. See App., Pg O-4. Developer's Erosion and Sediment Control Plan confirms that the areas between the rows of modules are designed and designated as "proposed compacted native soil, access road." App. Ex I, Appendix, I-1, Sheets EC-3 to EC-8. The Application acknowledges upwards of 50 miles of perimeter and internal road, which will consist almost entirely of "compacted native soil." See App. Appendix W-1; App. Pg B-8.

Developer does not propose a separate fugitive dust mitigation plan. Instead, Developer proposes a temporary Erosion and Sediment Control Plan which appears focused on protecting Developer's solar panels more than protecting soil. See App. Exhibit I, Appendix I-3. Aside from Developer's efforts to revegetate the site (discussed below), the most significant erosion control features proposed consist of the emplacement of: (a) "straw waddles" approximately 6 to 12 inches in height placed along various portions of the site to catch surface water erosion runoff of sediment, and (b) 30-inch high fabric screens along portions of the interior (but not exterior) of the site to protect the solar panels from the existing dunes and playas within the undeveloped portion of the site. No screens are proposed for the exterior of the site to protect adjacent property from drifting dust and sand caused by wind erosion. See Appendix I-1, Sheets EC–3 to EC-8.

To repair and stabilize the soil, the Developer intends to replant portions of the project site with a blend of ground cover vegetation. See App. Exhibit P, Appendix P-3. The Developer does not intend to irrigate the project site to help establish the ground cover but will rely on precipitation that averages 10.4 inches per year. See App., Pg I-10. The Developer purports that ground cover will be reestablished within two growing seasons.

Needless to say, the Ft Fork Neighbors are greatly concerned by Developer's plans and the significant and adverse impacts it will have on their properties, crops, livestock, health, soil, water, quality of life and livelihood. The Ft Rock Neighbors have seen firsthand the consequences of clearing land for development. The large sand/hardpan area shown in the attached FRN Ex D was cleared of vegetation over 30 years ago by prior owners in preparation for potential development. After more than 30 years the vegetative cover has largely failed to reestablish and thrive leaving instead a windswept, hard pan. Now, Developer proposes to follow a similar path on a supersized scale but expects a different outcome. Yet, recent solar facility RV development in the area (including some development associated with the Facility

site) has already resulted in large amounts of fugitive dust adversely impacting adjacent properties. See FRN Ex. E. The picture below shows sheep on the Horton property adjacent to the Facility after some work was conducted on the Facility site in or around December 2019. This area is where up to 5,000 sheep and 200 cattle are raised.

Objections

a. The Proposal Likely Results in Significant Adverse Impacts to Soils.

i. Applicable Criteria.

OAR 345-022-0022. Soil Protection. *"To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to soils including, but not limited to, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills." (Emphasis added).*

ii. Response.

The proposed design, construction and operation, including mitigation measures, will result in significant adverse impacts to soils including wind erosion and soil compaction and therefore, must be denied. There is no doubt that the site will be substantially disturbed during construction and operation. The Developer has chosen to locate its project in Oregon's high desert on soil that is classified as the most susceptible to wind erosion. The Developer then proposes to disturb upwards of 95% of the site through road building, erection of permanent structures or emplacement of 1.7 million solar panels and entrenchment of up to 2 million miles of cable.

The design of the Facility leads to increased soil erosion. For example, the Developer has elected to gravel a very small portion of roads while the vast bulk of roads will be "compacted native soil" access roads (not paved or graveled) and to trench and bury up to 2 million miles of cable (vs. bore/tunnel or place in trays mounted on the racking below the panels). Similarly, the Developer has chosen to leave existing sand dunes and playas generally untouched while developing areas with established vegetation. The mitigation features the Developer has included are nominal (straw waddles and 30-inch screens) and appear designed more to protect the Developer's project rather than to prevent soil erosion or protect adjacent property. For example, the Developer proposes to use "straw waddles" around portions of the solar panels within the site to control sediment runoff from rain and snow (*after* erosion has occurred). Straw waddles typically extend only 6 inches or so above the ground. The Developer has also proposed a limited amount of 30-inch tall fabric screening presumably to mitigate potential water and wind erosion (again, *after* erosion has occurred). A review of the Developer's Erosion and Sediment Control Plan shows that the fabric screening is placed *within the interior* of the project protecting the Developer's panels from erosion generally coming from the undeveloped areas (e.g. existing dunes and playas). No fabric or other screening is proposed along the exterior of the project to protect adjacent property. See Appendix I-1, Sheets EC–3 to EC-8. Even then, a 30-inch fabric screen does little to stop fugitive dust once it is airborne. (See image hereinabove.)

The construction of the Facility leads to increased soil erosion and invasion of noxious weeds. During construction, the Developer plans to mitigate dust erosion by spraying upwards of 32.417 million gallons of water from water tankers with peak water usage of up to 60,000 gallons per day. App., Exhibit O, Pg O-2. Using a 4,000-gallon water tanker, this will require upwards of 8,104 heavy truck trips throughout the project site during construction. Beyond the issue of erosion and compaction, the problem for the Developer is that it only has the right to 5.45 million gallons of water total for construction (5,000 gallons x 265 days x 2 years) and that on any given day it cannot draw more than 5,000 gallons of groundwater. See discussion below at Section II, Para 2.a., "Failure to Seek Required Permits" and 2.b. "Lack of Need Water and Public

Utilities/Facilities." That leaves the Developer 26.55 million gallons short of what is needed to effectuate its dust mitigation plan and on any given day as much as 55,000 gallons short for the day's construction needs. Developer's water consumption needs for construction and operations would be greatly reduced should it have chosen to gravel or pave the perimeter and interior roads. Instead, it is proposing to leave the vast majority (99.86%) as "compacted native soil." Developer acknowledges that it only intends to use a paltry 110 tons of gravel for road construction during construction. See App., G-1. One cubic yard of washed gravel weighs roughly 1.35 tons. (See FRN Ex. F). In this case, the 110 tons of gravel proposed by Developer equates to roughly 81.5 cubic yards which is enough to construct a 367 ft long road that is 12-feet in width and has a six-inch base of gravel. *Id.* So, of the 50 miles of perimeter and internal roads, Developer will gravel just 367 feet or 0.069 miles (122 yards). That leaves the remaining roughly 49.931 miles as dirt! In other words, roughly 99.86% of the proposed road surfaces for the Facility are proposed to be dirt – without any gravel or paving.

The Developer plans to ultimately mitigate the dust it readily acknowledges it will create by first destroying the existing ground cover (i.e. mowing and crushing) and then replanting it. The Developer asserts that it will reestablish ground cover within two growing seasons without irrigation. Developer acknowledges that no noxious weeds are currently observed onsite but that as a result of construction activities, they will infiltrate the site. Developer intends to manage, but does not promise to eradicate, the problem of noxious weeds the project will create. Developer acknowledges that the establishment of noxious weeds where none exist is an adverse impact on soil quality. App., Pg I-12. Disturbing previously untouched soil will cause dormant seeds to grow where none had previously.

The operation of the Facility leads to increased erosion and further unnecessary compaction of the soil. "Soil compaction . . . is the increase in soil bulk density as a result of applied loads [e.g. driving a water truck] or pressure . . .[.]" App., Pg. I-9. During operation, Developer again proposes using a water tanker to clean the 1.74 million solar panels instead of using an automated no-water, low water or sprinkler system spraying upwards of 489,000 gallons per year on the panels. (See FRN Ex. G). This means the tanker (presumably 4,000-gallon) will make as many as 122 trips per year for 30 years throughout the site running between the solar modules (off the graveled strip of road) spraying both the solar panels and ground with water and in doing so will disturb the soil, crush the "reestablished" vegetation, if any, and compact the soil. In fact, the Developer's Erosion and Sediment Control Plan shows "proposed compacted native soil access road[s]" crisscrossing back and forth between the rows of solar arrays. (See Appendix I-1, "Legend" for sheets EC 1 through EC 7). Notable, is that the areas between module rows will serve as "roads" made of "compacted" "native soil."

Yet, Developer asserts that, "trucks will drive within the boundary, but will not likely affect underlying soils due to the physical conditions of the soils. Soils within the site boundary possess qualities that make them inherently resistant to soil compaction." (emphasis added) App., I-9. Developer goes on to assert that this is so because the "vast majority of the soils within the site boundary are poorly graded" (emphasis added) while "[s]oils and soil horizon that are well graded (consisting of a mix of different-sized soil particles interspersed with each other), have limited organic matter, and are moist to saturated are generally more susceptible to compaction." *Id.* Developer's assertion that the vast majority of soils within the project site are "poorly graded" and consequently, inherently resistant to soil compaction is contrary to the field

survey and report made by Developer's own geotechnical consultant which found the opposite. From the Developer's geotechnical report:

> "Laboratory analysis of soil samples collected in the field are also consistent with the soil units represented on the soil survey map. . . . Soil samples were collected at select locations in Area A. Sample locations are labeled on Figure 9 and described in Attachment A. Select laboratory index testing was performed on these samples." App., Appendix, H-1, Pg 5-6.

Of the nine samples taken from Area A and tested, only one of them was found to have "poorly graded" soil (i.e. not susceptible to compaction) while 5 were found to have "well graded" soil (i.e. susceptible to compaction). See App., Appendix, H-1, Figure 9, Pg 17-18. Stated differently, add the "well graded" soil found by Developer onsite, plus heavy water tanker driving same "native soil access road" over and over, plus water from the tanker = compacted soil. In sum, Developer fails to provide evidence sufficient to support to support a finding that based upon a preponderance of the evidence significant adverse impacts to soil are unlikely as required by OAR 345-022-0022 and OAR 345-022-0000.

2. WATER (EXHIBIT O)

Facts.

The proposed Facility will require between 17.15 million to 34.3 million gallons of water to construct over a period of two years and will require an additional 1.2 million to 1.36 million gallons of water annually to operate. App., Pg 0-2. During construction water will be used for: dust suppression, soil maintenance, equipment washing, fire suppression, drinking water. App. Table O-1. During operation (est. 30 years), water will be used for: panel washing, septic system. App. Table O-2. Developer proposes to periodically clean the solar modules by applying water (without cleaning solvents) via a tanker truck. App., Pg O-4. Use of the spray tanker to clean the modules will necessitate driving the length of each of the 130 rows of modules. To support its water needs, Developer plans to drill two wells on the subject property and draw up to 5,000 gallons of groundwater per day from each well. App., Pg. O-6. Developer asserts that it is exempt from obtaining groundwater permits. *Id.* As explained below, it is not. Developer proposes to obtain the remainder of its water needs from the local water district, the Christmas Valley Domestic Water Supply District, ("District") at a cost of $.07 per gallon. App., Pg. O-5. As explained below, the District is prohibited under its water permits/certificates from selling water to Developer to be used at the Facility. In the event the District was unable to provide water to Developer because of its own needs (e.g. domestic/fire suppression), Developer purported to have reached a "preliminary" agreement to acquire water from the City of La Pine public works located 45 miles to the northwest in Deschutes County. App., Pg O-5.

No such agreement was included as part of the Application. Developer chose to site its Facility in one of only 14 designated groundwater restricted areas within Oregon – the Fort Rock Basin (OAR 690-513-0060(2)(n)) established to "avoid overdraft and protect existing rights." OAR 690-513-0060(1)(d). The Ft Rock Neighbors all rely on groundwater wells to irrigate their

existing farms, water their existing livestock and provide for their domestic needs. Their use is prior and paramount to Developer's proposed use. There is no surface water available in the area. Annual precipitation for the area averages 10.4 inches per year. App., Pg I-10.

Objections.

a. Failure to Seek and Obtain Required Permit.

i. Applicable Criteria.

LC Zoning Ordinance, Section 20.13(F) *"Compliance With and Consideration of State and Federal Agency Rules and Regulations. Approval of any use or development proposal pursuant to the provisions of this Ordinance shall require compliance with and consideration of all applicable State and Federal Agency rules and regulations. Specific rules and regulations which may affect any specific use or development proposal, and for which compliance is required for approval by the County include, but are not limited to, the following:*

F. Surface and Ground Water Withdrawals by WRD."

ORS 537.535 *"(1) No person or public agency shall use or attempt to use any ground water, construct or attempt to construct any well or other means of developing and securing ground water or operate or permit the operation of any well owned or controlled by such person or public agency except upon compliance with ORS 537.505 to 537.795 and 537.992 and any applicable order or rule adopted by the Water Resources Commission under ORS 537.505 to 537.795 and 537.992. (Emphasis added).*

(2) Except for those uses exempted under ORS 537.545, the use of ground water for any purpose, without a permit issued under ORS 537.625 or registration under ORS 537.605, is an unlawful appropriation of ground water." (Emphasis added).

ii. Response.

Developer has not sought or obtained permits necessary to use more than 5,000 gallons of groundwater per day. Developer claims that it is exempt from obtaining permits under ORS 537.545(1)(f) because the two wells it plans to drill will each not exceed 5,000 gallons per day usage and it will buy the rest of the water it needs from the Christmas Valley Domestic Water Supply District for $.07 per gallon. Developer is wrong on all counts.

Contrary to Developer's contentions, ORS 537.545(1)(f) does not grant a blanket exemption on obtaining a groundwater permit so long as each well uses not more than 5,000 gallons per day. Rather, ORS 537.545(1)(f) provides that no permit is required for the use of groundwater (e.g. well water) for "[a]ny single industrial or commercial purpose in an amount not exceeding 5,000 gallons a day." (emphasis added). Here, the "single industrial or commercial purpose" is the proposed solar Facility. A well (or perhaps multiple wells) is allowed without

obtaining a permit so long as the total drawn from all wells for the industrial or commercial use is not more than 5,000 gallons per day. To read the exemption as Developer does, is to render the 5,000-gallon limitation meaningless because a party could side step the limitation (which Developer seeks to do) by drilling multiple wells on the property and drawing 5,000 per day per well to support its single industrial of commercial purpose. Under Developer's theory, Developer would be allowed to drill potentially dozens of wells each drawing up to 5,000 per day to support its single use and no permit is required. The plain language of the statute limits the use of 5,000 gallons of groundwater for a single use per day, not 5,000 gallons per well. At most, Developer is entitled to draw not more than 5,000 gallons of groundwater in total per day, regardless of whether Developer chooses to use one or more wells. To use more than 5,000 gallons of groundwater per day, Developer is required by law to obtain a water permit from the Oregon Water Resources Department, which it has not done and does not seek through this Application.

ODOE incorrectly asserts in the Draft Proposed Order ("DPO") that OAR 690-340-0010(1)(d) authorizes more than one well of up to 5,000 per day so long as they are on separate tax lots. [3] Under rules of statutory interpretation, the implementing regulation is to be read consistent with the authorizing statute and cannot authorize a use greater than authorized by the statute. *Don't Waste Oregon Comm. v. Energy Facility Siting Council*, 320 Or. 132, 142 (1994)(agency interpretation of administrative rule is not plausible and will not be upheld where inconsistent with the rule itself, or with the rules context, or with any other source of law) The implementing rule provides that a, "commercial or industrial operation shall be allowed only one well system and exemption under ORS 537.545(1)(f) on each ownership or tax lot, whichever is larger." (Emphasis added). Here, the solar "operation" is solely owned by the Developer. ODOE's reading of the regulation is flawed in that: (1) it ignores the limitation that a single ownership is allowed a single well system, and (2) purports to allow usage greater than allowed under the statute (i.e. more than 5,000 gallons per day per single commercial or industrial use). At most, Developer is allowed one well under the implementing regulation. Developer has not sought approval to draw more than 5,000 gallons per day of groundwater from the subject property.

Without controls, Developer or its successor could inadvertently pump more than 5,000 gallons per day out of its wells should the Council approve its Application. That would violate Oregon law and any site permit authorization. To demonstrate continued compliance with any site permit approval, Council should condition any approval to require the installation of a self-regulating meter with automatic shut off valve to ensure that cumulatively not more than 5,000 gallons per day was drawn from all wells combined. Additionally, Council should require a condition mandating record keeping of all water purchased and annual production of those records for public inspection during the life of the permit. The record keeping requirements for exempt groundwater use imposed by OAR 690-190-0005 do not require records of daily usage and are therefore inadequate to ensure compliance with any approval. Without these conditions,

[3] Tax lots are not the same thing as a legal lot. Unlike legal lots which are generally created through a partition or subdivision process, tax lots are created, modified, vacated and used by the tax assessor for purposes of taxation. They may also be created at the request the property owner. For example, a property owner may wish to establish multiple tax lots within a single legal lot for purposes of allocating taxes due between differing uses such as when a property owner wishes to establish a separate tax lot for a tenant's leased business premises within a greater legal lot.

it would be not be possible to determine whether Developer was complying with any siting approval limiting water usage during construction and its 30-year operating period.

b. Lack of Needed Water and Public Utilities/Facilities.

i. Applicable Criteria.

LC Zoning Ordinance. Section 1.08 *"Compliance with State and Federal Requirements and the Comprehensive Plan. No Zoning Permit or other permit under this Ordinance shall be issued or given final approval until compliance with the Comprehensive Plan and all applicable State and Federal regulations is established or assured."*(Emphasis added)

LC Zoning Ordinance. Section 24.01(A) *"General Criteria. In determining whether or not a Conditional Use shall be approved or denied, it shall be determined that the following criteria are either met or can be met through the compliance with specific conditions.*

1. *The proposal is in compliance with the applicable Comprehensive Plan and Policies set forth thereby.*

   . . . .

4. *That no approval be granted for any use which is or is expected to be found to exceed resource and public service/facility carrying capacities, or for any use which is found to not be in compliance with applicable air, water, land, solid waste, or noise pollution standards." (Emphasis added)*

LC Comprehensive Plan, Goal 11 – Policy 1 *"That development will be approved only where existing capacity or planned capability of public or private utilities and facilities can accommodate such, unless the development provides funding for the increased services which will be needed." (Emphasis added).*

ii. Response.

The Application fails to comply with the applicable Comprehensive Plan Policy and General Criteria for a Conditional Use Permit set forth above which prohibit developments that exceed the resource or are not serviced by adequate public/private utilities or facilities. Under Developer's plan, it is short up to 30,650,000 gallons of water needed to complete construction.[4] To make up for that shortfall, Developer proposes purchasing water from the local water District. The water District is prohibited, however, under its water permits from selling water to Developer for commercial or industrial use at the solar Facility. See FRN Ex. H. The permits themselves (attached to App., Exhibit O) each define: (a) the allowed use of the water, and (b) the allowed place of use of the water. With respect to allowed use, the permits are limited on

[4] 34,300,000 total gallons needed for construction – 5,000 gallons per day x 365 days x 2 years = 30,650,000.

their face to either "group domestic" use or "quasi-municipal use." Neither of those allowed uses include private commercial generation of electrical power for resale. Regardless, even if such use could be consider allowed (which it cannot), its proposed location is not allowed. The permits expressly designate and limit the place of use. In this case, the permits provide that all water must be used on certain identified land lying within Township 27S east of the Willamette Meridian; whereas, the entire solar Facility in located in Township 26S east of the Willamette Meridian. (Compare water permits at App., Exhibit O to map at Exhibit F). Township 27S and Township 26S are not the same thing and the District is without lawful authority and would violate its water permits to sell water to be used outside of the place expressly designated for use in the permits.

In the event the District was not able to provide the water Developer needed because of the District's own domestic or firefighting needs, Developer purported to have reached a "preliminary" agreement with the La Pine Public Works to serve as a secondary water source. Developer asserts that a "letter of commitment" and copy of La Pine's water rights are attached as Appendix O-1 to the Application. They are not. Given what is known about the District, it is difficult to believe that the City of La Pine's water permits would allow for the sale of water to be used on property outside the City of La Pine some 45 miles away.

Regardless, there is no evidence in the record to support Developer's assertions that La Pine Pubic Works has contractually agreed to provide water and even if it did, the Lake County Comprehensive Plan, Goal 11, Policy 1 and General Criteria for CUP's prohibits development where the proposed development exceeds the resource and the local public/private utilities and facilities needed to accommodate the development are inadequate or in this case, non-existent. Having water trucked in from up to 45 miles away is incontrovertible evidence that the local utilities are inadequate.

The fact is that the Developer is woefully short of the water it needs – as much as 30,650,000 gallons short. The proposed development exceeds the authorized groundwater available to Developer and Developer has not demonstrated the availability of local public or private facilities able to accommodate the shortfall.

c. Failure to Conserve Water.

i. Applicable Criteria.

LC Zoning Ordinance. Section 24.01(A) *"General Criteria. In determining whether or not a Conditional Use shall be approved or denied, it shall be determined that the following criteria are either met or can be met through the compliance with specific conditions.*

1. *The proposal is in compliance with the applicable Comprehensive Plan and Policies set forth thereby.*

LC Comprehensive Plan, Goal 5, Policy 5 *"That conservation of water resources and protection of municipal water shed will be encouraged."*

LC Comprehensive Plan, Goal 13, Policy 13 *"Environmental Protection. In all cases the County's support for renewable energy development shall be condition upon satisfactory evidence that sufficient environmental safeguards are provided. Environment concerns of the County shall include, but not be limited to: . . . water consumption . . . " (Emphasis added)*

LC Comprehensive Plan, Goal 13, Policy 14 *"In addition to Policy 13, in all casers the County's support for renewable energy development shall also be conditioned upon a lack of adverse impacts to public facilities or services. In this regard, the County's concerns shall include, but not be limited to: . . . . water supply, ...[.]" LCCP, Pg 52 (Emphasis Added).*

ii. Response.

The proposed Facility does not encourage the conservation of water or provide any safeguards against water consumption. It does the opposite. The Developer proposes using upwards of 34.3 million gallons of water in the construction of the Facility. The vast bulk of this (94.5%) will be used for dust abatement. The need for dust abatement is a function of the location (high desert with soil classes highly susceptible to wind erosion throughout site) and design chosen by the Developer. For example, rather than pave the access, utility and maintenance roads, the Developer has elected to gravel a small portion and leave the vast majority compacted dirt. That was a choice; the Developer chose to adopt a design that did not conserve water. Similarly, the Developer has chosen to trench and then burry some part of 2 million miles of cable rather than using boring to emplace the cable subsurface or placing them in trays mounted below the racking. Trenching will result in substantially more disturbed soil and consequently, substantially more dust requiring more water. Again, the Developer has elected a design that uses instead of conserves water. Finally, the Developer has elected to clean the panels by using a water tanker to spray the panels to a tune of up to 489,000 gallons of water each year for upwards or 14.67 million gallons over the 30-year life of the Facility. Again, the Developer is electing not to use available technology which utilizes no water or very little water to wash the panels. See FRN Ex. G. In each case, the Developer is opting for a proposal that unnecessarily consumes water over a design that conservers water in contradiction to the approval criteria. Beyond choosing a different location, there are a number of available design features and technology readily available to Developer that could be employed to conserve and safeguard against water consumption as required by applicable criteria.

d. Failure to Protect Existing Uses.

i. Applicable Criteria.

LC Comprehensive Plan, Goal 5 – Policy 16 *"Land use decision by the County shall avoid creating additional conflicts over inadequate supplies of water from all resources, and shall, wherever possible, ensure the perpetual availability of water resources by protecting the resource from the demands of future uses where necessary." (Emphasis added).*

ii. Response.

Approving the Application would violate Goal 5, Policy 16 by placing existing uses, including those by the Ft Rock Neighbors, directly in conflict with the proposed future use. The Application creates additional conflicts over the inadequate supply of water available in the area (a designated ground water restricted area) pitting existing farms against future commercial use. The code is clear in that case. The existing use prevails and the future use is prohibited.

3. LAND USE (EXHIBIT K).

Facts

In addition to the facts stated elsewhere in this objection, the proposed Facility is to be sited and developed upon 3,921 acres of largely undeveloped high desert zoned A-2 (Agriculture) and plan designated Agriculture. The western approximately ½ of the proposed Facility lies within the Fort Rock Planning Area. See FRN Ex I. The property abutting and adjacent to the west, east and south is generally currently employed for farm use, namely hay production and livestock husbandry with associated domestic use. The Facility lies within a legislatively-designated groundwater restricted area which limits the use of groundwater. There are limited to no public services or facilities available to support the site during construction or operation. Current development and use in the area is primarily served by groundwater wells. The area of the proposed Facility currently serves as a primary winter feeding ground for elk and deer. Applicant proposes fencing this area (7 ft high x 18 miles) to exclude big game from the Facility throughout the life of the project (est. 30 years). The proposed Facility and surrounding area sit at approximately the same elevation as the Cascade range to the west. During the spring and summer months, moist pacific area flows from the Pacific Ocean and over the Fort Rock area settling upon the ground as dew each night. This natural effect causes the hay produced in the area to have a uniquely soft quality making it highly sought after as feed hay. Large scale solar facilities are known to increase the ambient air temperature by as much as 3 to 4 degrees Celsius over the Facility and may interfere with the natural phenomenon that causes dew to form and settle each night.

Objections

ORS 469.504(1)(b) requires compliance, among other things, with the "applicable substantive criteria from the affected local government's acknowledged comprehensive plan and land use regulations . . . in effect on the date the application is submitted . . . [.]" Under the Lake County Zoning Ordinance ("LCZO"), conditionally permitted uses, such as a renewable energy facility (LCZO Sect 24.18) may be allowed provided the applicant demonstrates compliance with, among other things, the applicable Comprehensive Plan and Policies.[5]

[5] **LCZO Section 24.01(A).** *"General Criteria. In determining whether or not a Conditional Use shall be approved or denied, it shall be determined that the following criteria are either met or can be met through the compliance with specific conditions.*

a. Failure to Comply with LC Zoning Ordinance Conditional Use Permit Requirements.

i. Applicable Criteria.

LC Zoning Ordinance Section 24.19 *"Criteria for Nonfarm Uses, Excluding Farm Related or Accessory Uses, in an A-1 or A-2 Zone. Nonfarm uses, excluding farm related or farm accessory uses, may be approved in an A-1 or A-2 Zone upon finding that each such use:*

A. Is compatible with farm uses described in ORS 215.203(2) and is consistent with the intent and purposes set forth in ORS 215.243;
B. Does not interfere seriously with accepted farming practices as defined by ORS 215.203(2)(c), on adjacent lands devoted to farm use;
C. Does not materially alter the stability of the overall land use pattern of the area;
. . . . (Emphasis added).

ii. Response.

As discussed in detail throughout this objection and the attached testimony, the proposed use is not compatible with existing farm uses, seriously interferes with accepted farming practices on adjacent farms and materially alters the stability of the overall land use patterns. To wit,

- The Facility will create fugitive dust that will substantially interfere with crop production and animal husbandry occurring on adjacent farms.
- The Facility will create invasive weeds that will escape offsite and infiltrate crops of adjacent farms.
- The Facility will compete with existing and priority farm uses for water in an area legislatively designative as groundwater restricted.
- The Facility will create fleeing rodents that will be pushed onto adjacent farms in search of food and habitat where they will impact crop and livestock production by eating crops and digging holes in fields which presents risk of injury to animals and reduces productivity for growing of crops and utilization of commercial vehicles for harvest (e.g. creates sink holes).
- The Facility will force big game from their traditional winter feeding ranges onto adjacent farms in search of food eating existing crops and stored crops in barns.
- The Facility will create a heat bloom that may affect the natural phenomena that

(1) The proposal is in compliance with applicable Comprehensive Plan and Policies set forth thereby." (Emphasis added)

creates nightly dew which gives the hay crops their much sought after qualities.

When addressing this criterion, the Developer unduly defines "area" to be considered under LCZO 24.19 as the entirety of Lake County. That is an unreasonable and implausible interpretation of the provision *of the County zoning ordinance.* Clearly, the County was not intending the term "area" to mean the entirety of Lake County when it wrote its code. It would have simply used the term "County." A more plausible reading of the term "area" is the site of the proposed Facility and surrounding area including those adjacent and nearby properties affected by the Facility.

The proposed Facility is incompatible with the intent and purposes of ORS 215.243 including, that "[e]xpansion of urban development into rural areas is a matter of public concern because of the unnecessary increases in costs of community services, conflicts between farm and urban activities and the loss of open space and natural beauty around urban centers occurring as the result of such expansion." Developer ignores this provision. There is no question that the Facility will result in increased conflicts (as described throughout) and the loss of open space and natural beauty. The fact that this will happen for 32 years does not make it "consistent" or any less impactful to those properties and uses adjacent to the Facility. The Facility is inconsistent with the intent and purposes of ORS 215.243.

b. Failure to Comply with LC Comprehensive Plan Goal 1 – Citizen Participation.

i. Applicable Criteria.

LC Comprehensive Plan, Goal 1, Policy 2. *"That citizens will have an opportunity to participate in all phases of the planning process." LCCP, Pg 25 (Emphasis added)*

LC Comprehensive Plan, Goal 1, Policy 3. *That opportunities will be provided for the pubic to respond to preliminary planning documents prior to their finalization. LCCP, Pg 25*

LC Comprehensive Plan, Goal 1, Policy 6. *"That broad participation in planning activities will be solicited to provide a cross-section of geographical and professional interests." LCCP, Pg 25 (Emphasis added)*

ii. Response.

Many of the Ft Rock Neighbors are elderly/vulnerable persons (60+ years) as are their neighbors who they anticipate wishing to participate in this proceeding in person. In light of the COVID19 pandemic, the Ft Rock Neighbors have sought postponement of the scheduled in person public hearing until such time as the risk of contraction has subsided so as not to present a public health risk. To that end, I wrote to the assigned Hearing Official on May 21, June 3 and July 1, 2020 on behalf of the Ft Rock Neighbors objecting to holding an in person hearing under the current conditions and in light of the Governor's order prohibiting the hearing. The objections and arguments raised in those letters (which are a part of this record) are adopted

and incorporated by reference herein.

While there is some disagreement between ODOE and the Fort Rock Neighbors regarding the scope of the Governor's orders and whether they act to prohibit the holding of this in-person hearing, even without those orders, this hearing is contrary to County's own Comprehensive Plan. Lake County (and therefore ODOE) is obligated under its Comprehensive Plan to ensure that citizens "have the opportunity" to participate in "all phases" of the planning process. The state statute includes the right to an in-person hearing. ORS 469.370(2). Holding an in-person hearing during a pandemic for a highly contagious and potentially fatal disease is a violation of Goal 1 of the LC Comprehensive Plan because it acts to discourage broad participation in all phases. Rural residents often lack the means (e.g. internet) to participate in remotely held hearings and must therefore attend in person. However, attending in person under these circumstances presents a risk of contraction discouraging attendance particularly amongst older and vulnerable populations.

Participation in this hearing is made by the Ft Rock Neighbors under protest and without prejudice to, but in reservation of, any and all rights, remedies, claims, privileges and defenses that they may have including the right to challenge the holding of this hearing.

c. Failure to Comply with LC Comprehensive Plan Goal 2 – Planning Process.

i. Applicable Criteria.

LC Comprehensive Plan, Goal 2, Policy 10. *"That the area designated on the Lane Use Pan map as "Fort Rock Planning Area," will be subject to those policy provisions specifically applicable to Fort Rock." LCCP, Pg 27 (Emphasis added)*

LC Comprehensive Plan, Goal 2, Policy 11. *"That additional development in Fort Rock be limited to a depth of 600 feet from the existing road system." LCCP, Pg 27 (Emphasis added)*

ii. Response.

Developer did not address these criteria in its Application. A close review of the LC Comprehensive adopted plan map for North Lake County shows that a substantial portion of the proposed Facility falls within the area designated "Fort Rock Planning Area." See FRN Ex. I. Under the Comprehensive Plan, no additional development may occur in that area unless it is within 600 feet of the existing road system. The only existing roads in the area of the Facility (including Gen-tie Transmission Line Corridor and Area D) within the Fort Rock Planning Area are Connley Ln, County Road 5-10C and County Road 5-12. A review of Developer's plans shows that the vast majority of development within the Fort Rock Planning Area is to occur more than 600 feet from the existing road systems and is therefore, prohibited. All development within the Fort Rock Planning Area that is outside the 600-foot development area must be denied. This appears to be just over ½ of the Facility. See FRN Ex. I.

iii. Applicable Criteria.

LC Comprehensive Plan, Goal 2, Policy 17. *"That development will be encouraged, providing it does not unduly diminish agricultural or forestry resources of the area, nor unduly increase related public service costs or taxes." LCCP, Pg 27 (Emphasis added)*

iv. Response.

Agricultural resources in the area include existing farming operation (hay production) and livestock (cattle and sheep). Both of these resources will be unduly diminished by the proposed Facility. Lack of any fugitive dust mitigation plan combined with the large scale de-vegetation of the site will cause: (a) an infestation and spread of noxious weeds including to adjacent farming operations, where none currently exist, and (b) fugitive dust and sand to travel onto adjacent properties interfering with animal feeding and breeding causing undue stress to animals and affecting their ability to thrive and reproduce, (c) migration of rodents onto adjacent farms in search of food and habitat. Notable, is that the adjacent hay farming operation on the Horton property is certified organic. With the inevitable invasion of noxious weeds from the Facility, the operation will likely be required to switch to conventional farming in order to spray chemicals to control the spread of invasive weeds. This will result in loss of organic certification and revenue as conventional crops sell for less money than certified organic.

Additionally, the siting of a 3,921/6 square mile acre solar facility in the high desert can reasonably be assumed to increase ambient air temperatures creating a heat island effect. That is the conclusion that at least one group of researchers came to. FRN Ex. J. That increase in air temperature may affect the nightly process of dew condensing and settling on adjacent farm operations which results in a unique soft quality to the hay produced in the surrounding area making it highly desirable for feed hay. Interference with this process would unduly diminish the production of hay with this quality. Developer has not produced any evidence which would refute this potential impact to the Fort Rock Neighbors.

v. Applicable Criteria.

LC Comprehensive Plan, Goal 2, Policy 18. *"That private property investments will be protected from incompatible development which might likely diminish property value or unduly increase taxes." LCCP, Pg 28 (Emphasis added)*

vi. Response.

While beauty is in the eyes of the beholder, it is reasonably safe to say that no person wants to look out of their house onto a 3,921-acre solar facility. Not surprisingly, the proposed incompatible Facility will have a substantial adverse effect on the value of nearby residential property estimated to be between 23-40% reduction in current residential value. FRN Ex. K.

Should the Council nevertheless approve the Application over Ft Rock Neighbor's objections, it is required then to adopt a condition of approval that requires payment by the Developer of the reduction in FMV caused to adjacent and nearby properties (including all Ft Rock Neighbors) to protect private property investments from the siting of the incompatible Facility. While this may seem like a large amount, in the context of the offsite impacts created by the use, this relief is roughly proportionate to its impact and flows directly from the siting of a Facility of this magnitude upon agriculturally zoned property amongst existing development. To be clear, this compensation would only account for the loss in residential resale value to adjacent and nearby properties and is required to demonstrate compliance with the Comprehensive Plan. It would not, however, act to compensate nor preclude those property owners from seeking relief for other losses resulting from impacts to their property or operations including from fugitive dust and sand. Fort Rock Neighbors expressly reserve and do not waive any and all claims, rights, remedies, privileges and defenses that they may have against Developer and its successors and assigns including damage claims and claims for trespass, nuisance and injunctive relief such as may be appropriate.

d. Failure to Comply with LC Comprehensive Plan Goal 3 – Agricultural Land.

i. Applicable Criteria.

LC Comprehensive Plan, Classification Description, Agriculture. *"In areas, designated Agriculture, such land shall be maintained for agricultural purposes in accord with the policies of this Plan." LCCP, Pg 6.*

ii. Response.

Unless the Developer seeks and obtains an exception to Goal 3, it cannot use the property upon which the Facility is proposed except for permitted agricultural uses of which a renewable energy facility is not one. As discussed hereafter, Developer has failed to demonstrate a basis for granting a Goal 3 exception.

e. Failure to Demonstrate Basis for Goal 3 Exception.

i. Applicable Criteria.

LC Comprehensive Plan, Classification Description, Agriculture. *"According to State Planning Goal 3, all productive or potentially productive croplands (defined as all USDA Soil Capability Classes I-VI in Eastern Oregon), shall be maintained for agricultural activities, unless conversion of such land to other sues can be justified. When evaluating whether it is warranted to convert agricultural areas to non-agricultural uses, many factors should be considered in addition to actual need, including proximity to employment, schools, shopping, recreation and other activities, road access and potential maintenance costs, fire protection, availability and*

anticipated capacities of schools and various other public services, energy conservation, surrounding property uses and taxes, effects on wildlife and public and private investments for irrigation and similar improvements. LCCP, Pg 7 (Emphasis added).

ORS 469.504(2) *"The council may find goal compliance for a facility that does not otherwise comply with one or more statewide planning goals by taking an exception to the applicable goal. Notwithstanding the requirements of ORS 197.732 (Goal exceptions), the statewide planning goal pertaining to the exception process or any rules of the Land Conservation and Development Commission pertaining to an exception process goal, the council may take an exception to a goal if the council finds:*

. . . .

(c)The following standards are met:

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

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

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

ii. Response.

As cited above, Developer is required under both the LC Comprehensive Plan and State Statute to obtain an exception to statewide planning Goal 3. To the extent the Plan's requirements conflict with state statute, Council is obligated to resolve the conflict consistent with the public interest. OAR 345-022-0000(1)(b). In this case, that means demonstrating compliance with the additional considerations under the Comprehensive Plan which are designed to protect the public's interest. The Application fails to address the Comprehensive Plan requirements for an exception stated above and therefore, must be denied. Even if considered, the Application would still fail to justify an exception under the Comprehensive Plan. As discussed throughout, the Facility will have significant, adverse, and inadequately mitigated impacts on soil, water, wildlife, existing uses, residents, wildlife, and private investment in improvements.

Fails to Demonstrate "Reason" Justifying Exception

Additionally, the Facility fails to demonstrate a "reasons" exception warranting not applying Goal 3 in this case. Goal 3 acts to preserve and maintain agricultural lands. OAR 660-015-0000(3). Those lands include land used not just from raising crops but also for grazing such as the property upon which the Facility is to be located. The Developer ignores the grazing use or potential of the property.

Developer assumes that because the duration is limited and the property will be "returned" to agricultural use, that an exception is therefore warranted. This premises relies on the assumption that Developer or future operators will not seek amendments to the ASC permit seeking to continue the use beyond 30 years and that the land could be returned to its condition prior to construction. Neither of those outcomes is guaranteed. In fact, it is more likely than not that neither will occur. It is unreasonable and perhaps naïve to think that any developer will spend hundreds of millions and likely billions of dollars to erect a facility for 30 years and then spend millions of dollars to tear down an operational facility rather than simply replace equipment which has reached its useable life. That defies common sense. Notable is that Developer has not sought a condition to hold itself to the requirement that after 30 years it will decommission the Facility. The reality is that the Council is being asked to take this land out of agricultural use for an extended period of time with little assurance that it will ever be returned to agricultural use.

While the Developer identifies worthy State and County goals to promote renewable energy, those goals do not inherently trump the worthiness of Goal 3 to preserve and maintain agricultural land. The burden is on the Developer to demonstrate that "reasons" exist to warrant an exception with respect to the particular property. The fact that the State and County have adopted renewable energy policies generally while laudable is not a reason that justifies removing *this* property from Goal 3 property. If that were the case, a reasons exception would be meaningless because any property could be removed based on the fact that the County and State support renewable energy. Rather, the Developer is required to identify why this particular property should be excepted.

This property, like all property is unique. Unlike other solar facilities in Oregon, this property is unique in that it is situated: (a) on land abutting property on three sides that has largely been put into farm uses creating conflicts with the proposed facility, (b) on land whose soils are highly susceptible to wind erosion, (b) within a ground water restricted area, (c) upon pristine big game winter range, and (d) on ground that lacks permitted access to water needed to construct and operate the facility. While those characteristics make this property a poor candidate for a 3,921-acre solar facility, they do not necessarily make the property a poor candidate for all agricultural use. To the contrary, the property is suitable for grazing which is a recognized agricultural use.

The only other reasons offered by Developer as grounds warranting exception are that this facility will create temporary construction jobs and a few permanent jobs and it may attract out of state businesses interested in using clean energy, presumably produced by the Facility. The creation of jobs is a red herring. The Facility will create the same number of jobs if sited on property appropriately zoned for a solar facility. The Developer readily acknowledges that many of the jobs created will be held by people commuting from outside the County (e.g. Bend). The property will also create jobs if used for agricultural purposes. The speculative draw of out of state business is also circumspect. Developer offers no evidence that this will occur nor does Developer commit to sell its power solely to consumers within the State of Oregon. Presumably, Developer will seek to sell its power to the highest bidder wherever they may be.

Fails to Demonstrate that all Impacts have been Identified and Mitigated.

There is no serious question that a facility of this size will result in significant environmental, economic, social and energy consequences. As described herein, those impacts have not been mitigated to justify an exception. The Facility will not only destroy existing big game habitat, it will clear the site of most vegetation resulting in significant wind erosion and forcing rodent and animal populations onto adjacent farms in search of food and habitat. Drifting soil and dust and forced migration of animals will result in economic harm to adjacent farm operations. The Facility will lower home values of adjacent rural properties trading their view of pristine Eastern Oregon high desert for intense industrial development best measured not in acres but in square miles. While the facility may generate significant renewable energy (a laudable goal), it will also consume significant energy to construct, operate and tear down because of its remote location on agriculturally zoned property (rather than near urban development on appropriate zoned property). For example, a lack of necessary water means that the Developer will likely need to truck water in from as far away as La Pine (best case scenario) which is 90 miles round trip. Assuming a 4,000-gallon tanker that would equate to 7,662 round trips or 689,625 vehicles miles travelled to bring water to the site. The Application fails to consider that energy cost or the cost to maintain and upgrade the County roads Developer will utilize to make those trips. Nor does the Application calculate the enormous energy cost associated with constructing the facility in such a remote location including the additional energy needed to ship materials to a remote site and the additional energy consumed by a large portion of its work force commuting daily from distances as far away as Bend. The Application fails to identify and account for and mitigate all impacts associated with excepting this property for non-farm use.

Fails to Demonstrate that the Proposed Facility is or will be made Compatible with Adjacent Uses.

As discussed throughout this objection, the proposed Facility is not compatible with existing uses and the Developer has not offered any conditions to make it compatible. See arguments at Section II, 3. a. (Failure to Comply with CUP Requirements) and Section II, 3. g. (Failure to Comply with Goal 9) hereof, adopted and incorporated by reference herein

f. <u>Failure to Comply with LC Comprehensive Plan Goal 6 – Air, Water and Land Resource Quality.</u>

i. Applicable Criteria.

LC Comprehensive Plan, Goal 6, Policy 5 *"That <u>conservation of water resources</u> and protection of municipal water shed <u>will be encouraged</u>." LCCP, Pg 37 (Emphasis added).*

LC Comprehensive Plan, Goal 6, Policy 16 *"Land use decision by the County shall <u>avoid creating additional conflicts over inadequate supplies of water</u> from all resources, and shall, wherever possible, <u>ensure the perpetual availability of water resources by protecting the resource from the demands of future uses where necessary</u>." LCCP, Pg 38 (Emphasis added)*

ii. Response.

See arguments at Section II, 2. c. (Failure to Conserve Water) and 2. d. (Failure to Protect Existing Uses) hereof, adopted and incorporated by reference herein.

iii. Applicable Criteria.

LC Comprehensive Plan, Goal 6, Policy 15. *"County planning programs shall function in such a manner as to encourage the involvement of county residents in decisions affecting water resources in the area." LCCP, Pg 38 (Emphasis added).*

iv. Response.

To the extent that Developer intends to rely upon the District to obtain water, then the County (or ODOE to the extent Developer is seeking approval through ORS 469.504(1)(b)) is obligated under this provision to give notice of such use to the District's current users so that they are encouraged to participate in decisions affecting their access to water. As it stands, they likely have no idea of Developer's plan to use District water. Similarly, to the extent that the Developer intends to rely upon exempt groundwater within a designated groundwater restricted area (in this case, the Fort Rock basin), the County (or ODOE, as the case may be) is obligated under this provision to give notice to all properties within the affected groundwater restricted area. That is so because all users within the groundwater restricted area are affected by the addition of the proposed new use as they all draw groundwater from the same basin. It is axiomatic, that the County's planning functions in evaluating and approving an application such as Developer's cannot be said to "encourage involvement of county residents in decision affecting water resources" if the County never tells its affected citizens about the proposed use of resources. While it may seem burdensome to notify all affected users, the burden arises from the Developer's choice to locate its Facility in a legislatively designated groundwater restricted area and to adopt design and operation plans that utilize excessive quantities of water rather than conserve and protect water.

g. Failure to Comply with LC Comprehensive Plan Goal 9 – Economic Development.

i. Applicable Criteria.

LC Comprehensive Plan, Goal 9, Policy 1. *"That those employment opportunities will be accommodated that are compatible with existing and anticipated uses and will improve employment, providing desirable living conditions in the area are not diminished." LCCP, Pg 42 (Emphasis added).*

ii. Response.

The proposed Facility is not compatible with existing farm uses and will diminish living conditions in the area. In addition to being a visual blight, the construction and operation of the Facility will result in fugitive dust escaping onto adjacent property and into adjacent homes that will confine those residents inside or risk respiratory illnesses or complications. See arguments at Section II, 3. a. (Failure Comply with LCZO CUP Requirements) and Section II, 3. C. v. (Failure to Comply with LLCP Goal 2, Policy 18) hereof, adopted and incorporated by reference herein.

h. Failure to Comply with LC Comprehensive Plan Goal 11 – Public Services and Facilities.

i. Applicable Criteria.

LC Comprehensive Plan, Goal 11, Policy 1 *"That development will be approved only where existing capacity or planned capability of public or private utilities and facilities can accommodate such, unless the development provides funding for the increased services which will be needed."LCCP, Pg 46 (Emphasis added).*

ii. Response.

The available public and private water cannot accommodate the proposed Facility. See arguments at Section II, 2.a. (Failure Obtain Required Permit) & 2.b (Lack of Needed Water). hereof, adopted and incorporated by reference herein.

i. Failure to Comply with LC Comprehensive Plan Goal 13 – Energy.

i. Applicable Criteria.

LC Comprehensive Plan, Goal 13, Policy 9. *"The County supports utilization of renewable energy resources. However, such support is conditioned on a determination that the proposed use can be developed in a timely, orderly, and environmentally sound manner . . . [.]" LCCP Pg 51 (Emphasis added).*

LC Comprehensive Plan, Goal 13, Policy 13 *"Environmental Protection. In all cases the County's support for renewable energy development shall be condition upon satisfactory evidence that sufficient environmental safeguards are provided. Environment concerns of the County shall include, but not be limited to: . . . water consumption . . . " LCCP Pg 52 (Emphasis added)*

LC Comprehensive Plan, Goal 13, Policy 14 *"In addition to Policy 13, in all casers the County's support for renewable energy development shall also be conditioned upon a lack of adverse impacts to public facilities or services. In this regard, the County's concerns shall include, but not be limited to: . . . . water supply, ...[.]" LCCP, Pg 52 (Emphasis Added).*

ii. Response.

See arguments at Section II, 1.a. (Adverse Impacts to Soil) and Section II, 2.c. (Failure Conserve Water) hereof, adopted and incorporated by reference herein.

4. FACILITY RETIREMENT (EXHIBIT W)

Facts

Total cost of the proposed Facility is unstated but can reasonably be assumed to be enormous; it is likely Facility cost is in the hundreds of millions of dollars and perhaps in the billion dollar range given the size of the project: 1.74 million panels, 2 million miles of cable, 246,444 posts drilled, 5.6 million gallons of electrolytes fluid, 18 miles of 7-foot high chain link fence, 50 miles of compacted native soils roads, and 2 miles of transmission lines among other things. Developer submitted an estimate that the cost to return the site to a useful non-hazardous condition following the useful life will be $19,851,000 in Q3 2018 dollars.

Objections

a. Failure to Demonstrate Total and Unit Cost to Restore Site to Useful, Non-Hazardous Condition.

i. Applicable Criteria.

OAR 345-021-0010(1)(w)(C) *"An estimate, in current dollars, of the total and unit costs of restoring the site to a useful, non-hazardous condition." (Emphasis added)*

ii. Response.

Developer's estimated cost is underinclusive and appears low. First, the Developer does not provide a "estimate, in current dollars." The estimate is from Q3 2018 and is nearly 2 years old. This should be updated. Second, the estimate is not a "total" cost because it fails to include all costs necessary to restore the site to a useful, non-hazardous condition. Namely, a review of the Developer's estimate shows that the Developer has failed to allocate any, or inadequate, cost to:

- contractor's overhead and profit,

- labor costs,
- engineering costs,
- electrical costs,
- removal and disposal of 5.6 million gallons of electrolyte/battery removal,
- seeding of 50 acres of road area (50 miles x 12 ft wide = ~ 75 acres),
- plugging and abandoning wells,
- post retirement soil erosion (~2,500 acres) and invasive species mitigation,
- water cost for dust mitigation during Facility decommissioning,
- site restoration,
- septic system decommissioning, removal and site restoration.

It seems doubtful that what took 2 years and upwards of 150 men working full time year-round could be taken down in 6 months with 25 men. To do so, would likely entail the use of heavy machinery throughout the entirety of the 3,921-acre project site. Obviously, that would result in widescale destruction of the reestablished vegetation that would then need to be reestablished yet again. Yet, there is virtually no recognition of this with relatively minimal cost allocated to the physical restoration of the site. Allocated restoration costs are as follows:

Module Block	**Unit Cost**	**Cost Estimate**	**Assumption**
Restore site (per acre)(primarily re-seeding disturbed areas)	$200	$260,000	1300 acres
Battery System	**Unit Cost**	**Cost Estimate**	**Assumption**
Restore battery building site	$1,500	$201,000	134 buildings
Road Restoration	**Unit Cost**	**Cost Estimate**	**Assumption**
Internal service roads (per mile)	$5,000	$250,000	50 miles
Restore Additional Areas Distributed [sic] by Facility Removal	**Unit Cost**	**Cost Estimate**	**Assumption**
Restore and seed temporary disturbance areas	$500	$12,500	25 acres

TOTAL : $723,500

Roughly 3.7% of the total cost is allocated to physical site restoration. That works out to about $184 per acre. The vast majority of costs are principally allocated to the physical demolition of the proposed Facility. The Ft Rock Neighbor's question whether adequate resources have been allocated to sufficiently restore the site.

Finally, there appear to be basic computational errors in the estimate that call into question the overall trustworthiness of the estimate. For example, Developer claims that the unit cost to remove a panel is $.0041 per panel. On its face that seems unlikely. Moreover, the Developer's "cost estimate" of $2,786,372 for 1,742,572 panels (or a unit cost of $1.59) suggests that number is wrong.

Having a complete and accurate estimate for Facility retirement is critical because it sets the value of the bond the Developer must obtain and maintain during the 2 year of construction and 30-years of operation of the Facility. The Council should not allow the Developer to proceed until it has submitted a cost estimate that complies with OAR 345-021-0010(1)(w)(C). Moreover, given that the cost estimate is calculated in todays' dollars, the Council should

condition the bond to include an adjustment for inflation such that if called upon, the bond is sufficient to cover the cost of Facility retirement at any time during or post operation. The bond should then be periodically renewed (e.g. every five years) to the adjusted rate.

5. FINANCIAL CAPABILITY (EXHIBIT M)

Facts

To demonstrate that the Developer has the financial wherewithal to have "a reasonable likelihood of obtaining the proposed bond or letter of credit in an amount" equal to the Developer's estimated cost of Facility retirement (~$19M) as required by OAR 345-021-0010(1)(m)(C), Developer submitted a nearly two year old letter from its insurance broker, wherein the broker states:

> "We have reviewed OSC's proposal for the project and are confident that they will be able to obtain said decommissioning bond.
>
> Should a bond be required from OSC, their surety will give favorable consideration after reviewing the contract terms, plans and specifications, proposed bond form and other pertinent factors at that time." App. Appendix M-2

Developer did not provide any financial information as part of the Application. Other than its broker's letter, Developer did not provide any evidence of financial history or capability, including whether it could obtain a bond.

To demonstrate that the Developer "has the legal authority to construct and operate the facility without violating its bond indenture provisions," as required by OAR 345-021-010(1)(m)(A), the Developer has submitted a nearly two year old, unsigned legal opinion purported given by Tonkon Torp and dated September 14, 2018. App. Appendix M-1. In connection with given that opinion, the author (whoever that was) claims to have reviewed the Developer's (a) articles of organization, including amendment, (b) certificate of existence as of September 7, 2018, (c) operating agreement, and (d) "such other documents and instruments as we have deemed necessary and appropriate for purposes of this opinion." No copies of any of those documents were provided. The letter provides a qualified and limited opinion that the Developer, "has the authority to construct, own and operate the Project."

Objections

a. Failure to Demonstrate Reasonable Likelihood of Obtaining Bond/Letter of Credit.

i. Applicable Criteria.

OAR 345-021-0010(1)(m) *"Information about the applicant's financial capability, providing evidence to support a finding by the Council as required by OAR 345-022-0050(2)."*

OAR 345-022-0050(2) *"The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition."*

OAR 345-021-0010(1)(m)(C) *"Evidence that the applicant has a reasonable likelihood of obtaining the proposed bond or letter of credit in the amount proposed in paragraph (B), before the beginning of construction of the facility."*

ii. Response.

Developer is required to demonstrate with "evidence" that it has a "reasonable likelihood of obtaining" a bond or letter of credit for at least $19M for the retirement of the Facility. The evidence provided by Developer falls well short of what would be required to show a reasonable likelihood of obtaining a bond/letter of credit. Developer's letter is not even from the surety who would provide the actual bond or letter of credit but from Developer's insurance broker. Developer's broker offers no evidence to support its statement that they are "confident that they will be able to obtain said decommissioning bond." For example, Developer could have offered audited financial statements, tax returns, profit and loss statements, assets schedules, capitalization charts, bank statements, loan preapproval letters or other similar evidence typically used to establish the financial wherewithal of a company. Instead, Developer offers only the unsupported speculation of its insurance broker about what a potential unnamed future surety may do. No reasonable person would rely on this type of evidence when making important decisions of this nature and magnitude and neither should the Council. Much more is required. The Council's job is not to rubber stamp any application that comes before it but rather to thoughtfully and thoroughly consider the Application and ensure that the Developer prove up on the standards imposed by law upon it which are adopted to protect the public good.

b. <u>Failure to Provide Required Legal Opinion.</u>

i. Applicable Criteria.

OAR 345-021-0010(1)(m)(A) *"An opinion or opinions from legal counsel stating that, to counsel's best knowledge, the applicant has the legal authority to construct and operate the facility <u>without violating its bond indenture provisions,</u> articles of incorporation, common stock covenants, or similar agreement."*

ii. Response.

The Developer's proffered "opinion letter" misses wide of the mark. First, it is unsigned and it is unknown who the author is. Whatever attorney is rendering the opinion ought sign the

letter for it to be considered an "opinion from legal counsel." For all we know, the opinion letter is little a "draft". No reputable bank would accept an unsigned attorney opinion letter when deciding whether to make a significant loan and neither should the Council when deciding whether to approve an Application of this magnitude.

Second, the opinion letter is stale. It was issued September 14, 2018, nearly two years ago. What may have been true then may not be true today. Any number of agreements or amendments to existing agreements may have been adopted since then. For this reason, in financial transactions, legal opinion letters are typically given the day of funding not two years in advance.

Finally, and most importantly, the legal opinion letter fails to address the mandates of the rule and the very reasons for providing the letter - to demonstrate that "the applicant has the legal authority to construct and operate the facility without violating its bond indenture provisions . . . or similar agreements[.]" OAR 345-021-0010(1)(m)(A). Nowhere within the proffered opinion letter can such a conclusion be found. The reason is obvious - Developer has yet to obtain a bond or letter of credit. As such, legal counsel is precluded from rendering an opinion on whether the Developer can construct and operate the Facility without violating an agreement Developer has yet to attain and counsel has yet to review.

The requirement to demonstrate that the Developer will construct and operate the Facility without violating its bond or letter of credit is critical and cannot simply be overlooked by the Developer or Council. Should the Developer financially collapse, ODOE may be called upon to retire the Facility. The bond or letter of credit then would serve as the source of funds to retire the Facility so long as Developer had the legal authority to construct and operate the Facility without violating the provisions of the indenture. If not, the sureties will undoubtedly deny any claim made against the bond or letter of credit leaving ODOE (and the taxpayers) left to foot the bill. Developer has chosen not to provide any documentation that would allow the Council to verify for itself whether the requirements of OAR 345-021-0010(1)(m)(A) are met; consequently, the Council is completely reliant on the legal opinion provided by Developer's counsel to demonstrate compliance. That legal opinion is wholly inadequate to do so.

6. PUBLIC SERVICES (EXHIBIT U)

Facts

During construction, Developer plans to have as many as 150 workers on site for a period of two years. App. Pg U-2. A portion of the workers will be from Bend, La Pine, Lakeview and possible out outlying areas. *Id.* Developer expects up to 2/3 (100) of it worker force to live more than 15 miles away from the site including as far away as Bend, Oregon. App., Pg U-3. During construction, Developer plans to have an emergency medical technician onsite with transport offsite for minor and major medical injuries. App. Pg U-7. The closest available Level II trauma center is St. Charles, in Bend, Oregon (83 miles). App., Pg U-9.

///

Objections

a. <u>Lack of Adequate Medical Facility and Services</u>

i. Applicable Criteria.

> **OAR 345-021- 0010(1)(u):** *"Information about significant potential adverse impacts of construction and operation of the proposed facility on the ability of public and private providers in the analysis area to provide the services listed in OAR 345-022-0110, providing evidence to support a finding by the Council as required by 345-022-0110."*

ii. Response.

At the time this Application was submitted, the COVID19 pandemic had not occurred. Consequently, the Application fails to address the provision of medical facilities and personnel in light of the pandemic. That pandemic has placed significant stress on medical facilities and rural communities alike. It cannot be simply taken for granted that there are adequate medical facilities and personnel to handle an outbreak amongst construction workers. There is not. The nearest medical facility is the La Pine Community Clinic (45 miles away),[6] which is an outpatient facility. The closest level II facility is St Charles in Bend, Oregon. There is good reason why government health officials across the State and country have been cautioning against the risks associated with a COVID19 outbreak in a rural area such as northern Lake County. The Council should not authorize a project where there are inadequate facilities to handle an outbreak as in the case here. Bear in mind that the Developer plans for a large portion of its crew to travel daily between Bend (as well as other outlying communities) and the site exponentially increasing the risk of contraction and spread of disease. Similarly, the job site will be the subject of numerous receipts of goods from across the country/globe on a daily basis. At present, the Developer has not submitted any plan to isolate workers or materials to ensure their safety or the safety of the surrounding community. Should the Council approval this Application, it ought to require the Developer to adopt a plan sufficient to mitigate the potential contract and spread of COVID19 within rural northern Lake County.

III. PROPOSED CONDITIONS OF APPROVAL.

LCZO 24.01(B) grants the County (and Council) broad discretionary authority to craft and impose conditions of approval "which are found to be necessary to avoid a detrimental impact on adjoining properties, the general area or the County . . . [.]" Astoundingly, Developer asserts that "no conditions are warranted under this section." App., K-16. While the Ft Rock Neighbors are strongly opposed to the proposed Facility, should the Council nevertheless elect to approve the Application of their objections, at a minimum the following conditions of approval (in addition to those recommended by Developer, ODOE and Council) should be imposed to mitigate the significant and adverse offsite impacts.

[6] Application mistakenly lists distance as 16 miles from Facility.

1. Within the Fort Rock Planning Area, Developer shall not construct any development unless it is within 600 ft of existing roads.

2. All perimeter and interior roads for the Facility must be either gravel (with a minimum width of twelve feet and a base of 6 inches of crushed and washed gravel) or paved.

3. No construction activity will occur on days with sustained winds of 9 miles per hour or greater.

4. All cables will be in trays mounted below the solar arrays. No cable will be buried except upon demonstrated safety need and no reasonable alternative to burying exists. In no case will more than 50,000 feet of cable be permitted to be buried.

5. All existing vegetation beneath the proposed solar arrays shall remain and shall not be mowed, crushed or otherwise removed.

6. Developer shall install and use a "no water" or "low water" system to clean solar arrays. No tanker or spray truck shall be used for cleaning solar arrays. A "low water" system is one that uses less water than manually washing the solar arrays by hand.

7. Developer shall be permitted one well that shall not use more than 5,000 gallons per day. Developer shall install a self-regulating meter with automatic shut off valve to ensure that not more than 5,000 gallons per day is drawn. Developer shall keep a record of all water drawn, purchased and used and make quarterly production of those records available for public inspection during the life of the permit.

8. In addition to Developer's Erosion and Sediment Control Plan and prior to commencement of any construction activities, Developer shall create and submit for approval by the Council a fugitive dust mitigation plan encompassing the construction, operation and retirement of the Facility. The plan will include windscreens and/or other mitigation features to prevent wind erosion and escape of fugitive dust/soil onto adjacent or nearby property. Prior to adoption, the plan will be subject to public review, input, hearing and appeal to the Supreme Court similar to the Application.

9. Developer shall take remedial steps as required from time to prevent fugitive dust/soil from escaping the project site whether by wind or by water erosion.

10. Prior to commencement of any construction activities, Developer shall modify its noxious weed plan to provide for mitigation and eradication, at Developer's cost, of all noxious weeds on all abutting property to the Facility who request it. Such measures shall extend during the construction and operating life of the Facility and for a period of 5 years thereafter.

11. If battery houses are constructed, they will be designed and constructed in such a manner as to prevent visible light from being seen from adjacent properties.

12. Property owners within 750 of the Facility are intended third party beneficiaries of these conditions and may privately enforce them.

13. Developer shall submit a revised estimated cost of Facility retirement to Council for approval which encompasses the total cost of retirement. Prior to any construction, Developer shall obtain a bond in an amount not less than the approved estimated cost of Facility retirement. Every 5 years Developer shall renew the bond in an amount not less than 110% of the previous bond.

14. Prior to commencement of construction, Developer shall compensate all affected adjacent and nearby residents for any loss in fair market value of their residential real property as a result of the Facility as demonstrated by appraisal. Developer shall reimburse the affected property owners for their costs and reasonable fees incurred in connection with this condition. Disputes over reduction in value shall be settled by binding arbitration.

15. None of the conditions herein shall prejudice or preclude any party from bringing or asserting a claim against Developer or its successors or assigns for any matter arising from or related to the Facility including claims for trespass or nuisance and including claims seeking money damages or injunctive relief.

16. Developer will create and submit for Council's approval a material receipt/handling and work plan that addresses COVID19 and adopts appropriate mitigation measures. The plan will be prepared by qualified health professionals. At a minimum the plan will require that while the COVID19 pandemic is active and no vaccine is available, all workers will reside onsite during the entirety of the construction. Each worker will be provided his/her own room. Any worker residing on site who leaves the site, will be prohibited from returning unless quarantined for a period of 14 days. All materials will likewise be quarantined prior to their acceptance into and use on site. Once a vaccine is available, all workers and delivery personnel will be required to promptly obtain a vaccine.

Please include this objection in the record for this Application.

Respectfully,

/s/Micheal M. Reeder

Micheal M. Reeder

Cc: Developer, c/o Elaine Albrich, Legal Counsel

TARDAEWETHER Kellen * ODOE

From: Mike Reeder <mreeder@oregonlanduse.com>
Sent: Monday, July 20, 2020 3:09 PM
To: TARDAEWETHER Kellen * ODOE
Cc: aaron@noteboomlaw.com
Subject: FW: Objection to ASC for Obsidian Solar Center (Exhibits Email 1)
Attachments: FRN - Combined Exhibits Part 1 of 3 - 07.20.2020.pdf

Law Office of Mike Reeder
Oregon Land Use Law

Office: (458) 210-2845 | oregonlanduse.com
375 W. 4th Ave., Suite 205, Eugene, OR 97401

From: Aaron Noteboom <aaron@noteboomlaw.com>
Sent: Monday, July 20, 2020 2:09 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Cc: Mike Reeder <mreeder@oregonlanduse.com>; ROWE Patrick G <Patrick.G.ROWE@state.or.us>
Subject: Objection to ASC for Obsidian Solar Center (Exhibits Email 1)

Sending Exhibits Email 1.

Aaron Noteboom | Attorney at Law
Noteboom Law LLC
375 W 4th Ave, Ste 204 | Eugene, Oregon 97401
Ph: (541) 513-2298 | aaron@noteboomlaw.com

A- HORTON B- HOGAN C - TURNBOW D- SIMMONS E - BARKER

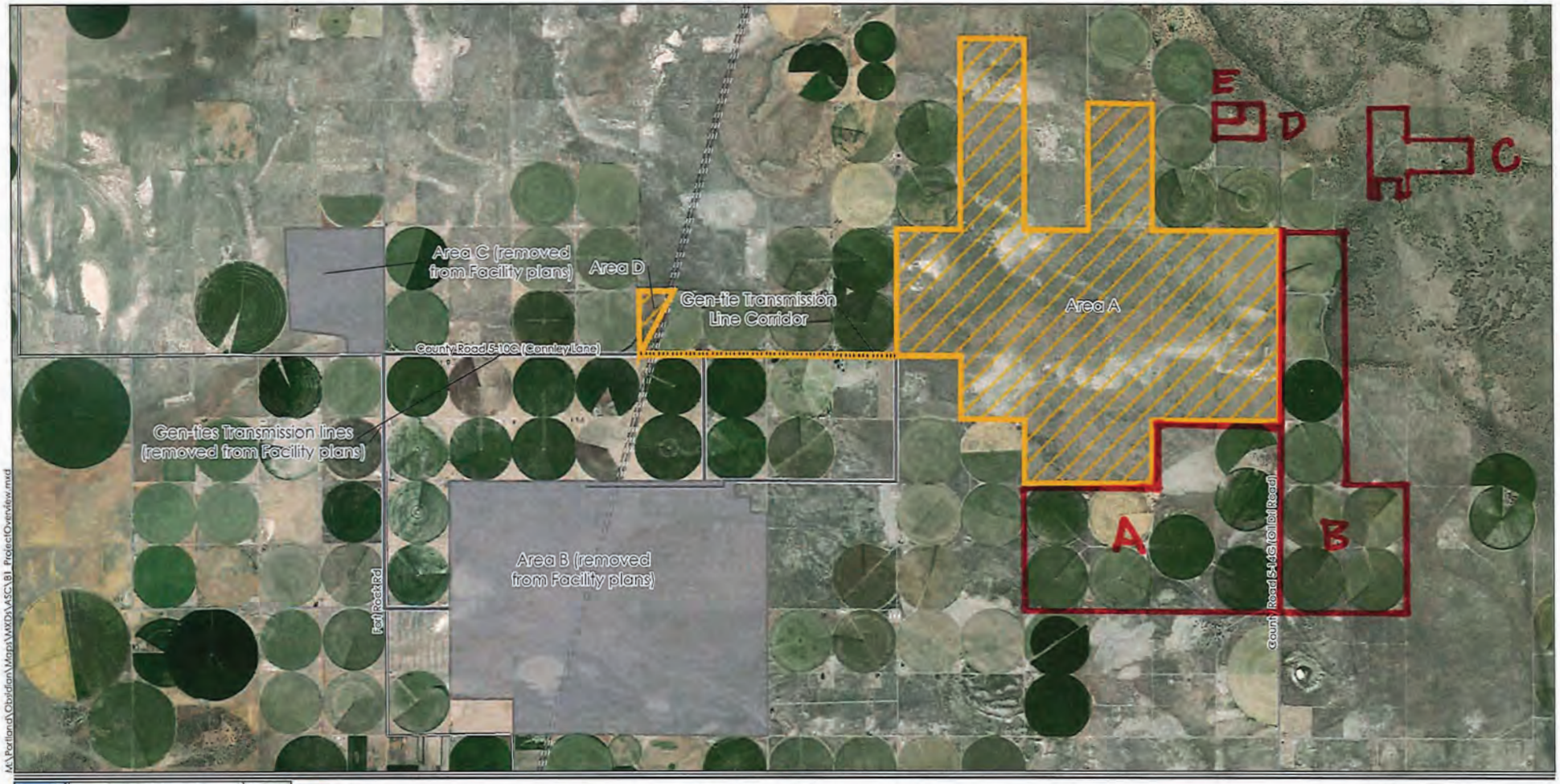


Figure B-1
Facility Overview

Obsidian Solar Center

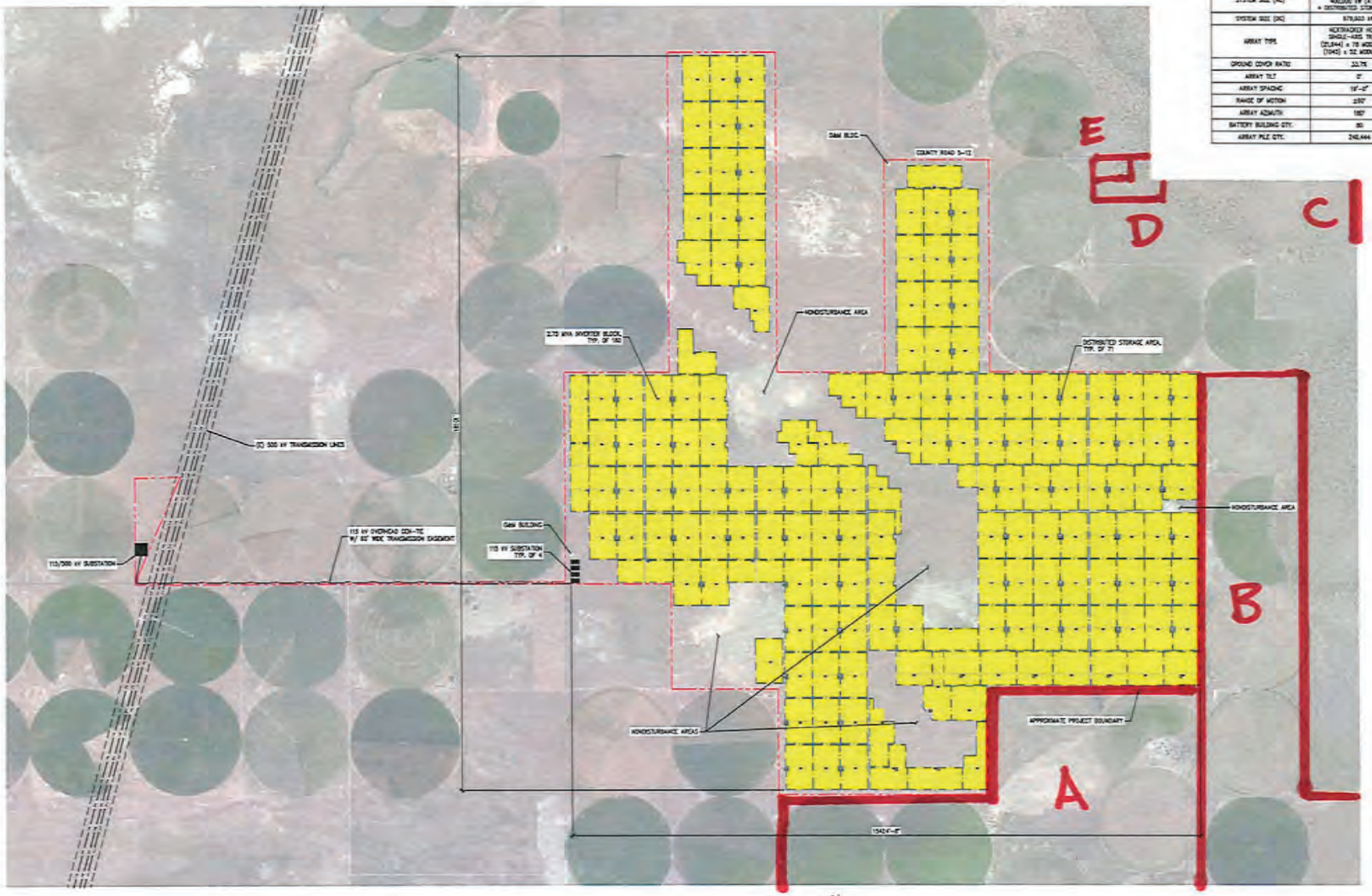
October 2019

Obsidian Solar Center LLC

Sources: Esri 2019

A - HORTON B - HOGAN C - TURNBOW D - SIMMONS E - BARKER

SYSTEM SUMMARY	
PROJECT LOCATION	LAKE COUNTY, OR
ALTITUDE	4,735'
DESIGN TEMPERATURE (MIN.)	-22°C
STRING SIZE	26
MODULE TYPE	JINKO JKM370M-72H-V
MODULE WATTAGE	370
MODULE QTY.	1,742,572
INVERTER	SUNGROW SG3125HV-MV (HIGH ALTITUDE OPTION)
INVERTER QTY.	160
SYSTEM SIZE (AC)	440,000 kWh (AT 42°C) 400,000 kW (AT POI) + DISTRIBUTED STORAGE BESS
SYSTEM SIZE (DC)	644,840 kW
ARRAY TYPE	NEXTRACKER HORIZON SINGLE-AXIS TRACKER (2) 1x44 x 78 MODULE WIDE (1) 1x72 x 52 MODULE WIDE
GROUND COVER RATIO	33.7%
ARRAY TILT	0°
ARRAY SPACING	19'-0"
RANGE OF MOTION	±50°
ARRAY AZIMUTH	180°
BATTERY BUILDING QTY.	80
ARRAY PILE QTY.	240,444



PHOTOVOLTAIC ARRAY SITE PLAN

Figure B-3

PRELIMINARY

SWINERTON RENEWABLE ENERGY

CONSULTANT

BLYMYER ENGINEERS
1101 MARINA VILLAGE PARKWAY #100
ALAMEDA, CA 94501 510.521.3773

STAMP/SEAL

REV #	DESCRIPTION	DATE
	FOR CLIENT REVIEW	

PROJECT TITLE:
OBSIDIAN SOLAR CENTER
SINGLE-AXIS TRACKER
PHOTOVOLTAIC ARRAYS
400 MWAC
LAKE COUNTY, OR

SHEET TITLE:
PHOTOVOLTAIC ARRAY
SITE PLAN

Figure B-3

JOB NO.: 218XXX	PROJECT MGR: CG
DRAWN: BA	SCALE: 1" = 1000'-0"

SHEET NUMBER
G-100.0

Oregon Department of Energy 5-18-20

(I give permission for Mike Reeder to present this for me.) My name is Larry Turnbow, a resident of Christmas Valley and Lake county since 1965. I am against this proposal mainly because of the effects it will have on the wildlife. Animals like elk, deer, antelope, eagles, hawk, and many more will have their habitat destroyed. I own property off of North Oil Dry, which I have owned over twenty years that is close to the proposed site. I built a new home recently and with that I am not in favor of seeing scenery like solar panels everyday. The elk in our area pass through the sagebrush where the panels are to go, yearly. I have personally seen hundreds of elk on the property very often. I am thinking that the elk and deer will be forced to go around, using the farmer's fields. A herd of one-hundred head of elk can and will do a lot of damage to a field that is newly seeded, hay stacks, fences, and the crops in general. The elk in our area also use the proposed property to escape the pressure of hunters. The idea of seeing areas where the wildlife should be and are comfortable be turned into solar panels is very undesirable! I know solar has been around for a long time, but what effects will it have on the environment and wildlife? Does anybody really know? The wind blows a lot out here when you disturb the ground it will be a dust bowl for sure.

To: Oregon Department of Energy

Though we understand the benefits of a project such as this, from our stand point we have several valid concerns.

We are landowners who border the project and we are farmers who care for the land to produce high quality forages for our dairy herd of cattle. One of the bigger challenges of farming the land in Christmas Valley and the surrounding area is damages by rodents including sage rats and rabbits. If the surrounding acreage of our farmland was consumed by solar panels this would alter the wildlife habitat substantially. It would encourage the rabbits and rats to move onto adjacent lands such as ours and it would force the coyote population to relocate. So we would potentially see an influx of rodents and a decrease of coyotes who are a natural way of controlling the rodent population and in turn the damages they create. We do not want to see the coyotes move out of our land and the lands near us. We fear this will create a higher sage rat population on our land.

We are also concerned about the space/acreage this solar operation will be consuming. This project would be eliminating what is current ground used for farming practices. Even though this is non-irrigated ground, it is still valuable in the farming world and eliminates the growth of standing industries.

The dust that will be created if this project proceeds is maybe our most immediate concern. Our hay ground is directly bordering the project and the dust created would suffocate our current crop. Some of these are new stands or young stands and the economic damages of this loss and reduction of yield would be felt by us for the years to come.

Lastly we are concerned if the local area of Christmas Valley/Fort Rock has the infrastructure in place or the ability to do so to support a project and business of this size. Again our concerns are current farm land being used for other purposes and the competition of a reliable workforce.

We appreciate you and the committee considering our opinions and thoughts and would like to further echo views and opinions of LeeRoy Horton, our farm manager, neighbor and friend.

Please keep us abreast of the conversation and if there are further opportunities to express our viewpoints.

Dave and Rita Hogan
Golden Acres
503-842-3166

ENERGY FACILITY SITING COUNCIL MAY 19,2020

OREGON DEPARTMENT OF ENERGY

550 CAPITOL STREET NE

SALEM, ORGON 97301

Attention Siting Council,

My wife and I are opposed to the Obsidian Solar Center Facility of 3,921 acres that will be built near our home.

I ask a real estate agent to give us an assment of what this site could do to the value of our property. We have included that report in our presentation. As you can see it would be devastating to us as this is our retirement home.

I also do not see how this would not interfere with the wild life with 18 miles of a 7 foot tall fence surrounding the project.

This solar farm will create visual clutter .

The battery houses with their lights will create nighttime light pollution, which our desert has very little if any at this time.

We feel if this project is so important to the state and the federal governments that they should make some of their land available to this project.

Respectfully submitted by:

Jerald Simmons

Verlinda Simmons

Dear Department of Energy,

Hello, My name is Mariam Thorsted. I am writing you this letter to state my opinions and concerns regarding the proposed solar site installation on North Oil Dry in Christmas Valley. I have lived on this road for all of my life except for my college years. Regardless, I plan on taking over my father's farm and I currently own and run all of our livestock, which includes 2,000+ ewes plus their lambs, and 100 head of high quality registered Angus cattle. My husband and I live in a house that is adjacent to the east of the proposed solar site. Now that you know a little more about me I would like to go into my concerns.

1. My greatest concern is my livestock. As a young producer who chose to come back to the ranch after college I believe that I am a black sheep if you will. Many of my classmates were venturing off into other jobs while I was one of the only ones wanting to go back to my family's farm/ranch. With this in mind, I am young and still learning a lot! I am very grateful for all the help that the locals have given me, but I am very scared for what may happen to my animals. Will the dust cause them respiratory problems? Will my employees have allergic reactions to the dust? Will my lambs have problems getting started in life? Will there be a large amount of light pollution, causing my animals to not rest in the night and lose weight? How will livestock guard dogs guard my sheep if the construction of this facility distracts them? Where will the coyotes go that reside in the property? Will the coyotes move closer to my animals?
2. I attended college at Kansas State University. This allowed me to study the affects of the up and coming drought and the dust bowl as well. In Kansas, the aquifer is being depleted and the farmers are either selling their land or trying to switch back over to dry land farming. I would say that they are semi lucky in their situation, because they have the weather and soil type to do dry land farming. Unfortunately, this is not an option in South Central Oregon. Our top horizon of soil is sand. This sandy horizon will blow away with out the cover of vegetation such as brush or crops. This can be observed on any windy day in our valley. I know that there are no new water rights given out in North Lake county, so if the project plans on watering their facility, they will have to buy water from other people and this is not right! The water here is for farmers and for farming or ranching! Solar panels are not agricultural. Did you know that the Natural Resources Conservation Service (NRCS) was created after the dust bowl disaster in Kansas and surrounding states? This was to ensure that nothing like the dust bowl would happen again. In Christmas Valley you can see the affects of improper farming and what the wind will do to open fields or areas. There have been numerous car crashes due to poor visibility. Also many sand dunes have been created. One is even on my father's property (which was created by the previous owner in the 80s). The sand dune on our property is directly next to the proposed solar panel site.
3. I hope to raise my family on my father's farm (or my farm one day in the future). I hope to not see solar panels as our neighbors forever and ever. This

is an eye sore of light reflection, light pollution, and a horrible looking landscape. I want my children to grow up in the country and feel safe like I did out here. I am wondering what kind of people will be hired to move out here to work on the site? Will my family be safe? Will my employees be safe? I hope none of our property is stolen or messed with. We own property far out in the country so that we can feel safe and farm with out disturbing other people. I would hate for this company to come in and disturb us. We are very peaceful out here and everyone seems to mind their own business, but this project has really turned neighbors on neighbors and has been a great stress in our life! A great stress!

Thank you for hearing my concerns.

Mariann Thorstad 5-19-20

To: Oregon Department of Energy

My name is LeeRoy Horton, owner/operator of LR Farming. I have farmed and ranched here in North Lake County, Christmas Valley on North Oil Dry road for 28 years. The proposed solar facility will border a total of 1,400 acres or 2 ½ miles of my property. My concerns involve the very real threat of a huge amount of soil erosion to our farm and the extreme dust blows for us, during and after installment. This will effect our 4,000 sheep operation and 100-cow/calf pair facility. The solar install involves scraping/bulldozing off the natural ground cover holding the sandy soil in place. Our high winds will pick up any uncovered sandy soil and dust and throw it around the county. It can be impossible to farm under these conditions. A sand blow can scrape across new seedlings, stripping it bare. A dust blow can also make it impossible to see. After the wind dies down dirt covers everything like hay, barns, and our livestock pastures. Large amounts of uncovered land will be devastating to our sheep, lambs, and cattle trying to endure these blows. The solar project alone will produce 50 miles of dirt roads and not to mention 4000 acres of uncovered land.

Removing 4,000 acres of ground cover will displace many, many ground squirrels, rabbits, and field mice, driving them onto our fields. Since these animals do not migrate they will end up moving into our fields, depleting our crops. Imagine the crop damage done to our fields by 1,000's of rodents moving onto our farm to live and feed. Economic damage to our farming operation will be massive due to loss of thousands of area production equaling $885,000 in hay sales every year. This is world-class high quality hay that is frequently exported to Japan and South Korea. We could also loose $500,000 in livestock production and the loss of jobs to our twenty employees. If we leave, who will want to purchase a farm next to such a monstrosity?

What is the effect of 650,000 solar panels on the immediate climate that surrounds our fields? Will the solar panels affect the humidity and moisture in the night that we NEED to bale our hay? Will there be dew in the mornings? We really need the dew to farm.

These are questions no one seems able to answer! We invite you to come see our operation and damaging effect this will have on our farm and livelihood and the livelihood of our employees.

LeeRoy Horton

How Dust Storms Work

BY VICKI M. GIUGGIO

How Does Dust Become Airborne?

PREV NEXT

A breeze blowing at 9 miles per hour (14.5 kilometers per hour) can stir up dust on the ground. If the particles are small enough, they may become airborne.
ISTOCKPHOTO/THINKSTOCK

Without wind, dust will generally remain on the ground. While wind is unquestionably the force that causes dust to rise, additional physical and electrical forces accelerate the process.

When wind passes over a dust source, the loosely held sand and dust particles move. When the soil is dry, it doesn't take much to get them moving; the threshold wind velocity only needs to be at about 9 miles per hour (14.5 kilometers per hour) to disrupt the surface [source: United Nations]. Of course, wind speeds this low don't necessarily create a storm, but it gives you an idea of how little force is needed to sir things up.

The way wind moves particles depends on their size and weight. The smallest particles (less than 0.002 millimeters in diameter) are easily suspended in air and the largest particles (greater than 0.5 millimeters) roll along the surface of the ground, a movement that's called **creeping**. It's the movement of particles between these two sizes that have the biggest impact on dust emission, however. These particles are lifted temporarily and bounce back onto the surface upwind. When they hit the surface, they bounce back up. They also cause a chain reaction to the particles around them.

Think of the particles on the surface as ping-pong balls. When one ball, propelled by a wind force, bounces onto the others it causes the other balls to bounce. Every time a ping-pong ball hits the surface, additional balls become airborne, regardless of whether wind is there or not. Of course, once airborne, the balls are susceptible to wind forces. This collective action is called **saltation**. Saltating particles will be lifted higher into the air depending upon their size. Dust particles, also called silt, are between 0.002 and 0.05 millimeters in diameter.

RELATED

How (and Why) Hurricanes Get Their Names

Although very small particles in suspension create their own problems, dust particles are what make most storms so hazardous. Dust can be lifted more than 700 meters (2,296 feet) into the air [source: United Nations].

The physical forces described above increase the amount of airborne dust at a given wind speed, but the effects of saltation don't stop there. Saltating particles also generate electrical energy, which increases the number of saltating particles even more. As particles hit each other and the surface, they acquire a negative charge. The surface, however, acquires a positive charge -- essentially generating a **static electric field**. Anyone who has rubbed a balloon against his or her head knows how hair will, without wind, fly about in suspension. A similar principle is at work here. The electrification of particles reduces the amount of wind force needed to initiate further saltation. In fact, it can directly lift particles from the surface.

Now that the dust is airborne, how high will it be suspended, where will it go and how long will it remain in the air? In the next section, we'll learn how weather systems determine what a storm will look like.

1 2 3 4 ··· 7 NEXT PAGE

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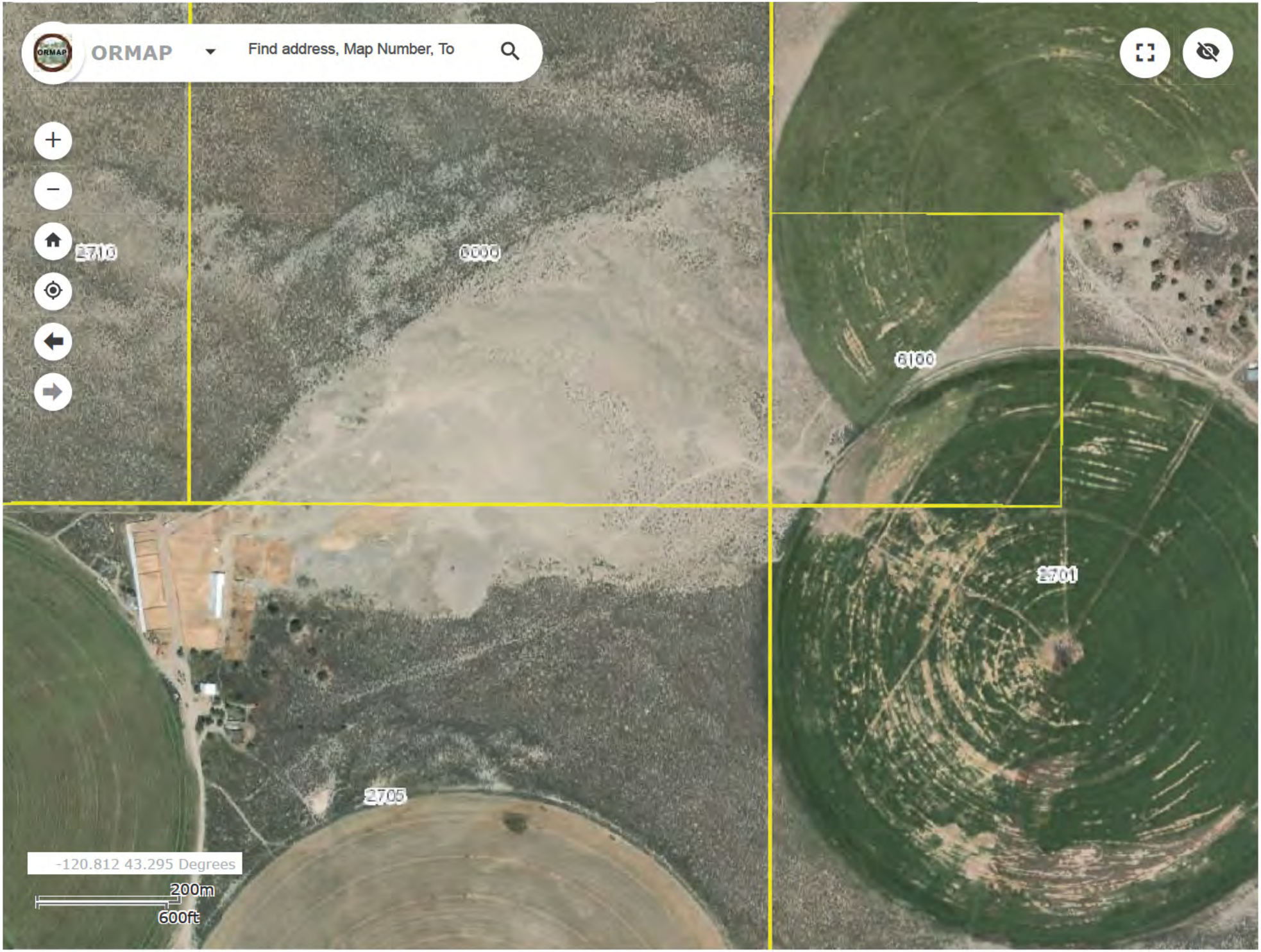
Monsoons Bring Rain and More Rain


ORMAP
Find address, Map Number, To
2710
6000
6100
2701
2705
-120.812 43.295 Degrees
200m
600ft


Drifting Sand


Plowed sand dune
– Facility Work


Straw Waddle


Taken 2/23/20 Shows dust from Facility work in December 2019

Bulk Material Calculator (Sand, Gravel, Soil and Mulch)

Please enter the measurements below and press "Calculate" to receive the approximate number of cubic yards needed for the specified area. This calculator can be used to calculate the amount of sand, soil, gravel or mulch needed for your project.

Length (in Feet)	367
Width (in Feet)	12
Depth (in Inches)	6

Calculate Clear All

Cubic Yards 81.56

How much does a cubic yard weigh?

Most of our bulk materials, with the exception of mulch, are sold by the weight. The following are approximate weights for most of our bulk materials.
Sand 1.10 - 1.25 tons(2,200 - 2,500 lb.) per cubic yard
Planting Mix 1 ton (2,000 lb.) per cubic yard
Lawn Dressing .90 tons (1,800 lb.) per cubic yard
Compost .40 tons (800 lb.) per cubic yard
Landscape Gravels 1.20 - 1.35 tons (2,400 - 2,700 lb.) per cubic yard
Washed Gravel 1.35 tons (2,700 lb.) per cubic yard
Washed Limestone 1.20 tons (2,400 lb.) per cubic yard
Limestone Base 1.35 tons (2,700 lb.) per cubic yard

MATA Michiko * ODOE

From: TARDAEWETHER Kellen * ODOE
Sent: Monday, July 20, 2020 3:58 PM
To: MATA Michiko * ODOE
Subject: FW: Objection to ASC for Obsidian Solar Center (Exhibits Email 2)
Attachments: FRN - Combined Exhibits Part 2 of 3 - 07.20.2020.pdf

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From: Mike Reeder <mreeder@oregonlanduse.com>
Sent: Monday, July 20, 2020 3:09 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Cc: aaron@noteboomlaw.com
Subject: FW: Objection to ASC for Obsidian Solar Center (Exhibits Email 2)

Law Office of Mike Reeder
Oregon Land Use Law

Office: (458) 210-2845 | oregonlanduse.com
375 W. 4th Ave., Suite 205, Eugene, OR 97401

From: Aaron Noteboom <aaron@noteboomlaw.com>
Sent: Monday, July 20, 2020 2:10 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Cc: ROWE Patrick G <Patrick.G.ROWE@state.or.us>; Mike Reeder <mreeder@oregonlanduse.com>
Subject: Objection to ASC for Obsidian Solar Center (Exhibits Email 2)

Sending Exhibits Email 2

Aaron Noteboom | Attorney at Law
Noteboom Law LLC
375 W 4th Ave, Ste 204 | Eugene, Oregon 97401
Ph: (541) 513-2298 | aaron@noteboomlaw.com

(/)
Technology (/technology/) / Clean Technology (/clean-technology/)

Robots clean solar panels in Israel without using water


(/author/megan-treacy/)

Megan Treacy (/author/megan-treacy/)
mtreacy (https://twitter.com/mtreacy)
April 2, 2014

() () ()
(mailto:?subject=Robots clean solar panels in Israel without using water - Treehugger&body=Robots clean solar panels in Israel without using water%0D%0A%0D%0Ahttps%3A%2F%2Fwww.treehugger.com%2Fclean-technology%2Frobots-clean-solar-panels-without-using-water.html)

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At Ketura Sun, a large commercial solar field in Israel, the solar panels are being cleaned in a unique way: by robots. That's not the most unique part. These robots don't use any water in the cleaning process, making them a great match for the Negev desert where the solar plant is located. Even better, the robots could go a long way toward making solar power plants less dependent on water.

According to Gizmag (http://www.gizmag.com/ecoppia-e4-ketura-sun/31428/), the Ecoppia E4 (http://www.ecoppia.com/ecoppia-announces-world's-first-completely-autonomously-cleaned-solar-energy-park) robots are "mounted on a frame that moves laterally along the panels and the robots themselves move up and down the panels. They use a rotating brush made up of soft microfiber in conjunction with air blowers to remove what Ecoppia says is 99 percent of dust build-up." No water required.

Other solar panel cleaning robots (https://www.treehugger.com/clean-technology/robot-wash-solar-panels-among-winning-student-inventions.html) have been developed, even some that don't use water (https://www.treehugger.com/clean-technology/robots-could-keep-solar-panels-clean-without-using-water.html), but those are not being commercially used yet.

Keeping solar panels clean is a major necessity because dust covered panels don't produce as much energy (up to 35 percent less), but non-automated processes require a lot of manpower, time and money. The robots make it so that the panels are automatically cleaned nightly and are always operating at maximum output.

Check out the video of the robots in action below.

SunPower® Helix™ Tracker

Greater lifetime energy production

The SunPower® Helix™ Tracker system combines high performance, high-efficiency panel technology, single-axis tracking, comprehensive warranties and O&M services to maximize energy production. That means more savings on your electric bill today, and in the decades to come.

Flexible design and layout

Building on SunPower's extensive experience with large-scale power plant installations, The Helix Tracker system's flexible design can help maximize energy density via multiple array configurations, string inverter options and variable row spacing.

Innovative robotic cleaning

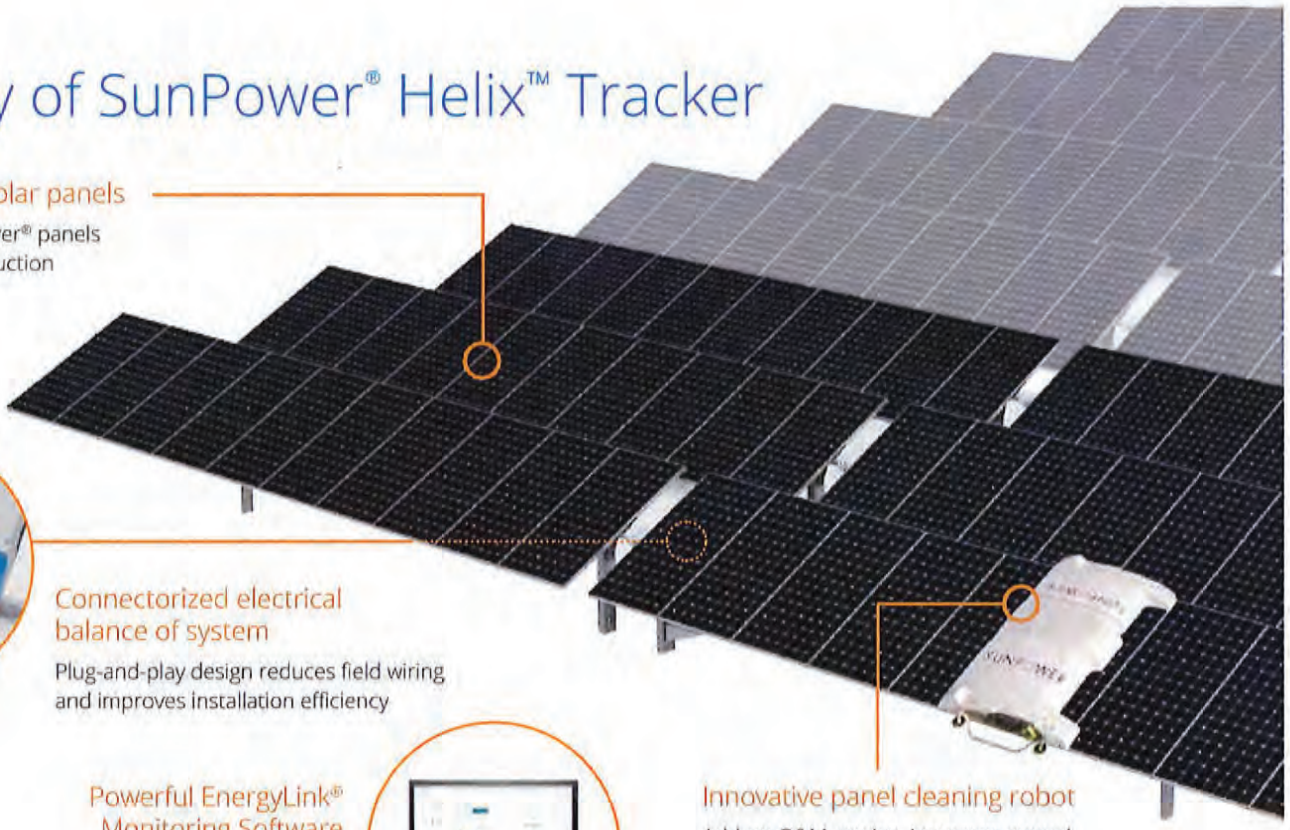
Manual panel cleaning is a laborious and inefficient process. SunPower's robotic panel cleaning service can accomplish the task 10x faster while using 75% less water than manual methods—delivering up to 15% more annual energy production.[1]

SUNPOWER®

HELIX™

sunpower.com/helix

Anatomy of SunPower® Helix™ Tracker



Industry-leading solar panels

High efficiency SunPower® panels maximize energy production

Connectorized electrical balance of system

Plug-and-play design reduces field wiring and improves installation efficiency

Powerful EnergyLink® Monitoring Software

Gather real-time insights for intuitive energy management

Innovative panel cleaning robot

Add-on O&M service. Increases annual energy production while conserving water and reducing labor costs.

Features

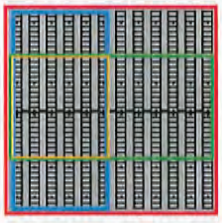
- Helix Tracker block: panels, inverter, system and foundations and DC & AC cabling within array
- Parts delivery
- System commissioning
- O&M services
- System warranty

Warranties

- SunPower panels, combined..... 25 years power and product warranty
- Tracker mechanical BOS..... 5 years
- Tracker electrical BOS ..... 10 years
- Plug-and-play inverter[2]..... 10 years
- EnergyLink Monitoring hardware ..... 10 years

Configuration Options

Array configuration



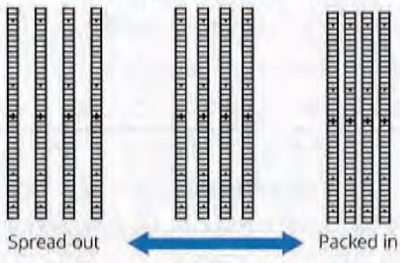
- 6 rows x 20 modules
- 6 rows x 40 modules
- 12 rows x 20 modules
- 12 rows x 40 modules

String inverter

20kW

24kW

Variable row spacing



1 Based on experience with robotic cleaning at actual SunPower sites, compared to data tracked by subcontracted manual cleaners utilized at a SunPower project.
2 Manufacturer pass-through warranty. Warranties of 15 or 20 total years are available directly through manufacturer.

Natura® eco ENERGY

Solar Robotic Cleaning System

Product Overview

We ensure of maximizing energy production from PV panels. We design and manufacture automatic, self-powered, water less Solar PV cleaner robots for decentralized, rooftop, and utility scale solar power plants.

Our Vision

Enabling greater energy production and lower operating costs to solar PV plant owners.

Technology

PV panels produce less than optimal power when not clean. Water based manual cleaning is expensive, incurs recurring cost and environmentally NOT friendly. Apart from posing an electrical hazard, water based cleaning leaves residues, and causes scratches due to scrubbing of panels. With manual cleaning, there is a risk of damaging the AR coating on the panels. Our cleaners employ soft nylon bristled brushes causing no damage to the panels during cleaning operation. NO weight or stress is exerted on the main panels. Automatic and Water Less Cleaner Robots are self-powered, and automatic. AT preset times, the cleaner robot traverses length wise on a rail tube till very end of the panel row and returns to home docking position, completing one cycle. Cleaning is done using specially designed brushes rotating at high speed, lifting the dust away from the panels.

Customized Solutions

The cleaner robots can be retrofitted to suit existing or custom designed for new layouts. We work with our customers and

partners from the very beginning of the project life cycle to provide the most cost effective solution for cleaning and O&M.

Products

Power generation from PV panels is adversely affected with soiling and dust. Research suggests that more than 35% of power is lost if the PV panels are not cleaned regularly. Our cleaner's unique design ensures that the panels produce optimum power every day. We deliver higher energy production at lower operating costs for PV plant owners, with maximized ROI.

Our patent (Applied) automatic cleaner robotic system is suitable for PV plants ranging from a few hundred KW onward to multi MW scale. Our cleaners deliver assured improvement in power production from solar panels. Designed for on-the-field and easy maintenance.

Waterless

Water based cleaning can be hazardous and can result in salt deposition on the panels, if the water is not treated using an RO plant. Scrubbing or wiping can cause abrasion, leaving scratches and even develop micro-cracks on the panel surface. Chances of electrical hazard issues and physical damage are eliminated with our cleaners.

Automatic Cleaning

Completely automatic in operation and starts one cycle at the set time every day or on certain days in a week. One cycle of cleaning comprises of one forward and a reverse traversal of the cleaner robot. The Robot can be operated for ad hoc cleaning, through manual mode as well.

Scratch Free

The cleaner uses high speed, soft, helically wound nylon brushes to swiftly push away the dust from the panels and is 100 % scratch free. The dust is driven away between inter-panel gaps and to the sides of the panels.

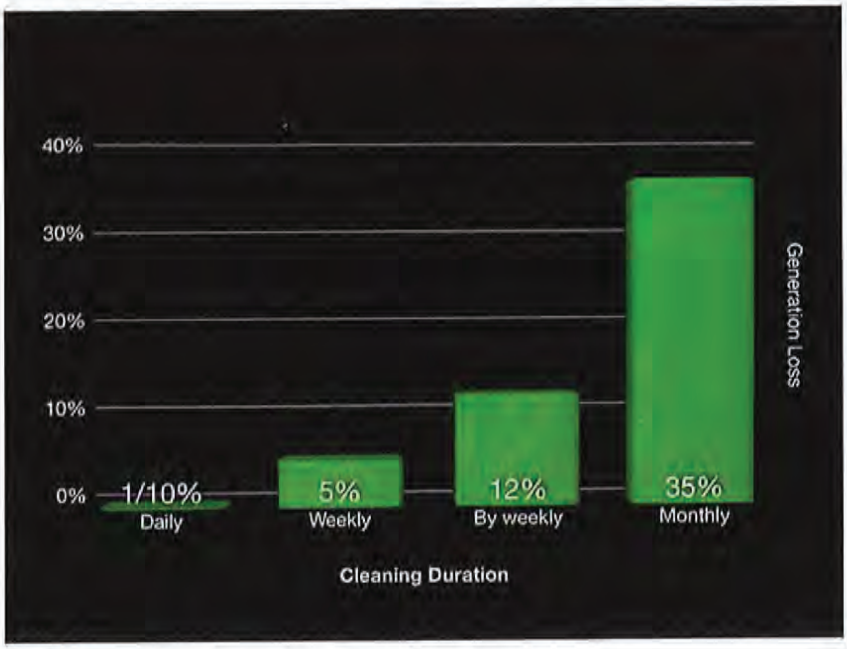
Installation

Products are designed for easy field installation with best-in-class engineering practices.

Cost Effective

Attractive ROI compared with water

based manual cleaning and other automatic cleaners. The extra amount of energy produced due to daily cleaning ensures maximum energy conversion for your PV plant. The cleaner also features remotely operated ad hoc cleaning that may be needed in desert/very dusty conditions requiring more than one cycle of cleaning per day.



Features

- Water-less, automatic, daily cleaning
- Can clean PV arrays with 2 to 6 Meter cleaning widths
- Does not exert any mechanical stress on the panel surface
- Maximum power generation with zero soiling losses
- Uniform cleaning of every panel
- Remote operated on-demand cleaning
- Cleans dried particles and also dew condensation
- Water-less, automatic, daily cleaning
- Powered by Rechargeable Li Ion batteries charged by its own PV panels
- Exerts no mechanical stress/load on the panels
- Eliminates plumbing and recurring water related costs
- Has the same life time as that of the plant with maintenance and replacement of certain components
- Fixed operational costs for the lifetime of PV plant
- Covered by Standard product Warranty and AMC contracts after warranty period
- Driven by high torque DC Motor
- Docked at home position extending beyond the panels, thus not casting shadow on the main panels
- High speed helical rotary brush
- Non- abrasive and electrically safe compared to manual and water based cleaning
- Can be configured to suit tracking or fixed arrays
- Power optimized electronic controller with SCADA and reporting capability
- PC/laptop based application software for SCADA
- Operates using radio frequency for operation and control of individual robots in the solar farm
- Cloud storage and dashboard presentation capability

Contact Info

Survey No. - 127,
Plot No - 98 to 101,
S.I.D.C. Veraval (Shapar),
Rajkot (INDIA).

Cell : +91 - 982 421 9147
info@naturaecoenergy.com

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STATE OF OREGON

COUNTY OF LAKE

CERTIFICATE OF WATER RIGHT

This Is to Certify, That CHRISTMAS VALLEY MUTUAL WATER IMPROVEMENT DISTRICT

of Christmas Valley Rural Station, Silver Lake, State of Oregon, has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of Well No. 3

a tributary of Christmas Valley Basin for the purpose of group domestic

under Permit No. G-2440 of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from June 13, 1963

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.25 cubic foot per second

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the NW¼ NE¼, Section 17, T. 27 S., R. 17 E., W. M. Well located: 1180 feet South and 610 feet East from the N¼ Corner, Section 17.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to - - - - - - - - of one cubic foot per second per acre,

and shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

S½ SW¼ S½ SE¼ Section 9	W½ NE¼ SW¼ NE¼ W½ NW¼ Section 15
All Section 10	W½ NE¼ W½ NW¼ Section 16
SW¼ Section 11	W½ SW¼ W½ SE¼
NW¼ Section 13	SW¼ SE¼ Section 17
W½ Section 14	All Section 18
	T. 27 S., R. 17 E., W. M.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described.

WITNESS the signature of the State Engineer, affixed this date. June 16, 1970

State Engineer

Recorded in State Record of Water Right Certificates, Volume 28, page 36770

STATE OF OREGON

COUNTY OF LAKE

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

CHRISTMAS VALLEY DOMESTIC WATER SUPPLY DISTRICT
PO BOX 142
CHRISTMAS VALLEY, OREGON 97641 (541)576-2665

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-12865

SOURCE OF WATER: WELL 3 IN FORT ROCK VALLEY BASIN

PURPOSE OR USE: QUASI-MUNICIPAL USE

RATE OF USE: 0.31 CUBIC FOOT PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: APRIL 6, 1992

POINT OF DIVERSION LOCATION: NW 1/4 NE 1/4, SECTION 17, T27S, R17E, W.M.; 1180 FEET SOUTH & 610 FEET EAST FROM N 1/4 CORNER, SECTION 17

THE PLACE OF USE IS LOCATED AS FOLLOWS:

N 1/2 SW 1/4
SECTION 8
E 1/2 NE 1/4
SW 1/4
SECTION 9
ALL
SECTION 10
SW 1/4 NW 1/4
SW 1/4
SE 1/4
SECTION 11
SW 1/4 SW 1/4
SECTION 12
NW 1/4
SECTION 13
N 1/2
N 1/2 SW 1/4
SW 1/4 SW 1/4
SECTION 14

STATE OF OREGON

COUNTY OF LAKE

PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS PERMIT IS HEREBY ISSUED TO

CHRISTMAS VALLEY DOMESTIC WATER SUPPLY DISTRICT
PO BOX 142
CHRISTMAS VALLEY, OREGON 97641 (541)576-2665

The specific limits for the use are listed below along with conditions of use.

APPLICATION FILE NUMBER: G-12864

SOURCE OF WATER: WELL 4 IN CHRISTMAS LAKE VALLEY BASIN

PURPOSE OR USE: QUASI-MUNICIPAL USE

RATE OF USE: 1.25 CUBIC FEET PER SECOND

PERIOD OF ALLOWED USE: YEAR ROUND

DATE OF PRIORITY: APRIL 6, 1992

POINT OF DIVERSION LOCATION: NW 1/4 NE 1/4, SECTION 14, T27S, R17E, W.M.; 1260 FEET SOUTH & 80 FEET EAST FROM N 1/4 CORNER, SECTION 14

THE PLACE OF USE IS LOCATED AS FOLLOWS:

N 1/2 SW 1/4
SECTION 8
NE 1/4
SW 1/4
SECTION 9
ALL
SECTION 10
SW 1/4 NW 1/4
SW 1/4
SE 1/4
SECTION 11
SW 1/4 SW 1/4
SECTION 12
NW 1/4
SECTION 13
NE 1/4
NW 1/4
N 1/2 SW 1/4
SW 1/4 SW 1/4
N 1/2 SE 1/4
SECTION 14
NE 1/4

STATE OF OREGON

County of LAKE

PERMIT TO APPROPRIATE THE PUBLIC WATERS

This is to certify that I have examined APPLICATION G-11581 and do hereby grant the same SUBJECT TO EXISTING RIGHTS and the following limitations and conditions:

This permit is issued to Christmas Valley Domestic Water Supply District of P.O. Box 142, Christmas Valley, Oregon 97641, for the use of water from one well,

for the PURPOSE of quasi-municipal,

that the PRIORITY OF THE RIGHT dates from September 11 1986,

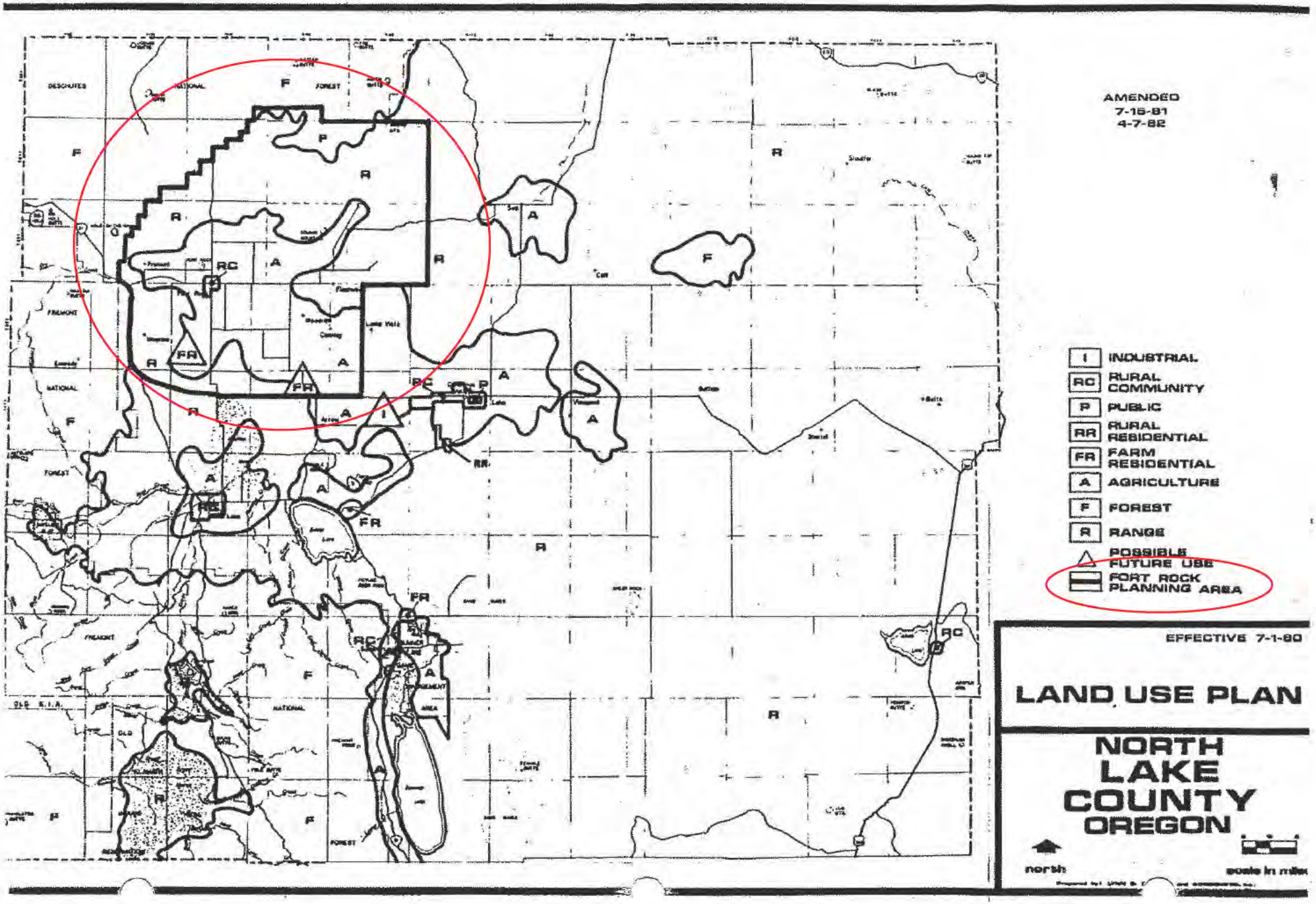
and is limited to the amount of water which can be applied to beneficial use and shall not exceed 1.5 cubic feet per second

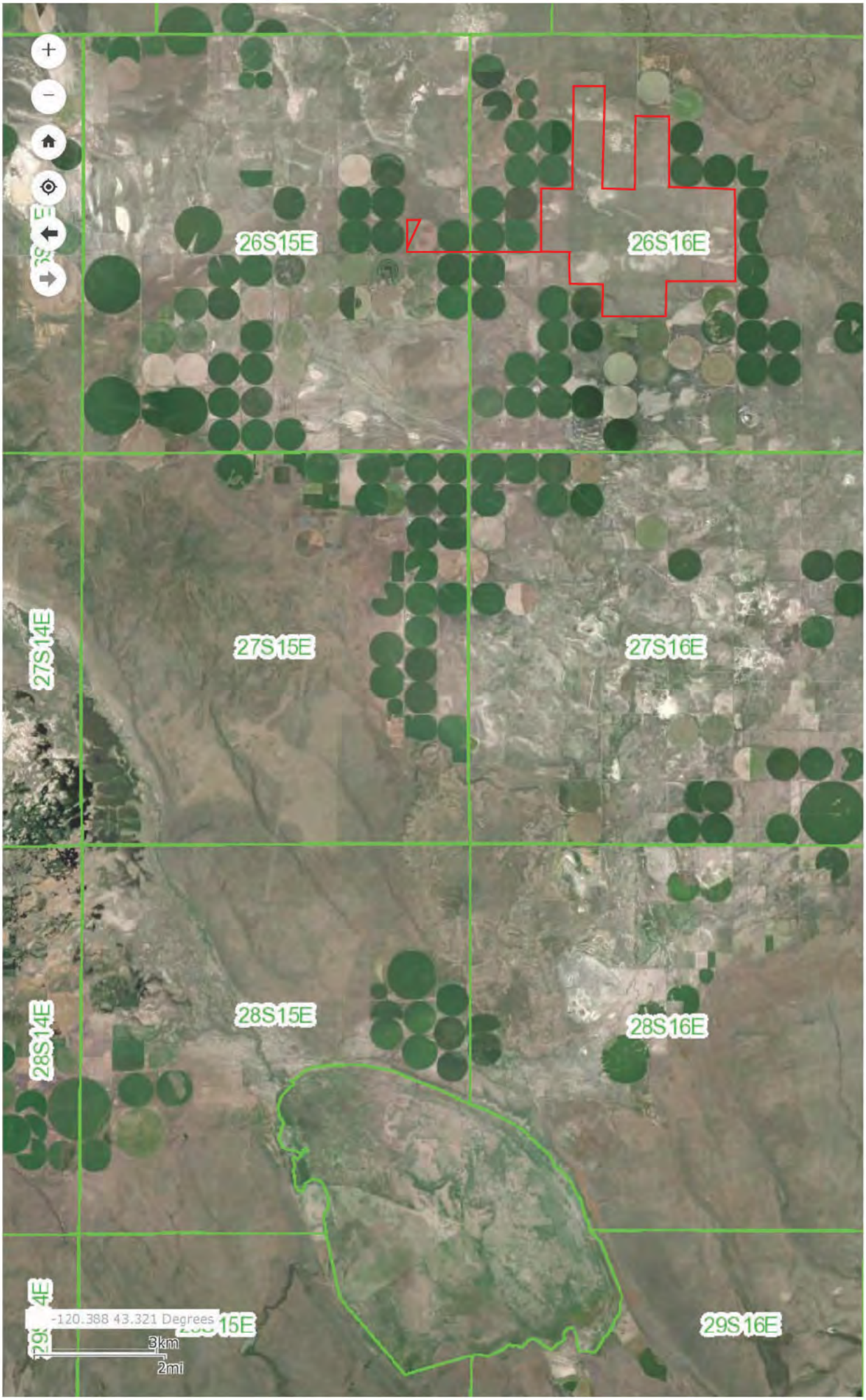
measured at the point of diversion from the well, or its equivalent in case of rotation with other water users.

The well is to be LOCATED: 400 feet North and 50 feet West from the center of Section 13, being within the SE1/4 NW1/4 of Section 13, Township 27 South, Range 17 East, W.M., in the County of Lake.

A description of the PLACE OF USE under the permit, and to which such right is appurtenant, is as follows:

Township 27 South, Range 17 East, W.M.,	Section 8	W1/2 SW1/4	Quasi-municipal
	Section 9	E1/2 NE1/4	
		S1/2	
	Section 10	All	
	Section 11	SW1/4 NW1/4	
		S1/2	
	Section 12	SW1/4 SW1/4	
	Section 13	NW1/4	
	Section 14	N1/2	
		NE1/4 SW1/4	
		W1/2 SW1/4	
		N1/2 SE1/4	
	Section 15	N1/2	
		N1/2 SE1/4	
		SE1/4 SE1/4	
	Section 16	N1/2	
		W1/2 SW1/4	
	Section 17	All	
	Section 18	All	


AMENDED
7-15-81
4-7-82
I INDUSTRIAL
RC RURAL COMMUNITY
P PUBLIC
RR RURAL RESIDENTIAL
FR FARM RESIDENTIAL
A AGRICULTURE
F FOREST
R RANGE
POSSIBLE FUTURE USE
FORT ROCK PLANNING AREA
EFFECTIVE 7-1-80
LAND USE PLAN
NORTH LAKE COUNTY OREGON
north
scale in miles


26S15E
26S16E
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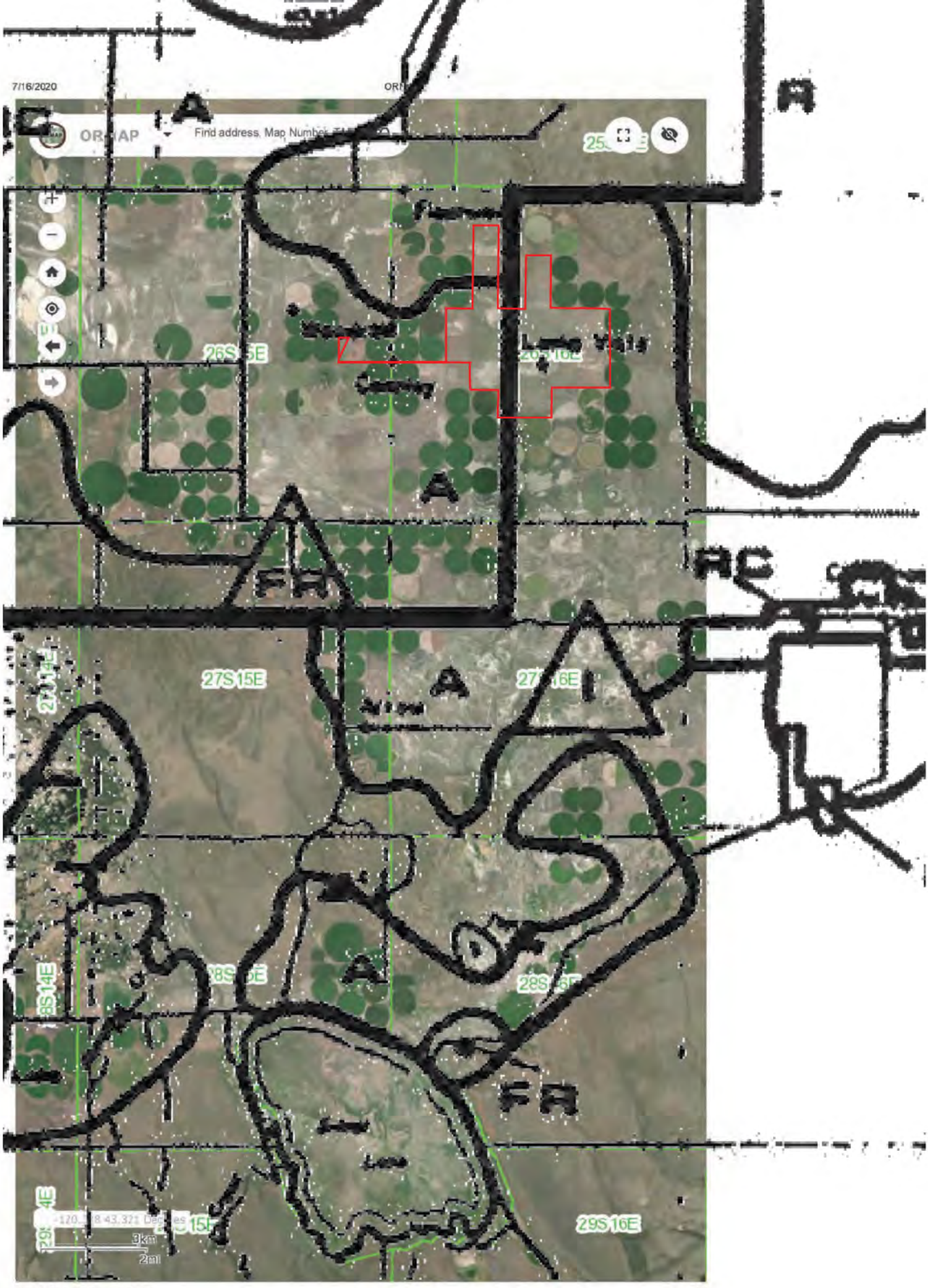
-120.388 43.321 Degrees
3km
2mi



https://ormap.net/gis/index.html 1/1

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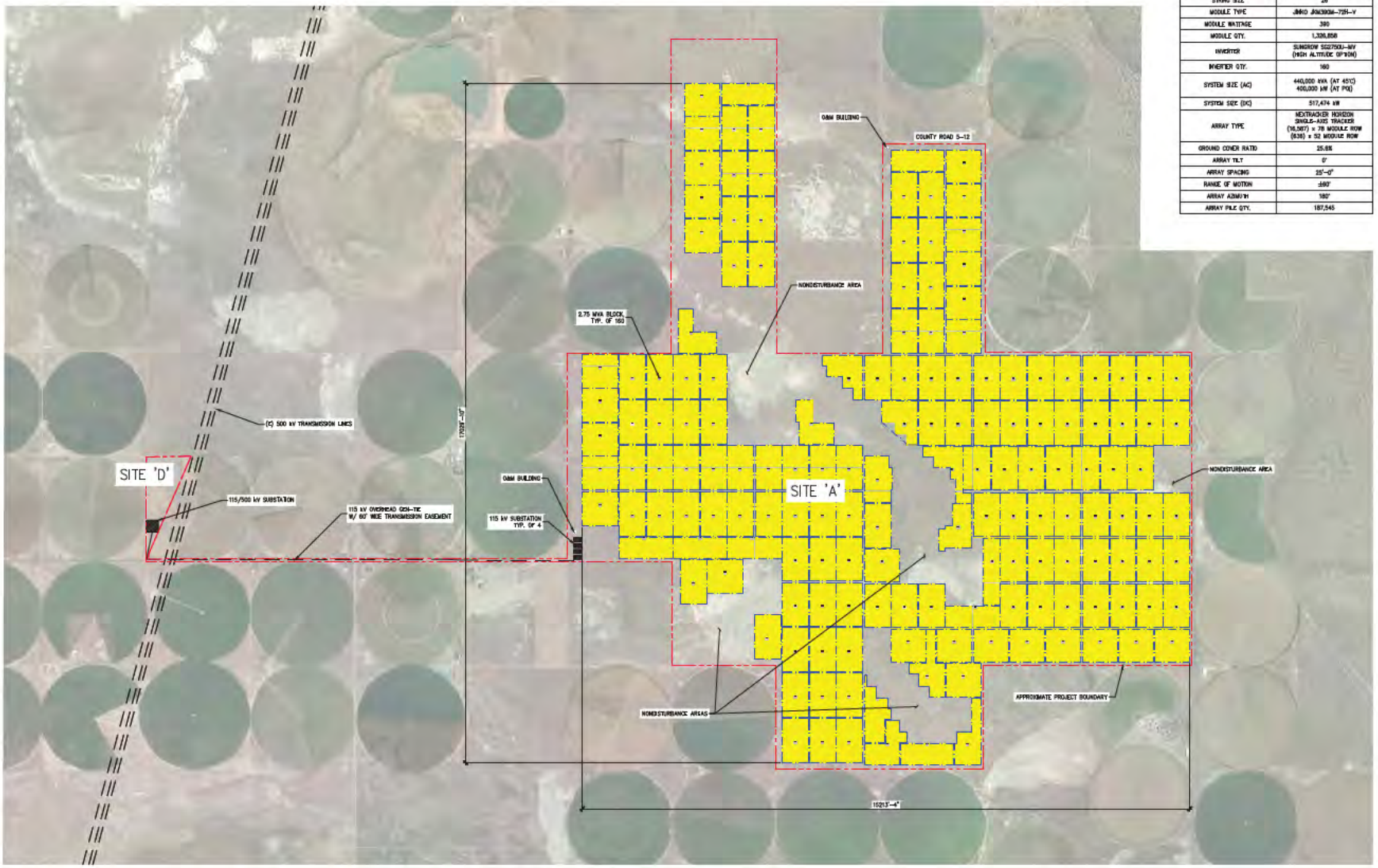
PART B SYSTEM SUMMARY	
PROJECT LOCATION	LAKE COUNTY, OR
ALTITUDE	4,735'
DESIGN TEMPERATURE (MIN.)	-23°C
STRING SIZE	28
MODULE TYPE	JINKO JKM390M-72H-V
MODULE WATTAGE	390
MODULE QTY.	1,326,858
INVERTER	SUNGROW SG2750U-MV (HIGH ALTITUDE OPTION)
INVERTER QTY.	160
SYSTEM SIZE (AC)	440,000 kVA (AT 45°C) 400,000 kW (AT POI)
SYSTEM SIZE (DC)	517,474 kW
ARRAY TYPE	NEXTRACKER HORIZON SINGLE-AXIS TRACKER (16,587') x 78 MODULE ROW (636') x 52 MODULE ROW
GROUND COVER RATIO	25.6%
ARRAY TILT	0°
ARRAY SPACING	25'-0"
RANGE OF MOTION	±60°
ARRAY AZIMUTH	180°
ARRAY PILE QTY.	187,545



PHOTOVOLTAIC ARRAY SITE PLAN

N

Figure B-2

PRELIMINARY

SWINERTON RENEWABLE ENERGY

CONSULTANT

BLYMYER ENGINEERS
1101 MARINA VILLAGE PARKWAY #100
ALAMEDA, CA 94501 510.521.3773

STAMP/SEAL

REV #	DESCRIPTION	DATE
	FOR CLIENT REVIEW	

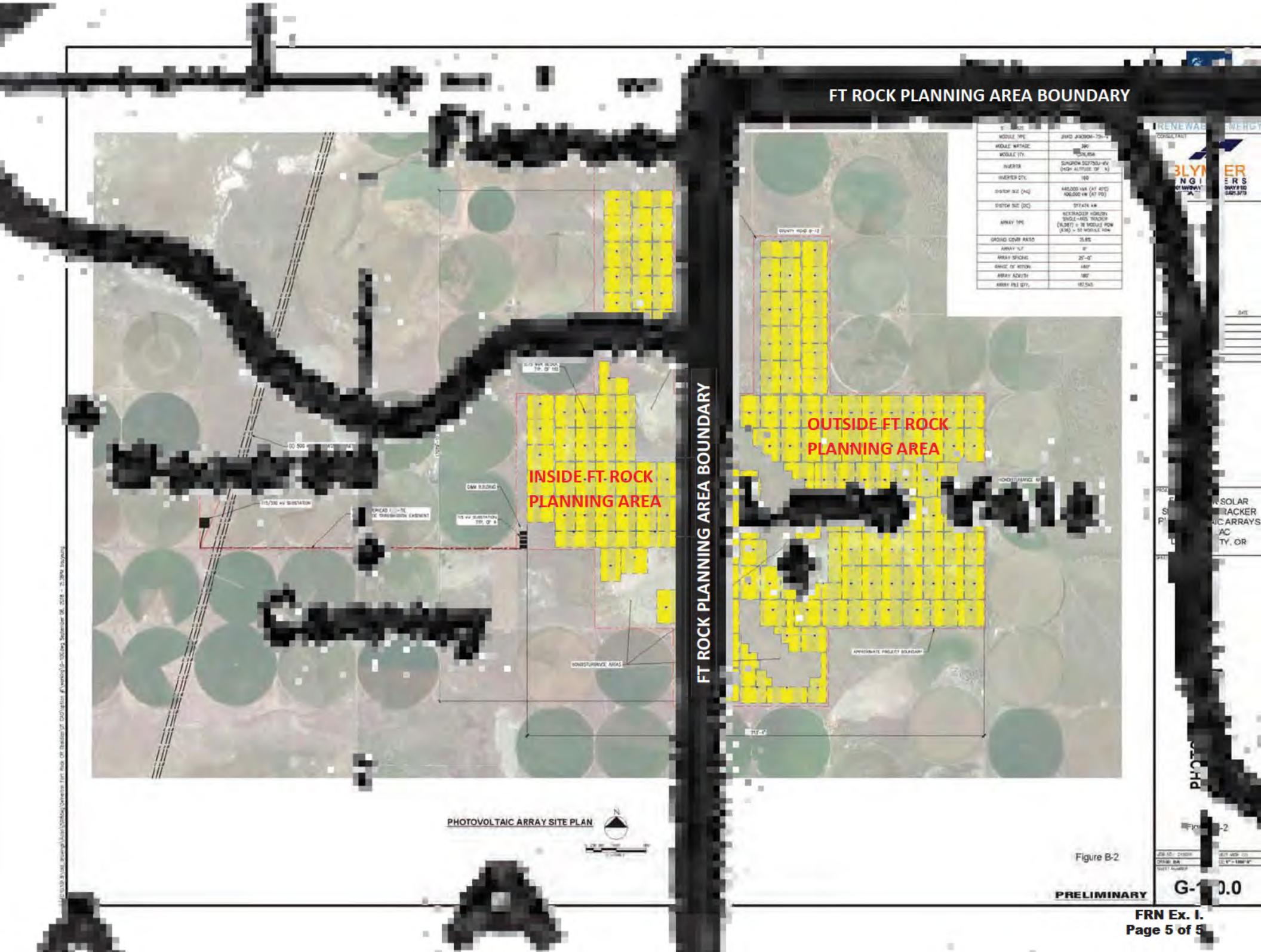
PROJECT TITLE:
FORT ROCK SOLAR
SINGLE-AXIS TRACKER
PHOTOVOLTAIC ARRAYS
400 MWAC
LAKE COUNTY, OR

SHEET TITLE:
PHOTOVOLTAIC ARRAY
SITE PLAN

Figure B-2

JOB NO.: 218001	PROJECT MGR: CG
DRAWN: SA	SCALE: 1" = 1000'-0"

SHEET NUMBER
G-100.0


FT ROCK PLANNING AREA BOUNDARY
INSIDE FT ROCK PLANNING AREA
OUTSIDE FT ROCK PLANNING AREA
FT ROCK PLANNING AREA BOUNDARY
PHOTOVOLTAIC ARRAY SITE PLAN
Figure B-2
PRELIMINARY

SCIENTIFIC REPORTS

OPEN

The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures

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While photovoltaic (PV) renewable energy production has surged, concerns remain about whether or not PV power plants induce a "heat island" (PVHI) effect, much like the increase in ambient temperatures relative to wildlands generates an Urban Heat Island effect in cities. Transitions to PV plants alter the way that incoming energy is reflected back to the atmosphere or absorbed, stored, and reradiated because PV plants change the albedo, vegetation, and structure of the terrain. Prior work on the PVHI has been mostly theoretical or based upon simulated models. Furthermore, past empirical work has been limited in scope to a single biome. Because there are still large uncertainties surrounding the potential for a PHVI effect, we examined the PVHI empirically with experiments that spanned three biomes. We found temperatures over a PV plant were regularly 3–4 °C warmer than wildlands at night, which is in direct contrast to other studies based on models that suggested that PV systems should decrease ambient temperatures. Deducing the underlying cause and scale of the PVHI effect and identifying mitigation strategies are key in supporting decision-making regarding PV development, particularly in semiarid landscapes, which are among the most likely for large-scale PV installations.

Electricity production from large-scale photovoltaic (PV) installations has increased exponentially in recent decades[1–3]. This proliferation in renewable energy portfolios and PV powerplants demonstrate an increase in the acceptance and cost-effectiveness of this technology[4,5]. Corresponding with this upsurge in installation has been an increase in the assessment of the impacts of utility-scale PV[4,6–8], including those on the efficacy of PV to offset energy needs[9,10]. A growing concern that remains understudied is whether or not PV installations cause a "heat island" (PVHI) effect that warms surrounding areas, thereby potentially influencing wildlife habitat, ecosystem function in wildlands, and human health and even home values in residential areas[11]. As with the Urban Heat Island (UHI) effect, large PV power plants induce a landscape change that reduces albedo so that the modified landscape is darker and, therefore, less reflective. Lowering the terrestrial albedo from ~20% in natural deserts[12] to ~5% over PV panels[13] alters the energy balance of absorption, storage, and release of short- and longwave radiation[14,15]. However, several differences between the UHI and potential PVHI effects confound a simple comparison and produce competing hypotheses about whether or not large-scale PV installations will create a heat island effect. These include: (*i*) PV installations shade a portion of the ground and therefore could reduce heat absorption in surface soils[16], (*ii*) PV panels are thin and have little heat capacity per unit area but PV modules emit thermal radiation both up and down, and this is particularly significant during the day when PV modules are often 20 °C warmer than ambient temperatures, (*iii*) vegetation is usually removed from PV power plants, reducing the amount of cooling due to transpiration[14], (*iv*) electric power removes energy from PV power plants, and (*v*) PV panels reflect and absorb upwelling longwave radiation, and thus can prevent the soil from cooling as much as it might under a dark sky at night.

Public concerns over a PVHI effect have, in some cases, led to resistance to large-scale solar development. By some estimates, nearly half of recently proposed energy projects have been delayed or abandoned due to local opposition[11]. Yet, there is a remarkable lack of data as to whether or not the PVHI effect is real or simply an issue

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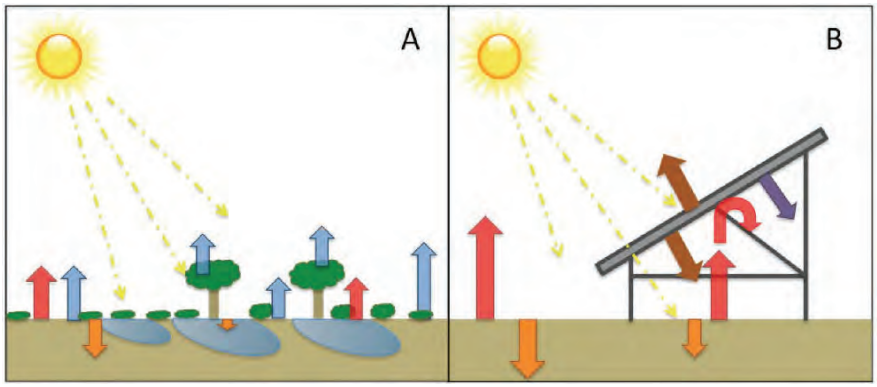

Figure 1. Illustration of midday energy exchange. Assuming equal rates of incoming energy from the sun, a transition from (**A**) a vegetated ecosystem to (**B**) a photovoltaic (PV) power plant installation will significantly alter the energy flux dynamics of the area. Within natural ecosystems, vegetation reduces heat capture and storage in soils (orange arrows), and infiltrated water and vegetation release heat-dissipating latent energy fluxes in the transition of water-to-water vapor to the atmosphere through evapotranspiration (blue arrows). These latent heat fluxes are dramatically reduced in typical PV installations, leading to greater sensible heat fluxes (red arrows). Energy re-radiation from PV panels (brown arrow) and energy transferred to electricity (purple arrow) are also shown.

associated with perceptions of environmental change caused by the installations that lead to "not in my backyard" (NIMBY) thinking. Some models have suggested that PV systems can actually cause a cooling effect on the local environment, depending on the efficiency and placement of the PV panels[17,18]. But these studies are limited in their applicability when evaluating large-scale PV installations because they consider changes in albedo and energy exchange within an urban environment (rather than a natural ecosystem) or in European locations that are not representative of semiarid energy dynamics where large-scale PV installations are concentrated[10,19]. Most previous research, then, is based on untested theory and numerical modeling. Therefore, the potential for a PHVI effect must be examined with empirical data obtained through rigorous experimental terms.

The significance of a PVHI effect depends on energy balance. Incoming solar energy typically is either reflected back to the atmosphere or absorbed, stored, and later re-radiated in the form of latent or sensible heat (Fig. 1)[20,21]. Within natural ecosystems, vegetation reduces heat gain and storage in soils by creating surface shading, though the degree of shading varies among plant types[22]. Energy absorbed by vegetation and surface soils can be released as latent heat in the transition of liquid water to water vapor to the atmosphere through evapotranspiration – the combined water loss from soils (evaporation) and vegetation (transpiration). This heat-dissipating latent energy exchange is dramatically reduced in a typical PV installation (Fig. 1 transition from A-to-B), potentially leading to greater heat absorption by soils in PV installations. This increased absorption, in turn, could increase soil temperatures and lead to greater sensible heat efflux from the soil in the form of radiation and convection. Additionally, PV panel surfaces absorb more solar insolation due to a decreased albedo[13,23,24]. PV panels will re-radiate most of this energy as longwave sensible heat and convert a lesser amount (~20%) of this energy into usable electricity. PV panels also allow some light energy to pass, which, again, in unvegetated soils will lead to greater heat absorption. This increased absorption could lead to greater sensible heat efflux from the soil that may be trapped under the PV panels. A PVHI effect would be the result of a detectable increase in sensible heat flux (atmospheric warming) resulting from an alteration in the balance of incoming and outgoing energy fluxes due to landscape transformation. Developing a full thermal model is challenging[17,18,25], and there are large uncertainties surrounding multiple terms including variations in albedo, cloud cover, seasonality in advection, and panel efficiency, which itself is dynamic and impacted by the local environment. These uncertainties are compounded by the lack of empirical data.

We addressed the paucity of direct quantification of a PVHI effect by simultaneously monitoring three sites that represent a natural desert ecosystem, the traditional built environment (parking lot surrounded by commercial buildings), and a PV power plant. We define a PVHI effect as the difference in ambient air temperature between the PV power plant and the desert landscape. Similarly, UHI is defined as the difference in temperature between the built environment and the desert. We reduced confounding effects of variability in local incoming energy, temperature, and precipitation by utilizing sites contained within a 1 km area.

At each site, we monitored air temperature continuously for over one year using aspirated temperature probes 2.5 m above the soil surface. Average annual temperature was $22.7 + 0.5$ °C in the PV installation, while the nearby desert ecosystem was only $20.3 + 0.5$ °C, indicating a PVHI effect. Temperature differences between areas varied significantly depending on time of day and month of the year (Fig. 2), but the PV installation was always greater than or equal in temperature to other sites. As is the case with the UHI effect in dryland regions, the PVHI effect delayed the cooling of ambient temperatures in the evening, yielding the most significant difference in overnight temperatures across all seasons. Annual average midnight temperatures were $19.3 + 0.6$ °C in the PV installation, while the nearby desert ecosystem was only $15.8 + 0.6$ °C. This PVHI effect was more significant in terms of actual degrees of warming (+3.5 °C) in warm months (Spring and Summer; Fig. 3, right).

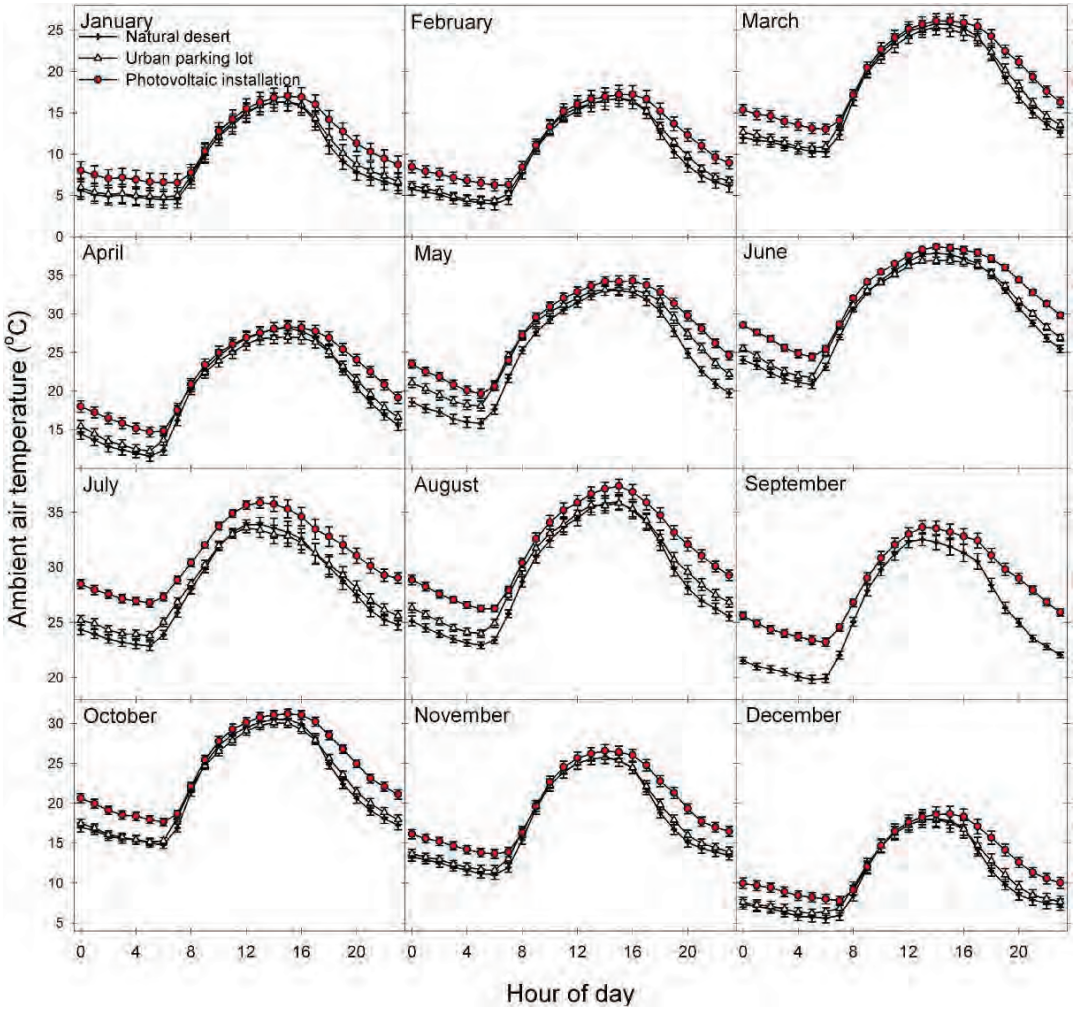

Figure 2. Average monthly ambient temperatures throughout a 24-hour period provide evidence of a photovoltaic heat island (PVHI) effect.

In both PVHI and UHI scenarios, the greater amount of exposed ground surfaces compared to natural systems absorbs a larger proportion of high-energy, shortwave solar radiation during the day. Combined with minimal rates of heat-dissipating transpiration from vegetation, a proportionally higher amount of stored energy is reradiated as longwave radiation during the night in the form of sensible heat (Fig. 1)[15]. Because PV installations introduce shading with a material that, itself, should not store much incoming radiation, one might hypothesize that the effect of a PVHI effect would be lesser than that of a UHI. Here, we found that the difference in evening ambient air temperature was consistently greater between the PV installation and the desert site than between the parking lot (UHI) and the desert site (Fig. 3). The PVHI effect caused ambient temperature to regularly approach or be in excess of 4 °C warmer than the natural desert in the evenings, essentially doubling the temperature increase due to UHI measured here. This more significant warming under the PVHI than the UHI may be due to heat trapping of re-radiated sensible heat flux under PV arrays at night. Daytime differences from the natural ecosystem were similar between the PV installation and urban parking lot areas, with the exception of the Spring and Summer months, when the PVHI effect was significantly greater than UHI in the day. During these warm seasons, average midnight temperatures were 25.5 + 0.5 °C in the PV installation and 23.2 + 0.5 °C in the parking lot, while the nearby desert ecosystem was only 21.4 + 0.5 °C.

The results presented here demonstrate that the PVHI effect is real and can significantly increase temperatures over PV power plant installations relative to nearby wildlands. More detailed measurements of the underlying causes of the PVHI effect, potential mitigation strategies, and the relative influence of PVHI in the context of the intrinsic carbon offsets from the use of this renewable energy are needed. Thus, we raise several new questions and highlight critical unknowns requiring future research.

What is the physical basis of land transformations that might cause a PVHI?

We hypothesize that the PVHI effect results from the effective transition in how energy moves in and out of a PV installation versus a natural ecosystem. However, measuring the individual components of an energy flux model remains a necessary task. These measurements are difficult and expensive but, nevertheless, are indispensable in identifying the relative influence of multiple potential drivers of the PVHI effect found here. Environmental

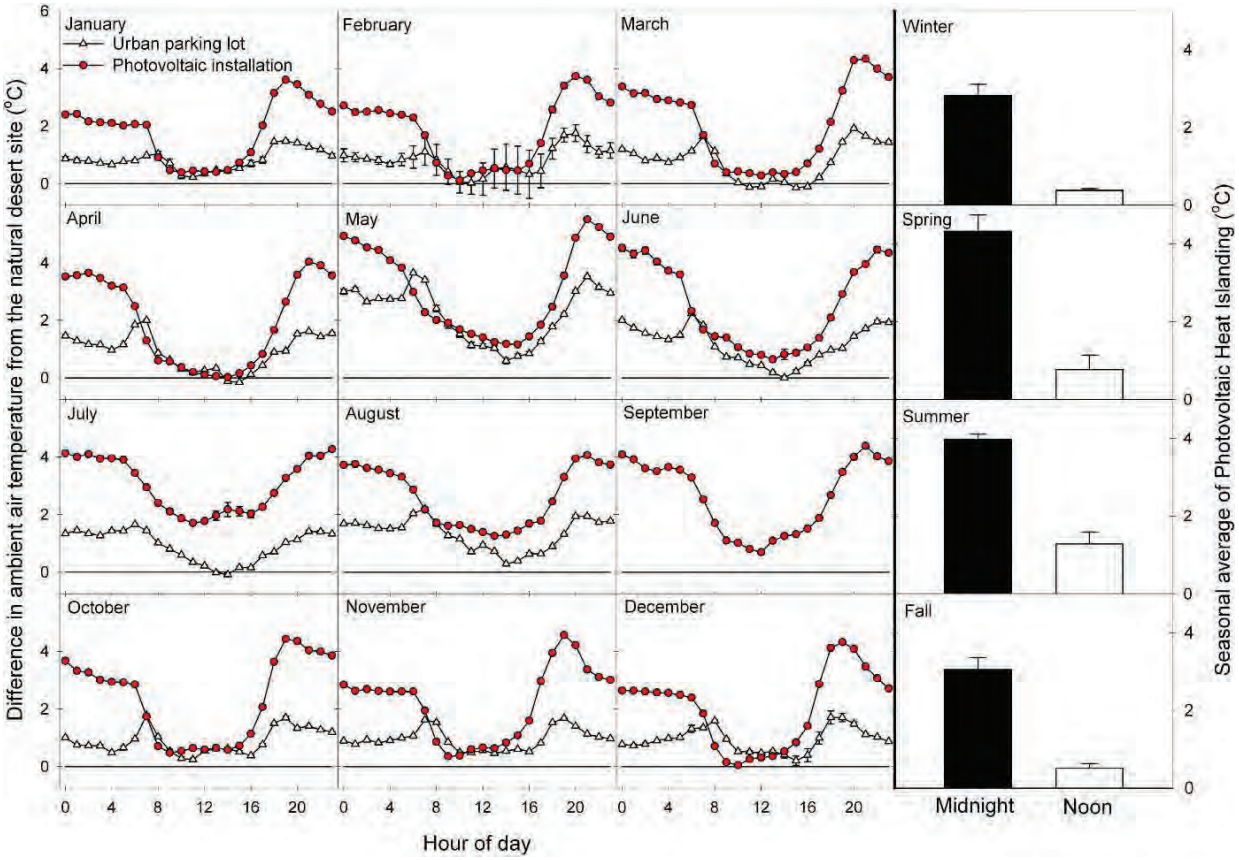

Figure 3. (Left) Average monthly levels of Photovoltaic Heat Islanding (ambient temperature difference between PV installation and desert) and Urban Heat Islanding (ambient temperature difference between the urban parking lot and the desert). (Right) Average night and day temperatures for four seasonal periods, illustrating a significant PVHI effect across all seasons, with the greatest influence on ambient temperatures at night.

conditions that determine patterns of ecosystem carbon, energy, and water dynamics are driven by the means through which incoming energy is reflected or absorbed. Because we lack fundamental knowledge of the changes in surface energy fluxes and microclimates of ecosystems undergoing this land use change, we have little ability to predict the implications in terms of carbon or water cycling[4,8].

What are the physical implications of a PVHI, and how do they vary by region?

The size of an UHI is determined by properties of the city, including total population[26–28], spatial extent, and the geographic location of that city[29–31]. We should, similarly, consider the spatial scale and geographic position of a PV installation when considering the presence and importance of the PVHI effect. Remote sensing could be coupled with ground-based measurements to determine the lateral and vertical extent of the PVHI effect. We could then determine if the size of the PVHI effect scales with some measure of the power plant (for example, panel density or spatial footprint) and whether or not a PVHI effect reaches surrounding areas like wildlands and neighborhoods. Given that different regions around the globe each have distinct background levels of vegetative ground cover and thermodynamic patterns of latent and sensible heat exchange, it is possible that a transition from a natural wildland to a typical PV power plant will have different outcomes than demonstrated here. The paucity in data on the physical effects of this important and growing land use and land cover change warrants more studies from representative ecosystems.

What are the human implications of a PVHI, and how might we mitigate these effects?

With the growing popularity of renewable energy production, the boundaries between residential areas and larger-scale PV installations are decreasing. In fact, closer proximity with residential areas is leading to increased calls for zoning and city planning codes for larger PV installations[32,33], and PVHI-based concerns over potential reductions in real estate value or health issues tied to Human Thermal Comfort (HTC)[34]. Mitigation of a PVHI effect through targeted revegetation could have synergistic effects in easing ecosystem degradation associated with development of a utility scale PV site and increasing the collective ecosystem services associated with an area[4]. But what are the best mitigation measures? What tradeoffs exist in terms of various means of revegetating degraded PV installations? Can other albedo modifications be used to moderate the severity of the PVHI?

Figure 4. Experimental sites. Monitoring a (1) natural semiarid desert ecosystem, (2) solar (PV) photovoltaic installation, and (3) an "urban" parking lot – the typical source of urban heat islanding – within a 1 km^2 area enabled relative control for the incoming solar energy, allowing us to quantify variation in the localized temperature of these three environments over a year-long time period. The Google Earth image shows the University of Arizona's Science and Technology Park's Solar Zone.

To fully contextualize these findings in terms of global warming, one needs to consider the relative significance of the (globally averaged) decrease in albedo due to PV power plants and their associated warming from the PVHI against the carbon dioxide emission reductions associated with PV power plants. The data presented here represents the first experimental and empirical examination of the presence of a heat island effect associated with PV power plants. An integrated approach to the physical and social dimensions of the PVHI is key in supporting decision-making regarding PV development.

Methods

Site Description. We simultaneously monitored a suite of sites that represent the traditional built urban environment (a parking lot) and the transformation from a natural system (undeveloped desert) to a 1 MW PV power plant (Fig. 4; Map data: Google). To minimize confounding effects of variability in local incoming energy, temperature, and precipitation, we identified sites within a 1 km area. All sites were within the boundaries of the University of Arizona Science and Technology Park Solar Zone (32.092150°N, 110.808764°W; elevation: 888 m ASL). Within a 200 m diameter of the semiarid desert site's environmental monitoring station, the area is composed of a sparse mix of semiarid grasses (*Sporobolus wrightii, Eragrostis lehmanniana*, and *Muhlenbergia porteri*), cacti (*Opuntia* spp. and *Ferocactus* spp.), and occasional woody shrubs including creosote bush (*Larrea tridentata*), whitethorn acacia (*Acacia constricta*), and velvet mesquite (*Prosopis velutina*). The remaining area is bare soil. These species commonly co-occur on low elevation desert bajadas, creosote bush flats, and semiarid grasslands. The photovoltaic installation was put in place in early 2011, three full years prior when we initiated monitoring at the site. We maintained the measurement installations for one full year to capture seasonal variation due to sun angle and extremes associated with hot and cold periods. Panels rest on a single-axis tracker system that pivot east-to-west throughout the day. A parking lot with associated building served as our "urban" site and is of comparable spatial scale as our PV site.

Monitoring Equipment & Variables Monitored. Ambient air temperature (°C) was measured with a shaded, aspirated temperature probe 2.5 m above the soil surface (Vaisala HMP60, Vaisala, Helsinki, Finland in the desert and Microdaq U23, Onset, Bourne, MA in the parking lot). Temperature probes were cross-validated for precision (closeness of temperature readings across all probes) at the onset of the experiment. Measurements of temperature were recorded at 30-minute intervals throughout a 24-hour day. Data were recorded on a data-logger (CR1000, Campbell Scientific, Logan, Utah or Microstation, Onset, Bourne, MA). Data from this

instrument array is shown for a yearlong period from April 2014 through March 2015. Data from the parking lot was lost for September 2014 because of power supply issues with the datalogger.

Statistical analysis. Monthly averages of hourly (on-the-hour) data were used to compare across the natural semiarid desert, urban, and PV sites. A Photovoltaic Heat Island (PVHI) effect was calculated as differences in these hourly averages between the PV site and the natural desert site, and estimates of Urban Heat Island (UHI) effect was calculated as differences in hourly averages between the urban parking lot site and the natural desert site. We used midnight and noon values to examine maximum and minimum, respectively, differences in temperatures among the three measurement sites and to test for significance of heat islanding at these times. Comparisons among the sites were made using Tukey's honestly significant difference (HSD) test[35]. Standard errors to calculate HSD were made using pooled midnight and noon values across seasonal periods of winter (January-March), spring (April-June), summer (July-September), and fall (October-December). Seasonal analyses allowed us to identify variation throughout a yearlong period and relate patterns of PVHI or UHI effects with seasons of high or low average temperature to examine correlations between background environmental parameters and localized heat islanding.

References

1. IPCC. IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation. *Prepared by Working Group III of the Intergovernmental Panel on Climate Change* (Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 2011).
2. REN21. Renewables 2014 Global Status Report (Paris: REN21 Secretariat; ISBN 978-3-9815934-2-6, 2014).
3. U.S. Energy Information Administration. June 2016 Monthly Energy Review. U.S. Department of Energy. Office of Energy Statistics. Washington, DC (2016).
4. Hernandez, R. R. *et al.* Environmental impacts of utility-scale solar energy. *Renewable & Sustainable Energy Reviews* **29,** 766–779, doi: 10.1016/j.rser.2013.08.041 (2014).
5. Bazilian, M. *et al.* Re-considering the economics of photovoltaic power. *Renewable Energy* **53,** 329–338, doi: http://dx.doi.org/10.1016/j.renene.2012.11.029 (2013).
6. Dale, V. H., Efroymson, R. A. & Kline, K. L. The land use-climate change-energy nexus. *Landsc. Ecol.* **26,** 755–773, doi: 10.1007/s10980-011-9606-2 (2011).
7. Copeland, H. E., Pocewicz, A. & Kiesecker, J. M. In *Energy Development and Wildlife Conservation in Western North America* (ed Naugle, David E.) 7–22 (Springer, 2011).
8. Armstrong, A., Waldron, S., Whitaker, J. & Ostle, N. J. Wind farm and solar park effects on plant-soil carbon cycling: uncertain impacts of changes in ground-level microclimate. *Global Change Biology* **20,** 1699–1706, doi: 10.1111/gcb.12437 (2014).
9. Hernandez, R. R., Hoffacker, M. K. & Field, C. B. Efficient use of land to meet sustainable energy needs. *Nature Climate Change* **5,** 353–358, doi: 10.1038/nclimate2556 (2015).
10. Hernandez, R. R., Hoffacker, M. K. & Field, C. B. Land-Use efficiency of big solar. *Environmental Science & Technology* **48,** 1315–1323, doi: 10.1021/es4043726 (2014).
11. Pociask, S. & Fuhr, J. P. Jr. Progress Denied: A study on the potential economic impact of permitting challenges facing proposed energy projects (U.S. Chamber of Commerce, 2011).
12. Michalek, J. L. *et al.* Satellite measurements of albedo and radiant temperature from semi-desert grassland along the Arizona/Sonora border. *Climatic Change* **48,** 417–425, doi: 10.1023/a:1010769416826 (2001).
13. Burg, B. R., Ruch, P., Paredes, S. & Michel, B. Placement and efficiency effects on radiative forcing of solar installations. *11th International Conference on Ceonctrator Photovoltaic Systems* **1679**, doi: 10.1063/1.4931546 (2015).
14. Solecki, W. D. *et al.* Mitigation of the heat island effect in urban New Jersey. *Environmental Hazards* **6,** 39–49, doi: 10.1016/j.hazards.2004.12.002 (2005).
15. Oke, T. R. The energetic basis of the urban heat island (Symons Memorial Lecture, 20 May 1980). *Quarterly Journal, Royal Meteorological Society* **108,** 1–24 (1982).
16. Smith, S. D., Patten, D. T. & Monson, R. K. Effects of artificially imposed shade on a Sonoran Desert ecosystem: microclimate and vegetation. *Journal of Arid Environments* **13,** 65–82 (1987).
17. Taha, H. The potential for air-temperature impact from large-scale deployment of solar photovoltaic arrays in urban areas. *Solar Energy* **91,** 358–367, doi: 10.1016/j.solener.2012.09.014 (2013).
18. Masson, V., Bonhomme, M., Salagnac, J.-L., Briottet, X. & Lemonsu, A. Solar panels reduce both global warming and Urban Heat Island. *Frontiers in Environmental Science* **2,** 14, doi: 10.3389/fenvs.2014.00014 (2014).
19. Roberts, B. J. Solar production potential across the United States. *Department of Energy, National Renewable Energy Laboratory.* http://www.climatecentral.org/news/eastern-us-solar-development-18714. *19 September* (2012).
20. Monteith, J. L. & Unsworth, M. H. *Principles of Environmental Physics Third Edition* (Elsevier, San Diego, CA, USA, 1990).
21. Campbell, G. S. & Norman, J. M. *An Introduction to Eenvironmental Biophysics Second Edition* (Springer, New York, USA, 1998).
22. Breshears, D. D. The grassland-forest continuum: trends in ecosystem properties for woody plant mosaics? *Frontiers in Ecology and the Environment* **4,** 96–104, doi: 10.1890/1540-9295(2006)004[0096:tgctie]2.0.co;2 (2006).
23. Oke, T. R. *Boundary Layer Climates. Second Edition* (Routledge New York, 1992).
24. Ahrens, C. D. *Meteorology Today. An Introduction to Weather, Climate, and the Environment Eighth Edition* (Thompson, Brooks/Cole USA 2006).
25. Fthenakis, V. & Yu, Y. Analysis of the potential for a heatisland effect in large solar farms. *Analysis of the potential for a heatisland effect in large solar farms; 2013 IEEE 39th Photovoltaic Specialists Conference* 3362–3366 (2013).
26. Santamouris, M. Analyzing the heat island magnitude and characteristics in one hundred Asian and Australian cities and regions. *Science of The Total Environment* **512–513,** 582–598, doi: http://dx.doi.org/10.1016/j.scitotenv.2015.01.060 (2015).
27. Oke, T. R. City size and the urban heat island. *Atmospheric Environment* **7,** 769–779, doi: 10.1016/0004-6981(73)90140-6 (1973).
28. Wang, W.-C., Zeng, Z. & Karl, T. R. Urban heat islands in China. *Geophysical Research Letters* **17,** 2377–2380, doi: 10.1029/GL017i013p02377 (1990).
29. Nasrallah, H. A., Brazel, A. J. & Balling, R. C. Jr Analysis of the Kuwait City urban heat island. *International Journal of Climatology* **10,** 401–405 (1990).
30. Montávez, J. P., Rodríguez, A. & Jiménez, J. I. A study of the Urban Heat Island of Granada. *International Journal of Climatology* **20,** 899–911, doi: 10.1002/1097-0088(20000630)20:8<899::aid-joc433>3.0.co;2-i (2000).
31. Buyantuyev, A. & Wu, J. Urban heat islands and landscape heterogeneity: Linking spatiotemporal variations in surface temperatures to land-cover and socioeconomic patterns. *Landsc. Ecol.* **25,** 17–33, doi: 10.1007/s10980-009-9402-4 (2010).
32. White, J. G. A Model Ordinance for Energy Projects; Oregon Department of Energy. http://www.oregon.gov/ENERGY/SITING/docs/ModelEnergyOrdinance.pdf (2005).

33. Lovelady, A. Planning and Zoning for Solar in North Carolina. *University of North Carolina at Chapel Hill, School of Government* (2014).
34. Coutts, A. M., Tapper, N. J., Beringer, J., Loughnan, M. & Demuzere, M. Watering our cities: The capacity for Water Sensitive Urban Design to support urban cooling and improve human thermal comfort in the Australian context. *Progress in Physical Geography* **37**, 2–28, doi: 10.1177/0309133312461032 (2013).
35. Zar, J. H. *Biostatistical analysis, Prentice-Hall, Englewood Cliffs, p 215* (1974).

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Author Contributions

G.A.B.-G., R.L.M. and N.A.A. established research sites and installed monitoring equipment. G.A.B.-G. directed research and R.L.M. conducted most site maintenance. G.A.B.-G., N.A.A., A.D.C. and M.A.P.-Z. led efforts to secure funding for the research. All authors discussed the results and contributed to the manuscript.

Additional Information

Competing financial interests: The authors declare no competing financial interests.

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MATA Michiko * ODOE

From: TARDAEWETHER Kellen * ODOE
Sent: Monday, July 20, 2020 4:00 PM
To: MATA Michiko * ODOE
Subject: FW: Objection to ASC for Obsidian Solar Center (Exhibits Email 3)
Attachments: FRN - Combined Exhibits Part 3 of 3- 07.20.2020.pdf

From: Mike Reeder <mreeder@oregonlanduse.com>
Sent: Monday, July 20, 2020 3:10 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Cc: aaron@noteboomlaw.com
Subject: FW: Objection to ASC for Obsidian Solar Center (Exhibits Email 3)

Law Office of Mike Reeder
Oregon Land Use Law

Office: (458) 210-2845 | oregonlanduse.com
375 W. 4th Ave., Suite 205, Eugene, OR 97401

From: Aaron Noteboom <aaron@noteboomlaw.com>
Sent: Monday, July 20, 2020 2:12 PM
To: TARDAEWETHER Kellen * ODOE <Kellen.Tardaewether@oregon.gov>
Cc: ROWE Patrick G <Patrick.G.ROWE@state.or.us>; Mike Reeder <mreeder@oregonlanduse.com>
Subject: Objection to ASC for Obsidian Solar Center (Exhibits Email 3)

Sending Exhibits Email 3

Aaron Noteboom | Attorney at Law
Noteboom Law LLC
375 W 4th Ave, Ste 204 | Eugene, Oregon 97401
Ph: (541) 513-2298 | aaron@noteboomlaw.com

May 18, 2020

Dear Mr. Simmons,

Per our conversation please find the attached Letter of opinion based on comparative valuation. Due to the lack of like kind homes in your immediate area it was necessary to extrapolate values from like use properties within a roughly 55 mile radius, having similar Gross Living Area (GLA), room count, build features and/or recent updates as well as additional acreage above and beyond the immediate home site. All of these homes have similar rural locations, and primary use is residential.

Purpose and Intent: This letter of opinion is provided in the normal course of the undersigned real estate licensee's, business and is intended to express only the licensees' recommended listing, selling or purchase price for the specific property described below. As requested a current day value without the environmental obsolescence of the solar farm will be provided as well as an impact statement

This letter of opinion has been made only in pursuit of the normal course of business to obtain a listing or to assist a potential buyer in formulating an offer. It has not been made for the purpose of submission as evidence of value to a court or administrative body.

THIS LETTER OPINION IS NOT INTENDED AS AN APPRAISAL.

If an appraisal is desired, the services of a competent professional licensed appraiser should be obtained. The undersigned licensee is not licensed by the Appraisal Certification and Licensure Board and this report is not intended to meet the requirements set out in the Uniform Standards of Appraisal Practice.

Description of the Subject Property:
Tax Map/Lot: 26S-16E-00-00/02902, AP Acct# 1160, in Lake County, Oregon; commonly known as 61040 Oil Dri Rd., Silver Lake, OR 97638.

Sited to take in the territorial views, Subject is located on the hillside overlooking agricultural fields and mature sage below it. The Subject property is a 2015/16 custom built Pacific Northwest ranch style home with lodge style accents. Built using energy saving green design and features, the home is comprised of double wall construction with added insulation and wood batt-n-board siding as well as a heavy duty composition shingle roof. The oversize windows are dual pane low-e windows for added energy savings and efficient heating and cooling. The exterior of the home offers pave stone and stamped concrete porch and an expansive rear patio to take in the territorial views. There is a detached 1728 Sq Ft shop that is completely insulated and heated and offers a bathroom to wash up in when mid project as well as an office/hobby area that takes in the surrounding views. There is an additional 12' wide lean to along the side of the shop that allows for RV storage.

Inside the home, there is approximately 2300+/- square feet of living area in the main dwelling which has been positioned for maximum enjoyment of the views. From the front door step into an open great

room with vaulted ceilings, wood beam accents, solid wood doors and trim as well as wood wrapped windows and doors and a LP gas fireplace. Across the room a wall of windows provides a full unobstructed view of the fields below to Table Rock. . The kitchen has solid surface countertops, full tile backsplash, custom knotty alder cabinetry and state of the art appliances with a spacious dining area. Oversized glass doors between the dining area and great room open to the rear patio. The Master suite offers a like view, has an ensuite bath with custom tile shower and generous walk-in closet.

Functional, Economic, or Environmental conditions that may impact the value of the property. Broker has noted an increase in demand for parcels outside of urban and suburban areas recently due to health concerns created by denser living conditions in more developed City Centers. It is possible that a future trend will be people moving to more rural areas and adopting tele-commuting/work from home as a course of normal business. This trend would cause increased demand for properties such as the subject and increase the potential realized value. However, the proposed large scale solar site below the subject has the potential to create a negative environmental and economic impact on the subject both during and after development.

The planned solar site is a "Mega" site over 3000 acres and of the largest proposed in the Nation at this time. Current solar sites in the state have been less than 500 acres and have had a less visible footprint. During the construction phase, the ongoing disturbance will include, dust, noise and work lighting. Solar sites are often a 24 hour/day development with workers coming and going in shifts due to the rural location and the lack of city limitations on stop and start times for noise and construction. The proposed project is not short term and this negative impact will continue for years creating a visual and audible blight on the subject property. While, there are no studies or existing documentation for the potential environmental and economic impact created by millions of solar panels and their corresponding battery storage buildings, (which are literally the size of a 2 story single family residence) there are impact and perception studies for smaller less overt projects; all of which indicate a perceived notion of decreased value and desirability for those homes located near solar sites. The proposed solar site is not capable of being screened and the subject property will experience negative and irrevocable environmental obsolescence from the loss of the views the home was designed and sited for. Additionally, the lighting required to secure these fields and battery storage houses is not dark sky compliant and will create a visual blight at night from the subject property. The loss in value will of course be a negative economic impact and the realized sales value due to this cannot easily be calculated. Studies of other smaller sites have seen losses the equivalent of 23-40% of the pre-site development value. Regardless of stage of development the proposed site should be disclosed to any future buyer and will weigh in on their purchase decision. The Disclosure of the site and any visible development will usually add to project Days on Market as well. .

Basis of Reasoning and Price Conclusion: There were limited comparable properties in the immediate vicinity of the subject, therefore the probable sales value of the subject was calculated using the sales comparison/market value approach using similar rural properties of a primary residential use, within a 55 mile radius. Comparable properties were selected based on similar gross living area, (not exceeding a 20% variance), having a similar room count, of custom or individualized build and with similar build components, and having been built of a like age or updated in the past 5-10 years. All comparable properties offer a similar detached shop or general purpose building. While this value is based on

recent past sales, current economic and area trends can impact these estimates and cannot always be reflected herein.

Limiting Conditions

Any “value” or price statement in this letter is the estimated worth of or price for the specific property described above and is given only in the context of advising a potential seller or buyer. Such statements are not intended to mean or imply the “value” was arrived at by any method of appraisal. Again the impact of current health safety and economic conditions have not been addressed in this valuation and can have immediate and future impact. Additionally, the value provided herein is based on the current condition of the subject and it’s placement to maximize the views and vistas of its location. Please note the statement of opinion regarding environmental obsolescence as it relates to possible future impact to this property.

Statement of Personal Interest

The undersigned real estate licensee has no existing or contemplated interest in the subject property. However, it is not unheard of for new clients/buyers to be obtained that may have an interest and licensee will disclose those interests should they become viable.

DocuSigned by:

Cat Zwicker _____ , 5/18/2020

Catherine “Cat” Zwicker OR lic. # 200110190

64CD7BF6CB6D4BE...

Central Oregon Association of REALTORS®
COAR
YOUR VOICE IN REAL ESTATE

VALUATION WORKBOOK

61040 Oil Dri Rd, Silver Lake, OR 97638

Photo from Cat Zwicker

Presented by

Cat Zwicker | **REALTOR®** | ABR, CRS

Oregon Real Estate License: 200110190
Oregon Appraisal License: 200110190
File ID: 61040 Oil Dri Rd, Silver Lake, OR 97638

Desert Sky Real Estate, LLC

Work: (541) 410-9592 Mobile: (541) 410-9592

Main: Catz.dsre@gmail.com
Office: http://www.DesertSkyRealEstate.com

Desert Sky Real Estate, LLC
1655 SW Highland Ave
Suite 1
Redmond, OR 97756

61040 Oil Dri Rd, Silver Lake, OR 97638

Lst ng Date: –
MLS Name: –
MLS Lst ng ID: –

Legend: Subject Property

OFF MARKET • *Public Record*

Result of Sales Comparison Analysis

$683,585 (or $297 / sq ft)

Last Analysis Update: 5/19/2020

$376,500 – $930,000

(or $164 – $404 / sq ft)

Number of Comps Chosen

5

Comps Range

$359,000 – $965,000

This report contains data and information that is publicly available and/or licensed from third parties and is provided to you on an "as is" and "as available" basis. The information is not verified or guaranteed. Neither this report nor the estimated value of a property is an appraisal of the property. Any valuation shown in this report has been generated by use of proprietary computer software that assembles publicly available property records and certain proprietary data to arrive at an approximate estimate of a property's value. Some portions of this report may have been provided by an RPR user; RPR is not responsible for any content provided by its users. RPR and its information providers shall not be liable for any claim or loss resulting from the content of, or errors or omissions in, information contained in this report.

Homeowner Facts

Owner Name (Pub c)	**Simmons Jerald N & Verlinda J**
Ma ng Address	**Po Box 88 Christmas Valley OR 97641-0088**

61040 Oil Dri Rd, Silver Lake, OR 97638

Listing Date: –
MLS Name: –
MLS Listing ID: –

Home Facts	Public Facts	Listing Facts	Refinements
Sale/Finance Concession	–	–	–
Property Type	**Single Family Residence**	–	–
Property Subtype	**Single Family Residential (Assumed)**	–	–
Total Rooms	**6**	–	–
Total Rooms Above Grade	–	–	–
Bedrooms	**4**	–	–
Bedrooms Above Grade	–	–	–
Living Area sq ft range (low)	–	–	–
Living Area sq ft range (high)	–	–	–
Total Baths	**2.1**	–	–
Total Baths Above Grade	–	–	–
Full Baths	**2**	–	–
Full Baths Above Grade	–	–	–
Partial Baths	**1**	–	–
Partial Baths Above Grade	–	–	–
Living Area (sq ft)	–	–	**2,300**
Living Area Above Grade (sq ft)	–	–	–
Basement (sq ft)	–	–	–
Finished Rooms Below Grade	–	–	–
Lot Size	**45 acres**	–	–
Lot Dimensions	**45.000 AC**	–	–
Garage	–	–	**Yes**
Garage (sq ft)	–	–	**578**
Pool	–	–	–
Location	–	–	**Rural**
Tenure	–	–	**Fee Simple**
View	–	–	**Beneficial**
View Factors	–	–	**Territorial / Terrain**
Style	–	–	**Northwest Lodge**
Quality of Construction	–	–	**Q2**
Year Built	–	–	**2015**
Age	–	–	**5**
Condition	–	–	**C2**
Functional Utility	–	–	**Excellent**
Heating Features	–	–	**Radiant in floor, propane, electric**
Cooling Features	–	–	**wired for heat pump**
Energy Efficient Items	–	–	**elevated R-values, double wall construction**
Porch/Patio/Deck	–	–	**Concrete patios and proches.**
Roofing Features	–	–	–
Fireplaces	–	–	–
Basement Features	–	–	–
Foundation Features	–	–	–
Construction Features	–	–	–
Exterior Wall Features	–	–	–
Number of Buildings	–	–	**2**
Number of Units	–	–	–
Number of Stories	**1**	–	–
Detached Shop Bldg.	–	–	**1728 sq ft Shop Bldg**
Lean to for RV storage	–	–	**672 sq ft**

Property History

Legal Description

APN:	26S16E000002902
Tax ID:	1160
Zoning:	–
Abbrev iated Description:	–
Census Tract:	410379601.001241
City/Municipality/Township:	–

Tax and Assessed Values

Date	Improv ements		Land	Total	Tax
2019	–	+	–	$262,540	$3,024
2018	–	+	–	–	–
2017	–	+	–	–	–
2016	–	+	–	–	–
2015	–	+	–	–	–
2014	–	+	–	–	–
2012	–	+	–	–	–
2011	–	+	–	–	–
2010	–	+	–	–	–
2009	–	+	–	–	–

Sales and Financing Activity

Th s chart shows a property's sa es and f nanc ng h story. It can be used to compare the va ue of the property as seen by pub c records, such as deeds and tax records, w th the est mated home va ue. Act ons taken aga nst the owner, such as the ssuance of a Not ce of Defau t, are noted. Sa es act v ty, such as st ng date and pr ce reduct ons, are h gh ghted.

Data Source: Pub c records and propr etary data; st ng data from on- and off-market st ngs sources

Update Frequency: Va uat ons are updated tw ce month y; act ons on the home, such as st ng act v ty or d stressed property not ces, are updated da y as made ava ab e from pub c records sources

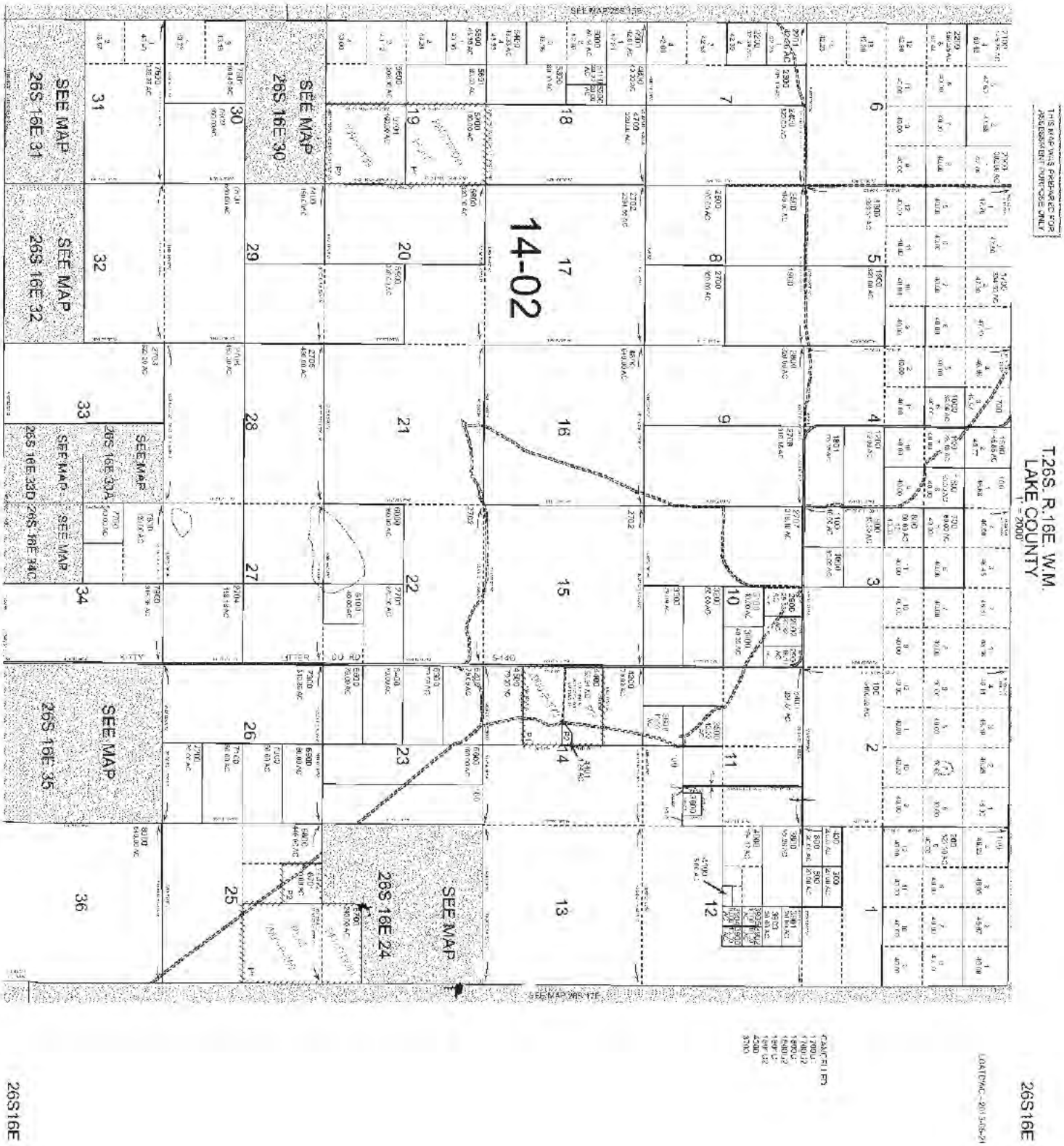
Aerial Map

Legend: Subject Property

Birdseye Map

Legend: Subject Property

Plat Map



Sales Comparables Analysis Summary

Resu t of Sa es Compar son Ana ys s

$683,585 (or $297 / sq ft)

Last Ana ys s Update: 5/19/2020

$376,500 – $930,000

(or $164 – $404 / sq ft)

Number of Comps Chosen

5

Comps Range

$359,000 – $965,000

Current Range of Comparable Homes

Compares the est mated va ue of the subject property w th the comps se ected n the Sa es Compar son Ana ys s.

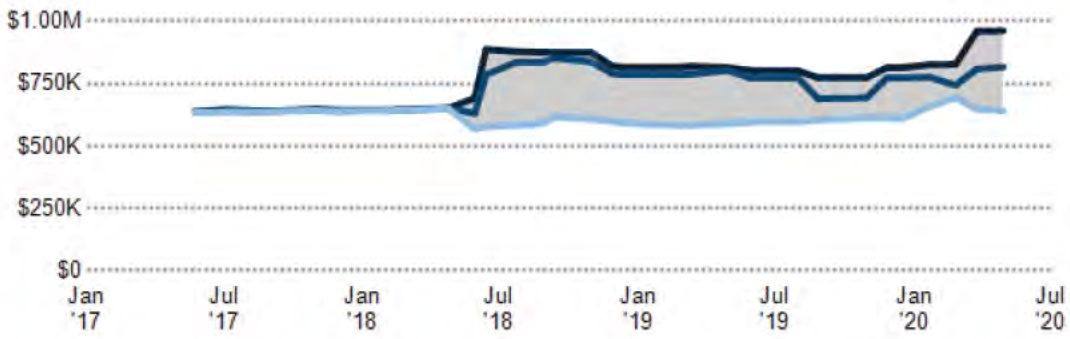
Comps:

- Subject Property (Appra sa Pr ce)
- For Sa e (L st Pr ce)
- Pend ng (L st Pr ce)
- Recent y So d (So d Pr ce)
- D stressed (L st Pr ce)
- Pend ng D stressed (L st Pr ce)
- Off Market (Est mate)

Historical Range of Comparable Homes

Compares the est mated va ue of the subject property w th the h ghest, med an and owest comps se ected n the Sa es Compar son Ana ys s.

- H ghest
- Med an
- Lowest



Comps and Adjustments Map

61040 Oil Dri Rd, Silver Lake, OR 97638

OFF MARKET

* Public Record

Pr ce: –

4 bed
2.1 bath
2,300 sq ft

24395 Dodds Rd, Bend, OR 97701

1 RECENTLY SOLD

* Sold Date: 3/17/2020 * MLS Listing 201911060: 12/30

Pr ce: **$640,000**

Adjusted: **$572,500**

3 bed
2.0 bath
2,211 sq ft

60282 Millican Rd, Christmas Valley, OR 97641

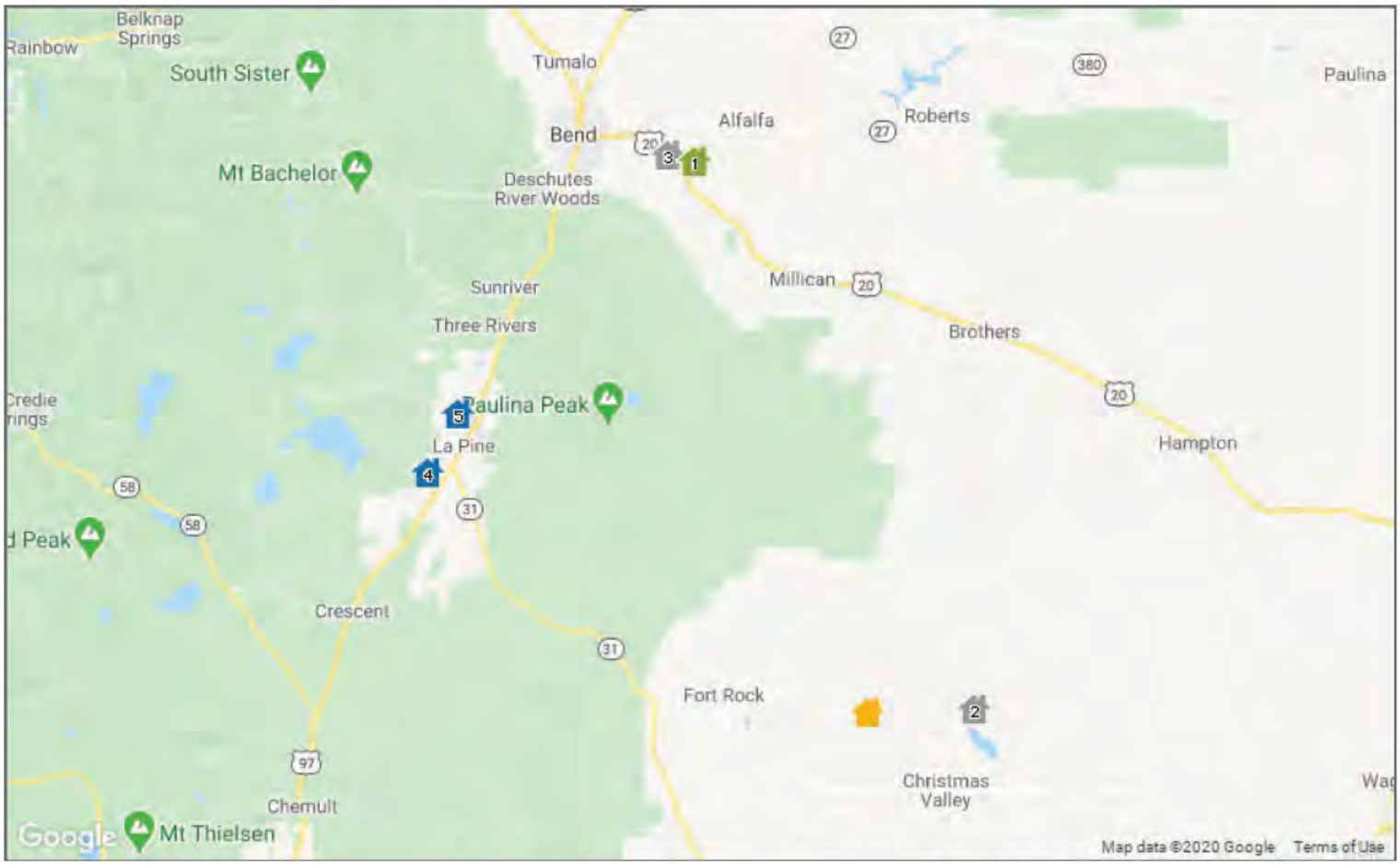
2 SOLD

* Sold Date: 3/29/2019 * MLS Listing 201900984: 2/12/2

Pr ce: **$359,000**

Adjusted: **$376,500**

3 bed
2.1 bath
2,688 sq ft



23549 Highway 20, Bend, OR 97701

3 SOLD

* Sold Date: 4/17/2019 * MLS Listing 201805258: 5/29/2

Pr ce: **$799,900**

Adjusted: **$724,900**

3 bed
3.0 bath
2,458 sq ft

50552 Deer Forest Dr, La Pine, OR 97739

4 FOR SALE

* Active: 1/28/2019

Pr ce: **$925,000**

Adjusted: **$880,000**

3 bed
2.1 bath
2,610 sq ft

52518 Meadow Ln, La Pine, OR 97739

5 FOR SALE

* Active: 3/14/2020

Pr ce: **$965,000**

Adjusted: **$930,000**

3 bed
2.1 bath
2,408 sq ft

Comps Selected In Analysis

			
Address	61040 O Dr Rd S ver Lake, OR 97638	24395 Dodds Rd Bend, OR 97701	60282 M can Rd Chr stmas Va ey, OR 97641
Status	Subject Property	1 Recent y So d	2 So d
MLS Name	–	MLS of Centra Oregon Assoc at on of REALTORS®	MLS of Centra Oregon Assoc at on of REALTORS®
MLS L st ng ID	–	201911060	201900984
Prox m ty		49.91 M . NW	9.27 M . E
Va ue	$683,585	$640,000	$359,000
Pr ce Per Sq. Ft.	$297	$289	$134
Sa e/F nance Concess on	–	–	–
Property Type	S ng e Fam y Res dence	S ng e Fam y Res dence	S ng e Fam y Res dence
Property Subtype	S ng e Fam y Res dent a (Assumed)	S ng e Fam y Res dence	S ng e Fam y Res dence
Tota Rooms	6	7	7
Tota Rooms Above Grade	–	7	7
Bedrooms	4	3	3
Bedrooms Above Grade	–	3	3
L v ng Area sq ft range (ow)	–	–	–
L v ng Area sq ft range (h gh)	–	–	–
Tota Baths	2.1	2.0 +$7,500	2.1
Tota Baths Above Grade	–	2.0	2.1
Fu Baths	2	2	2
Fu Baths Above Grade	–	2	2
Part a Baths	1	–	1
Part a Baths Above Grade	–	0	1
L v ng Area (sq ft)	2,300	2,211	2,688
L v ng Area Above Grade (sq ft)	–	2,211	2,688
Basement (sq ft)	–	0	0
F n shed Rooms Be ow Grade	–	0	0
Lot S ze	45 acres	40 acres	20 acres
Lot D mens ons	45.000 AC	39.620 AC	20.000 AC +$17,500
Garage	Yes	Yes	Yes
Garage (sq ft)	578	676	926
Poo	–	No	No
Locat on	Rura	Rura -$75,000	Rura
Tenure	Fee S mp e	Fee S mp e	Fee S mp e
V ew	Benef c a	Benef c a	Benef c a
V ew Factors	Terr tor a / Terra n	Mounta n V ew, Terr tor a	Terr tor a /Terra n
Sty e	Northwest Lodge	Contemporary Ranch	Trad t ona 2 story
Qua ty of Construct on	Q2	Q3	Q3

Comps Selected In Analysis

Address	61040 O Dr Rd S ver Lake, OR 97638	24395 Dodds Rd Bend, OR 97701	60282 M can Rd Chr stmas Va ey, OR 97641
Status	Subject Property	1 Recent y So d	2 So d
Year Bu t	2015	2001	2000
Age	5	19	20
Cond t on	C2	C3	C3
Funct ona Ut ty	Exce ent	Good	Good
Heat ng Features	Rad ant n f oor, propane, e ectr c	E ectr c, Forced A r, Heat Pump	Heat Pump, Pe et Stove
Coo ng Features	w red for heat pump	Heat Pump(S)	Heat Pump(S)
Energy Eff c ent Items	e evated R-va ues, doub e wa construct on	–	–
Porch/Pat o/Deck	Concrete pat os and proches.	–	Pave stone pat os and porch
Roof ng Features	–	Compos t on	Compos t on
F rep aces	–	1	L v ng Room
Basement Features	–	None	None
Foundat on Features	–	Stemwa	Stemwa
Construct on Features	–	Frame	Frame
Exter or Wa Features	–	Wood/ ap s d ng	Wood / Lap s d ng
Number of Bu d ngs	2	2	2
Number of Un ts	–	–	–
Number of Stor es	1	1	2
Detached Shop B dg.	1728 sq ft Shop B dg	1152 Sq Ft Shop B dg	1728 Sq Ft Shop B dg.
Lean to for RV storage	672 sq ft	1600 Sq Ft Hay cover	252 Sq Ft Shed, 168 sq ft pump hse
Net Adjustments (%)		-10.55%	+4.87%
Gross Adjustments (%)		12.89%	4.87%
Net Adjustments		-$67,500	+$17,500
Net Adjustments Per Sq. Ft.		-$30	+$6
Net Adjusted Va ue		$572,500	$376,500
Net Adjusted Va ue Per Sq. Ft.		$259	$140
Comp We ght ng		35%	15%
Notes from Cat Zw cker		Most s m ar to subject n overa Gross L v ng Area (GLA), room count, s m ar out bu d ng conf gurat on and ke acreage and rura ocat on. Super or on y due to access b ty to Bend amen t es and nfrastructure, Comparab e was bank-Rea Estate Owned (REO) sa e. Infer or qua ty due to deferred ma ntenance and norma wear and tear based on age. Super or 9.64 Acres of Irr gat on not conf rmed as act ve r ght at t me of sa e.	L ke Subject, comparab e s a custom home w th v ews offer ng an abundance of peace & qu et. S m ar room count s spread over 2 f oors, New app ances, 36x48 4 bay shop, p us super or attached & nsu ated doub e car garage w th RV park ng and 50 Amp serv ce. .Backs up to BLM on 3 s des. Age of amen t es/f n shes somewhat date th s comparab e mak ng t nfer or to the subject n both cond t on and funct ona ut ty to the subject.

Comps Selected In Analysis

			
Address	23549 H ghway 20 Bend, OR 97701	50552 Deer Forest Dr La P ne, OR 97739	52518 Meadow Ln La P ne, OR 97739
Status	3 So d	4 For Sa e	5 For Sa e
MLS Name	MLS of Centra Oregon Assoc at on of REALTORS®	MLS of Centra Oregon Assoc at on of REALTORS®	MLS of Centra Oregon Assoc at on of REALTORS®
MLS L st ng ID	201805258	201900558	202002221
Prox m ty	51.17 M . NW	43.58 M . W	43.99 M . NW
Va ue	$799,900	$925,000	$965,000
Pr ce Per Sq. Ft.	$325	$354	$401
Sa e/F nance Concess on	–	–	–
Property Type	S ng e Fam y Res dence	S ng e Fam y Res dence	S ng e Fam y Res dence
Property Subtype	S ng e Fam y Res dence	S ng e Fam y Res dence	S ng e Fam y Res dence
Tota Rooms	8	8	8
Tota Rooms Above Grade	8	8	8
Bedrooms	3	3	3
Bedrooms Above Grade	3	3	3
L v ng Area sq ft range (ow)	–	–	–
L v ng Area sq ft range (h gh)	–	–	–
Tota Baths	3.0	2.1	2.1
Tota Baths Above Grade	3.0	2.1	2.1
Fu Baths	3	2	2
Fu Baths Above Grade	3	2	2
Part a Baths	–	1	1
Part a Baths Above Grade	0	1	1
L v ng Area (sq ft)	2,458	2,610	2,408
L v ng Area Above Grade (sq ft)	2,458	2,610	2,408
Basement (sq ft)	0	0	0
F n shed Rooms Be ow Grade	0	0	0
Lot S ze	40.18 acres	25.02 acres	36.92 acres
Lot D mens ons	40.180 AC	25.02 AC	36.92 AC
Garage	Yes	Yes	Yes
Garage (sq ft)	528	636	840
Poo	No	No	No
Locat on	Rura Bend -$75,000	Rura /Forest -$45,000	Rura La P ne -$35,000
Tenure	Fee S mp e	Fee S mp e	Fee S mp e
V ew	Benef c a	Neutra	Benef c a
V ew Factors	Mounta n V ew, Mounta nous	Trees/Terra n	Mounta n V ew, Mounta nous, Terr tor a
Sty e	Trad t ona 2 story	NW Lodge/ranch w th oft	NW Ranch
Qua ty of Construct on	Q3	Q2	Q3

Comps Selected In Analysis

			
Address	23549 H ghway 20 Bend, OR 97701	50552 Deer Forest Dr La P ne, OR 97739	52518 Meadow Ln La P ne, OR 97739
Status	3 So d	4 For Sa e	5 For Sa e
Year Bu t	1995	2000	1987
Age	25	20	33
Cond t on	C2	C2	C3
Funct ona Ut ty	Good	Exce ent	Good
Heat ng Features	Forced A r, Heat Pump, Propane, Wa Furnace	E ectr c, Heat Pump	E ectr c, Forced A r, Heat Pump
Coo ng Features	Centra A r, Heat Pump(S), Who e House Fan	Heat Pump(S)	Heat Pump(S)
Energy Eff c ent Items	–	–	–
Porch/Pat o/Deck	Wood decks and porch	Concrete porch,wood deck	concrete porch and pave stone pat o
Roof ng Features	Compos t on	Compos t on	Meta
F rep aces	1	L v ng Room	1
Basement Features	Basement	None	None
Foundat on Features	Stemwa	Stemwa	Stemwa
Construct on Features	Frame	Frame	Frame
Exter or Wa Features	Wood	Wood ap	Wood T1-11
Number of Bu d ngs	3	2	2
Number of Un ts	–	–	–
Number of Stor es	2	1.5	2
Detached Shop B dg.	2220 SQ Ft Shop, GP B dg	3240 Sq Ft Shop B dg	900+/- sq ft - barn/shed
Lean to for RV storage	–	–	–
Net Adjustments (%)	-9.38%	-4.86%	-3.63%
Gross Adjustments (%)	9.38%	4.86%	3.63%
Net Adjustments	-$75,000	-$45,000	-$35,000
Net Adjustments Per Sq. Ft.	-$30	-$17	-$15
Net Adjusted Va ue	$724,900	$880,000	$930,000
Net Adjusted Va ue Per Sq. Ft.	$295	$337	$386
Comp We ght ng	15%	15%	20%
Notes from Cat Zw cker	Extens ve y remode ed and updated to current des gn and nter or feature standards to be equa to qua ty of Subject property. Super or outbu d ngs due to s ze and use of sma or g na 1925 farm dwe ng as guest house/stud o. There s no act ve k tchehn due to zon ng restr ct ons n the guest house. Super or -10 Acres rr gat on water from cana .	S m ar to subject n ntended use as pr vate fu t me res dence w th m ted outs de mp ngement on enjoyment. On y 25 acres w th water r ghts used for awn rr gat on. Property s deemed to be equa to subject n use, overa room count, s ght y super or outbu d ng at comparab e.	O der 2 story home w th trad t ona f ow on ma n eve and 2 bedrooms p us master and pr vate rec room up sta rs. Exter or s t1-11 s d ng, n need of pa nt and shows faded and wom off n h gh sun areas. Infer or overa to the subject due to cond t on, ack of updates and out bu d ngs.

1 24395 Dodds Rd, Bend, OR 97701

MLS Name: MLS of Centra Oregon Assoc at on of REALTORS®
MLS L st ng ID: 201911060

	L st ng Facts	Adjustments
Status	Recent y So d	
Prox m ty	49.91 M . NW	
Va ue	$640,000	
Pr ce Per Sq. Ft.	$289	
Sa e/F nance Concess on	–	
Property Type	S ng e Fam y Res dence	
Property Subtype	S ng e Fam y Res dence	
Tota Rooms	–	7
Tota Rooms Above Grade	–	7
Bedrooms	3	
Bedrooms Above Grade	–	3
L v ng Area sq ft range (ow)	–	
L v ng Area sq ft range (h gh)	–	
Tota Baths	2.0	+$7,500
Tota Baths Above Grade	–	2.0
Fu Baths	2	
Fu Baths Above Grade	–	2
Part a Baths	–	
Part a Baths Above Grade	–	0
L v ng Area (sq ft)	2,211	
L v ng Area Above Grade (sq ft)	2,211	
Basement (sq ft)	–	0
F n shed Rooms Be ow Grade	–	0
Lot S ze	40 acres	
Lot D mens ons	–	
Garage	–	
Garage (sq ft)	–	676
Poo	–	No
Locat on	–	Rura -$75,000
Tenure	–	Fee S mp e
V ew	–	Benef c a
V ew Factors	Mounta n V ew, Terr tor a	
Sty e	–	Contemporary Ranch
Qua ty of Construct on	–	Q3
Year Bu t	2001	
Age	19	
Cond t on	–	C3
Funct ona Ut ty	–	Good
Heat ng Features	E ectr c, Forced A r, Heat Pump	
Coo ng Features	Heat Pump(S)	
Energy Eff c ent Items	–	
Porch/Pat o/Deck	–	
Roof ng Features	Compos t on	
F rep aces	Great Room, Wood Burn ng	
Basement Features	–	None
Foundat on Features	Stemwa	
Construct on Features	Frame	
Exter or Wa Features	–	Wood/ ap s d ng

LEGEND: Subject Property Th s Property

RECENTLY SOLD

- *Sold Date: 3/17/2020*
- *MLS Listing 201911060: 12/30/2019*

So d Pr ce

$640,000

Adjusted Pr ce

$572,500

Net Adjustments ($ / %)

-$67,500 / -10.55%

Gross Adjustments ($ / %)

$82,500 / 12.89%

Notes from Cat Zw cker

Most s m ar to subject n overa Gross L v ng Area (GLA), room count,s m ar out bu d ng conf gurat on and ke acreage and rura oca on. Super or on y due to access b ty to Bend amen t es and nfrastructure, Comparab e was bank-Rea Estate Owned (REO) sa e. Infer or qua ty due to deferred ma ntenance and norma wear and tear based on age. Super or 9.64 Acres of Irr gat on not conf rmed&he p;

Number of Bu d ngs	L st ng Facts	Adjustments
Number of Un ts	–	
Number of Stor es	One	
Detached Shop B dg.	–	1152 Sq Ft Shop B dg
Lean to for RV storage	–	1600 Sq Ft Hay cover

Property Photos: 24395 Dodds Rd, Bend, OR 97701



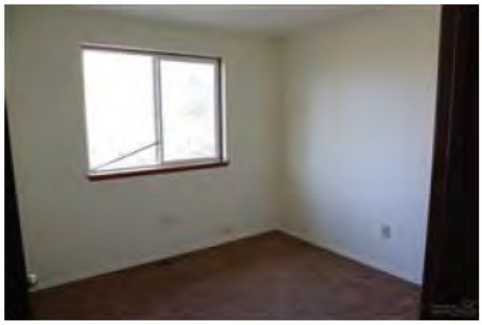
















2 60282 Millican Rd, Christmas Valley, OR 97641

MLS Name: MLS of Centra Oregon Assoc at on of REALTORS®
MLS L st ng ID: 201900984

	L st ng Facts	Adjustments
Status	So d	
Prox m ty	9.27 M . E	
Va ue	$359,000	
Pr ce Per Sq. Ft.	$129	
Sa e/F nance Concess on	–	
Property Type	S ng e Fam y Res dence	
Property Subtype	S ng e Fam y Res dence	
Tota Rooms	–	7
Tota Rooms Above Grade	–	7
Bedrooms	3	
Bedrooms Above Grade	–	3
L v ng Area sq ft range (ow)	–	
L v ng Area sq ft range (h gh)	–	
Tota Baths	2.1	
Tota Baths Above Grade	–	2.1
Fu Baths	2	
Fu Baths Above Grade	–	2
Part a Baths	1	
Part a Baths Above Grade	–	1
L v ng Area (sq ft)	2,780	2,688
L v ng Area Above Grade (sq ft)	2,780	2,688
Basement (sq ft)	–	0
F n shed Rooms Be ow Grade	–	0
Lot S ze	40 acres	20 acres
Lot D mens ons	–	+$17,500
Garage	–	Yes
Garage (sq ft)	–	926
Poo	–	No
Locat on	–	Rura
Tenure	–	Fee S mp e
V ew	–	Benef c a
V ew Factors	Terr tor a	Terr tor a /Terra n
Sty e	–	Trad t ona 2 story
Qua ty of Construct on	–	Q3
Year Bu t	2000	
Age	20	
Cond t on	–	C3
Funct ona Ut ty	–	Good
Heat ng Features	Heat Pump, Pe et Stove	
Coo ng Features	Heat Pump(S)	
Energy Eff c ent Items	–	
Porch/Pat o/Deck	–	Pave stone pat os and porch
Roof ng Features	Compos t on	
F rep aces	L v ng Room	
Basement Features	–	None
Foundat on Features	Stemwa	
Construct on Features	Frame	
Exter or Wa Features	–	Wood / Lap s d ng

LEGEND: Subject Property Th s Property

SOLD

- *Sold Date: 3/29/2019*
- *MLS Listing 201900984: 2/12/2019*

So d Pr ce

$359,000

Adjusted Pr ce

$376,500

Net Adjustments ($ / %)

+$17,500 / +4.87%

Gross Adjustments ($ / %)

$17,500 / 4.87%

Notes from Cat Zw cker

L ke Subject, comparab e s a custom home w th v ews offer ng an abundance of peace & qu et. S m ar room count s spread over 2 f oors, New app ances, 36x48 4 bay shop,p us super or attached & nsu ated doub e car garage w th RV park ng and 50 Amp serv ce. .Backs up to BLM on 3 s des. Age of amen t es/f n shes somewhat date th s comparab e mak ng t nfer or to the subject n both cond t on and&he p;

Number of Bu d ngs	L st ng Facts	Adjustments 2
Number of Un ts	–	
Number of Stor es	Two	
Detached Shop B dg.	–	1728 Sq Ft Shop B dg.
Lean to for RV storage	–	252 Sq Ft Shed, 168 sq ft pump hse

Property Photos: 60282 Millican Rd, Christmas Valley, OR 97641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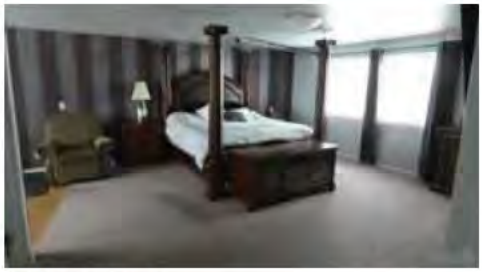
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23549 Highway 20, Bend, OR 97701

MLS Name: MLS of Centra Oregon Assoc at on of REALTORS®
MLS L st ng ID: 201805258

	L st ng Facts	Adjustments	
Status	So d		
Prox m ty	51.17 M . NW		
Va ue	$799,900		
Pr ce Per Sq. Ft.	$325		
Sa e/F nance Concess on	–		
Property Type	S ng e Fam y Res dence		
Property Subtype	S ng e Fam y Res dence		
Tota Rooms	–	8	
Tota Rooms Above Grade	–	8	
Bedrooms	3		
Bedrooms Above Grade	–	3	
L v ng Area sq ft range (ow)	–		
L v ng Area sq ft range (h gh)	–		
Tota Baths	3.0		
Tota Baths Above Grade	–	3.0	
Fu Baths	3		
Fu Baths Above Grade	–	3	
Part a Baths	–		
Part a Baths Above Grade	–	0	
L v ng Area (sq ft)	2,458		
L v ng Area Above Grade (sq ft)	2,458		
Basement (sq ft)	–	0	
F n shed Rooms Be ow Grade	–	0	
Lot S ze	40.18 acres		
Lot D mens ons	–		
Garage	–		
Garage (sq ft)	–	528	
Poo	–	No	
Locat on	–	Rura Bend	-$75,000
Tenure	–	Fee S mp e	
V ew	–	Benef c a	
V ew Factors	Mounta n V ew, Mounta nous		
Sty e	–	Trad t ona 2 story	
Qua ty of Construct on	–	Q3	
Year Bu t	1995		
Age	25		
Cond t on	–	C2	
Funct ona Ut ty	–	Good	
Heat ng Features	Forced A r, Heat Pump, Propane, Wa Furnace		
Coo ng Features	Centra A r, Heat Pump(S), Who e House Fan		
Energy Eff c ent Items	–		
Porch/Pat o/Deck	–	Wood decks and porch	
Roof ng Features	Compos t on		
F rep aces	Great Room, Propane		
Basement Features	–		
Foundat on Features	Stemwa		

LEGEND: Subject Property Th s Property

SOLD

- *Sold Date: 4/17/2019*
- *MLS Listing 201805258: 5/29/2018*

So d Pr ce

$799,900

Adjusted Pr ce

$724,900

Net Adjustments ($ / %)

-$75,000 / -9.38%

Gross Adjustments ($ / %)

$75,000 / 9.38%

Notes from Cat Zw cker

Extens ve y remode ed and updated to current des gn and nter or feature standards to be equa to qua ty of Subject property. Super or outbu d ngs due to s ze and use of sma or g na 1925 farm dwe ng as guest house/stud o. There s no act ve k tcehn due to zon ng restr ct ons n the guest house. Super or -10 Acres rr gat on water from cana .

Construct on Features	Ex sting Facts	Adjustments
Exter or Wa Features	–	Wood
Number of Bu d ngs	–	3
Number of Un ts	–	
Number of Stor es	Two	2
Detached Shop B dg.	–	2220 SQ Ft Shop, GP B dg
Lean to for RV storage	–	

Property Photos: 23549 Highway 20, Bend, OR 97701


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50552 Deer Forest Dr, La Pine, OR 97739

MLS Name: MLS of Centra Oregon Assoc at on of REALTORS®
MLS L st ng ID: 201900558

	L st ng Facts	Adjustments	
Status	For Sa e		
Prox m ty	43.58 M . W		
Va ue	$925,000		
Pr ce Per Sq. Ft.	$354		
Sa e/F nance Concess on	–		
Property Type	S ng e Fam y Res dence		
Property Subtype	S ng e Fam y Res dence		
Tota Rooms	–	8	
Tota Rooms Above Grade	–	8	
Bedrooms	3		
Bedrooms Above Grade	–	3	
L v ng Area sq ft range (ow)	–		
L v ng Area sq ft range (h gh)	–		
Tota Baths	2.1		
Tota Baths Above Grade	–	2.1	
Fu Baths	2		
Fu Baths Above Grade	–	2	
Part a Baths	1		
Part a Baths Above Grade	–	1	
L v ng Area (sq ft)	2,610		
L v ng Area Above Grade (sq ft)	2,610		
Basement (sq ft)	–	0	
F n shed Rooms Be ow Grade	–	0	
Lot S ze	25.02 acres		
Lot D mens ons	–	25.02 AC	
Garage	–	Yes	
Garage (sq ft)	–	636	
Poo	–	No	
Locat on	–	Rura /Forest	-$45,000
Tenure	–	Fee S mp e	
V ew	–	Neutra	
V ew Factors	–	Trees/Terra n	
Sty e	–	NW Lodge/ranch w th oft	
Qua ty of Construct on	–	Q2	
Year Bu t	2000		
Age	20		
Cond t on	–	C2	
Funct ona Ut ty	–	Exce ent	
Heat ng Features	E ectr c, Heat Pump		
Coo ng Features	Heat Pump(S)		
Energy Eff c ent Items	–		
Porch/Pat o/Deck	–	Concrete porch,wood deck	
Roof ng Features	Compos t on		
F rep aces	L v ng Room		
Basement Features	–	None	
Foundat on Features	Stemwa		
Construct on Features	Frame		
Exter or Wa Features	–	Wood ap	

LEGEND: Subject Property Th s Property

FOR SALE
• *Active: 1/28/2019*

L st Pr ce
$925,000

Adjusted Pr ce
$880,000

Net Adjustments ($ / %)
-$45,000 / -4.86%

Gross Adjustments ($ / %)
$45,000 / 4.86%

Notes from Cat Zw cker

S m ar to subject n ntended use as pr vate fu t me res dence w th m ted outs de mp ngement on enjoyment. On y 25 acres w th water r ghts used for awn rr gat on. Property s deemed to be equa to subject n use, overa room count, s ght y super or outbu d ng at comparab e.

Number of Bu d ngs	L st ng Facts	Adjustments 2
Number of Un ts	–	
Number of Stor es	Two	1.5
Detached Shop B dg.	–	3240 Sq Ft Shop B dg
Lean to for RV storage	–	

4 Property Photos: 50552 Deer Forest Dr, La Pine, OR 97739


Aer a Property V ew


Front Exter or and Pond


Pond


Water Feature


Shop


Front Exter or of Deer Forest Home


P at Map V ew of Property


Great Room


Great Room


K tchen


K tchen


D n ng Room


D n ng Room


L v ng Area


Entry


Loft


Bedroom 1


Bedroom 1


Bathroom


Entry


Bedroom

52518 Meadow Ln, La Pine, OR 97739

MLS Name: MLS of Centra Oregon Assoc at on of REALTORS®
MLS L st ng ID: 202002221

	L st ng Facts	Adjustments	
Status	For Sa e		
Prox m ty	43.99 M . NW		
Va ue	$965,000		
Pr ce Per Sq. Ft.	$401		
Sa e/F nance Concess on	–		
Property Type	S ng e Fam y Res dence		
Property Subtype	S ng e Fam y Res dence		
Tota Rooms	–	8	
Tota Rooms Above Grade	–	8	
Bedrooms	3		
Bedrooms Above Grade	–	3	
L v ng Area sq ft range (ow)	–		
L v ng Area sq ft range (h gh)	–		
Tota Baths	2.1		
Tota Baths Above Grade	–	2.1	
Fu Baths	2		
Fu Baths Above Grade	–	2	
Part a Baths	1		
Part a Baths Above Grade	–	1	
L v ng Area (sq ft)	2,408		
L v ng Area Above Grade (sq ft)	2,408		
Basement (sq ft)	–	0	
F n shed Rooms Be ow Grade	–	0	
Lot S ze	36.92 acres		
Lot D mens ons	–	36.92 AC	
Garage	–		
Garage (sq ft)	–	840	
Poo	–	No	
Locat on	–	Rura La P ne	-$35,000
Tenure	–	Fee S mp e	
V ew	–	Benef c a	
V ew Factors	Mounta n V ew, Mounta nous, Terr tor a		
Sty e	–	NW Ranch	
Qua ty of Construct on	–	Q3	
Year Bu t	1987		
Age	33		
Cond t on	–	C3	
Funct ona Ut ty	–	Good	
Heat ng Features	E ectr c, Forced A r, Heat Pump		
Coo ng Features	Heat Pump(S)		
Energy Eff c ent Items	–		
Porch/Pat o/Deck	–	concrete porch and pave stone pat o	
Roof ng Features	Meta		
F rep aces	–	1 L v ng room	
Basement Features	–	None	
Foundat on Features	Stemwa		

LEGEND: Subject Property Th s Property

FOR SALE

• *Active: 3/14/2020*

L st Pr ce

$965,000

Adjusted Pr ce

$930,000

Net Adjustments ($ / %)

-$35,000 / -3.63%

Gross Adjustments ($ / %)

$35,000 / 3.63%

Notes from Cat Zw cker

O der 2 story home w th trad t ona f ow on ma n eve and 2 bedrooms p us master and pr vate rec room up sta rs. Exter or st1-11 s d ng, n need of pa nt and shows faded and worn off n h gh sun areas. Infer or overa to the subject due to cond t on, ack of updates and out bu d ngs.

Construct on Features	Ex sting Facts	Adjustments
Exter or Wa Features	–	Wood T1-11
Number of Bu d ngs	–	
Number of Un ts	–	
Number of Stor es	Two	
Detached Shop B dg.	–	900+/- sq ft - barn/shed
Lean to for RV storage	–	

Property Photos: 52518 Meadow Ln, La Pine, OR 97739


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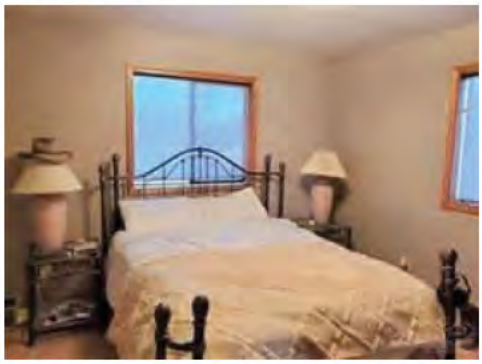
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Property Attributes	Minimum	Maximum	Average
Year Bu t	–	–	–
L v ng Area (sq ft)	–	–	–
Lot S ze	–	–	–
# Samp es	–	–	–

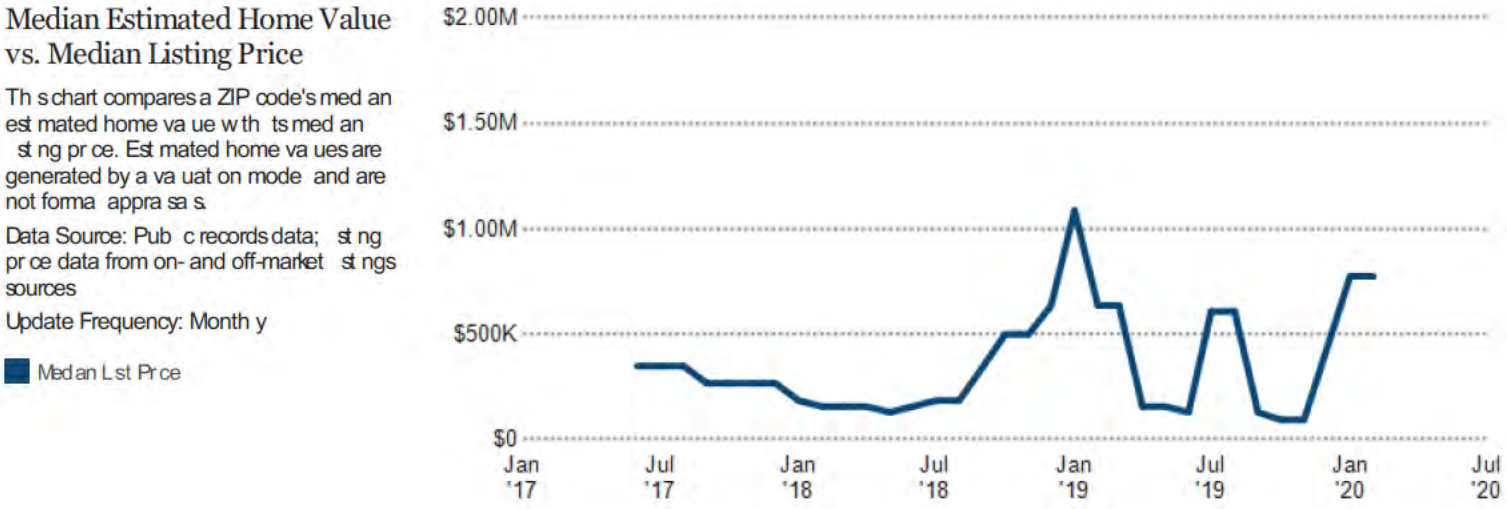
General Market Health Charts

Median Estimated Home Value vs. Median Listing Price

Th s chart compares a ZIP code's med an est mated home va ue w th ts med an st ng pr ce. Est mated home va ues are generated by a va uat on mode and are not forma appra sa s.

Data Source: Pub c records data; st ng pr ce data from on- and off-market st ngs sources

Update Frequency: Month y

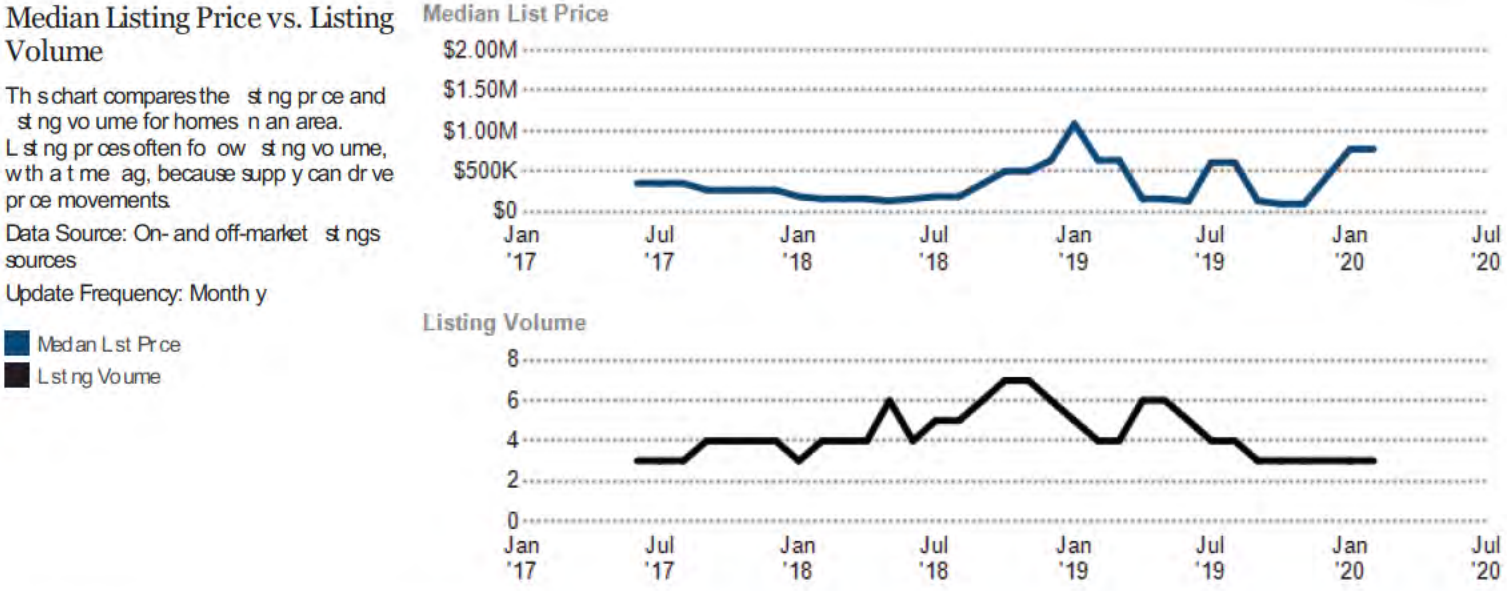


Median Listing Price vs. Listing Volume

Th s chart compares the st ng pr ce and st ng vo ume for homes n an area. L st ng pr ces often fo ow st ng vo ume, w th a t me ag, because supp y can dr ve pr ce movements.

Data Source: On- and off-market st ngs sources

Update Frequency: Month y

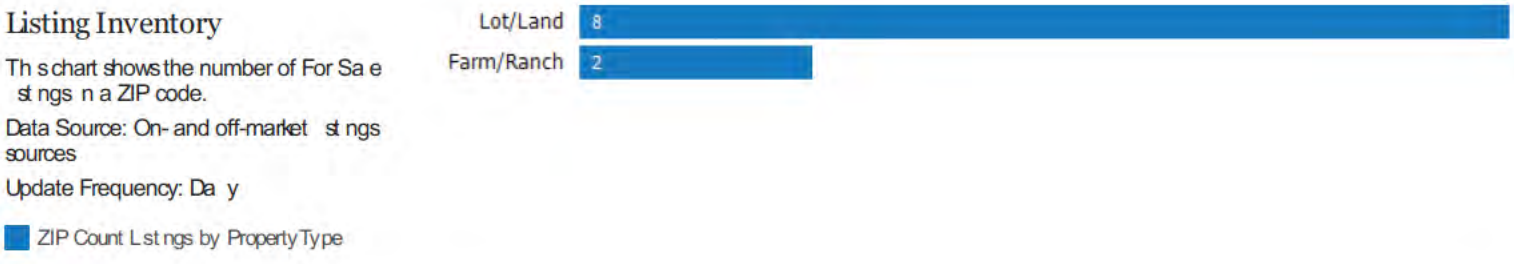


Listing Inventory

Th s chart shows the number of For Sa e st ngs n a ZIP code.

Data Source: On- and off-market st ngs sources

Update Frequency: Da y



Age Range of Homes Sold

5 yrs 1

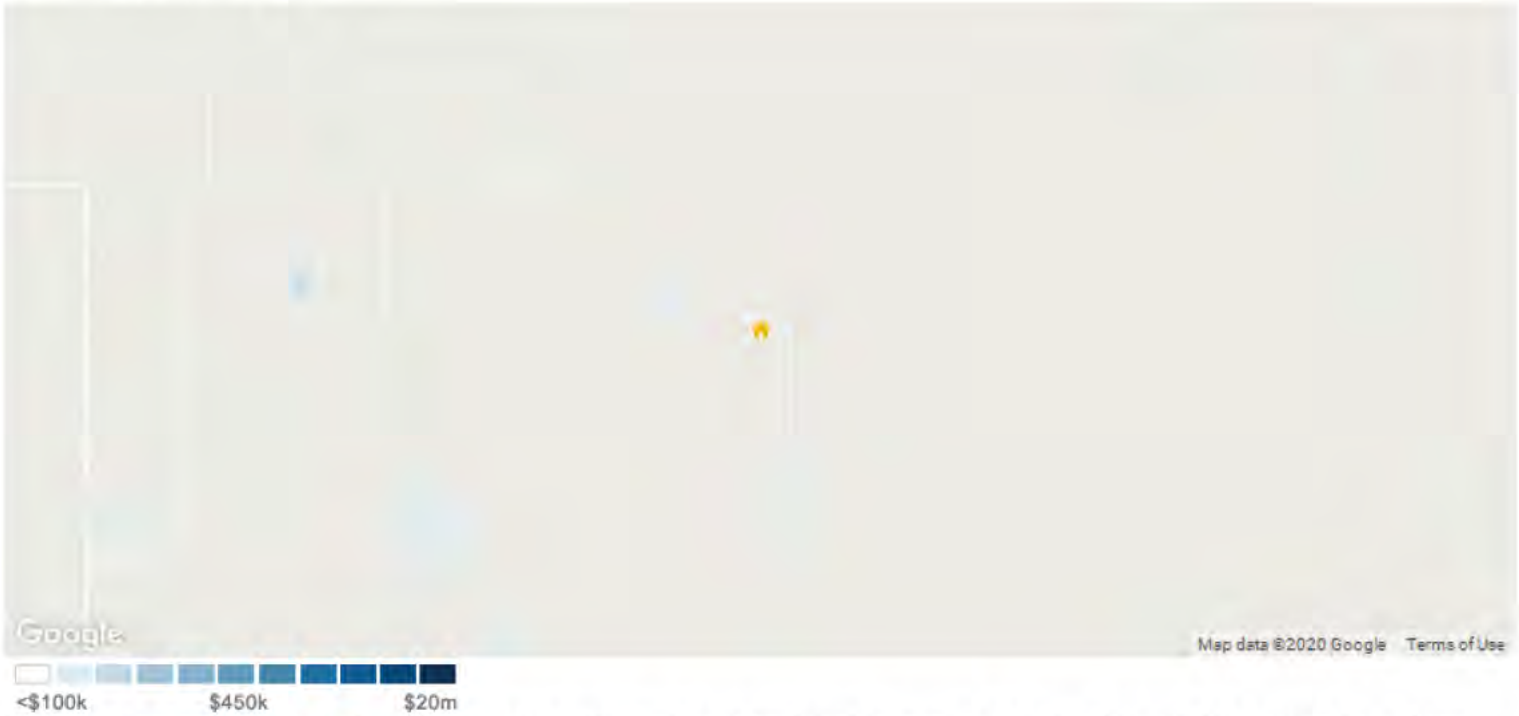
Th s chart shows the d str but on of homes reported so d n the past s x months of d fferent age ranges n the area of your search.

Data Source: Pub c records data

Update Frequency: Month y

Th s House

Estimated Home Values

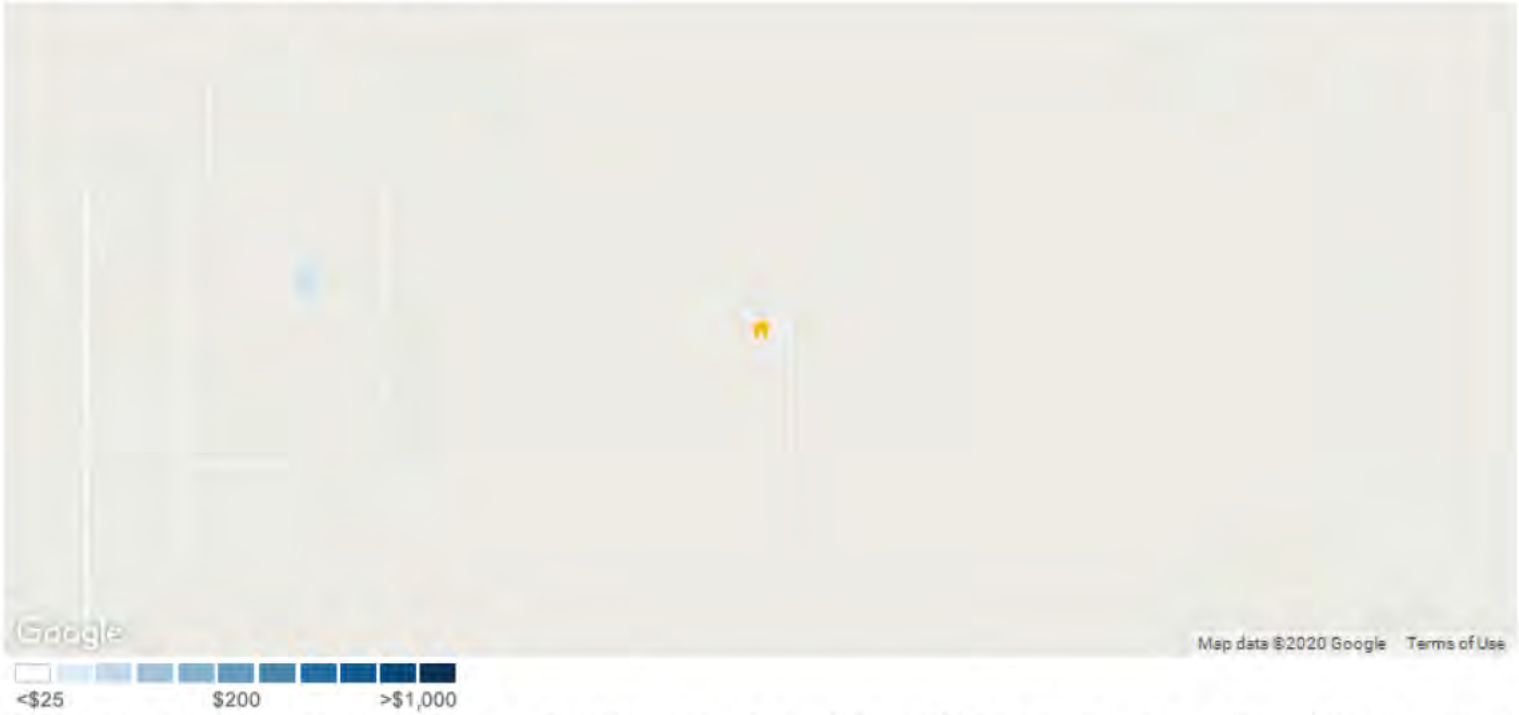


Th s map ayer shows the average est mated home va ues, based on the AVMs and RVMs® for propert es n an area. Source(s): Pub c records and MLS data where censed; updated Quarter y.

12-Month Change in Estimated Value

Th s map ayer shows the change n est mated home va ues over the past 12 months, based on the AVMs and RVMs® for propert es n an area. Source(s): Pub c records and MLS data where censed; updated Quarter y.

Estimated Value per Square Foot



Th s map ayer shows average est mated va ue per square foot of homes, based on the AVMs and RVMs® for propert es n an area. Source(s): Pub c records and MLS data where censed; updated Quarter y.

Property Photos from Cat Zwicker

Added on 5/18/2020










About RPR (Realtors Property Resource)

- Realtors Property Resource® is a wholly owned subsidiary of the National Association REALTORS®.
- RPR offers comprehensive data – including a nationwide database of 164 million properties – as well as powerful analytics and dynamic reports exclusively for members of the NAR.
- RPR's focus is giving residential and commercial real estate practitioners, brokers, and MLS and Association staff the tools they need to serve their clients.
- This report has been provided to you by a member of the NAR.

RPR®
REALTORS PROPERTY RESOURCE

About RPR's Data

RPR generates and compiles real estate and other data from a vast array of sources. The data contained in your report includes some or all of the following:

- **Listing data** from our partner MLSs and CIEs, and related calculations, like estimated value for a property or median sales price for a local market.
- **Public records data** including tax, assessment, and deed information. Foreclosure and distressed data from public records.
- **Market conditions and forecasts** based on listing and public records data.
- **Census and employment data** from the U.S. Census and the U.S. Bureau of Labor Statistics.
- **Demographics and trends data** from Esri. The data in commercial and economic reports includes Tapestry Segmentation, which classifies U.S. residential neighborhoods into unique market segments based on socioeconomic and demographic characteristics.
- **Business data** including consumer expenditures, commercial market potential, retail marketplace, SIC and NAICS business information, and banking potential data from Esri.
- **School data and reviews** from Niche.
- **Specialty data sets** such as walkability scores, traffic counts and flood zones.

Update Frequency

- Listings and public records data are updated on a continuous basis.
- Charts and statistics calculated from listing and public records data are refreshed monthly.
- Other data sets range from daily to annual updates.

Learn more

For more information about RPR, please visit RPR's public website: http://blog.narrpr.com

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TARDAEWETHER Kellen * ODOE

From: Brian Meiering <brian@wetlandsandwildlifellc.com>
Sent: Monday, July 20, 2020 3:51 PM
To: TARDAEWETHER Kellen * ODOE
Cc: aaron@noteboomlaw.com; Mike Reeder; lrfarming
Subject: [Fortimail Spam Detected] Obsidian Solar Center
Attachments: WWLLC_comments.pdf; Resume_Meiering2019.pdf

Kellen,
Please find an attached comment to add to the record pertaining to the Obsidian Solar Center proposal.
I look forward to digitally joining the meeting today.
Have a great afternoon!

Sincerely,
Brian

Brian Meiering
Wetlands and Wildlife LLC
541.214.6051

July 15, 2020

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301
Email: Kellen.Tardaewether@oregon.gov

Re: Obsidian Solar Center LLC ("Obsidian")

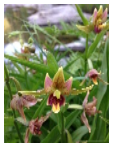
Dear Mrs. Tardaewether,

I have been asked to evaluate the effect of the proposed facility on the abutting farm operations, native wildlife, and the proposed mitigation for loss of ODFW designated Big Game Range. In doing so, I evaluated the current proposal and all supplemental materials provided (up to July 19, 2020) to the Oregon Department of Energy for consideration in their review.

The project proposes developing a fully fenced solar array across up to 3,921 acres (approximately 6 square miles). There have been several modifications to the original proposal to arrive at this offered footprint. Most of the footprint would be used to install solar arrays, while a proposed substation(s) and overhead transmission lines would connect the facility to an existing 500 kV transmission line. Avoidance areas within the fenced perimeter of the site have been proposed by the applicant. These measures have been proposed primarily to avoid direct impact to sensitive resources, particularly species-specific habitats. These measures do not assure that indirect impacts will be inconsequential, although it is reasonable and prudent in lieu of direct impacts.

The applicant proposes off-site mitigation to compensate for loss of the fenced facility from usable big game range. Juniper removal is the primary proposed method to compensate for the loss of habitat within the solar facility. The applicant proposes a ratio of 1.2 acres of off-site juniper removal for every 1 acre of impact. ODFW comments regarding the proposed mitigation suggest that at least 2 acres of juniper removal for every one acre (2:1) of fenced project area would be more appropriate to assure no net loss in big game range. It is common for projects to require a greater than 1:1 ratio to increase the likelihood that mitigation will succeed overall, with some allowances for failure. Mitigation ratios are an important factor when evaluating how robust a mitigation plan will be to address the direct loss of habitat function and value proposed within any project. Depending on mitigation timing, temporal losses of big game range would also be expected unless successful mitigation was completed before the primary project (Obsidian Solar Center) breaks ground. A 1:1.2 mitigation ratio does not appear to be consistent with the ODFW mitigation policy. The applicant maintains that the mitigation site has "good value". A site which already maintains "good value" will not provide the same level of potential "enhancement" as a mitigation site with "poor value". The mitigation ratio should reflect a "net benefit to habitat quantity or quality". This net benefit needs to be measured against the "habitat quantity or quality" assigned to all portions of the proposed facility footprint. Due to the proposed facility size, an argument could also be made to increase the big game range land base which will be affected by the project due to animal avoidance. Given the proposed direct impacts of the solar facility on big game range function and value, it is reasonable to expect at least a 2:1 mitigation ratio.

According to Lake County, Christmas Valley is largely an alfalfa farming community. Obsidian proposes siting the fenced facility abutting substantial farm uses. There are several potential effects the facility could have on farming operations, primarily due to the proposed size of the facility and the current soils, food, cover and space which will be modified within the fenced perimeter (and excluded from ungulates). The most reasonable expectation for farmers should include the 1) effects of increased herbivory on adjacent farmed fields and harvested stockpiles, 2) increased migration of big game through farmed fields and, 3) increased sand/ash deposits from facility wind/water.



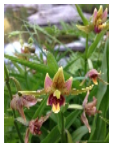
The fenced perimeter of the facility would be approximately 15 miles. This amount of land base will exclude all large mammals. This displacement of large mammals will create more movement of animals through farmed fields and hay stockpiles. This will directly impact farming operations and lead to financial losses, although the amount of the impacts is not known. Formal concessions need to be made to mitigate the effect on farmers abutting the proposed facility.
Other species may be displaced from modified habitat within the fenced perimeter. Lagomorphs and rodents are known to cause damage to farmed fields and stockpiles based on current conditions. Formal concessions need to be made to mitigate the effect on farmers abutting the proposed facility.
Erosion of cleared lands is an issue, particularly due to the sandy/ashy soils coupled with dry, windy conditions. It is not uncommon for natural dunes to form in the area, leaving disturbed soils particularly vulnerable. Although Obsidian appears to have addressed this issue in their application and supplemental materials, formal concessions need to be made to mitigate the effect on farmers abutting the proposed facility.

Again, thank you for the opportunity to engage the applicant and review agencies.

Sincerely,

Brian Meiering, Environmental Specialist (Environmental Specialist, PWS)
Wetlands and Wildlife LLC
P.O. Box 50878
Eugene, OR 97405

Email | http://www.wetlandsandwildlifeLLC.com
p. 541.214.6051 | brian@wetlandsandwildlifeLLC.com



Brian Meiering
Environmental Specialist
Wetlands and Wildlife LLC

Education
- Bachelor of Science, Wildlife Biology, *University of Montana,* 1998
- Masters Certificate, Fisheries Management, *Oregon State University*, 2015

Professional Affiliation
- Member, Certified PWS, Society of Wetlands Scientists

Professional Experience
- 2016-present, Environmental Specialist, *Wetlands and Wildlife LLC*, Eugene, Oregon
- 2011-2015, Environmental Specialist, *Schirmer Satre Group*, Eugene, Oregon
- 2006-2011, Environmental Specialist, *Satre Associates, P.C.*, Eugene, Oregon
- 2002-2015, Biologist, *Oregon State University*, Corvallis, Oregon
- 2003-2005, Fisheries Biologist *, Oregon Department of Fisheries and Wildlife;* Newport, OR
- 2001-2002, Biological Science Technician, *United States Forest Service*, Ogden, UT
- 2000-2001 Park Ranger (Endangered Species Protection), *Bureau of Land Management*, Palm Springs, CA
- 1999-2001, Biological Science Technician, *National Parks Service*; Grand Canyon, AZ
- 1999, Biological Field Technician, *Hawkwatch International, Inc*; Salt Lake, UT

Supplemental Coursework
- 2015 Graduate Cert. in Fisheries Management
- 2008, Fish Survey / Electrofishing, Correspondence (DOI)
- 2006-2007, Wetland Studies, *Portland State University*
  Professional Certifications
  - Wetland Delineation
  - Plants of the Pacific Northwest
  - Advanced Soils and Hydrology for Delineators
  - Wetland Mitigation, Installation, and Construction
  - Grasses and Sedges and Rushes of the Pacific Northwest
- 2003, Geographic Information Systems, *Oregon State University*
- 2003, Remote Sensing and Cartography graduate level training, *University of Oregon*

Volunteer Activities
- 2006-present, Northern Spotted Owl demography study, Corvallis, OR
- 1999-2003, *Goshute Mountains raptor migration monitoring*, Wendover, UT
- 1990-1992, *United States Fish and Wildlife* Service Ecological Services Division, Albuquerque, NM

Brian brings extensive skills and diverse expertise in environmental services to Wetlands and Wildlife LLC clients. With 20 years of experience throughout the Western United States, Brian can help clients with regulatory compliance regarding aquatic and terrestrial environments.

Whether wetland or upland, rare or common species, site-specific or watershed scale, Brian's field-based science, expert documentation and agency relationships help clients achieve their goals.

Services include:

- Complete Clean Water Act scoping and compliance permitting
- Wetland delineation, mitigation, permitting, and monitoring
- Rare species, natural resources due diligence.
- FEMA Endangered Species Act compliance for CLOMR, CLOMR-F
- Terrestrial and aquatic species surveys
- Flora and fauna isolation, salvage
- Geographic Information Services
- Mapping and Spatial Analysis
- Trail Corridor analysis and design
- Habitat type mapping and analysis
- Viewshed and watershed interpretation, mapping and analysis
- Aerial photography interpretation
- Soils, geomorphology

Wetlands and Wildlife LLC

Tel 541.214.6051

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Eugene, OR 97405

www.wetlandsandwildlifeLLC.com
brian@wetlandsandwildlifeLLC.com

July 15, 2020

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301

via electronic mail:
Kellen.Tardaewether@oregon.gov

RE: Obsidian Solar Center, LLC project at Fort Rock

Ms. Tardaewether,

I am the Lake County Noxious Weed Supervisor and Program Coordinator for the Lake County Cooperative Weed Management Area (CWMA). This letter is to express support for the weed control and revegetation plans proposed in connection with the development of the Obsidian Solar Center and to confirm that the Lake County CWMA will be working with Obsidian during and after construction of the project. I provided Obsidian with the Lake County Noxious Weed List and the Lake County Noxious Weed Plan for reference, as well as our Weed Prevention Area Map and Corresponding Key. I understand Obsidian used these resources in developing its weed control plans for both the development site as well as the mitigation areas. In addition, I provided input on the seed mixture and best practices included in the project's revegetation plan.

By way of background, here is additional information on the operations and practices of the Lake County CWMA.

When we select a species for treatment we without exception do follow up monitoring and report the results (dependent on the type of grant funding used for the specific treatment) not only to the Lake County Commissioners, but to Oregon Department of Ag., Oregon Watershed Enhancement Board, Oregon Department of Fish and Wildlife, the Bureau of Land Management, and the US Forest Service. This is mostly due to the intertwined nature of our program. When we do our effectiveness monitoring, we use photos and acreage metrics to account for treatment and use those metrics to measure success or failures of treatment.

When we decide what species to start treating, we take a multi-pronged approach. First, we look at the Oregon State Noxious Weed list and identify species that are present in our area and take into account the state priority ranking. We then move to our local Lake County Noxious weed list and again relate that back to our Lake County Noxious Weed Plan (which is reviewed by the Lake County Noxious Weed Board). Once we determine the species and areas that are slated for treatment, we then ask our local federal and state partners what their treatment strategy and priorities are for the year. After taking all these factors into the decision making process, we then select areas for treatment.

Lake County CWMA looks forward to continuing to advise and work with Obsidian on this facility.

Sincerely,

Jason C. Jaeger-Lake County CWMA

TARDAEWETHER Kellen * ODOE

From: David Kerr <dkerr@nlake.k12.or.us>
Sent: Monday, July 20, 2020 10:10 AM
To: TARDAEWETHER Kellen * ODOE
Subject: [Fortimail Spam Detected] Letter from North Lake Education Foundation
Attachments: Obsidian ltr of rec 7.15.2020.doc

David Kerr
541-420-0242

Historic
Fort Rock

North Lake
Education Foundation

57566 Fort Rock Road • Silver Lake • OR 97638 • 541-576-2121• Fax: 541-576-2705

July 15, 2020

To whom it may concern;

I served as the Superintendent of North Lake School District for over seven years and just recently retired from that position.

One of our greatest accomplishments during this time was the passing of a $4 million bond/construction project in May, 2019 with an additional $4 million in matching state funds. This total $8 million project was passed overwhelmingly by North Lake voters. I believe that our constituents saw this as a good educational decision as well as a smart business move.

Among the many questions asked during the election campaign was the effect that the Obsidian Renewables project would have on taxes in North Lake. Based on data from the Lake County Assessor's office the Obsidian project would drop our bond tax rate from $1.09 per thousand to $0.92 per thousand (a nearly 15% reduction). Once again, I believe our constituents saw this cost savings as a benefit to North Lake education and another smart business move. Perhaps another reason they supported our bond so well.

While I have retired as the Superintendent, I still serve as the Executive Director of the North Lake Education Foundation (NLEF) a 501 (c) (3) organization. Obsidian has committed to donating up to $4 million to the North Lake Education Foundation when this project is completed for educational enhancement and enrichment activities.

I believe that the Obsidian Renewables project has already paid dividends to the North Lake area and support their continued development of this project.

Respectfully,

David Kerr
Former North Lake School Superintendent
Executive Director, NLEF

Archaeological Investigations Northwest, Inc.

3510 N.E. 122nd Ave. • Portland, Oregon 97230
Phone (503) 761-6605 • Fax (503) 761-6620

Vancouver Phone (360) 696-7473
E-mail: ainw@ainw.com
Web: www.ainw.com

Public Hearing
Obsidian Solar Center – Draft Proposed Order, Energy Facility Siting Council (EFSC)
Christmas Valley, Oregon
Monday, July 20, 2020, 5:30 to 7:00 pm (virtual via WebEx)

Terry Ozbun, Senior Archaeologist, Archaeological Investigations Northwest, Inc. (AINW)
Registered Professional Archaeologist (RPA #12297)
Practicing professional archaeology in Oregon for 33 years

1. What is the EFSC standard for historic, cultural, and archaeological resources?

The Oregon Administrative Rules for the Department of Energy, Energy Facility Siting Council (OAR 345-022-0090) identify a standard for protection of cultural resources during development of energy facilities. The standard states "…the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impacts to … Historic, cultural or archaeological resources that have been listed on, or would likely be listed on the National Register of Historic Places."

The National Register of Historic Places (NRHP) is a list of historic buildings and structures, archaeological sites, and other cultural resources that meet certain criteria for historical significance. Protection of significant historic, cultural or archaeological resources involves avoiding impacts to them altogether, minimizing necessary impacts, or mitigation through scientific collection of information prior to impacts. Obsidian Solar Center has developed plans employing all three aspects of protection – avoidance, minimization, and mitigation.

2. How has Obsidian Solar Center met the EFSC standard?

The first step in meeting the standard is to see what cultural resources are present in the project area. Obsidian Solar Center hired professional cultural resource management firm Heritage Research Associates, Inc., out of Eugene, Oregon, to survey the nearly four thousand-acre project area. HRA found both Native American artifacts thousands of years old and historic artifacts associated with homesteading and ranching dating from the late 1800s and early 1900s. In total, 114 archaeological sites and 241 isolated artifact finds were identified in the project area. Archaeological sites have ten or more artifacts or an archaeological feature such as a fire hearth or storage pit. Archaeological isolates have fewer than ten artifacts and no archaeological features.

Next, Obsidian Solar Center consulted with Native American tribes on the survey findings. The Klamath Tribes recommended setting aside certain areas thought to potentially contain human burials so that project construction would not disturb the dead. In addition, another area with dense archaeological resources was set aside for no development. Obsidian Solar Center agreed to set these areas aside to avoid impacting human remains and the archaeological sites in those areas. They also agreed to hire tribal monitors to observe construction in the remaining development areas to help avoid inadvertent impacts to important cultural resources. This is one way that Obsidian Solar Center will protect important resources by minimizing and avoiding impacts to them.

Obsidian Solar Center also coordinated with the Oregon State Historic Preservation Office (SHPO) on which of the archaeological resources might be significant and eligible for listing in the National Register. SHPO recommended treating all of the archaeological resources as parts of a potentially significant archaeological district instead of evaluating each archaeological site or isolate individually. This approach allows holistic consideration of archaeological resources in the path of planned construction impacts, regardless of their individual significance and treating them all in a systematic way to mitigate the impacts by collecting archaeological information prior to construction. Obsidian Solar Center agreed to this approach and worked with the SHPO to specify how the archaeological mitigation would be done. This is another way that Obsidian Solar Center will protect important archaeological resources by mitigating impacts.

Archaeological Investigations Northwest, Inc. (AINW), the company that I work for, was hired by Obsidian Solar Center to develop detailed specifications for the approach suggested by SHPO. The specified methods were customized for the known resources and expected construction impacts. These methods addressed different types of impacts (trenching or other excavations) on different types of archaeological resources (pre-contact, historic, sites, isolates) and identified what would be done in each case. Obsidian Solar Center worked with the tribes and state agencies so that everyone was on-board with these mitigation plans.

Oregon law requires permits for any work that impacts archaeological sites, so Oregon SHPO collaborated with sister agency Oregon Department of Energy, to make sure the permits would be compatible with both agency's processes. Since archaeological permits are only issued to qualified archaeologists, I applied for the permits, on behalf of Obsidian Solar Center, using a research design incorporating the detailed specifications to which all the stakeholders had agreed. Four permits, one for each landowner, were issued earlier this year.

3. What happens next?

If EFSC grants the site certificate, then the next step is to apply the specified methods in the permits to the final Obsidian Solar Center design layout. This requires archaeological excavations in the locations of solar facility construction impacts to verify resource boundaries and to recover samples of artifacts along with the vital context of the artifacts needed to interpret the history of the Fort Rock Valley. The artifacts can tell us a lot about what happened in the past, but only if they are recovered using scientific methods to preserve data on the spatial relationships between the artifacts and the sedimentary deposits containing them. The specifications in the permits include detailed three-dimensional mapping of artifact find locations along with collection of information about soils, sediments, and other associated materials useful for determining the age of the artifacts and how they were used.

Once the archaeological fieldwork is completed a variety of analyses will be conducted to interpret what the artifacts and archaeological data tell us about the past. These results will be compiled into a report that helps to preserve these data while the artifacts and archaeological records of fieldwork will be curated in a repository for potential future research and public display. In addition, tribal monitors with archaeological training will observe construction to identify and recover artifacts and information not represented in the samples collected archaeologically and to make sure that human remains or other sensitive materials are protected.

4. Summary and Conclusion

Obsidian Solar Center has worked with agencies, tribes, landowners, and the public to develop plans to meet the EFSC standard for protecting important historic, cultural, and archaeological resources. These plans include avoidance and minimization of impacts through setting aside some areas where no development will occur. They also include mitigation through agreements with the SHPO and tribes for archaeological data recovery and construction monitoring.

TARDAEWETHER Kellen * ODOE

From: Sue Anderson <celastrinasue@gmail.com>
Sent: Monday, July 20, 2020 7:50 PM
To: TARDAEWETHER Kellen * ODOE
Subject: Re : Obsidian Solar Project

Dear Kellen,

Regarding the Obsidian Solar Project planned near Christmas Valley, my husband Jim and I would like to state that the project is located very near a Golden Eagle nest that has been monitored for over 30 years. Not only would the eagles be disturbed while the project was under construction but their hunting area would be seriously impacted by the array of collectors on the ground. We have been studying the Golden Eagle population in this area since the late sixties. They are suffering a decline in the Christmas Valley/Ft Rock/Silver Lake area. Any more disturbance would be harmful to their survival in this, their ancestral nesting and hunting habitat. A summary of the nesting history of the eagles near the proposed project, namely the Gerkin Rim nest, can be had by contacting the Oregon Eagle Foundation, Frank Isaacs, 24178 Cardwell Hill Dr., Philomath, OR 97370. We remind the project managers that any disturbance to a federally protected species, such as an eagle, is a federal offence.

Respectfully submitted,

Sue Anderson
P.O. box 1513
Sisters, Oregon 97759
541-480-0330
celastrinasue@gmail.com

Submitted July 29, 2020

We are Aaron and Rebecca Borror, and we are cattle ranchers in the Fort Rock area. We have spent our entire life building up the ranch and cowherd we have.

We have several concerns about the proposed Obsidian Solar Project.

Dust: This desert soil is protected by plants adapted to this desert environment. Removing or damaging these plants will leave the fragile soil to blow in the wind. We attached two photos of a dust storm caused by the initial phase of the Obsidian Solar Project: clearing just two miles of road early this year. The photos were taken February 23, 2020. How bad will this dust be when there are many more miles of roads, and thousands of acres of disturbed lands on this project? The dust will make using the main road from our ranch into Christmas Valley (North Oil Dri Road) impassable during windy days.

Roads:

Our ranch connects to Oil Dri Road via a gravel county road about 5 miles long. This same road will be used by ~~hundreds of~~ workers and ~~countless~~ vehicles, including heavy trucks, going to and from the job site. The gravel road as it is today will not stand up to this use. The DPO states there will be 250 cars and 60 trucks per day using this road. The DPO says nothing about what will have to be done to maintain this road. As it is now, the dust created on this road makes it hazardous. Obsidian should pave this road before any work starts on the project.

Elk:

This area is known for herds of several hundred elk. In particular, the project area is sited on a direct migration path from Green Mountain to the Connley Hills. The project fences will block this migration. No mitigation will help the elk get around the solar project property. The elk will end up on Oil Dri Road trying to find a way around the fence. This will create a safety issue for motorists. At minimum, the project boundary fence should be moved back away from the road 100 yards.

Rodents:

Activities and habitat degradation will cause thousands of rodents to migrate away and into neighboring fields. We have 310 acres of farmland north of the project. Will we have hay left to harvest when this rodent migration occurs?

Disposal and Reclamation:

Solar Panels have a finite lifespan. Who will own this project at the end of its life? Will the owner of the solar project spend the time and money necessary to dispose of the panels and reclaim the land, or will

the owner find a way to walk away, even forfeiting their bond? Will there be 3900 acres of decaying rubble left as a legacy to our future generations?

Arable Land:

The public notice claims that the Obsidian Solar Project is to be built on approximately 3900 acres of non arable land in the Christmas Valley area. This land is currently not irrigated, but most is highly suited to growing alfalfa. We would not classify this solar project land as non arable.

Conflict of Interest: State of Oregon owns 640 acres within project and will get lease $ from Obsidian, State's EFSC board will OK project ⇒ Not Unbiased ~~review~~ review,

7-20-20

EFSC

I'm Apposed to Any Approval that includes battery houses, without first our Elected officals explaining battery houses in public Meetings in the AREA where the developement takes place (North Lake County)

— Also —

I'm disapointed with the process the County used, OR Let be used in this the Largest, monitarily, developement in the County's history without full disclosure of what this SOLAR FARM will be when Completed. We are not going to know that without being Able to first view what some call a plot plan. — And with that said — I think Obsidian has missed a great opportunity to quell some of the concerns by

Not making this paperwork available.

Luba is correct, Lake County failed in this planning process for Obsidian

Carl Shumway
P.O. Box 3
Christmas Valley 97641

ENERGY FACILITY SITING COUNCIL

OREGON DEPARTMENT OF ENERGY

550 CAPITOL STREET NE

SALEM, ORGON 97301

MAY 19,2020

Attention Siting Council,

My wife and I are opposed to the Obsidian Solar Center Facility of 3,921 acres that will be built near our home.

I ask a real estate agent to give us an assment of what this site could do to the value of our property. We have included that report in our presentation. As you can see it would be devastating to us as this is our retirement home.

I also do not see how this would not interfere with the wild life with 18 miles of a 7 foot tall fence surrounding the project.

This solar farm will create visual clutter .

The battery houses with their lights will create nighttime light pollution , which our desert has very little if any at this time.

Respectfully submitted by:

Jerald Simmons

Verlinda Simmons

Tax ID #1160

26S16E 00002902

541 513 2298

Arizona Water bonds

2nd Comment Dave Hagen Golden Acres

Copy

Horton Testimony 7/20/20

2614 First St. Tillamook OR 97141

To: Oregon Dept. of Energy

My name is LeeRoy Horton and I am speaking with you today on behalf of my wife, Nancy, and myself as owner/operator of LR Farming. We have farmed and ranched here in North Lake County, Christmas Valley on North Oil Dry road for 28 years. The proposed solar facility will border a total of 1,400 acres or 2 ½ miles of our property. Our concerns involve the very real threat of a huge amount of soil erosion blowing onto our farm and crops. Our crops being eaten by displaced refugee rodents and the extreme dust blows across our 1,400 acres during and after the installment phase of the solar facility. This also effects our 3,500 sheep operation and 100 cow/calf pair facility. The solar install involves scraping/bulldozing off the natural ground cover holding the sandy soil in place. Our high winds will pick up any uncovered sandy soil/dust and throw it around the area contaminating the feed and suffocating the animals. High winds and air-born dust and dirt it will be impossible to farm or live under these conditions. A sand blow can scrape across new seedlings, stripping the field bare.

Stripping the soil down to the alkali layer and this soil becomes easily air-born covering our cropland with alkali soil, changing the PH of the soil causing a reduction in yields. We would then be forced to buy tons of soil amendment per field to correct these conditions. After the wind dies down dirt covers everything like hay, barns and our livestock pastures. Large amounts of uncovered land will be devastating to our sheep, lambs and cattle trying to endure these blows.

Removing 3,921 acres of soil and ground cover will displace 1,000s of ground squirrels, rabbits and field mice driving them into our fields to become refugee rodents . Since these animals

do not migrate they will end up moving into our fields, depleting our crops. Imagine the crop damage done to our fields by 1000s of rodents moving onto our farm all at the same once to live and feed. These refugee rodents are non-game animals. Oregon Dept of Fish and Wildlife cannot mitigate the refugee rabbit. Any mitigation will have to use the Friends of Ft. Rock/Christmas Valley. Jack rabbits, are not rabbits but properly named hares. They do not dig a burrow but live their life on the surface. Hares feed on, what we call rabbit brush in the winter.

The solar project calls for chopping and removing 3,921 acres of their primary feed, leaving them no place to hide from the elements and no native feed. The hares will be forced to move onto our cropland and into our hay barns and livestock feeding areas. This damages our stored hay crops, making them unsellable as the bales fall literally apart.

LR Farming is an organic certified farm through Oregon Tilth. Let's talk about weed seeds. The install will stir the soil causing the dormant, not actively growing, seeds to grow. Normally they could have lain dormant for years. Now they will grow, seed-out, blow into out fields causing extensive economic damage to our organic crops. We raise world class organic hay which is sold to S. Korea and to certified organic farms in USA. If our hay becomes super choked with weeds it becomes unacceptable and the economic damage will be revenue losses, jobs lost and we lose our livelihood.

What will be the effect of 1/74 million solar panels on the immediate climate that surrounds our hay fields? The massive amount of solar panels could raise the ambient temp? Could large amounts of solar panels cause humidity and moisture changes in the early mornings so that we will be unable to bale our hay? These are questions no one seems able to answer! We really need early morning dews to bale the world class hay.

When you get right down to it, solar panels produce mainly toxic waste. Cheaply made Chinese solar panels break down in as little as 5 yrs. Also well-built panels may last 20-25 yrs becoming effective and maybe only producing half or 10% of the energy compared to new panels. When the glass of the solar panels erodes or is smashed the toxic components of lead, cadmium and chromium will leach into the soul and water but never decay! No half-life. Eroding increases in Christmas Valley as our wind carries abrasive sand and soil as it blows. Solar panels only produce energy 30% of the time. However a small amount is produced 75% of the time.

On a closing note, We find it quite ironic that by installing solar panels, they destroy huge swaths of the natural world they are intended to save.

Dear Department of Energy,

Hello, My name is Mariam Thorsted. I am writing you this letter to state my opinions and concerns regarding the proposed solar site installation on North Oil Dry in Christmas Valley. I have lived on this road for all of my life except for my college years. Regardless, I plan on taking over my father's farm and I currently own and run all of our livestock, which includes 2,000+ ewes plus their lambs, and 100 head of high quality registered Angus cattle. My husband and I live in a house that is adjacent to the east of the proposed solar site. Now that you know a little more about me I would like to go into my concerns.

1. My greatest concern is my livestock. As a young producer who chose to come back to the ranch after college I believe that I am a black sheep if you will. Many of my classmates were venturing off into other jobs while I was one of the only ones wanting to go back to my family's farm/ranch. With this in mind, I am young and still learning a lot! I am very grateful for all the help that the locals have given me, but I am very scared for what may happen to my animals. Will the dust cause them respiratory problems? Will my employees have allergic reactions to the dust? Will my lambs have problems getting started in life? Will there be a large amount of light pollution, causing my animals to not rest in the night and lose weight? How will livestock guard dogs guard my sheep if the construction of this facility distracts them? Where will the coyotes go that reside in the property? Will the coyotes move closer to my animals?
2. I attended college at Kansas State University. This allowed me to study the affects of the up and coming drought and the dust bowl as well. In Kansas, the aquifer is being depleted and the farmers are either selling their land or trying to switch back over to dry land farming. I would say that they are semi lucky in their situation, because they have the weather and soil type to do dry land farming. Unfortunately, this is not an option in South Central Oregon. Our top horizon of soil is sand. This sandy horizon will blow away with out the cover of vegetation such as brush or crops. This can be observed on any windy day in our valley. I know that there are no new water rights given out in North Lake county, so if the project plans on watering their facility, they will have to buy water from other people and this is not right! The water here is for farmers and for farming or ranching! Solar panels are not agricultural. Did you know that the Natural Resources Conservation Service (NRCS) was created after the dust bowl disaster in Kansas and surrounding states? This was to ensure that nothing like the dust bowl would happen again. In Christmas Valley you can see the affects of improper farming and what the wind will do to open fields or areas. There have been numerous car crashes due to poor visibility. Also many sand dunes have been created. One is even on my father's property (which was created by the previous owner in the 80s). The sand dune on our property is directly next to the proposed solar panel site.
3. I hope to raise my family on my father's farm (or my farm one day in the future). I hope to not see solar panels as our neighbors forever and ever. This

is an eye sore of light reflection, light pollution, and a horrible looking landscape. I want my children to grow up in the country and feel safe like I did out here. I am wondering what kind of people will be hired to move out here to work on the site? Will my family be safe? Will my employees be safe? I hope none of our property is stolen or messed with. We own property far out in the country so that we can feel safe and farm with out disturbing other people. I would hate for this company to come in and disturb us. We are very peaceful out here and everyone seems to mind their own business, but this project has really turned neighbors on neighbors and has been a great stress in our life! A great stress!

Thank you for hearing my concerns.

Mariam Thorstad 5-19-20

This statement is also signed by my husband,

Jeremiah Thorstad

July 20, 2020

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301

via electronic mail:
Kellen.Tardaewether@oregon.gov

RE: Obsidian Solar Center, LLC project at Fort Rock

Ms. Tardaewether,

I am the current or former property owner of 2,713 of the approximately 3,900 acres proposed for the Obsidian Solar Center Project. I write this letter in support of the pending Site Certificate for the project.

My land is zoned Agricultural but there are no water rights on the property and, due to the water moratorium, no water is available for irrigation. The soil is of variable quality and most of it low value for agricultural production or grazing forage. It is not feasible to establish a commercial agricultural operation on the property and while I have grazed some cattle on it in the past, the land is inadequate, in my opinion, to support a viable commercial grazing operation.

Sincerely, Richard Morehouse

Richard Morehouse

IBEW Local 125
International Brotherhood of Electrical Workers

July 20 , 2020

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301

Dear Mr. Tardaawether:

On behalf of the approximately 3,600 members of the International Brotherhood of Electrical Workers (IBEW) Local 125 who work in the utility industry throughout the Pacific Northwest, I offer comments in support of the Obsidian Solar Project.

This large-scale solar and storage project does not sit within IBEW Local 125's jurisdiction but like any renewable project in Oregon there will be impact on our membership. While the construction jobs are important, and there are only expected to be less than 10 permanent operation and maintenance positions, we support this project because it meets Oregon's future energy needs while answering demands from Oregonians to provide the cleanest energy possible for our state. The Obsidian Solar Project does just that. However, we recognize there are issues which will be raised from stakeholders and the public at large. While we do not minimize those concerns, we believe that the greater good of this project outweighs adverse impact.

Landowners will be concerned about the impact to their property, rightfully so. Issues around property damage or effects should be mitigated with Obsidian Renewables. Studies on noise, dust, erosion, etc. are commonly conducted, and we believe these temporary construction issues will be adequately addressed. The Energy Facility Siting Council has requirements which mitigate wildlife impacts, so that should get handled since EFSC routinely works with other agencies such as Oregon Department of Fish and Wildlife on mitigation issues. The IBEW Local 125 along with IBEW Local 659 are available for comment on specific issues related to project construction and operation. It is certainly our position that this project should be constructed using union workers who have the skill, knowledge, and ability to construct this project safely and on time.

IBEW Local 125 believes that the overall public benefits of this facility outweighs any adverse effects. This project supports Oregon's energy policy as described in ORS 69.010 and meets the need standard in OAR 345-023-0005. Please contact me at travis@ibew125.com or 503-262-9125 if I can provide any additional information related to the construction or operation of this solar project. Thank you for your consideration.

Respectfully,

Travis Eri
Business Manger
IBEW Local 125

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