

Exhibit S

Historic, Cultural, and Archaeological Resources

**Bakeoven Solar Project
November 2019**

Prepared for



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Prepared by



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Acronyms and Abbreviations

Applicant	Bakeoven Solar, LLC
CTWSRO	Confederated Tribes of the Warm Springs Reservation of Oregon
Facility	Bakeoven Solar Project
HPRCSIT	Historic Properties of Religious and Cultural Significance to Indian Tribes
IDP	Inadvertent Discovery Plan
Maupin Substation	Bonneville Power Administration Maupin Interconnection Substation
NRHP	National Register of Historic Places
OAR	Oregon Administrative Rule
ODOE	Oregon Department of Energy
ORS	Oregon Revised Statutes
PaleoWest	PaleoWest Archaeology
SHPO	State Historic Preservation Office
WEAP	Worker Environmental Awareness Program

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1.0 Introduction

Bakeoven Solar, LLC (Applicant) proposes to construct and operate a solar energy generation facility and related or supporting facilities in Wasco County, Oregon. This Exhibit S was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-022-0090.¹

2.0 Analysis Area

The analysis area for cultural resources equates to the Facility site boundary. This area encompasses the micro-siting corridor and the area surveyed for cultural resources (survey area) at the Bakeoven Solar Project (Facility; see Tudor Elliott and Johnson 2019). These areas are depicted on Figures S-1 and S-2. The site boundary is defined in Exhibits B and C, which includes the information required by OAR 345-021-0010(1)(b) and (c).

3.0 Historic and Cultural Resources within the Analysis Area

OAR 345-021-0010(1)(s) Information about historic, cultural and archaeological resources. Information concerning the location of archaeological sites or objects may be exempt from public disclosure under ORS 192.502(4) or ORS 192.501(11). The applicant shall submit such information separately, clearly marked as "confidential," and shall request that the Department and the Council keep the information confidential to the extent permitted by law. The applicant shall include information in Exhibit S or in confidential submissions providing evidence to support a finding by the Council as required by OAR 345-022-0090, including:

(A) Historic and cultural resources within the analysis area that have been listed, or would likely be eligible for listing, on the National Register of Historic Places;

(B) For private lands, archaeological objects, as defined in ORS 358.905(1)(a), and archaeological sites, as defined in ORS 358.905(1)(c), within the analysis area; and

(C) For public lands, archaeological sites, as defined in ORS 358.905(1)(c), within the analysis area.

This section describes the historic and cultural resources within the analysis area that are subject to one or more of the above categories of resources. Discussions are based on the findings documented in Tudor Elliott and Johnson (2019).

¹ Information concerning the location of archaeological sites or objects are exempt from public disclosure under Oregon Revised Statute (ORS) 192.501(11). Therefore, such information, including archaeological survey reports, is provided confidentially to the Oregon Department of Energy (ODOE).

3.1 Historic and Cultural Resources Listed, or Likely Eligible for Listing, on the National Register of Historic Places

No National Register of Historic Places (NRHP)-listed or eligible sites have been identified within the analysis area. However, four sites could not be properly evaluated for NRHP-eligibility, and are considered “unevaluated.” For the purposes of this analysis, these sites are treated as NRHP-eligible. These include the following sites: 18-344-002 (historic homestead remains), 18-344-008 (historic homestead), 18-344-014 (historic homestead), and 18-344-044 (rock shelter of unknown age). Locations of these resources are shown in confidential Attachment S-1.

The Facility has been designed to avoid archaeological sites 18-344-002, 18-344-008, and 18-344-044. All three sites are outside the proposed fence line. The transmission line corridor passes through site 18-344-014. It should be noted that the existing Bakeoven Road also passes through the site. Avangrid anticipates that the final design of the transmission line will span the site, avoiding the resources. As described below in Section 4.4, the final design of the Facility will require avoidance of all four of these unevaluated archaeological sites.

3.2 Archaeological Objects and Sites on Private Lands within the Analysis Area

A total of 18 archaeological sites (2 with historic built environment components) and 22 isolates were identified on private lands within the analysis area. None of the isolates meet the definition of an archaeological object as defined in ORS 358.905(1)(a), as none appear to be significant or NRHP-eligible. These are summarized in Table S-1. Their locations are shown in confidential Attachment S-1.

Table S-1. Archaeological Resources within the Analysis Area and Distance to Facility Components

Resource #	Time Period	Resource Description	NRHP Eligibility Recommendation (NRHP Criteria)	Nearest Facility Component	Distance to Nearest Facility Component (to nearest foot)
Archaeological Sites					
18-344-001	Indeterminate Age	Cairn	Not Eligible (A-D)	Fenced Solar Array Area	2,035
18-344-002	1843–1920	Homestead	Not Eligible (A-C); Unevaluated (D)	Fenced Solar Array Area	1,012
18-344-003	Historic-period	Cairn	Not Eligible (A-D)	Fenced Solar Array Area	1,354
18-344-004	Historic-period	Cairn	Not Eligible (A-D)	Fenced Solar Array Area	789
18-344-005	1904–1922	Refuse Scatter	Not Eligible (A-D)	Fenced Solar Array Area	0
18-344-006	Historic-period	Check Dam	Not Eligible (A-D)	Fenced Solar Array Area	0
18-344-007	Historic-period	Check Dam	Not Eligible (A-D)	Fenced Solar Array Area	0
18-344-008 ^{1/}	Pre-1920	Homestead	Not Eligible (A-C); Unevaluated (D)	Fenced Solar Array Area	98
18-344-009	1820–1917	Historic-Period Road and Check Dam	Not Eligible (A-D)	Fenced Solar Array Area	4
18-344-010	Post 1902	Refuse Scatter	Not Eligible (A-D)	Fenced Solar Array Area	0
18-344-011	Post 1935	Cairn and Refuse Scatter	Not Eligible (A-D)	Fenced Solar Array Area	133
18-344-012	Historic-period	Refuse Scatter	Not Eligible (A-D)	Fenced Solar Array Area	0
18-344-013	Post 1904	Refuse Scatter	Not Eligible (A-D)	Transmission Line	123
18-344-014 ^{1/}	Post 1889	Homestead	Not Eligible (A-C); Unevaluated (D)	Transmission Line	0
18-344-015	Post 1920	Refuse Scatter	Not Eligible (A-D)	Transmission Line	20
18-344-016	Indeterminate Age	Rock Wall	Not Eligible (A-D)	Transmission Line	102
18-344-044	Indeterminate Age	Rockshelter	Not Eligible (A-C); Unevaluated (D)	Overhead Collection Line	58
18-344-045	Historic-period	Refuse Scatter	Not Eligible (A-D)	Overhead Collection Line	0

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Resource #	Time Period	Resource Description	NRHP Eligibility Recommendation (NRHP Criteria)	Nearest Facility Component	Distance to Nearest Facility Component (to nearest foot)
Isolates					
KJ01	Pre-contact	Basal-notched quartz projectile point, Columbia Stemmed or Quilomene Bar series	Not Eligible (A-D)	Access Road	562
KJ02	Historic	Iron hole-in-top cap cans	Not Eligible (A-D)	Fenced Solar Array Area	1,365
KJ03	Historic	Ferrous metal strap with rivets	Not Eligible (A-D)	Fenced Solar Array Area	0
KJ04	Historic	Ferrous metal oil can	Not Eligible (A-D)	Fenced Solar Array Area	0
KJ06	Historic	Metal stove	Not Eligible (A-D)	Fenced Solar Array Area	0
KJ07	Historic	Furrowing disc	Not Eligible (A-D)	Fenced Solar Array Area	149
KJ08	Historic	Furrowing disc	Not Eligible (A-D)	Fenced Solar Array Area	149
KJ10	Historic	Rectangular can with soldered seam, hole-in-cap can	Not Eligible (A-D)	Fenced Solar Array Area	0
KJ11	Historic	Harrow or disc frame	Not Eligible (A-D)	Fenced Solar Array Area	0
KJ12	Historic	Wood axle, wood spokes, ferrous metal components, likely farm equipment.	Not Eligible (A-D)	Fenced Solar Array Area	179
KJ13	Historic	Wood axle, wood spokes, ferrous metal components, embossed with "ML&C," likely farm equipment.	Not Eligible (A-D)	Fenced Solar Array Area	149
KJ19	Historic	Lunch pail	Not Eligible (A-D)	Transmission Line	208
KJ20	Pre-contact	Red chert biface	Not Eligible (A-D)	Transmission Line	253
KJ101	Historic	Ferrous metal and wood roller wheels from farm roller	Not Eligible (A-D)	Fenced Solar Array Area	0
SY05	Historic	Metal sickle bar mower	Not Eligible (A-D)	Fenced Solar Array Area	167

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Resource #	Time Period	Resource Description	NRHP Eligibility Recommendation (NRHP Criteria)	Nearest Facility Component	Distance to Nearest Facility Component (to nearest foot)
SY09	Historic	Farm equipment consisting of ferrous metal and wood	Not Eligible (A-D)	Access Road	187
SY14	Historic	Solder seamed gas can	Not Eligible (A-D)	Fenced Solar Array Area	0
SY15	Historic	Solder seamed gas can	Not Eligible (A-D)	Overhead Collection Line	30
SY16	Historic	Ferrous metal frame with stakes, possibly a tiller.	Not Eligible (A-D)	Transmission Line	137
SY17	Historic	Solder seam sardine can	Not Eligible (A-D)	Transmission Line	202
SY18	Historic	Wood and ferrous metal wagon frame	Not Eligible (A-D)	Transmission Line	137
SY22	Historic	Horse-drawn "Oliver" brand weeder	Not Eligible (A-D)	Transmission Line	510
1. Site includes archaeological and built environment components.					

Two of the sites (18-344-011 and 18-344-013) and two of the objects (SY016 and SY022) are outside of the proposed micrositing corridor and will not be impacted by the Facility. Of the remaining 16 sites and 20 objects within the micrositing corridor, 7 of the sites and 7 of the objects are within the construction footprint. Five sites (18-344-005, 18-344-006, 18-344-007, 18-344-010, and 18-344-012) and seven objects (KJ03, KJ04, KJ06, KJ10, KJ11, KJ101, SY14) are within a fenced solar array area. One site (18-344-045) is crossed by the overhead collector line, and one site (18-344-014) is crossed by the transmission line.

3.3 Archaeological Sites on Public Lands within the Analysis Area

There are no public lands within the analysis area.

4.0 Significant Potential Impacts of Construction and Operation, and Retirement of the Facility on Historic, Cultural, and Archaeological Resources

OAD 345-021-0010(1)(s)(D) The significant potential impacts, if any, of the construction, operation and retirement of the proposed facility on the resources described in paragraphs (A), (B) and (C) and a plan for protection of those resources that includes at least the following:

(i) A description of any discovery measures, such as surveys, inventories, and limited subsurface testing work, recommended by the State Historic Preservation Officer or the National Park Service of the U.S. Department of Interior for the purpose of locating, identifying and assessing the significance of resources listed in paragraphs (A), (B) and (C).

(ii) The results of the discovery measures described in subparagraph (i), together with an explanation by the applicant of any variations from the survey, inventory, or testing recommended.

(iii) A list of measures to prevent destruction of the resources identified during surveys, inventories and subsurface testing referred to in subparagraph (i) or discovered during construction.

This section provides a description of the methods used to identify and evaluate cultural resources, the results of a cultural resources survey conducted for the Facility, potential impacts on cultural resources as a result of the Facility, and measures proposed to prevent significant impacts on cultural resources.

4.1 Methods

Efforts completed as part of identification efforts include a records search, sensitivity model, field survey, and tribal consultation. The entirety of the analysis area has been surveyed for cultural

resources by the Applicant's cultural resources contractor, PaleoWest Archaeology (PaleoWest) (Figure S-2).

4.1.1 Records Review

PaleoWest conducted a literature review and records search through the Oregon Archaeological Records Remote Access system on July 25, 2018, as part of an effort to develop a sensitivity model for the Facility (Jordan, et al. 2018). In addition, the NRHP was reviewed for NRHP-listed properties within the records search area. Additional sources consulted include the historical U.S. General Land Office, land patents, historical U.S. Geological Survey topographic maps, and ethnographic literature. The objective of this records search was to identify pre-contact or historic-period cultural resources that have been recorded within the search area during prior cultural resource investigations. The search area was based on a preliminary Facility project area and a 1-mile buffer, which included the analysis area. This literature review did not include outreach to affected tribes.

4.1.2 Sensitivity Model

PaleoWest prepared a cultural resources sensitivity model for the preliminary stages of the Facility, which included an area larger than the site boundary and analysis area addressed here (Jordan et al. 2018). Although the majority of the analysis area is addressed by the sensitivity model, the two most northern solar array areas were not covered (see confidential Attachment S-1). The purpose of the sensitivity model was to identify areas that have a high potential for cultural resources and guide the overall design process to reduce impacts to potentially significant cultural resources. Development of the sensitivity model used natural resource maps, historical maps, cultural resources data from a 2-mile buffer around the model's preliminary Facility area, and literature on history and prehistory. Patterns observed in this data, combined with established pre-contact and historic-period settlement patterns, were then used to determine possible areas of concern that are of high, moderate, and low potential for the presence of cultural resources.

4.1.3 Field Surveys

PaleoWest archaeologists completed an intensive pedestrian survey, site inventory, and subsurface probing of a single isolate in 2018. The area surveyed totaled 4,530 acres. Results of the survey are documented in Tudor Elliott and Johnson (2019), which is also included as confidential Attachment S-2.

The archaeologists conducted an intensive pedestrian survey using transects spaced up to 30 meters apart. This transect interval was chosen due to the size of the survey area, the topography, and the open nature of the survey environment, as well as the Facility need to identify areas for avoidance. The crew carefully inspected all areas likely to contain or exhibit sensitive cultural resources to ensure discovery and documentation of cultural resources located within the survey area.

All cultural materials and features of 75 years of age or older (50 years for structures or buildings) were recorded during this survey, in accordance with Oregon State Historic Preservation Office (SHPO) field guidelines (SHPO 2016). Materials and features that could not be accurately dated

were also recorded. When artifacts were identified during the survey, site boundaries were defined by surveying out in widening concentric circles until artifacts were no longer encountered. Artifacts or features that were within 20 meters of each other, or that were clearly related, were combined into the same isolate or site.

All identified sites and isolates were fully recorded. A “site” was defined as a location that has material evidence of past life, activities, and culture. Oregon regulations state that on private lands, a significant archaeological site is typically 75 years or older, with exception to standing structures, which are deemed significant after 50 years. In general, an archaeological site should exhibit at least one of the following: 1) one or more features; or 2) ten or more artifacts. Isolates were defined as fewer than 10 artifacts greater than 75 years old.

After the survey was completed, field crews revisited isolates that appeared to have potential for subsurface deposits. The likelihood for buried deposits was assessed by examining the ground surface for signs of soil accumulation and sediment types, as well as the topography and the type of artifact. Where isolates appeared to have the potential for buried deposits, the object was tested using multiple 30-centimeter shovel test probes to locate any other cultural materials or subsurface features. All excavated materials were screened through 1/8-inch wire hardware mesh. Shovel probes extended as deep as possible, most commonly terminating at bedrock or an impenetrable layer of compacted soil or roots.

Methods utilized in the recording of built environment (architectural) features consisted of field crews documenting the resources using Global Positioning System units, color photographs, and notes. A PaleoWest Architectural Historian then used this field data for documentation, analysis, and evaluation of the resource.

4.1.4 Tribal Consultation

In an effort to identify traditional cultural resources (such as Historic Properties of Religious and Cultural Significance to Indian Tribes [HPRCSIT]) that could be affected by the Facility, the Applicant contacted the Oregon State Legislative Commission on Indian Services to determine what tribes to contact regarding the Facility. Subsequently, the Applicant has been consulting with the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO). Consultations have been conducted via e-mail, conference calls, and site visits. Two site visits have been conducted, one on January 29, 2019 with the CTWSRO Archaeologist and a second on April 16, 2019 with a CTWSRO Culture and Heritage Committee Chair and the CTWSRO Archaeologist. The Applicant continues to consult with the CTWSRO. Attachment S-3 provides a summary of the tribal communications regarding the Facility.

4.2 Survey and Inventory Results

4.2.1 Records Review

The records search completed for the Facility (Jordan et al. 2018) indicated that no cultural resources were previously recorded within the survey area. It is important to note that the records search did not include review of tribal databases and that consultations with the CTWSRO have

indicated additional resources are known to be present in the area. Five cultural resources had been recorded within the search area. All of these resources are archaeological sites including two pre-contact lithic concentrations, two historic-period refuse concentrations, and one multicomponent site with both a pre-contact lithic concentration and a historic-period refuse concentration. All are unevaluated for NRHP eligibility. As all of these sites are located outside of the survey area for the Facility, none were revisited in the course of the field survey. Four are located in the 1-mile area around the Bonneville Power Administration Maupin Interconnection Substation (Maupin Substation), while the remaining site is located in Dead Dog Canyon.

4.2.2 Sensitivity Model

The sensitivity model developed by Jordan et al. (2018) identified areas of low, moderate, and high sensitivity for cultural resources. The results within the analysis area are shown on confidential Attachment S-1. The model indicates that the canyon areas and their margins will be moderately sensitive for prehistoric cultural resources. It also suggested that the majority of the survey area would be of low sensitivity for cultural resources. Any identified areas of high sensitivity are outside of the Facility site boundary and analysis area. Although the model did not cover the analysis area around the northern two solar array areas, the results of the larger model can be extrapolated to cover the unmodeled area. With only the head of a canyon, the majority of the two northern solar array areas is believed to be of low sensitivity for cultural resources, while the area of the canyon would be moderately sensitive.

Generally, although small areas of moderate sensitivity are within the analysis area, the Facility layout has been designed to avoid placing facilities in areas of high and moderate sensitivity. The exception is where the proposed transmission line crosses an area of moderate sensitivity. However, it is assumed the canyon and moderately sensitive area can be spanned in the final design.

4.2.3 Field Surveys

A total of 18 archaeological sites (two with historic built environment components) and 22 isolates were identified by Tudor Elliott and Johnson (2019) within the analysis area. These are listed in Table S-1 above. Their locations are shown in confidential Attachment S-1.

Subsurface probing was conducted at one of the isolates: KJ20. No additional archaeological materials were identified at the location. Subsurface probing was not conducted at the remaining 21 isolates based on a determined lack of potential for buried deposits.

As noted in Section 3.1 above, four of the archaeological sites could not be properly evaluated for NRHP eligibility based on the survey results: 18-344-002 (historic homestead remains), 18-344-008 (historic homestead), 18-344-014 (historic homestead), and 18-344-044 (rockshelter of unknown age). These resources are considered unevaluated and are treated as NRHP-eligible (i.e. potential historic properties) for the purposes of this analysis. The remainder of the 14 archaeological sites and all 22 isolates have been recommended as not eligible for listing on the NRHP.

Small portions of the micrositeing corridor were not surveyed by Tudor Elliott and Johnson (2019) and remain unsurveyed. This includes two active farms along Bakeoven Road and the westernmost 558 feet of the transmission line corridor along Bakeoven Road. Both areas were included in the records search conducted ahead of the field survey, and no previously recorded resources were identified there. They were also identified as areas of low sensitivity for cultural resources in Jordan et al. (2018). Although the two active farms are within the micrositeing corridor, the Applicant's lease agreements with these landowners prohibit development in these active ranch operations; therefore, no construction will occur at those locations. The Facility has been designed so that both farms are outside of the proposed fence line and are avoided by the collector line that parallels Bakeoven Road. They were therefore excluded from the survey. Although the proposed transmission line corridor extends beyond the surveyed area and past the Maupin substation, it is considered unlikely that construction of the transmission line in this area will be necessary. As described below in Section 4.4, the final design of the Facility will require avoidance of all unsurveyed areas. If construction is determined necessary in this area, additional field surveys will be completed.

4.2.4 Tribal Consultation

Comments from the CTWSRO concerned the analysis area and its relation to BPA's federal actions, benefits of tribal outreach prior to field surveys, and the process of the CTWSRO Cultural and Heritage Committee involvement. Most directly, the CTWSRO expressed concern that archeological surveys were completed prior to tribal outreach, as the CTWSRO believes that meaningful tribal consultation involves review of a research design prior to survey because it allows for an opportunity to incorporate the Tribe's knowledge and perspectives into the survey methodology. In the absence of this early outreach, the CTWSRO believes that the cultural resources survey completed for the Facility does not fully consider tribal resources. To address this concern and supplement the cultural resources information, the Applicant has sought the input of the CTWSRO's Cultural and Heritage Committee, including a site tour with the Committee Chair on April 16, 2019, and continues to work with the CTWSRO's archaeologist on accessing tribal databases and other resources to adequately characterize cultural resources in the analysis area.

Consultations with the CTWSRO have indicated that the analysis area, as well as nearby locations, are of concern to the Tribe. Although no HPRCSITs have been identified by the CTWSRO as within the analysis area, the Tribe has indicated such resources are within proximity to the Facility. The Applicant understands that it is the CTWSRO's practice not to disclose the boundaries of HPRCSITs, including disclosure to SHPO. However, in comments on Tudor Elliott and Johnson (2019) and at the April 16, 2019 site visit, the Tribe has pointed to Sherar's Falls and Tygh Valley as important localities in the Facility region. Sherar's Falls is 5 miles north of the Maupin Substation and 10 miles northwest of the most northern solar array area. Tygh Valley is 6 miles northwest of the Maupin Substation and 14 miles northwest of the most northern solar array area. During the April 16, 2019, site visit, it was noted that the Facility will not be visible from the sites and no impacts on them are anticipated.

Site 18-344-044, a rockshelter of indeterminate age, was of particular interest and concern to the tribe during the January 29, 2019, site visit. However, since it will not be directly affected and does not appear to have a view of Facility components, it is unlikely to be impacted.

The Applicant provided the Facility's survey report (Tudor Elliott and Johnson 2019) to CTWSRO for review and comment on March 7, 2019. CTWSRO provided comments to the Applicant on March 22, 2019, regarding the survey report. The report has been revised based on the Tribe's comments. The CTWSRO did offer a "menu" of recommendations for additional work to more effectively identify, evaluate, and protect cultural resources within the analysis area. These included additional pedestrian survey, an oral history assessing the Facility location as an HPRCSIT, a cultural plant inventory of the analysis area, construction monitoring by a tribal or archaeological monitor during all ground-disturbing activities, and updating the survey report (Tudor Elliott and Johnson 2019) with consideration of the CTWSRO's comments. During the April 16, 2019, the CTWSRO's Archaeologist indicated that he was not recommending additional archaeological survey of the Facility; however, the group did discuss additional archival and oral history investigations.

The CTWSRO Culture and Heritage Committee indicated it would discuss the Facility at its May 17, 2019 meeting.

The Applicant continues to work with the CTWSRO to adequately characterize the analysis area. Tribal consultations are considered open-ended and anticipated to proceed throughout the planning and construction processes.

4.3 Significant Potential Impacts of the Facility

This section describes the significant potential impacts of the Facility on historic, cultural, and archaeological resources considered under OAR 345-021-0010(1)(s)(D). For the purposes of this analysis, a significant impact would result from the alteration to the characteristics that qualify a historic or cultural resource for inclusion in or eligibility for the NRHP. Given the types of historic and cultural resources identified in the analysis area, significant impacts would be most likely to occur as a result of the physical destruction or damage to all or part of an unevaluated resource. The Applicant will work with the CTWSRO outside the Oregon Energy Facility Siting Council process to determine if there could be significant impacts on tribal resources.

Of the unevaluated resources identified in the analysis area, two are close to proposed Facility components: 18-344-008 (homestead) and 18-344-044 (indeterminate rockshelter). Site 18-344-008 is within 98 feet of a fenced solar array area, and site 18-344-044 is within 58 feet of the proposed overhead collection line. To ensure these archaeological sites are not inadvertently disturbed during construction, a 20-meter buffer on each site will be flagged or otherwise marked as an environmentally sensitive area where work will be excluded (see Section 4.4.1). A third unevaluated archaeological site, site 18-344-014 (homestead), is crossed by the proposed transmission line route. However, the line will span the site. The fourth unevaluated archaeological site, site 18-344-002 (homestead), is over 1,000 feet outside the proposed fenceline and will not be impacted. Thus, no direct disturbance of the four NRHP-unevaluated archaeological sites will occur, and no impacts on the sites are anticipated.

As outlined in Table S-1 above, the remaining archaeological sites and objects within the micro-siting corridor have been recommended as not eligible for listing on the NRHP. As such, any impact on these resources is not considered to be significant.

There is always potential for unidentified archaeological resources to exist, even in areas surveyed for cultural resources, particularly in the areas identified as having a moderate to high probability for buried archaeological resources. Significant impacts may occur as a result of ground disturbance of unidentified archaeological resources. Such impacts will be mitigated through the Applicant's proposed measures to prevent destruction of cultural resources, including a Worker Environmental Awareness Program (WEAP) and an Inadvertent Discovery Plan (IDP).

4.4 Measures Designed to Prevent the Destruction of Historic, Cultural, and Archaeological Resources

This section provides a list of measures to prevent destruction of the resources identified during surveys or discovered during construction, including avoidance measures and implementation of a WEAP (Section 4.4.2) and IDP (Section 4.4.3).

4.4.1 Avoidance Measures

Avoidance of cultural resources is the preferred method of reducing impacts. While NRHP-eligible or unevaluated cultural resources may remain within the analysis area, they will be avoided by the Facility's construction and operation footprint. Immediately prior to construction, a buffer of 20-meters will be marked as "no entry" or "environmentally sensitive areas" around the four unevaluated archaeological sites (18-344-002, 18-344-008, 18-344-014, and 18-344-044). These areas will also be identified as such on construction maps and drawings. No ground-disturbing activities will be permitted within these buffers. Construction and operation staff may use existing private roads within the buffer areas, but may not widen or improve private roads within the buffer areas. The no-entry restriction does not apply to public road rights-of-way within buffer areas. Flagging will be removed once construction is completed in the site area.

In the final design of the Facility, prudent and feasible measures will be taken to avoid areas that have not been surveyed by Tudor Elliott and Johnson (2019) and to avoid or reduce significant impacts on historic and cultural resources listed, or likely eligible for listing, on the NRHP. Such measures will be developed in consultation with the appropriate agencies and tribes, and may include avoidance through the use of relocation of structures through the design process, realignment of the transmission or overhead collector line route, relocation of temporary workspaces, or changes in the construction and operational design. If the final design requires use of areas that were not surveyed by Tudor Elliott and Johnson (2019), additional survey will be conducted of those areas.

4.4.2 Worker Environmental Awareness Program

Before beginning construction, the Applicant will ensure that a qualified archeologist, as defined in OAR 736-051-0070, trains construction contractors on how to identify sensitive historic, cultural, and archaeological resources that could inadvertently be uncovered during construction, and on

measures to avoid accidental damage to such resources. Trainings will be made available to new staff throughout construction and operation of the Facility. Records of all trainings must be maintained on site during construction.

4.4.3 Inadvertent Discovery Plan

As recommended in Tudor Elliott and Johnson (2019), if previously unidentified archaeological resources are unearthed during construction or operation activities, all ground-disturbing activities within 100 feet of the find will be halted and directed away from the discovery until a qualified archeologist, as defined in OAR 736-051-0070, assesses the identity and significance of the resource (i.e., NRHP eligibility). The Applicant will also immediately notify SHPO and ODOE of the find. The archeologist, in consultation with SHPO, ODOE, the Applicant, and any interested tribes, will determine the appropriate treatment and evaluation of the finds and, if necessary, mitigation of impacts if the finds are found to represent a resource eligible for listing in the NRHP. Facility-related activities will not restart in the affected area until ODOE, in consultation with SHPO, agree the Applicant has demonstrated that it has complied with archeological resource protection regulations.

If human remains are inadvertently encountered during Facility activities, ODOE, SHPO, and the appropriate tribes will be contacted, as well as the Oregon State Legislative Commission on Indian Services, the Oregon State Police, and the applicable landowner. Activities will cease within 200 feet of the human remains until the parties involved agree upon their disposition.

5.0 Proposed Monitoring Plan

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.

Construction monitoring is not recommended for the Facility as proposed, due to the generally low potential for unidentified cultural resources in the analysis area. The avoidance measures, WEAP, and IDP described above will be implemented to ensure that the potential for significant impacts on cultural resources is minimized.

6.0 Submittal Requirements and Approval Standards

6.1 Submittal Requirements

Table S-2. Submittal Requirements Matrix

Requirement	Location
<p>OAR 345-021-0010(1)(s) Information about historic, cultural and archaeological resources. Information concerning the location of archaeological sites or objects may be exempt from public disclosure under ORS 192.502(4) or 192.501(11). The applicant shall submit such information separately, clearly marked as "confidential," and shall request that the Department and the Council keep the information confidential to the extent permitted by law. The applicant shall include information in Exhibit S or in confidential submissions providing evidence to support a finding by the Council as required by OAR 345-022-0090, including:</p>	<p>Section 3.0</p>
<p>(A) Historic and cultural resources within the analysis area that have been listed, or would likely be eligible for listing, on the National Register of Historic Places.</p>	<p>Section 3.1</p>
<p>(B) For private lands, archaeological objects, as defined in ORS 358.905(1)(a), and archaeological sites, as defined in ORS 358.905(1)(c), within the analysis area.</p>	<p>Section 3.2</p>
<p>(C) For public lands, archaeological sites, as defined in ORS 358.905(1)(c), within the analysis area.</p>	<p>Section 3.3</p>
<p>(D) The significant potential impacts, if any, of the construction, operation and retirement of the proposed facility on the resources described in paragraphs (A), (B) and (C) and a plan for protection of those resources that includes at least the following:</p>	<p>Section 4.0</p>
<p>(i) A description of any discovery measures, such as surveys, inventories, and limited subsurface testing work, recommended by the State Historic Preservation Officer or the National Park Service of the U.S. Department of Interior for the purpose of locating, identifying and assessing the significance of resources listed in paragraphs (A), (B) and (C).</p>	<p>Section 4.1</p>
<p>(ii) The results of the discovery measures described in subparagraph (i), together with an explanation by the applicant of any variations from the survey, inventory, or testing recommended.</p>	<p>Section 4.2</p>
<p>(iii) A list of measures to prevent destruction of the resources identified during surveys, inventories and subsurface testing referred to in subparagraph (i) or discovered during construction.</p>	<p>Section 4.4</p>
<p>(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.</p>	<p>Section 5.0</p>

6.2 Approval Standards

Table S-3. Approval Standard

Requirement	Location
OAR 345-022-0090 Historic, Cultural and Archaeological Resources	–
(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:	N/A
(a) Historic, cultural or archaeological resources that have been listed on, or would likely be listed on the National Register of Historic Places;	Sections 3.1 and 4.0
(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	Sections 3.2 and 4.0
(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).	Sections 3.3 and 4.0
(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.	N/A
(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.	N/A

7.0 References

Jordan, Amy, Mike Mirro, and Matthew Tennyson. 2018. *Phase I Cultural Resource Study in Support of the Bakeoven Energy Project, Wasco County, Oregon*. PaleoWest Archaeology, Monrovia, California. Submitted to Bakeoven Wind, LLC, Portland, Oregon.

SHPO (Oregon State Historic Preservation Office). 2016. *Guidelines for Conducting Field Archaeology in Oregon*. November 2013, minor revision January 2016. Salem, Oregon.

Tudor Elliott, Evan, and Kim Johnson. 2019. *Archaeological and Built Environment Inventory for the Bakeoven Solar Project, Wasco County, Oregon*. PaleoWest Archaeology, Monrovia, California. Technical Report #18-650. Submitted to Avangrid Renewables, LLC, Portland, Oregon.

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


Figures

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Bakeoven Solar Project

Figure S-1
Facility Site Boundary, Micrositing
Corridor, and Exhibit S Analysis Area

WASCO COUNTY, OREGON

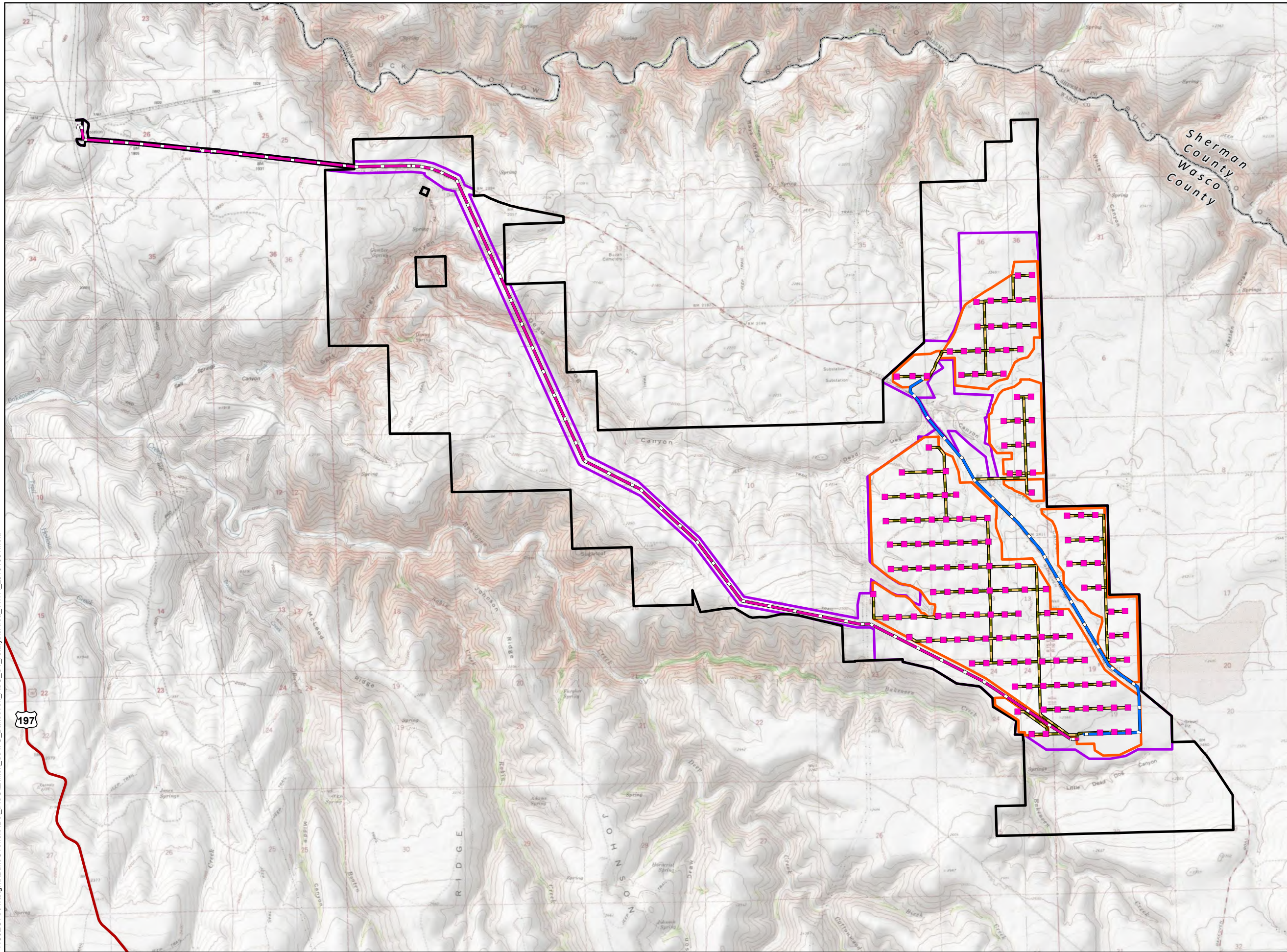
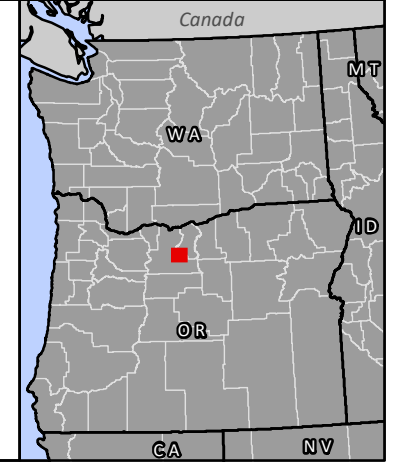
-  Facility Site Boundary/Analysis Area
-  Proposed Micrositing Corridor
- Basemap Features**
-  US Highway
-  County Boundary
- Proposed Facility Layout**
-  Inverter
-  Transmission Line (230 kV)
-  Overhead Collector Line
-  Underground Collector Line
-  Fence Line



Data Sources

Avangrid-Project Infrastructure; USGS-Topo;
 Census Bureau-Tiger Roads

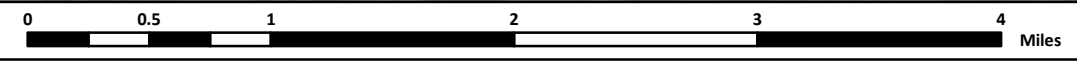
Reference Map



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1:50,000 WGS 1984 UTM Zone 10N













NOT FOR CONSTRUCTION

Bakeoven Solar Project

Figure S-2
Survey Coverage of
Analysis Area

WASCO COUNTY, OREGON

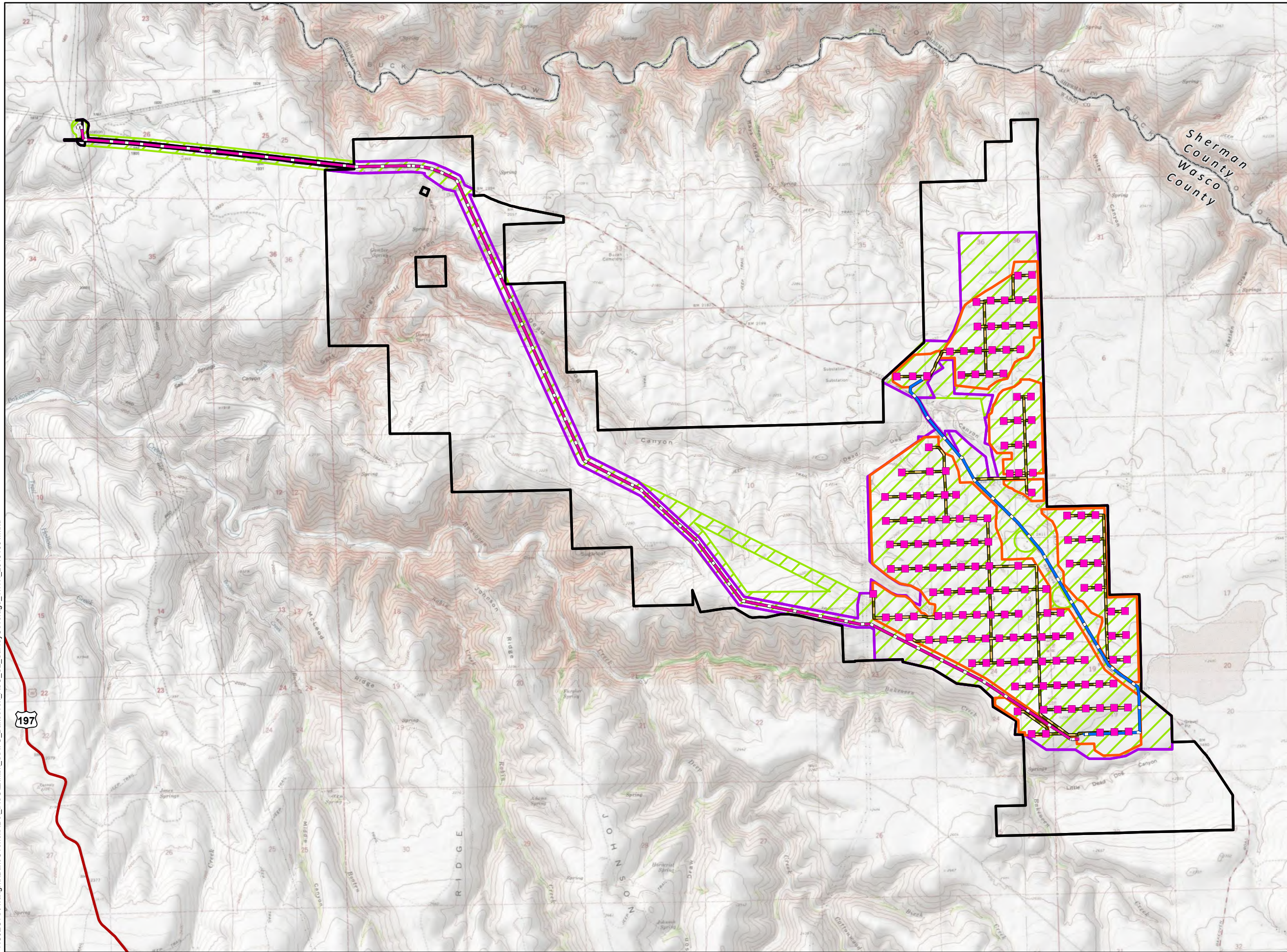
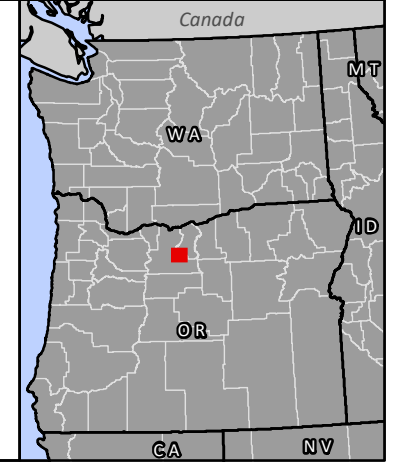
-  Facility Site Boundary/Analysis Area
-  Proposed Micrositing Corridor
-  Survey Area
- Basemap Features**
-  US Highway
-  County Boundary
- Proposed Facility Layout**
-  Inverter
-  Transmission Line (230 kV)
-  Overhead Collector Line
-  Underground Collector Line
-  Fence Line



Data Sources

Avangrid-Project Infrastructure; USGS-Topo;
Census Bureau-Tiger Roads

Reference Map



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NOT FOR CONSTRUCTION

**Attachment S-1. Locations of Cultural
Resources (CONFIDENTIAL)**

Submitted under separate cover

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**Attachment S-2. Cultural Resources
Survey (CONFIDENTIAL)**

Submitted under separate cover

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Attachment S-3. Tribal Communications

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**Bakeoven Solar Project
Tribal Consultation Summary Tracking Table**

Date	Communication Type	Description
October 22, 2018	Letter from Avangrid sent via email by Tetra Tech to OLCIS	Introduction to Project and request for list of Oregon and out-of-state tribes to consult.
October 23, 2018	E-mail from OLCIS to Tetra Tech	Lists CTWSRO and Burns Paiute as tribes to consult regarding Project.
November 27, 2018	E-mail from Tetra Tech to CTWSRO	Invitation to an introductory meeting and site visit with Avangrid and Tetra Tech.
December 3, 2018	E-mail from CTWSRO to Tetra Tech	Declines site visit invitation due to scheduling conflict. Requests to continue to be informed of project developments.
December 4, 2018	E-mail from Tetra Tech to CTWSRO	Acknowledges receipt of December 3, 2018 e-mail.
December 6, 2018	E-mail from CTWSRO to Tetra Tech	Inquiry regarding cultural resources survey for the Project.
December 7, 2018	E-mail from Tetra Tech to CTWSRO	Notes that Avangrid contracted with PaleoWest to conduct cultural resources survey for the Project. Provides contact information for PaleoWest.
December 14, 2018	E-mail from CTWSRO to Tetra Tech	List of questions regarding schedule for cultural resources survey, regional experience of PaleoWest, survey research design, and plans for surveys beyond pedestrian survey, such as oral histories.
December 19, 2018	E-mail from Tetra Tech to CTWSRO	Responses to questions of December 14, 2018, noting survey was conducted October – November 2018, local experience of PaleoWest staff, desktop study and sensitivity model completed by PaleoWest prior to the survey, and the need for additional studies if identified resources cannot be avoided. The desktop study and sensitivity model report (Jordan, et al. 2018) was provided.
January 2, 2019	E-mail from CTWSRO to ODOE	Provides comments on Project in response to NOI. Notes a general concern regarding the Project located in the tribe's territories and areas of concern. Requests to continue to be informed regarding the Project and opportunity to participate in or review identification efforts and resource NRHP-eligibility evaluations. Notes the Project location is known as an important traditional area for CTWSRO tribal members and their ancestors.

Date	Communication Type	Description
January 3, 2019	E-mail from ODOE to CTWSRO	Acknowledgement of receipt of comments on NOI. Request comments on aspects of the Project that are within the particular expertise of the tribe, recommendations regarding the size and location of the analysis area for cultural resources, a list studies that should be conducted to identify potential impacts of the Project and mitigation measures, and a list of ordinances and permits administered by the Tribal Government that may apply to the Project.
January 11, 2019	Conference call between CTWSRO, ODOE, Avangrid, PaleoWest, and Tetra Tech	Introduction of the Project to CTWSRO. Avangrid provided an overview of the Project and an update on resource studies and permitting. PaleoWest summarized preliminary findings of cultural resources desktop and pedestrian surveys. CTWSRO provided next steps on the consultation process.
January 11, 2019	E-mail from CTWSRO to ODOE	Provides comments on Project including applicability of a federal regulatory nexus (i.e. Section 106), importance of tribal consultation by applicants, areas that can be informed by tribal consultation, recommendation for a more inclusive view of cultural resources, and potential for HPRCSITs to be affected by the Project.
January 29, 2019	Site Visit	Avangrid conducted a site visit at the Project location with Christian Nauer, CTWSRO Archaeologist, and PaleoWest. Mr. Nauer stated that the tribe prefers to begin consultations at an early stage in order to help guide identification efforts. Tribal members may hold attachment to the project area because it is within ceded lands. CTWSRO prefers not to define HPRCSITs with boundaries and does not report such resources to SHPO. While the tribe is concerned with archaeological resources and HPRCSITs, they are also concerned with natural/biological resources as well. The group discussed agricultural ground disturbance and recent fires in the project area. The rockshelter was noted as potentially precontact in nature, but Mr. Nauer noted that since it will not be directly affected and does not appear to have a view of Project infrastructure, it is unlikely to be impacted. The tribe generally prefers that subsurface testing not be done unless necessary; they also prefer avoidance or capping of archaeological resources, rather than excavation. At minimum, the tribe would like to see recommendations for an IDP and WEAP, and possibly construction monitoring.
March 7, 2019	Email from Avangrid to CTWSRO	Survey report (Elliot and Johnson 2019) provided for review and comment.

Date	Communication Type	Description
March 22, 2019 ¹	E-mail from CTWSRO to Avangrid	Provides comment on survey report (Elliot and Johnson 2019). CTWSRO expressed support for renewable energy projects, but also concern for the lack of early consultation with the tribe, which the tribe believes has resulted in a report that does not consider tribal perspectives, knowledge, or other existing information held by the tribe. Comments note that the critical traditional fishery and gathering place at Sherars Falls and the traditional village location in Tygh Valley are within proximity of the Project. The tribe was concerned with the cultural and archaeological contexts of the report, the identification efforts and methods utilized during the survey, and the NRHP-eligibility arguments. Additionally, the tribe notes that there is no consideration of HPRCSITs or treaty rights in the report. However, they also state that these concerns can be addressed through meaningful consultation. A “menu” of recommendations was provided for the purposes of effective identification, evaluation, and protection of cultural resources.
April 16, 2019	Site Visit	Avangrid conducted a site visit at the Project location with Myra Johnson (CTWSRO Culture and Heritage Committee Chair), Christian Nauer (CTWSRO Archaeologist), and PaleoWest. The group discussed the natural and biological resources of the Project area, proposed ground disturbance, construction methods, and effects of operation. The group toured the Project area and discussed the decision-making process for siting the facility. Viewshed of the northern end of the Project was discussed, specifically that the Project would not be visible from Tygh Valley and Sherars Falls. Mr. Nauer noted that the lack of early consultation with CTWSRO led to deficiencies in the survey design and report, noting the report should include discussion of important regional sites in order to frame the identification efforts. He does not, however, intend to push for additional archaeological survey of the Project, preferring to focus on other routes of inquired, such as additional archival and oral history investigations. The Culture and Heritage Committee will discuss the Project at its May 17, 2019 meeting.

¹ Responses by PaleoWest to CTWSRO comments are included in this attachment.

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