

Exhibit T

Recreational Opportunities

**Carty Generating Station
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Prepared for



Portland General Electric Company

Prepared by



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Acronyms and Abbreviations

AC	alternating current
ASC	Application for Site Certificate
BCP	Boardman Coal Plant
BESS	battery energy storage system
BLM	Bureau of Land Management
Certificate Holder / PGE	Portland General Electric Company
CGS / Facility	Carty Generating Station
Council	Oregon Energy Facility Siting Council
kV	kilovolt
MW	megawatts
NPS	National Park Service
OAR	Oregon Administrative Rules
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ODOT	Oregon Department of Transportation
ONHT	Oregon National Historic Trail
OPRD	Oregon Parks and Recreation Department
RFA	Request for Amendment
TNC	The Nature Conservancy
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
ZVI	zone of visual influence

1.0 Introduction

The Portland General Electric Company (PGE or Certificate Holder) is submitting a Request for Amendment (RFA) 4 to the Site Certificate for the Carty Generating Station (CGS or Facility). The Facility is located approximately 13 miles southwest of Boardman, in Morrow County, Oregon. As currently approved, the Facility is capable of generating up to 450 megawatts (MW) from the natural gas-fueled combined-cycle unit (Unit 1).

In RFA 4, the Certificate Holder is proposing photovoltaic solar energy generation with approximately 200 MW alternating current (AC) of nominal and average generating capacity and BESS with the capability of storing up to 200 MW AC. The overall CGS additions proposed with RFA 4 (including the BESS) are referred to throughout this request as the Carty Solar Farm with proposed RFA 4 changes. The solar generation is proposed in two separate solar areas referred to as the Northern Solar Area, located north of the Carty Reservoir, and the Southern Solar Area, located south of the reservoir [see Figure 2 in RFA 4's Division 27 document (Request for Amendment 4 for the Carty Generating Station)].

Exhibit T provides the information required by Oregon Administrative Rules (OAR) 345-021-0010(1)(t) in support of RFA 4. Analysis in this exhibit incorporates and/or relies on reference information, analysis, and findings found in the Application for Site Certificate (ASC), previous RFAs, and Oregon Department of Energy Final Orders to demonstrate that the Facility, as modified by RFA 4, continues to comply with applicable Site Certificate Conditions and the approval standard in OAR 345-022-0100.

The Oregon Energy Facility Siting Council (Council) previously found in the Final Order on RFA 1 that the Carty Solar Farm would comply with the Council's Recreation standard.¹ The Council reaffirmed that the Carty Solar Farm would comply with the Council's Recreation standard in the Final Order on RFA 3.²

2.0 Analysis Area

In accordance with OAR 345-001-0010(35)(d), the analysis area for recreation areas is the area within and extending 5 miles from the site boundary (Figure T-1). The Amended Site Boundary is defined in detail in Section 4.1.1.2 of the RFA 4's Division 27 document (Request for Amendment 4 for the Carty Generating Station). The Amended Site Boundary used for analysis in RFA 4 is almost identical to the Approved Site Boundary. The proposed modifications to the Approved Site Boundary as described in Section 4.1 of the RFA 4's Division 27 document (Request for Amendment

¹ Final Order on Request for Amendment 1, p. 114 (December 2018).

² Final Order on Request for Amendment 3, p. 68 (July 2022).

4 for the Carty Generating Station) do not result in an expansion of the Approved Site Boundary's outer limits, and in fact retract the site boundary in the northeast corner.

3.0 Recreational Opportunities in the Analysis Area – OAR 345-021-0010(1)(t)(A)(E)

OAR 345-021-0010(1)(t) Information about the impacts the proposed facility would have on important recreational opportunities in the analysis area, providing evidence to support a finding by the Council as required by OAR 345-022-0100, including:

OAR 345-021-0010(1)(t)(A) A description of the recreational opportunities in the analysis area that includes information on the factors listed in OAR 345-022-0100(1) as a basis for identifying important recreational opportunities;

OAR 345-021-0010(1)(t)(E) A map of the analysis area showing the locations of important recreational opportunities identified in paragraph (A).

Based on the proposed amendments to the Facility in RFA 4, there are no recreation areas located within the Amended Site Boundary. Table T-1 provides an inventory of the recreation areas within the analysis area: the Oregon National Historic Trail (ONHT), which is inclusive of the Oregon Trail Wells Spring Interpretive Site.³ As described in Section 2.0, RFA 4 does not result in an expansion of the Approved Site Boundary's outer limits, and in fact retracts the northeast corner of the currently Approved Site Boundary. RFA 4 does not propose to alter the southern portion of the Approved Site Boundary, nearest the ONHT and Well Springs Interpretive Site; the proposed changes to the Amended Site Boundary occur in the northeast corner of the Facility, on the opposite side of the Facility from the ONHT. Thus, the distances from the Carty Solar Farm with proposed RFA 4 changes to the previously analyzed recreation area have remained unchanged.

3.1 Inventory Methods

Recreational opportunities within the analysis area were identified through collection and review of existing published and unpublished information available from desktop research sources commonly used for recreation inventory efforts. Key types of information resources investigated for the inventory included:

- Geographic information system files documenting recreational resources obtained from key recreation provider agencies, e.g., the Bureau of Land Management (BLM; BLM 2023a, BLM 2023b), Oregon Department of Fish and Wildlife (ODFW; ODFW 2021), U.S. Forest Service

³ Note that the Oregon Trail Wells Spring Interpretive Site is part of the ONHT, and thus they are analyzed together. The interpretive site was not considered in previous amendments of the Facility but is included for the purposes of this updated analysis; per findings from the Leaning Juniper II B Wind Power Facility (Final Order on Request for Site Certificate Amendment 3 for Leaning Juniper IIB Wind Power Facility, July 2025), specifically the ONHT high-potential sites and segments are accessible to the public and are considered important recreational opportunities (as opposed to the ONHT alignment itself).

(USFS 2023a, USFS 2023b), U.S. Geological Survey (USGS 2023), and Oregon Parks and Recreation Department (OPRD; OPRD 2018);

- Land management agency planning documents;
- Comprehensive plans, park and recreation plans, and individual park master plans prepared by OPRD and by counties and municipal governments within the analysis area;
- Internet sites maintained by recreation provider agencies, including OPRD, ODFW, the Oregon Department of Transportation (ODOT), and county and city park departments (Morrow County 2023, ODFW 2023a, ODOT 2019, OPRD 2023a, OPRD 2023b); and
- Internet sites maintained by various commercial entities, including sites providing general recreation and tourism information and sites applicable to specific private-sector recreation opportunities (Google Earth 2022, ORBIC 2020).

3.2 Resource Descriptions

In general, recreation activities in the analysis area consist of hiking, dispersed camping, bicycling, photography, game and bird hunting, and sightseeing. These activities also occur in numerous locations outside the analysis area, and therefore some of the recreational opportunities identified within the analysis area do not rise to the level of uniqueness or irreplaceability contemplated in OAR 345-022-0100(2)'s factors. The changes proposed in RFA 4 do not alter the recreational activities or recreational opportunity sites identified within the Facility's analysis area.

There is one identified recreational opportunity site within the analysis area: the ONHT. The recreational site is not within the Amended Site Boundary as proposed by RFA 4.

Recreational opportunities within the analysis area are described below in order of federal, state, local and private ownership/management. Table T-1 provides a summary of the one identified recreational opportunity, and an assessment of the importance of the opportunity. Figure T-1 shows the location of the recreation opportunity identified in the analysis area.

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Table T-1. Inventory of Recreational Opportunities in the Analysis Area

Recreational Opportunity	Responsible Entity	Distance to the Facility (miles)			Description	Size or Distance	Importance Factors					Important Recreation Resource
		Amended Site Boundary	Solar Areas (North and South)	Collector Line			Special Designation	Demand	Outstanding or Unusual Qualities	Rareness	Replaceability	
Oregon National Historic Trail (ONHT) Segments/Sites ¹	National Park Service (NPS) and Oregon Historic Trails Advisory Committee	2.1	2.1	3.1	The Oregon Trail was one of the main overland migration routes on the North American continent, leading from locations on the Missouri River to the Oregon Country. A high-potential ¹ trail segment has been identified, extending from the eastern boundary of the Boardman Bombing Range westward to Immigrant Road (NPS 1999).	Approx. 2,000 miles total; approx. 12.0 miles of high-potential trail segment in analysis area	National Historic Trail	Low	Most trail segments destroyed by agricultural use; interpretive information at the Oregon Trail Wells Spring Interpretive Site; public access to this high-potential trail segment restricted by federal and private ownership.	Intact evidence of trail route - rare	Irreplaceable (intact segments only)	Yes
		4.3	4.3	5.1	The Oregon Trail Wells Spring Interpretive Site offers views of intact wagon ruts, a graveyard, and remains of a stage station along with informational signage (NPS 1999).	Approx. 0.5 acre; Approx. 0.5 acre in the analysis area	ONHT high-potential site	Low	Interpretive signage with historical information but no other facilities; views of intact wagon ruts; appears to be located on private land.	Intact evidence of trail route - rare	Irreplaceable	Yes
1. High-potential segments are portions of a trail route that afford high-quality recreational experiences in areas that have greater than average scenic values or afford the opportunity to vicariously share the experience of the original trail users, while high-potential sites are specific locations with similar attributes. See Section 4.4.2.1 for additional background on this management designation.												

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3.2.1 Federal

The National Park Service (NPS), in conjunction with the Oregon Historic Trails Advisory Committee, manages the remaining segments and important sites of the ONHT. The trail route passes approximately 2.1 miles south of the Amended Site Boundary and southern end of the Southern Solar Area, and 3.1 miles south of the aboveground segment of the 34.5-kilovolt (kV) collector line (see Table T-1 for specific distances to amended Facility infrastructure). The Oregon Trail Wells Spring Interpretive Site is a high-potential site located along the ONHT and within the analysis area. Due to the rareness and historic importance of the ONHT and associated high-potential site, the resource is considered an important recreational resource.

3.2.2 State

There are no lands owned or managed by the State of Oregon within the analysis area.

3.2.3 Local Governments and Special Districts

Morrow County, cities, and special districts do not provide any recreation opportunities within the analysis area.

3.2.4 Private

No privately owned recreational opportunities were identified within the analysis area.

3.3 Importance Criteria

Recreational opportunities identified within the analysis area were evaluated for “importance” based on the criteria outlined in OAR 345-022-0100. A recreational opportunity may be determined to be important based on assessment of available information specific to each criterion, and a qualitative balancing of the attributes for all five criteria for a given resource. Specific considerations used to characterize the importance of a recreational opportunity relative to the five criteria outlined in OAR 345-022-0100 are summarized as follows:

- 1. Any special designation or management of the location;*

There are distinct, identifiable differences among the types of special management designations that apply to lands within the analysis area, and their associated implications for resource protection. Wilderness designation, for example, results in management direction to preserve the resource values of the designated area and represents a high level of protection. Other types of designations allow much more latitude in undertaking management activities and involve a lower degree of resource protection. The source of the special designation is also a relevant consideration; a designation established through an Act of Congress clearly carries more weight than an administrative designation applied by a resource management agency.

- 2. The degree of demand;*

Qualitative ratings of High, Moderate, and Low were used as proxy measures for the level of demand for a specific recreational opportunity.

3. Outstanding or unusual qualities;

Identification of characteristics that might be considered outstanding or unusual for a given opportunity is a highly subjective task, as there is a wide variation in the values, tastes, and perceptions among the recreational public. The standard does not specify what qualities would define an opportunity as “outstanding” or “unusual,” or indicate how those characteristics could be measured. Some sites or areas have attributes that qualify them as “unique” (i.e., one of a kind), while others have qualities that are not unique, but intuitively set them apart from other opportunities and could be considered outstanding or unusual.

4. Availability or rareness; and

Qualitative ratings of Rare, Uncommon, and Common were used to address the criterion based on the apparent rareness of an opportunity. Consideration of this rareness attribute was based on the approximate set of comparable opportunities (and the geographic scale appropriate to each type of opportunity) available within the region surrounding the Facility.

5. Irreplaceability or irretrievability of the opportunity.

Ratings of Irreplaceable, Somewhat Irreplaceable, and Replaceable were used to address the criterion based on the ability to replace an opportunity. In general, opportunities based on inherent natural resource characteristics that could not feasibly be re-created in the same place or at another reasonably nearby location were considered Irreplaceable. By contrast, most opportunities that are based on constructed recreational facilities or infrastructure (such as typical campgrounds) could feasibly be replaced and were considered Replaceable.

The assessment of the overall importance for each identified recreational opportunity occurred on a case-by-case basis. Table T-1 provides a summary of each identified recreational opportunity in the analysis area, describes the characteristics of the opportunity relative to the importance criteria, and indicates which opportunities are considered important for the purposes of this exhibit. A description of each recreational opportunity appears in the following section.

3.4 Importance Assessment Summary

Based on the importance criteria described above, the ONHT has been determined to be important for the purposes of this analysis. This resource is summarized in Table T-1 of this exhibit. The potential for impacts to the important recreation resource as a result of the amended Facility is discussed in Section 4.

4.0 Impact Assessment – OAR 345-021-0010(1)(t)(B)(C)

OAR 345-021-0010(1)(t)(B) A description of any potential adverse impacts to the important opportunities identified in paragraph (A) including, but not limited to:

OAR 345-021-0010(1)(t)(C) An evaluation of the significance of the potential adverse impacts identified under paragraph (B);

The potential effects to the single important recreational opportunity in the analysis area were studied to determine whether the design, construction, and operation of the Carty Solar Farm with proposed RFA 4 changes, when taking into account mitigation, would be likely to result in any significant adverse impacts. The following sections summarize the types of potential adverse impacts evaluated and provide summaries of the analysis.

4.1 Direct or Indirect Loss of Recreational Opportunities – OAR 345-021-0010(1)(t)(B)(i)

(i) Direct or indirect loss of a recreational opportunity as a result of facility construction or operation;

A direct loss of opportunity occurs only where the Facility would physically disturb the ground located within the affected recreational resource area. The Facility as modified by RFA 4 would not directly impact any identified recreation resource, as the single identified recreational opportunity is not within the Amended Site Boundary.

An indirect loss of opportunity could occur if 1) a recreational opportunity nearby the Facility would not be physically disturbed by construction activity but might need to be temporarily closed to public use in response to safety concerns; or 2) if development of the Facility were to alter the environment of a recreational opportunity through indirect effects that it substantially adversely impacted the quality of the recreation experience at that site. For example, if the Facility were to destroy intact evidence of the Oregon Trail in view of an interpretive site (which it does not), it could render the site meaningless in terms of its historic importance and value as a tourism resource.

With respect to the first type of potential indirect loss, because the single identified important recreation resource in the analysis area is located farther than 1 mile from the Amended Site Boundary, indirect opportunity loss due to temporary closure for safety concerns is unlikely to occur. Note that construction of the Facility in general will last for up to 24 months to accommodate construction or weather delays. Potential sources of the second type of indirect loss—environmental disturbance impacts to important recreational opportunities—include noise, traffic, and changes in visual quality associated with the Facility; the following sections analyze these three factors.

4.2 Facility Noise – OAR 345-021-0010(1)(t)(B)(ii)

(ii) Noise resulting from facility construction or operation;

Exhibit Y provides an assessment of the existing acoustical environment and anticipated sound levels from the Carty Solar Farm with proposed RFA 4 changes; the methodology for noise modeling is detailed in that exhibit. Activities associated with construction of the proposed solar

areas and related or supporting facilities would be similar to the construction noise already reviewed by Council for the Facility.

Exhibit Y describes sound level thresholds derived from the Oregon Department of Environmental Quality (ODEQ) noise regulations (OAR 340-035-0035), which are used to assess the significance of impacts to noise sensitive properties. As defined in OAR 340-035-0035, “noise sensitive properties” are “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.” The single important recreation area within the analysis area is not considered to be a noise sensitive property.

Based on the results of operations noise modeling, described in detail in Exhibit Y, operation of the Carty Solar Farm with proposed RFA 4 changes will not create new noise impacts to important recreation areas beyond those that were previously identified for the Facility. As detailed in Exhibit Y, the solar modules will create no significant operational noise, and operational noise from primarily cooling equipment associated with the BESS and electrical equipment will be similar to operational noise already reviewed by the Council for the Facility. Comprehensive Facility noise would attenuate to below 26 A-weighted decibels (dBA)⁴, or less than the background/ambient (nighttime) noise level, within approximately 3.3 miles from the Amended Site Boundary. The Oregon Trail Wells Spring Interpretive Site is greater than 3.3 miles from the Amended Site Boundary and thus would not be affected by Facility operation noise, but the closest ONHT segment is within 2.1 miles of the Amended Site Boundary and nearest solar area.

Modeled worst-case amended Facility operational noise levels at the ONHT would be a maximum of 23 dBA, respectively, which is below rural nighttime ambient background noise levels. This level of noise is unlikely to substantively diminish the experience at the ONHT, for a majority of the ONHT segment is inaccessible to the public (restricted by federal and private ownership) and is managed as natural areas (Kelly Wallis, The Nature Conservancy, pers. comm., July 18, 2022; see Exhibit L and Attachment L-1). The small portion of this ONHT segment that is accessible to the public, i.e., the Oregon Trails Wells Spring Interpretive Site, is not anticipated to be affected by Facility operation noise. The ONHT is not considered a noise sensitive property.

Noise from construction would similarly be less than 26 dBA within 12.2 miles from the Amended Site Boundary (daytime ambient sound level) and would thus be audible at the ONHT. Pursuant to OAR 340-035-0035(5), noise from construction activities is exempt from the state noise standards. Construction activities associated with the Facility have the potential for localized noise on a temporary basis as construction activities progress through certain locations within the Amended Site Boundary. Noise-generating activities during construction could result from the use of heavy machinery, such as heavy trucks, bulldozers, graders, and cranes. Based on the estimated noise levels of construction equipment provided in Exhibit Y, construction noise levels at the ONHT would peak at approximately 36 dBA; this noise level is comparable to a quiet library. This elevated

⁴ Note that the 26 dBA value was selected as representative because OAR 340-035-0035(1)(b)(B)(iii)(I) allows for an assumed ambient sound level of 26 dBA for wind energy facilities. Site-specific ambient sound data was not collected for the Facility, but 26 dBA is assumed to be a conservative estimate.

noise level will occur sporadically while infrastructure such as the solar area closest to the ONHT is built for the Carty Solar Farm with proposed RFA 4 changes. As construction progresses elsewhere in the Facility, noise levels will drop to background levels. Continued implementation of Site Certificate Condition 13.1 will help reduce construction noise impacts through the requirement of exhaust mufflers on combustion engine-powered equipment and establishment of a noise complaint response system. At this time, pending geotechnical investigation of the final layout, blasting is not anticipated to be required for Facility construction.

Facility noise from the amendments in RFA 4 will not result in a significant adverse impact to important recreation areas.

4.3 Traffic – OAR 345-021-0010(1)(t)(B)(iii)

(iii) Increased traffic resulting from facility construction or operation;

Traffic impacts in general are addressed in greater detail in Exhibit U, including information on anticipated traffic levels and typical travel routes for the Carty Solar Farm with proposed RFA 4 changes.

Based on the analysis provided in Exhibit U, the primary traffic route used for construction of the Carty Solar Farm with proposed RFA 4 changes will be the same as what was already evaluated for the approved Facility. Construction-related traffic will utilize Interstate 84 (I-84) and Tower Road to access the Facility. The ONHT is located south of I-84 but is not accessed by Tower Road or roads anticipated to carry Facility-related truck traffic. Construction worker traffic may occur on roads providing access to this resource; however, construction worker traffic will be dispersed on multiple roads throughout the area, and the nominal level of worker traffic anticipated on roads other than I-84 and Tower Road will not adversely affect level of service on those roads (see Exhibit U). Timing patterns for construction-related traffic and recreational traffic to important recreation areas will likely differ substantially. Construction traffic will primarily be dispersed throughout the business work week and primarily during commuter hours, whereas peak recreational traffic related to visitation to the ONHT will be greatest during the weekend. Additionally, no roads providing access to the ONHT are expected to be closed during construction or operation of the Carty Solar Farm with proposed RFA 4 changes.

The nearest segments of the ONHT are accessed from State Route 74, located 9 miles west of Tower Road, or from Bombing Range Road, 8 miles to the east of Tower Road on I-84. A majority of the ONHT segment (except the Oregon Trails Wells Spring Interpretive Site) is inaccessible to the public (restricted by federal and private ownership) and is managed as a natural area (Kelly Wallis, The Nature Conservancy, pers. comm., July 18, 2022; see Exhibit L and Attachment L-1). For these reasons and based on the distance from ONHT access roads to Tower Road, construction-related traffic from the amendments in RFA 4 will not result in significant adverse impacts to the ONHT.

Temporary, short-term delays are most likely to occur only during deliveries of oversized loads, which will occur sporadically and will be accompanied by traffic control teams. Construction of the

Carty Solar Farm with proposed RFA 4 changes in general will be short in duration (lasting approximately 24 months) and thus any construction traffic impacts will be temporary.

Although there will be no significant traffic impacts to the ONHT, the Certificate Holder will continue to implement Site Certificate Condition 6.17 which requires adhering to various traffic control measures and a Construction Traffic Management Plan. Site Certificate Condition 6.27 in turn requires that the plan be reviewed and approved by the Council and in consultation with Morrow County and requires that construction-related traffic will be evaluated to confirm whether a Traffic Impact Assessment will be required. Any damage or wear to county roads from Facility construction will be repaired and restored per Site Certificate Condition 6.19. Therefore, no significant adverse traffic impacts to important recreation areas are anticipated from construction of the Facility.

During operations, traffic would be minimal, as the Carty Solar Farm with proposed RFA 4 changes will permanently employ up to 12 permanent personnel. Solar and BESS-related equipment will require periodic maintenance, but traffic associated with repair or maintenance visits will be low, and daily traffic generated by operation of the Carty Solar Farm with proposed RFA 4 changes is not expected to affect operations of any of the state or local county roads used to access the important recreation area within the analysis area.

Construction and operational traffic from the amendments in RFA 4 will not result in significant adverse impacts to important recreation areas within the analysis area.

4.4 Visual – OAR 345-021-0010(1)(t)(B)(iv)

(iv) Visual impacts of facility structures or plumes, including, but not limited to, changes in landscape character or quality;

The visual impacts of construction and operation of the Facility will not likely result in a significant adverse visual impact to any important recreation area due the distance of over 2 miles from the Amended Site Boundary to the nearest point of the ONHT, and the overall height of solar components. The solar modules and associated infrastructure at the Facility, as proposed in RFA 4, will result in a change to the existing viewshed, but this change will not result in a significant visual impact to the single important recreation area.

The Carty Solar Farm with proposed RFA 4 changes will not generate any emissions plumes, so will not cause any visual impacts from air emissions. Potential visual impacts due to dust created during construction of the Carty Solar Farm with proposed RFA 4 changes will be largely prevented by following best management practices for dust control as detailed in Exhibit I.

Existing Visual Character

Since the Final Order on RFA 1 was issued, there has been one change in conditions within the Facility: the demolition of the BCP. Commercial operation of the coal plant ceased in October 2020 and demolition was completed at the end of 2023. The Northern Solar Area, BESS, and collector substation are all proposed in former BCP areas. Other Facility conditions have not changed. The

Facility includes numerous existing aboveground transmission lines including the existing 500-kV transmission line and dead-end structure where the proposed collector substation will connect. Other existing transmission lines that support the Facility include the 500-kV Grassland to Slatt transmission line (approximately 17 miles long) and 230-kV BCP to Dalreed transmission line (approximately 16 miles long). In addition, the CGS Unit 1 was constructed and placed into service in 2016. Unit 1 is located directly adjacent to the Northern Solar Area, BESS, and proposed collector substation. Adjacent lands outside the Facility continue under habitat conservation to the north, east, and south, and farm use to the west. The Boardman Bombing Range is also adjacent to the north and east.

4.4.1 Visual Impact Assessment Methodology

The potential for visual impacts from the Facility as amended by RFA 4 are primarily related to the components that will be the most prominent in terms of size and scale. The two most prominent components in terms of height off the ground and overall surface area include the Northern and Southern solar areas, and the 2-mile segment of aboveground 34.5-kV collector line proposed along the eastern and northern shores of the Carty Reservoir. Thus, these two components were the main focus of the visual impact assessment.

A zone of visual influence (ZVI) analysis, also known as a viewshed analysis, was performed using Esri geographic information system software and a bare-earth 30-meter digital elevation model to identify those areas from which the Northern and Southern solar areas and the 2-mile segment of aboveground 34.5-kV collector line might be visible (Figures T-2 and T-3). The ZVI analysis assumed a maximum height of 12 feet for the solar modules and a maximum height of 70 feet for the aboveground collector line. All other components proposed with RFA 4 were deemed less visually impactful (due to height, being dispersed throughout the Amended Site Boundary, or adjacent to taller infrastructure, etc.) and addressed by the assessment of the solar areas and aboveground collector line. A typical viewing height of 1.8 meters (6 feet) was assumed. Visibility of the two components was defined by visible or not visible, indicated by color coding (see Figures T-2 and T-3), and by proximity, i.e., foreground (less than 0.5 mile), middleground (0.5 to 5 miles), or background distances (more than 5 miles).

It should be noted that this bare-earth modeling approach (based only on the effects of terrain on visibility) results in a highly conservative assessment of potential visibility for several reasons. First, a bare-earth analysis does not take into account the effects of vegetation or buildings, which will in practice block or screen views in some places. Finally, the model does not account for distance, lighting, weather, and atmospheric attenuation factors that diminish visibility under actual field conditions.

The solar modules will be the most visible components within the solar areas and will consist of solar module strings, the vast majority of which will be mounted on single-axis tracker systems. The visibility of the solar modules within the solar areas will depend primarily on topographic or other view obstructions and the distance from the viewer to the solar areas. With a maximum height of 12 feet to the top edge of the solar module when fully tilted, the modules will not be visible from sites

lower in elevation than the area on which the solar modules are constructed. From sites that are similar in elevation to the solar modules, viewers will see only a line on the horizon and not individual solar panels. Depending on the viewing distance, viewers at sites higher in elevation may have views of the modules, especially if the view direction is toward the angle at which the module is tilted toward the sun. To the extent practicable, reflectivity of solar modules will be minimized. Antireflective coating will be used to reduce glare, and the surface of the modules will have high transmittance to increase the amount of light reaching the photovoltaic cells. With these methods, the modules will be less reflective than a natural water body or a coated glass surface that is not antireflective.

4.4.2 Visual Impact Assessment Results

Based on the results of the ZVI analysis, there is the potential for visibility of some portions of the Carty Solar Farm with proposed RFA 4 changes from the single important recreation area, i.e., the ONHT, in the analysis area (see Figures T-2 and T-3). The visibility of the solar areas and aboveground collector line are characterized as visible or not visible. The discussion below provides additional detail on the updated visual impact analysis that was conducted for RFA 4.

Potential visibility is one of several factors that comprise an assessment of visual impact to an important recreation area. Other factors to consider include the existing visual context, particularly other sources of visual contrast present within the view; the likely number and nature of visitors to a recreation area; and whether there is any management direction related to preservation of scenic quality (see Exhibit R), either within the recreation area or outside of it.

The solar areas and aboveground collector line will be potentially visible from the single identified important recreation area in the analysis area: the ONHT. Views of the Carty Solar Farm with proposed RFA 4 changes from the ONHT would be from a middleground viewing distance, where both the low-profile solar modules and aboveground collector line would occupy a limited portion of the total viewshed. Existing views already include wind farms, transmission lines, and industrial development so the Carty Solar Farm with proposed RFA 4 changes will not introduce a new or unusual feature to the view. In addition, potential Facility views from the ONHT would be partially to fully screened in some areas by terrain. The following paragraphs provide a more in-depth visual impact assessment for this important recreation area.

4.4.2.1 Oregon National Historic Trail

Congress designated the route of the Oregon Trail as a National Historic Trail in 1978, and the Oregon Historic Trails Advisory Committee was created to provide public input and advice to the NPS on management of historic trails in Oregon. The National Historic Trail designation applies to a general, primary route (and two specified branches) extending approximately 2,000 miles from Independence, Missouri, to Oregon City, Oregon. The Oregon Trail designation was intended to preserve the legacy of the westward immigration of settlers to the Oregon Territory, based on routes used from 1841 to 1848 (NPS 1999). In recognition of the intermittent evidence of many of the historic trail routes, the National Trails System Act provided for the identification of “high-

potential sites and segments” along these routes, using specified criteria for historic significance, the presence of visible historic remnants, scenic quality, and relative freedom from intrusion. High-potential segments are portions of a trail route that afford high-quality recreational experiences in areas that have greater than average scenic values or afford the opportunity to vicariously share the experience of the original trail users, while high-potential sites are specific locations with similar attributes. Each site or segment must have the potential to interpret the trail’s historical significance and to provide opportunities for high-quality recreation.

The NPS (1999) management plan identifies a 12-mile Boardman segment of the ONHT in Morrow County as a high-potential trail segment. This trail segment extends from the eastern edge of the Boardman Bombing Range in a southwest direction to Immigrant Road and then parallels the road to the western edge of the range and continues to the west. Physical evidence of the trail, i.e., wagon ruts, is still present in much of this 12-mile corridor. However, approximately 7 miles of this segment are within the Boardman Bombing Range and inaccessible to the public except for a small area surrounding the Oregon Trail Wells Spring Interpretive Site; the remainder of the high-potential segment is on private lands to the west of the Bombing Range (most of which is managed by The Nature Conservancy [TNC] as part of the Boardman Conservation Area and Boardman Research Natural Area) and is also not open to the public (Kelly Wallis, TNC, pers. comm., July 18, 2022; see Exhibit L and Attachment L-1). Due to the restricted access to this high-potential trail segment, it is questionable whether this should be considered an important resource for recreation; however, its federal protection status, irreplaceability, and historical importance qualify it as important for the purposes of this analysis.⁵

The overall visual impact from the solar areas and aboveground collector line on the ONHT would be negligible. The ZVI analysis demonstrates only intermittent visibility along the high-potential ONHT segment and no visibility from the Well Springs Interpretive Site. In addition, access to the trail where it is south of the Facility is extremely limited and the existing viewshed contains wind turbines, numerous aboveground transmission lines, and other industrial infrastructure. The high-potential ONHT segment within the Boardman Bombing Range is not accessible to the public. Potential visibility occurs intermittently along ONHT segments west of the Bombing Range, located on private lands, which are also not accessible to the general public.

RFA 4 does not propose to alter the southern portion of the Approved Site Boundary, nearest the ONHT and Well Springs Interpretive Site. The proposed changes to the Amended Site Boundary occur in the northeast corner of the Facility. The ONHT lies at a middleground distance of approximately 2.1 miles from the nearest segment of the Amended Site Boundary. The nearest solar modules in the Southern Solar Area and the nearest point of the aboveground collector line are at middleground distances of at least 2.1 and 3.1 miles, respectively. Given that the distance from the closest point to the Amended Site Boundary and Carty Solar Farm with proposed RFA 4 changes

⁵ Per findings from the Leaning Juniper II B Wind Power Facility (Final Order on Request for Site Certificate Amendment 3 for Leaning Juniper IIB Wind Power Facility, July 2025), specifically the ONHT high-potential sites and segments are accessible to the public and are considered important recreational opportunities (as opposed to the ONHT alignment itself).

result in a middleground distance of approximately 2.1 miles, it is questionable whether any of the solar modules or the aboveground collector line will be noticeable to a viewer from the ONHT. Furthermore, most of the high-potential trail segment is within the Boardman Bombing Range and is off-limits to the public, except for a small area surrounding the Oregon Trail Well Springs Interpretive Site. The ZVI analysis in Figures T-2 and T-3 show that the most prominent features proposed with the Carty Solar Farm with proposed RFA 4 changes will not be visible from the Well Springs Interpretive Site.

The ONHT is managed to maintain historic value (i.e., view of visible trail remnants and ruts, along with the immediate surroundings), rather than scenic qualities; there is no management direction for preservation of views or scenic quality related to the lands on which this segment of the ONHT is located (NPS 1999). Although the relatively undeveloped viewshed is said to provide an experience that enables visitors to relate to the emigrants, the viewshed is no longer in the nearly pristine condition that it was during the emigrants' time. Existing roads are visible, much of the landscape is farmed and fenced, little of the tallgrass native prairie remains, and existing wind turbines and transmission lines from other projects are visible to the northwest, west, southwest, and southeast.

4.5 Summary of Impacts

The analysis area contains part of one important recreation area, the ONHT, found within the analysis area. The Certificate Holder analyzed potential impacts to these areas and concluded as follows:

- **Direct or Indirect Loss.** The Carty Solar Farm with proposed RFA 4 changes has been designed to avoid direct loss to all important and identified recreational opportunities, and any indirect disturbance effects would not lead to an indirect loss of any important or identified recreational opportunities.
- **Noise.** Based on the results of the noise modeling presented in Exhibit Y, operational noise was determined to likely be less than 26 dBA, which is consistent with a rural nighttime background ambient according to OAR 340-035-0035. The single important recreation area, the ONHT, is not considered to be noise-sensitive receptor under the ODEQ noise regulations and is anticipated to receive sounds levels that are less than rural nighttime ambient background levels, less than the noise levels previously modeled for the approved Facility. Construction noise may be audible at the ONHT nearest the Facility; however, construction noise would be short-term and intermittent, and would not be considered a significant impact to any important recreation area. Therefore, the Carty Solar Farm with proposed RFA 4 changes will result in no significant difference in operational or construction noise at the ONHT where it is within the analysis area.
- **Traffic.** The Carty Solar Farm with proposed RFA 4 changes will not alter the previous analysis demonstrating that Facility-related traffic would not be sufficiently high, nor located to significantly impact any important recreation area within the analysis area. Some short-term, intermittent, and temporary delays may be experienced during Facility

construction by visitors; however, these would be temporary and traffic conditions would return to typical low levels following construction. Therefore, there would be no significant impact to traffic resulting from the construction or operation of the Carty Solar Farm with proposed RFA 4 changes.

- Visual. The Carty Solar Farm with proposed RFA 4 changes will potentially be visible intermittently from the single identified important recreation area within the analysis area, the ONHT, which will have middleground views of the proposed Facility. However, due to distance from the Facility, topographic obstructions, other features within view (i.e., wind turbines and other utility infrastructure), low impact to users, and an overall lack of management direction applicable to scenic quality beyond the boundaries of the ONHT, the Carty Solar Farm with proposed RFA 4 changes would not have a significant visual impact on important recreation areas. The ZVI analysis shows that there will be no views of the Carty Solar Farm with proposed RFA 4 changes from the ONHT Well Springs Interpretive Site.

5.0 Minimization and Mitigation Measures – OAR 345-021-0010(1)(t)(D)

OAR 345-021-0010(1)(t)(D) A description of any measures the applicant proposes to avoid, reduce or otherwise mitigate the significant adverse impacts identified in paragraph (B).

As described in Section 4, the Carty Solar Farm with proposed RFA 4 changes will have no significant, direct adverse impact on any important recreational opportunity in the analysis area. Nor will any indirect disturbance effects associated with traffic, noise, or visual aspects of the Carty Solar Farm with proposed RFA 4 changes lead to an indirect loss of any important or identified recreational opportunity. Consequently, no mitigation measures for recreation are proposed.

6.0 Monitoring Program – OAR 345-021-0010(1)(t)(F)

OAR 345-021-0010(1)(t)(F) The applicant's proposed monitoring program, if any, for impacts to important recreational opportunities.

Because construction and operation of the Carty Solar Farm with proposed RFA 4 changes will have no significant adverse impacts on recreational opportunities in the analysis area, and no mitigation specific to recreation is warranted or proposed, no monitoring program for recreation is proposed.

7.0 References

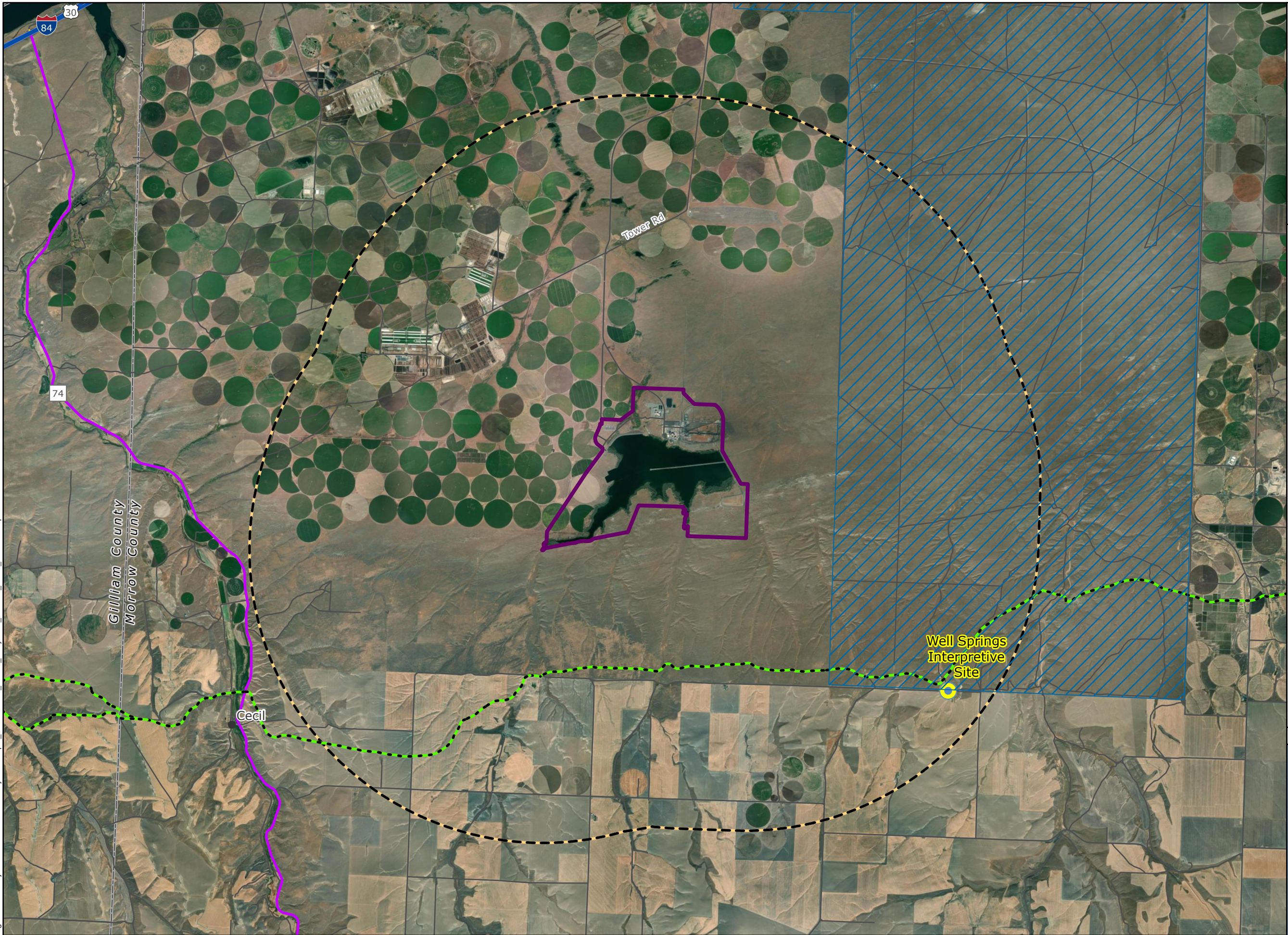
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Figures

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Carty Generating Station Request for Amendment 4

**Figure T-1
Recreation Areas within
the Analysis Area**

MORROW COUNTY, OR

- Amended Site Boundary
- Analysis Area (5-mile Buffer)
- City/Town
- County Boundary
- Interstate Highway
- US Highway
- State Highway
- Local Roads
- National Register Historic Place
- Blue Mountain Scenic Byway
- Oregon Trail (Historic Route)
- Boardman Naval Bombing Range

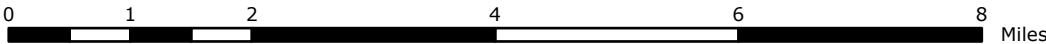


Reference Map

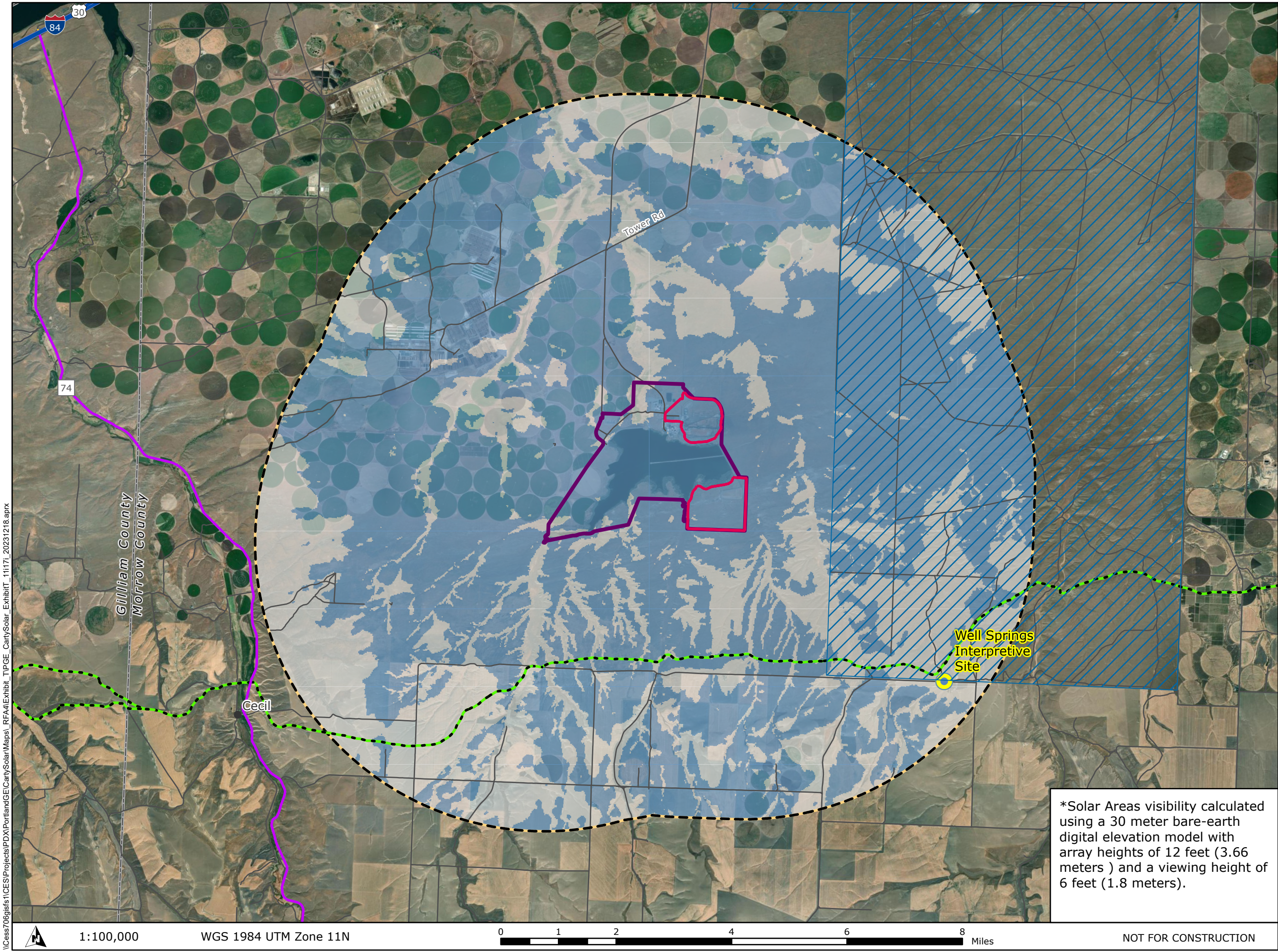


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WGS 1984 UTM Zone 11N



NOT FOR CONSTRUCTION



Carty Generating Station Request for Amendment 4

Figure T-2 Zone of Visual Influence for Solar Areas

MORROW COUNTY, OR

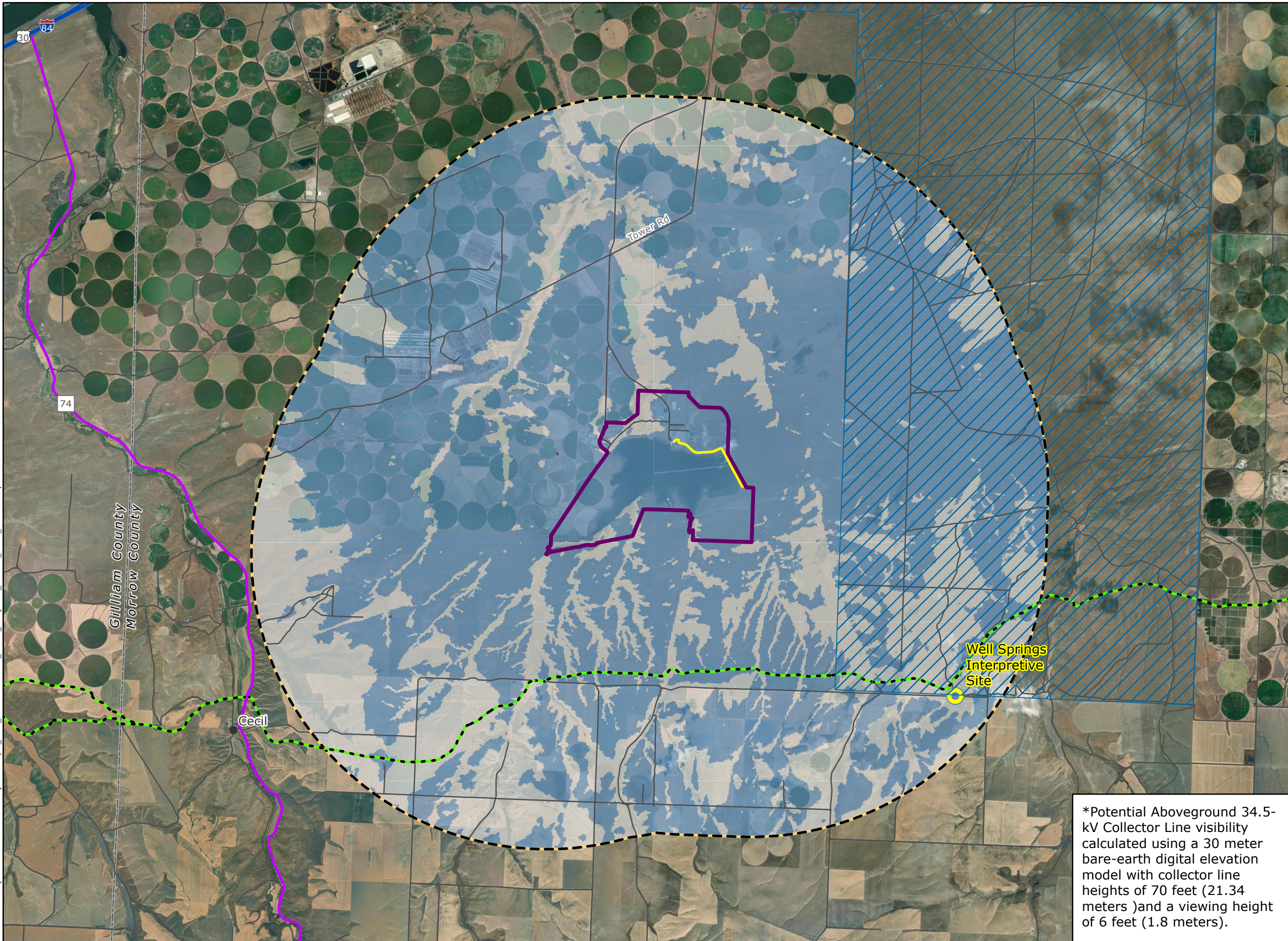
- Amended Site Boundary
 - Analysis Area (5-mile Buffer)
 - Proposed Solar Areas Fence Line
 - City/Town
 - County Boundary
 - Interstate Highway
 - US Highway
 - State Highway
 - Local Roads
 - National Register Historic Place
 - Oregon Trail (Historic Route)
 - Blue Mountain Scenic Byway
 - Boardman Naval Bombing Range
 - Viewshed Results*
 - Solar Areas Not Visible
 - Solar Areas Potentially Visible
- TETRA TECH** **PGE**



*Solar Areas visibility calculated using a 30 meter bare-earth digital elevation model with array heights of 12 feet (3.66 meters) and a viewing height of 6 feet (1.8 meters).

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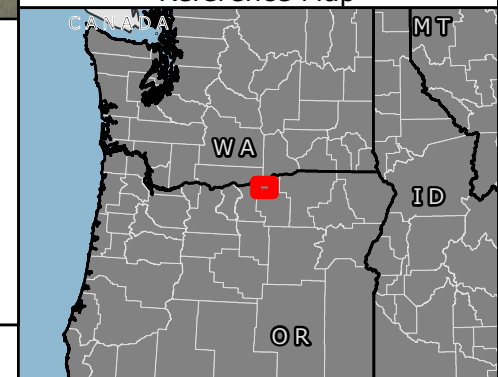
**Carty
Generating Station
Request for
Amendment 4**
**Figure T-3
Zone of Visual Influence
for Aboveground
34.5-kV Collector Line**

MORROW COUNTY, OR

- Amended Site Boundary
- Analysis Area (5-mile Buffer)
- Proposed Aboveground 34.5-kV Collector Line
- City/Town
- County Boundary
- Interstate Highway
- US Highway
- State Highway
- Local Roads
- Blue Mountain Scenic Byway
- National Register Historic Place
- Oregon Trail (Historic Route)
- Boardman Naval Bombing Range
- Viewshed Results***
 - Aboveground 34.5-kV Collector Line Not Visible
 - Aboveground 34.5-kV Collector Line Potentially Visible



Reference Map



*Potential Aboveground 34.5-kV Collector Line visibility calculated using a 30 meter bare-earth digital elevation model with collector line heights of 70 feet (21.34 meters) and a viewing height of 6 feet (1.8 meters).



1:100,000

WGS 1984 UTM Zone 11N

0 1 2 4 6 8 Miles

NOT FOR CONSTRUCTION