# Exhibit L Protected Areas

West End Solar Project September 2022

Prepared for EE West End Solar LLC

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ACEC	Area of Critical Environmental Concern
Applicant	EE West End Solar LLC
BLM	U.S. Bureau of Land Management
I-XX	Interstate
NWR	National Wildlife Refuge
0&M	Operations and Maintenance
OAR	Oregon Administrative Rule
OR-XX	Oregon Route
Project	West End Solar Project
US-XX	U.S. Route
USFWS	U.S. Fish and Wildlife Service
ZVI	zone of visual influence

## Acronyms and Abbreviations

## **1.0 Introduction**

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit L addresses potential Project impacts to protected areas, in compliance with Oregon Administrative Rules (OAR) 345-021-0010 (1)(l) and OAR 345-022-0040. OAR 345-022-0040 requires that the Project address impacts to protected areas, as defined in OAR 345-022-0040(1)(a)–(p).

## 2.0 Analysis Area

The Analysis Area for protected areas includes the area within the Site Boundary, as well as 20 miles from the Site Boundary, as defined in OAR 345-001-0010(58)(e). The Site Boundary is described in detail in Exhibits B and C. The Analysis Area is shown on Figure L-1.

## 3.0 Protected Areas Inventory – OAR 3450-021-0010(1)(l)(A)(B)

OAR 3450-021-0010(1)(l) Information about the proposed facility's impact on protected areas, providing evidence to support a finding by the Council as required by OAR 345-022-0040, including:

OAR 3450-021-0010(1)(l)(A) A list of the protected areas within the analysis area showing the distance and direction from the proposed facility and the basis for protection by reference to a specific subsection under OAR 345-022-0040(1).

OAR 3450-021-0010(1)(l)(B) A map showing the location of the proposed facility in relation to the protected areas listed in OAR 345-022-0040 located within the analysis area.

Table L-1 provides a description of protected areas as defined under OAR 345-022-0040, along with an inventory of the 12 protected areas within the Analysis Area. The table also indicates the proximity and direction of each protected area relative to the Site Boundary. No protected areas are located within the Site Boundary. This inventory of protected areas was based on review of available Geographic Information System data, maps, and other available information for the categories of protected areas listed in OAR 345-022-0040(1)(a)–(p). These protected areas are identified by name on Figure L-1.

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Protected Areas within A	nalysis Area			Project	
Type (as defined under OAR 345-022-0040)	Area Name	Distance from Site Boundary (miles)	Direction from Site Boundary	Potentially Visible? <sup>1</sup>	Visual Analysis Results
National Parks OAR 345-022-0040(1)(a)	None	N/A	N/A	N/A	N/A
National Monuments OAR 345-022-0040(1)(b)	None	N/A	N/A	N/A	N/A
Wilderness Areas OAR 345-022-0040(1)(c)	None	N/A	N/A	N/A	N/A
	Cold Springs NWR	2.4	NE	Yes	Low to Moderate Impact. Viewshed analysis indicates potential Project visibility in NWR at a middleground distance of 2.4 miles. Vegetative screening in portions of the NWR and views across developed areas and highways indicate that the Project will not be a prominent feature in the viewshed. Views of the Project will not interfere with designated wildlife viewing locations (i.e., along the designated Memorial March Trail and ten hunting blinds, all of which are completely outside of the modeled bare earth viewshed [Figure L-2; USFWS 2022a]). This site receives fairly low levels of public use, typically consisting entirely of locals (USFWS 2015). No management direction applicable to preservation of scenic qualities within or outside of refuge; views of the Project will not compromise the purpose of the refuge.
National & State Wildlife Refuges (NWR) OAR 345-022-0040(1)(d)	McNary NWR	7.9	NE	Yes	Negligible Impact. Viewshed analysis indicates limited Project visibility in the NWR at a background distance of 7.9 miles. If the Project is visible, the far background viewing distance, vegetative screening within the NWR, and views across developed land uses and highways indicate that the Project would not be a prominent feature in the viewshed. Views of the Project will not interfere with designated wildlife viewing locations (i.e., along the designated Juniper Canyon Trailhead [within Oregon], which is completely outside of the modeled bare earth viewshed [Figure L-2; USFWS 2022b]). No management direction applicable to preservation of scenic qualities within or outside of refuge; views of the Project will not compromise the purpose of the refuge.
	Umatilla NWR	13.8	NW	No	No Impact. Viewshed analysis indicates that none of the Project facilities will be visible from the NWR due to intervening topography. No management direction applicable to preservation of scenic qualities within or outside of refuge; views of the Project will not compromise the purpose of the refuge.
National Coordination Areas OAR 345-022-0040(1)(e)	None	N/A	N/A	N/A	N/A
	Three Mile Adult Holding (Umatilla Fish Hatchery Satellite Facility)	6.3	NW	No	No Impact. Viewshed analysis indicates that none of the Project facilities will be visible from the hatchery due to intervening topography. No management direction applicable to preservation of scenic qualities within or outside of the hatchery; views of the Project will not compromise the purpose of the facility.
National & State Fish Hatcheries OAR 345-022-0040(1)(f)	Irrigon Fish Hatchery	14.6	NW	No	No Impact. Viewshed analysis indicates that none of the Project facilities will be visible from the hatchery due to intervening topography. No management direction applicable to preservation of scenic qualities within or outside of the hatchery; views of the Project will not compromise the purpose of the facility.
	Umatilla Fish Hatchery	18.2	NW	No	No Impact. Viewshed analysis indicates that none of the Project facilities will be visible from the hatchery due to intervening topography. No management direction applicable to preservation of scenic qualities within or outside of the hatchery; views of the Project will not compromise the purpose of the facility.
National Recreation and Scenic Areas OAR 345-022-0040(1)(g)	None	N/A	N/A	N/A	N/A

### Table L-1. Protected Areas Inventory and Visual Assessment Results

Protected Areas within An	alysis Area			Project		
Type (as defined under OAR 345-022-0040)	Area Name	Distance from Site Boundary (miles)	Direction from Site Boundary	Potentially Visible? <sup>1</sup>	Visual Analysis Results	
State Parks & Waysides OAR 345-022-0040(1)(h)	Hat Rock State Park	6.3	N	Yes	Low Impact. Viewshed analysis indicates limited Project visibility ranging from none to good depending on location/elevation, at a background viewing distance of 6.3 miles. Because views toward the Project include existing transmission lines, highways and urbanized areas, the Project facilities would not be prominent features in the viewshed, if visible at all. The solar arrays and substation may be visible only from high ground in the park and would not be visible from developed use areas. The direction of the Project from the park indicates that the Project facilities are unlikely to feature in views of Hat Rock from common vantage points in the park.	
State Natural Heritage Areas OAR 345-022-0040(1)(i)	None	N/A	N/A	N/A	N/A	
State Estuarine Sanctuaries OAR 345-022-0040(1)(j)	None	N/A	N/A	N/A	N/A	
Scenic Waterways/ Wild & Scenic Rivers OAR 345-022-0040(1)(k)	None	N/A	N/A	N/A	N/A	
Experimental Areas (Rangeland Resources Program) OAR 345-022-0040(1)(l)	None	N/A	N/A	N/A	N/A	
Agricultural Experimental Stations OAR 345-022-0040(1)(m)	Oregon State University Agriculture Research and Extension Center, Hermiston	3.2	W	No	No Impact. Viewshed analysis indicates that none of the Project facilities will be visible from the center due to intervening topography. No management direction applicable to preservation of scenic qualities within or outside of the facility; views of the Project will not compromise the purpose of the center.	
Research Forests OAR 345-022-0040(1)(n)	None	N/A	N/A	N/A	N/A	
Bureau of Land Management (BLM) Areas of Critical Environmental Concern (ACEC) OAR 345-022-0040(1)(o)	Echo Meadows Site, Oregon Trail ACEC	6.8	SW	Yes	Low Impact. Viewshed analysis indicates limited Project visibility at a background distance of 6.8 miles. Existing views incluwind turbines, transmission lines, agricultural structures and center-pivot agricultural irrigation systems. Where Project fact will be visible, long viewing distance and views across an urbanized area and highways would result in very limited change landscape. This site receives fairly low levels of public use, up to a maximum of about 850 visitors per year. <sup>2</sup> When not focus the Oregon Trail and where not screened by topography, visitors could have background views of Project infrastructure that create negligible contrast in the viewshed. The Project will not compromise the integrity of the remaining evidence of the O Trail at this site. Further, given existing modifications to the natural landscape visible from Echo Meadows and visitors' prir orientation away from the Project, the Project will not significantly impact the user experience.	
BLM Research Natural Areas and Outstanding Natural Areas OAR 345-022-0040(1)(o)	None	N/A	N/A	N/A	N/A	
State Wildlife Areas and	Irrigon Wildlife Area	9.1	NW	No	No Impact. Viewshed analysis indicates that none of the Project facilities will be visible from the wildlife area due to intervening topography. No management direction applicable to scenic quality; views of the Project will not interfere with wildlife viewing or compromise the purpose of the wildlife area.	
Management Areas OAR 345-022-0040(1)(p)	Power City Wildlife Area	6.0	NW	Yes	Negligible Impact. Viewshed analysis indicates potential visibility of the Project at a background viewing distances of 6.0 miles. Because existing views include industrial/urbanized areas, highways and transmission lines, the Project would not represent an unusual feature in the viewshed and would not be prominent. No management direction applicable to scenic quality; views of the Project will not interfere with wildlife viewing or compromise the purpose of the wildlife area.	

	Project	Direction from	Distance from Site	Protected Areas within Analysis Area	
Visual Analys	Potentially Visible? <sup>1</sup>	Site Boundary	Boundary (miles)	Area Name	Type (as defined under OAR 345-022-0040)
No Impact. Viewshed analysis indicates that none of the Project fact topography. No management direction applicable to scenic quality; compromise the purpose of the wildlife area.		W	19.7	Coyote Springs Wildlife Area	

N/A = not applicable

1. Indicates potential visibility of any part of constructed Project as determined through viewshed analysis.

2. Use data for the Oregon Trail Echo Meadows ACEC obtained through a personal communication between Rachael Katz, Tetra Tech, and Brian Woolf, BLM Vale District, Baker Office, on August 6, 2018.

### ysis Results

facilities will be visible from the wildlife area due to intervening ity; views of the Project will not interfere with wildlife viewing or

## 4.0 Potential Impacts - OAR 3450-021-0010(1)(l)(C)

OAR 3450-021-0010(1)(l)(C) A description of significant potential impacts of the proposed facility, if any, on the protected areas including, but not limited to, potential impacts such as:

## 4.1 Noise Impacts - OAR 3450-021-0010(1)(l)(C)(i)

(i) Noise resulting from facility construction or operation;

Exhibit X provides an assessment of the existing acoustical environment and anticipated Project sound levels; the methodology for noise modeling is discussed in detail in that exhibit. Project construction activities have the potential for temporary, localized noise as construction activities progress through certain locations within the Site Boundary. Based on equipment sound levels anticipated for Project construction, and given the closest protected area is over 2 miles away from the Site Boundary, construction noise will not likely be discernible from background noise levels at any protected area.

There will be no significant operational noise from the solar modules themselves. However, there will be some limited noise from associated facilities, such as the substation and cooling equipment associated with both the energy storage system and electrical equipment. Based on the results of acoustic modeling, as detailed in Exhibit X, operational noise will attenuate to a level indistinguishable from the background noise level before reaching any of the protected areas. All protected areas are located more than 2 miles from the Site Boundary, where noise from the Project will be indistinguishable from the background noise level. Therefore, no significant noise impacts are expected from Project construction or operation.

## 4.2 Traffic Impacts – OAR 3450-021-0010(1)(l)(C)(ii)

### (ii) Increased traffic resulting from facility construction or operation;

The Project's primary transportation routes includes Interstate 82 (I-82), Interstate 84 (I-84), and U.S. Route 395 (US-395). For deliveries and workers arriving from the northern transportation route via I-82, the route will use a short section of US-730 to access US-395 south and from there will take Country Road (CR) 1000 east (Feedville Road) from US-395, to S. Edwards Road north. For deliveries and workers arriving from the southern transportation route via I-84 (east or west), access is anticipated to be from I-84 exit 188 to US-395, and then to S. Edwards Road. All but one of the protected areas are located north of the Project and I-84, and thus could experience traffic impacts. The sole site located south of I-84 (Echo Meadows ACEC) is not anticipated to be affected by Project traffic.

There are multiple alternate, more direct access routes that can be utilized to access the 11 of the 12 protected areas located north of the Project, as opposed to using the primary transportation route. Coming from western Oregon, visitors can use US-730 I-82, and Oregon Route 207 (OR-207) off of I-84, and local Westland Road and Highland Avenue to access all of the protected areas.

Alternatively, coming from eastern Oregon, visitors can use OR-37, OR-207, and CR 1137, followed by I-82 and US-730 off of I-84 to access all but two of the protected areas (Oregon State University Hermiston Agriculture Research and Extension Center and the Power City Wildlife Area). Therefore, a majority of the protected areas would generally be unaffected by Project traffic.

The two protected areas located along US-395—the Oregon State University Hermiston Agriculture Research and Extension Center and the Power City Wildlife Area—could be affected by Project traffic. However, both of these protected areas have alternate means of access. The Power City Wildlife Area would most likely be accessed via US-730 and I-82 coming from the east; therefore, significant traffic impacts are not anticipated. Similarly, though US-395 is the most direct route to the site off of I-84 coming from the west, there are multiple alternate routes that are similar in duration and milage, such as South Edwards Road immediately off of US-395 and I-84. Because of these alternate routes, minimal Project traffic impacts are anticipated at the protected area.

The most direct route to the Hermiston Agricultural Research Center from both eastern and western Oregon is north off of I-84 onto US-395, and then west on CR 1000 (Feedville Road), directly opposite of the exit east onto CR 1000 to the Project. The intersection of US-395 and CR 1000 does not have a traffic light or stop sign. There could be short-term delays due to increased traffic on US-395, and therefore delayed access to the protected area during the peak construction period. However, because Project-related traffic would be heading east on CR 1000 it is unlikely to affect vehicles turning west on CR 1000. Furthermore, existing, excess daily trip capacity along this rural segment of US-395 would indicate that the added volume from the Project is unlikely to cause any significant slowdown (see Exhibit U for more details). For these reasons, Project traffic will not adversely impact the Hermiston Agricultural Research Center.

Inherently, construction will be intermittent and temporary in nature. With this and the implementation of best management practices (as outlined in Exhibit U), significant traffic impacts to protected areas are not anticipated from Project construction. Similarly, Project operations will not generate amounts of traffic that could adversely impact protected areas. Operation of the Project is expected to employ up to five individuals (see Exhibit U). Therefore, there will be no significant impacts to protected areas due to Project operations traffic.

Potential traffic impacts are addressed in greater detail in Exhibit U, which provides additional information on anticipated traffic volumes, peak construction traffic times, potential delays and temporary road closures, and mitigation measures.

### 4.3 Water Use and Wastewater – OAR 3450-021-0010(1)(l)(C)(iii)(iv)

### (iii) Water use during facility construction or operation;

No significant water-related impacts to protected areas are anticipated from the Project. Water used in construction processes will be obtained from nearby locations with adequate water rights, such as the City of Hermiston. Therefore, construction of the Project will not have any adverse effect on the availability of water in any protected areas. Water acquired from such sources near the Project will be transported to construction areas, which represents a component of the traffic impact analysis discussed above and in Exhibit U. No ground or surface water withdrawals will take place for construction of the Project beyond those already permitted for existing water suppliers. During operation, the Project will have minimal water needs that would be obtained from nearby locations with adequate water rights, such as the City of Hermiston. Water used during Project construction and operation will not impact water availability or use at protected areas.

### (iv) Wastewater disposal resulting from facility construction or operation;

Wastewater, in this context, refers to stormwater runoff and to sanitation wastewater; no industrial wastewater would be produced during construction or operation of the Project. Stormwater runoff will be managed on-site according to best management practices, as described in Exhibit I, such that no stormwater will leave the Site Boundary. Therefore, no protected area will be affected by stormwater runoff from the Project.

Sanitation wastewater during construction and operation will be contained in portable toilets, to be provided and maintained by a licensed contractor. No protected area would be impacted by sanitation wastewater related to the Project. Exhibit O provides additional information on water use, and Exhibit V provides information on wastewater.

## 4.4 Visual Impacts - OAR 3450-021-0010(1)(l)(C)(v)(vi)

(v) Visual impacts of facility structures or plumes.

## 4.4.1 Methodology

The potential for adverse visual impacts on protected areas is based primarily on the expected visibility of the constructed features of the Project. The Project will not generate emissions plumes; therefore, no visual impacts from plumes are expected. Likewise, solar modules are treated with an antiglare coating that nearly eliminates the reflection of sunlight off the module face; therefore, glare is not considered a potential impact on distant protected areas (see Exhibit R for additional glare discussion).

In evaluating the visual impacts, the Applicant first determined whether the Project would be visible from each protected area using digital bare earth modeling. To assess the potential visibility of the Project, a zone of visual influence (ZVI) analysis using ArcGIS was performed for aboveground infrastructure, such as the solar arrays and substation (maximum heights of 16 feet and 30 feet, respectively), which based on their footprints and heights encompass the impacts of the remaining aboveground Project facilities (i.e., the O&M enclosure will be a maximum height of 20 feet). The ZVI analysis methodology and overall visual impact assessment approach were the same for protected areas as for scenic resources; additional details are provided in Exhibit R.

It should be noted that this "bare-earth" modeling approach, based only on the effects of terrain on visibility, results in a conservative assessment of potential visibility for several reasons. First, in some areas where the analysis indicates Project structures would be visible, the only visible components might be the substation, which would likely be noticeable only at relatively close viewing distances. In addition, the model does not account for the effects of distance, lighting,

weather, and atmospheric attenuation factors that diminish visibility under actual field conditions. A bare-earth analysis also does not account for the effects of vegetation or buildings, which can in practice block or screen views in some places. Figures L-2 shows the areas from which Project structures will potentially be visible, indicated by color-coding on the figure.

### 4.4.2 Visual Assessment Results

A viewshed map displaying the results of the ZVI analyses shows the extent to which the Project will potentially be visible from the protected areas identified in Section 3 (Figure L-2). Based on the results of the ZVI analysis, there will be visibility of some portions of the Project from five of the 12 protected areas in the Analysis Area (see Table L-1 and Figure L-2). In some of these protected areas, visibility is characterized as limited, meaning that there will be no views of the Project from a substantial portion of the protected area.

Potential visibility is but one of several factors that comprise an assessment of visual impact to a protected area. Other factors to consider include the viewing distance, other natural and manmade features visible within the view, the likely number and nature of visitors to a protected area, and whether there is any management direction related to the preservation of scenic quality, either within the protected area or outside of it. Table L-1 provides a summary of the visual impact assessment for each of the 12 protected areas.

The visual impact is negligible for most protected areas, primarily due to their distance of 6 to 20 miles from the Site Boundary. Views of the Project for most protected areas would therefore be at a background viewing distance, where the apparent size of the Project is greatly diminished and the Project will occupy only a limited portion of the total viewshed. Existing views from these protected areas include wind farms, transmission lines, and urban and industrial development; therefore, the Project will not introduce an unusual feature to the view. In addition, potential Project views from these distant protected areas will likely be partially to fully screened by vegetation.

Only one of the protected areas will have middleground views of Project facilities, the Cold Springs NWR (from a distance of 0.5 to 5 miles); see Section 4.4.2.1 for more details on this protected area. No protected areas are anticipated to have foreground views of Project facilities (from a distance of up to 0.5 miles).

### 4.4.2.1 Cold Springs National Wildlife Refuge

The Cold Springs NWR is a 3,102-acre refuge overlaying the Bureau of Reclamation Cold Springs Reservoir, a primary source of water for local agriculture (USFWS 2015). The U.S. Fish and Wildlife Service (USFWS) continues to manage the Cold Springs NWR to preserve the diverse waterfowl and native bird habitat present. To date, no surveys have been conducted to determine the protected area's usage; however, USFWS (2015) states that use is low and activities are focused around hunting and fishing, followed by birdwatching, horseback riding, and day-use. Nearby residents appear to be the most frequent visitors to the protected area. The visibility analysis indicates potential visibility of the Project, at a middleground distance of 2.4 miles. As the Cold Springs NWR is just outside of a more developed area, views of the Project will be in context with existing urban/industrial development and nearby highways. The Project will not be a prominent feature in the viewshed. In addition, there is no management or other research direction applicable to scenic quality. Therefore, the Project will not have a significant visual impact on the Cold Springs NWR.

(vi) Visual impacts from air emissions resulting from facility construction or operation, including, but not limited to, impacts on Class 1 Areas as described in OAR 340-204-0050.

Class I areas, as defined in OAR 340-204-0050, consist of 12 federally-designated wilderness areas in Oregon that were in existence as of August 7, 1977. None of these wilderness areas are located within the Analysis Area. The proposed Project will not generate any emissions plumes, so it will not cause any visual impacts from air emissions. No visual impacts are expected from dust created during construction, which will be similar to existing land uses in the area and minimized by following best management practices for dust control, as detailed in Exhibit O.

## 5.0 Conclusions

The Project Analysis Area contains all or part of 12 protected areas. The Applicant analyzed potential impacts to these areas and concluded as follows:

- Noise. Due to the distance between protected areas and the Project (at least 2 miles), construction and operation noise will not be audible at protected areas. Noise modeling presented in Exhibit X further supports this finding.
- **Traffic.** Project-related traffic will not be sufficiently high, nor located so as to significantly impact any protected areas. Some short-term, intermittent and temporary delays may be experienced by visitors attempting to reach some of the protected areas during Project construction; however, these will be temporary and traffic conditions will return to typical low levels following construction. Therefore, there will be no significant impact to traffic resulting from the operation of the Project.
- **Water.** The Project will not use water in sufficient quantities or from sources that would significantly impact any protected areas. Therefore, there will be no significant impacts to protected areas by water use at the Project.
- **Wastewater.** The Project will manage its very limited quantities of wastewater onsite. Therefore, there will be no significant impacts to protected areas due to wastewater generated at the Project.
- **Visual.** The Project will potentially be visible from five of the 12 protected areas in the Analysis Area. However, due to distance from the Project, existing industrial, urban and agricultural features within view, relatively low user numbers at the nearest sites, and general lack of management direction applicable to scenic quality beyond the boundaries of

each protected area, the Project will not have a significant visual impact on any protected area.

For these reasons, the Energy Facility Siting Council may conclude that the design, construction, and operation of the Project will not result in significant adverse impacts to protected areas and therefore complies with the protected areas standard under OAR 345-022-0040.

## 6.0 References

- USFWS (U.S. Fish and Wildlife Service). 2015. About Cold Springs. Available online at: https://www.fws.gov/refuge/Cold\_Springs/About.html.
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# **Figures**



