Appendix C

Visual Resources

Visual Resources Methodology

Terminology

The term *aesthetics* typically refers to the perceived visual impression of an area, such as a scenic view, open space, or architectural interest. The aesthetic value of an area is a measure of its *visual character* and *visual quality* combined with *viewer response* (Federal Highway Administration 1988). This combination may be affected by the components of a project (e.g., transmission towers constructed at a height that obstructs views, hillsides cut and graded, open space changed to a transmission line corridor), as well as changing elements such as light, weather, and the length and frequency of viewer exposure to the setting. Aesthetic impacts are thus defined as changes in viewer response as a result of project construction and operation.

Visual Character

Visual character is the appearance of the physical form of the landscape, composed of natural and human-made elements, including topography, water, vegetation, structures, roads, infrastructure, and utilities; and the relationships of these elements in terms of form, line, color, and texture.

Visual Quality

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity as modified by the visual sensitivity of the viewer.

- *Vividness* is the visual power or memorableness of landscape components as they combine in striking or distinctive visual patterns.
- *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as natural settings.
- *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape (Federal Highway Administration 1988).

High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

Viewer Response

Viewer response is the psychological reaction of a person to visible changes in the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., roadway or trail) (Federal Highway Administration 1988). The measure of the quality of a view must be tempered with the overall sensitivity of the viewer and viewer response. Viewer sensitivity is dependent on the number and type of viewers and the

frequency (e.g., daily or seasonally) and duration of views (i.e., how long a scene is viewed). Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and the viewing duration.

Visual Assessment Process

The concepts presented above are combined in a visual resource assessment process that involves identification of the following:

- visual character and quality of the project area,
- relevant policies and concerns for protection of visual resources,
- general visibility of the project area and site using descriptions and photographs, and
- viewer response and potential impacts.

Assumptions

Visual resources consist of views of the project area. Therefore, impacts are not limited to the specific alignment corridor as is often the case for other resources such as vegetation, waterways, and soils. Many viewsheds may be affected by any one given alternative, thus affecting a variety of viewer groups.

Topography plays an important role in providing and limiting views within the visual study area. Topography was evaluated using a geographic information system (GIS) viewshed analysis (Appendix A) to identify a preliminary list of vantage points from which the project could be visible. Because the GIS analysis does not include features such as vegetation or structures, it was used as a starting point to help guide the analysis and site visit.

Views of the study area were inventoried during a site visit that took place August 18 through 21, 2009, by identifying the locations and photographing views of and from the surrounding areas. Appendix B includes a map of all locations surveyed during the site visit and the photograph log for these points. Because the study area covers a large area, this analysis focuses on representative vantages from where views *of* the study area are present. Representative views are views that are representative of other views in the area, able to embody impacts on a given viewer group or number of viewer groups, and illustrative in describing the impact, nonimpact, or range in severity of impact on certain vantages.

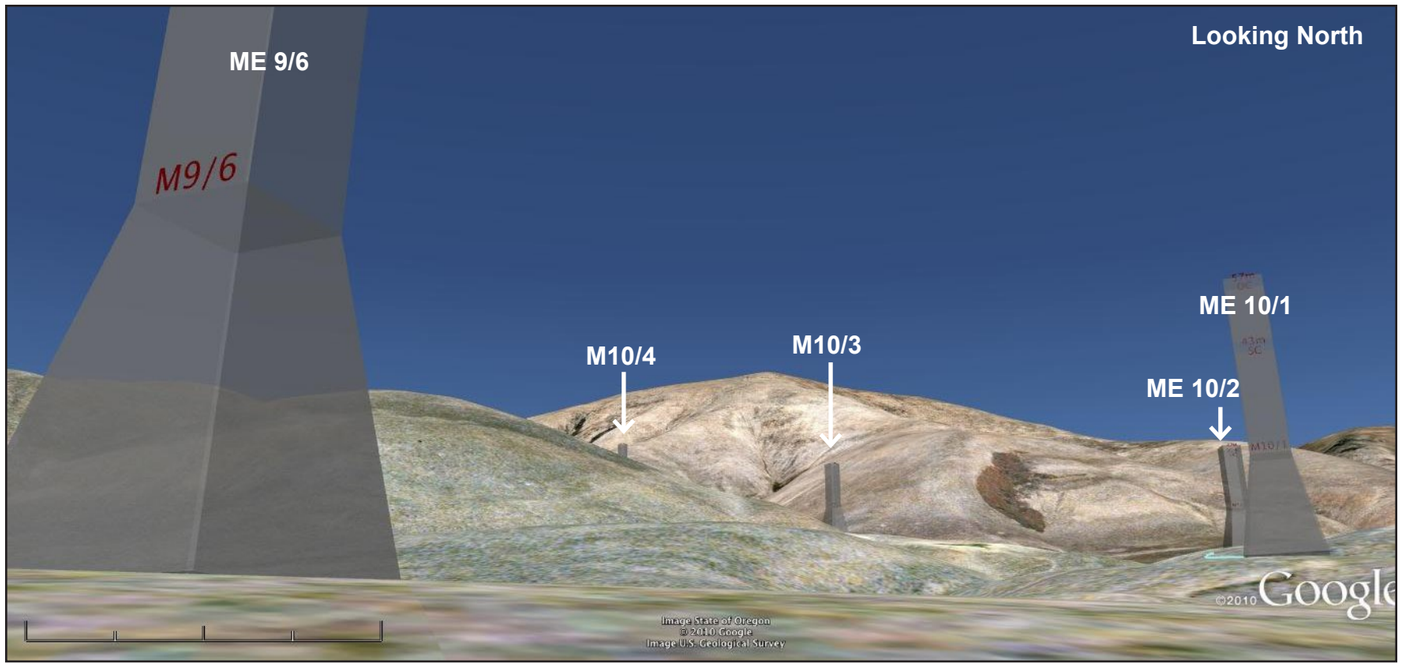
Location: State Route 14 above Wishram, approx. 2,000 feet east of Boulder Drive

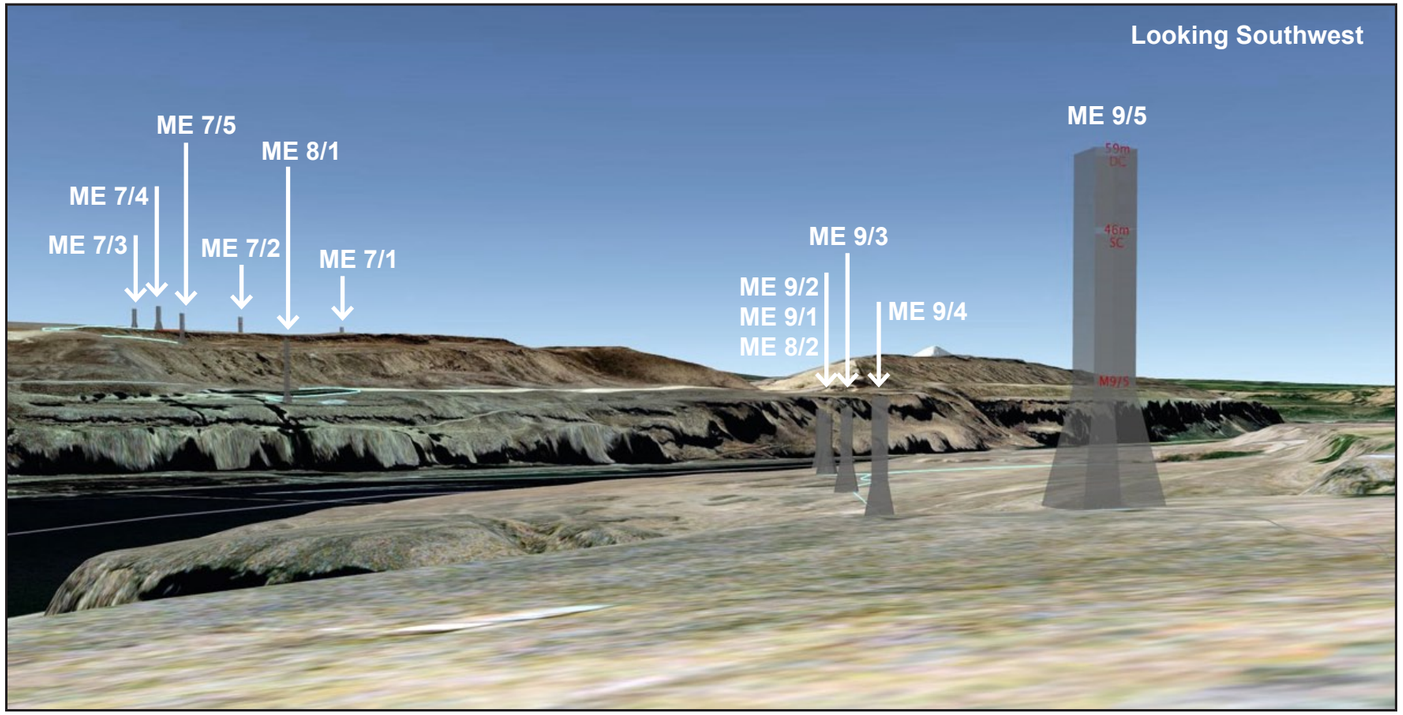
Looking north, towers M9/6 and M10/1 (single and double circuit) break the skyline. Looking southwest, M9/5 (single and double circuit) breaks the skyline. Across the river (approximately 2 miles distant) towers M7/1 through M7/5 (single and double circuit) break the skyline, but these are smaller and less visible because of their distance.

Looking North		
	Breaks Skyline?	
Visible Tower (distance)	Single Circuit	Double Circuit
M/E 9/6 (0.04 mi)	Yes	Yes
M/E 10/1 (0.16 mi)	Yes	Yes
M/E 10/2 (0.35 mi)	No	May touch skyline
M 10/3 (0.59 mi)	No	No
M 10/4 (0.80 mi)	Not visible	No

Looking Southwest		
	Breaks Skyline?	
Visible Tower (distance)	Single Circuit	Double Circuit
M/E 9/5 (0.16 mi)	Yes	Yes
M/E 9/4 (0.41 mi)	No	No
M/E 9/3 (0.55 mi)	No	No
M/E 9/2 (0.70 mi)	No	No
M/E 9/1 (0.87 mi)	No	No
M/E 8/2 (1.04 mi)	No	No
River		
M/E 8/1 (1.75 mi)	No	May touch skyline
M/E 7/5 (2.04 mi)	Yes	Yes
M/E 7/4 (2.13 mi)	Yes	Yes
M/E 7/3 (2.24 mi)	Yes	Yes
M/E 7/2 (2.33 mi)	Yes	Yes
M/E 7/1 (2.44 mi)	Maybe a little	Yes

All images: Google Inc. 2010. Google Earth Pro, Version 5.2. Mountain View, CA. Accessed: September 3, 2010.





Skyline Assessment Results

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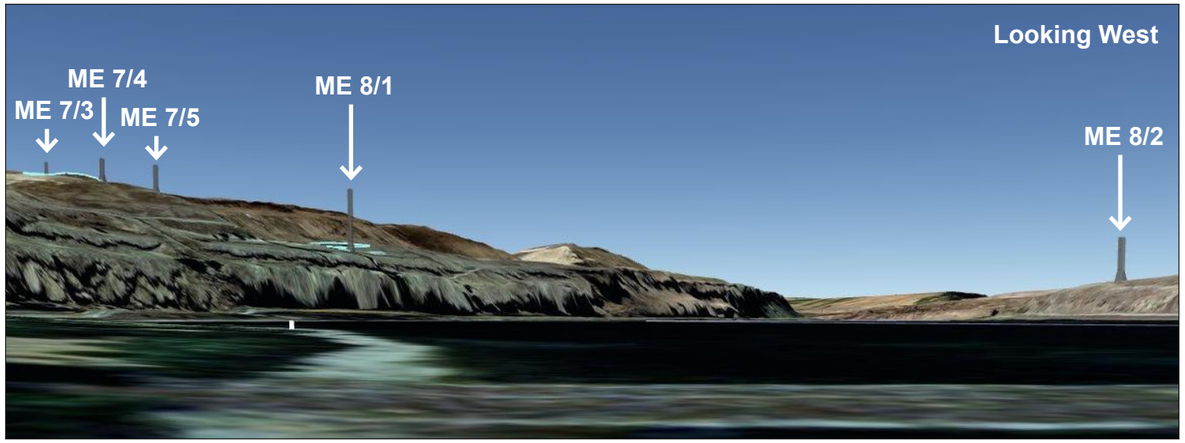
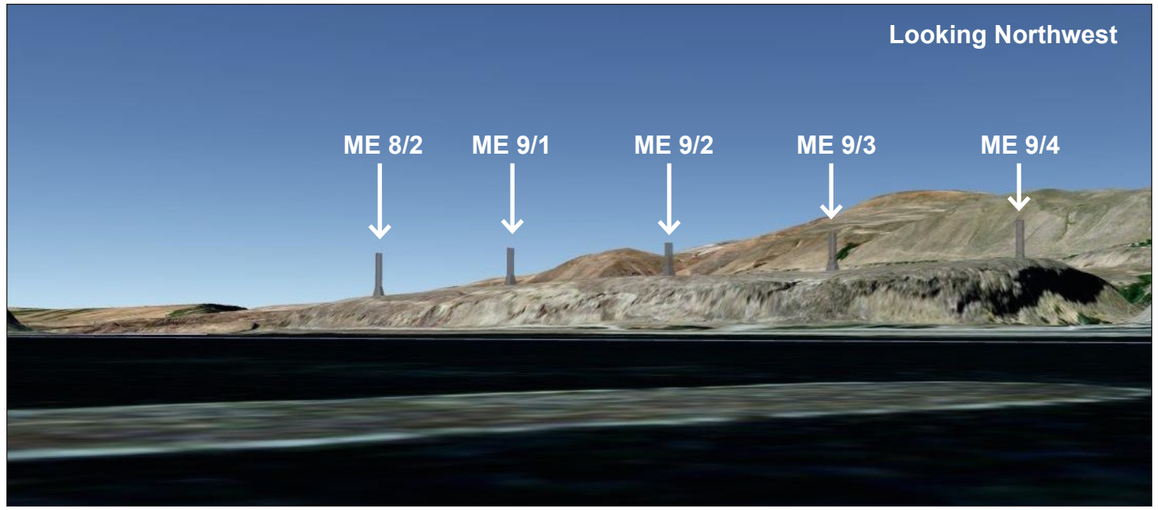
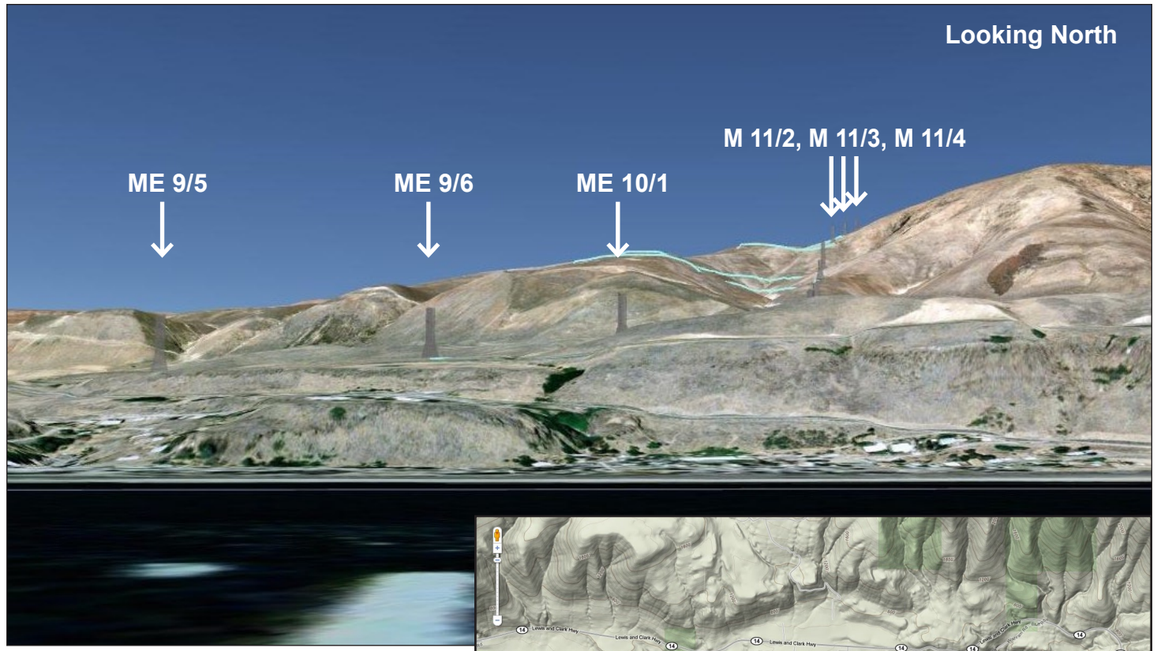


Location: Columbia River at Celilo Park Boat Ramp

Looking west, towers M7/3, M7/4, M7/5, and M8/1 (single and double circuit) break the skyline on the south side of the river. M8/2 and M9/1 (single and double circuit) and M9/2 (double circuit only) break the skyline on the north side of the river. Looking north, only towers M11/2, M11/3, and M11/4 near the top of the ridge break the skyline.

Looking West to North		
	Breaks Skyline?	
Visible Tower (distance)	Single Circuit	Double Circuit
M/E 7/3 (1.90 mi)	Yes	Yes
M/E 7/4 (1.81 mi)	Yes	Yes
M/E 7/5 (1.72 mi)	Yes	Yes
M/E 8/1 (1.52 mi)	May touch skyline	Yes
River		
M/E 8/2 (1.27 mi)	Yes	Yes
M/E 9/1 (1.14 mi)	Yes	Yes
M/E 9/2 (1.05 mi)	No	Yes
M/E 9/3 (0.96 mi)	No	No
M/E 9/4 (0.91 mi)	No	No
M/E 9/5 (0.88 mi)	No	No
M/E 9/6 (0.90 mi)	No	No
M/E 10/1 (0.94 mi)	No	No
M/E 10/2 (1.06 mi)	Not Visible	No
M 10/3 (1.29 mi)	No	No
M 10/4 (1.56 mi)	No	No
M 11/1 (1.84 mi)	No	May touch skyline
M 11/2 (2.09 mi)	Yes	Yes
M 11/3 (2.22 mi)	Yes	Yes
M 11/4 (2.36 mi)	Yes	Yes





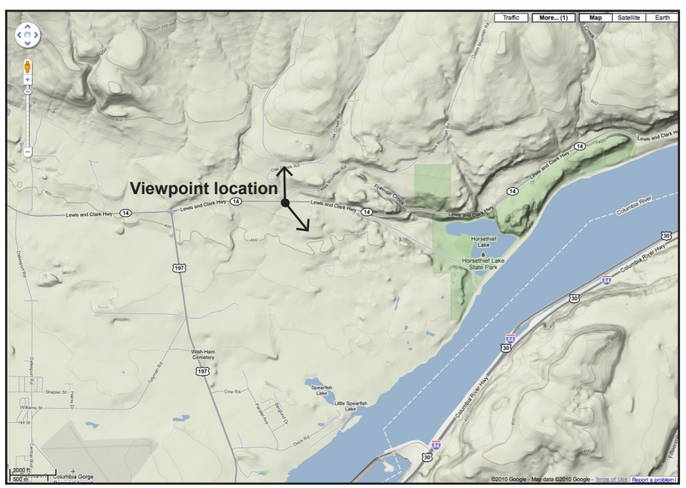
All images: Google Inc. 2010. Google Earth Pro, Version 5.2. Mountain View, CA. Accessed: September 3, 2010.

Location: State Route 14 at intersection with Dalles Mountain Road

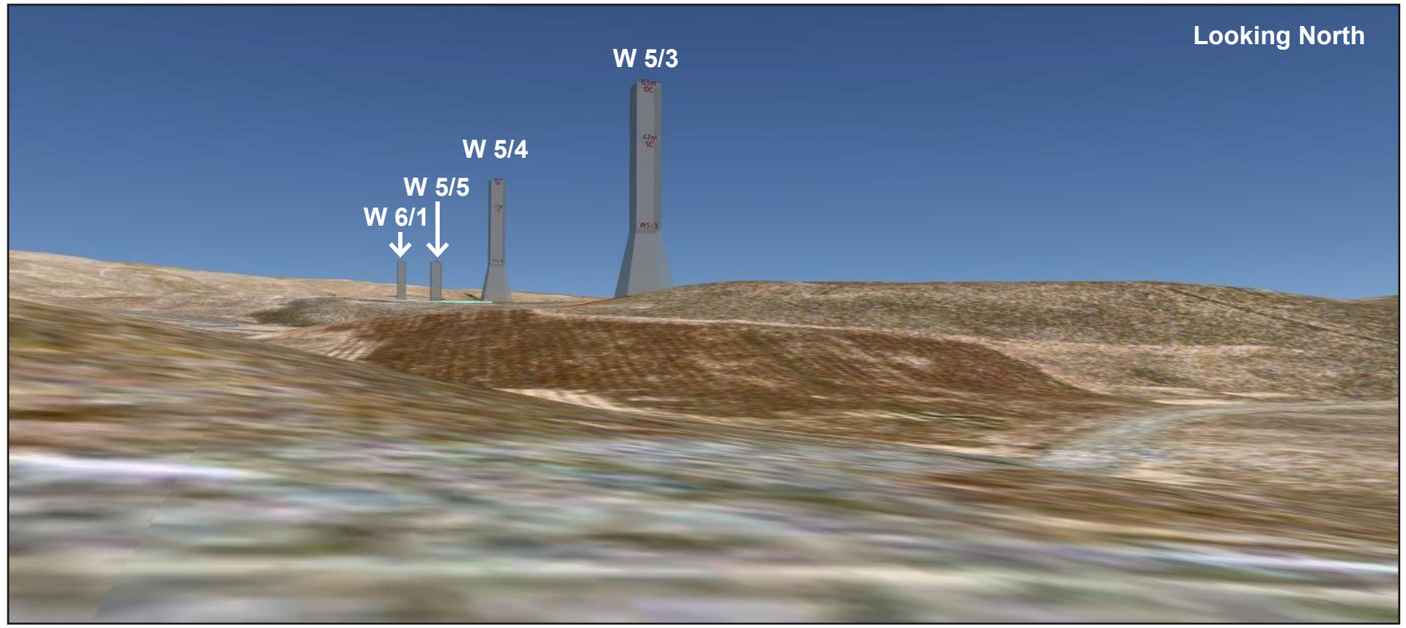
Looking north, towers W5/3, W5/4, W5/5, and W6/1 (single and double circuit) break the skyline. Looking south to southeast, tower W5/2 (single and double circuit) and W5/1(double circuit only) break the skyline.

Looking North		
	Breaks Skyline?	
Visible Tower (distance)	Single Circuit	Double Circuit
W 5/3 (0.21 mi)	Yes	Yes
W 5/4 (0.39 mi)	Yes	Yes
W 5/5 (0.56 mi)	Yes	Yes
W 6/1 (0.75 mi)	Yes	Yes

Looking Southeast		
	Breaks Skyline?	
Visible Tower (near to far)	Single Circuit	Double Circuit
W 5/2 (0.07 mi)	Yes	Yes
W 5/1 (0.20 mi)	May touch skyline	Yes
W 4/5 (0.41 mi)	No	No
W 4/4 (0.58 mi)	No	No
Others approaching river	No	No
W 2/2 (2.65 mi) (across river)	Yes	Yes



All images: Google Inc. 2010. Google Earth Pro, Version 5.2. Mountain View, CA. Accessed: September 3, 2010.



Skyline Assessment Results

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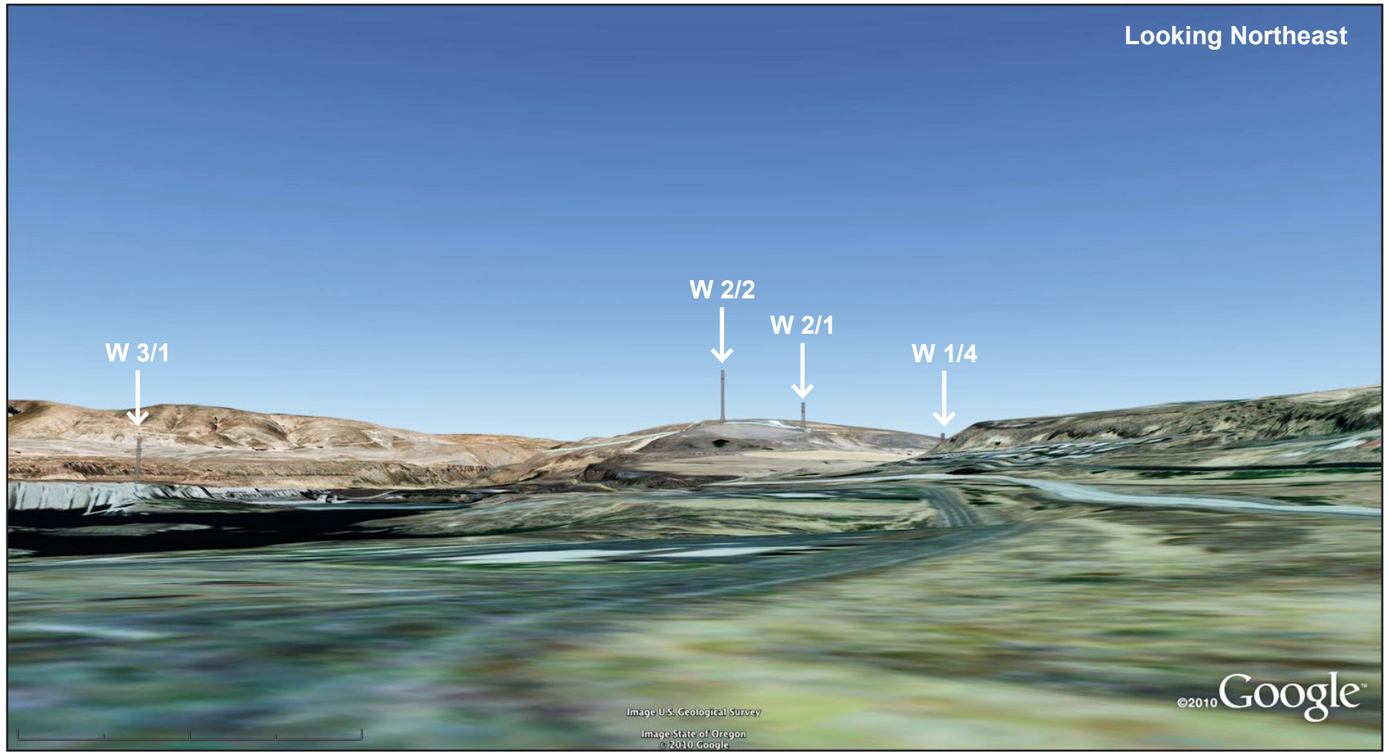
Location: US Highway 197 at Interstate 84

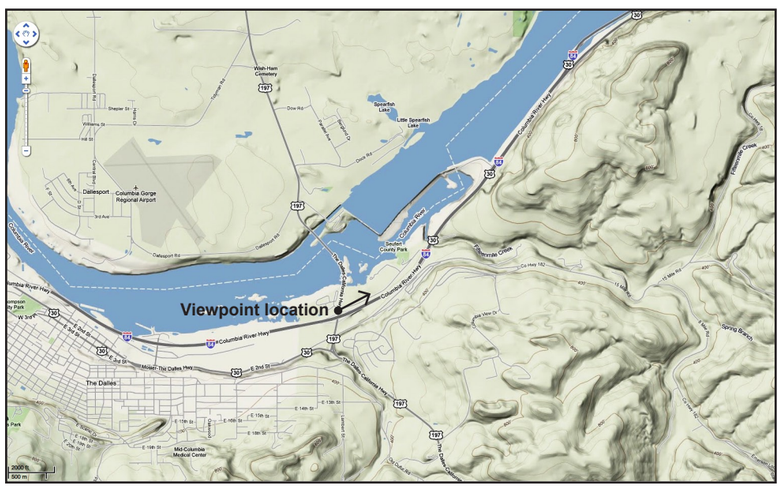
Looking northeast, towers W1/4 (double circuit only), W2/1, and W2/2 (single and double circuit) break the skyline.

Towers W1/1, W1/2, and W1/3 are hidden by terrain. Other existing towers at the substation south of Columbia View Drive are visible.

Looking East		
	Breaks Skyline?	
Visible Tower (distance)	Single Circuit	Double Circuit
W 1/4 (1.81 mi)	No	Yes
W 2/1 (1.82 mi)	Yes	Yes
W 2/2 (1.83 mi)	Yes	Yes
W 3/1 (2.18 mi)	No	No



All images: Google Inc. 2010. Google Earth Pro, Version 5.2. Mountain View, CA. Accessed: September 3, 2010.



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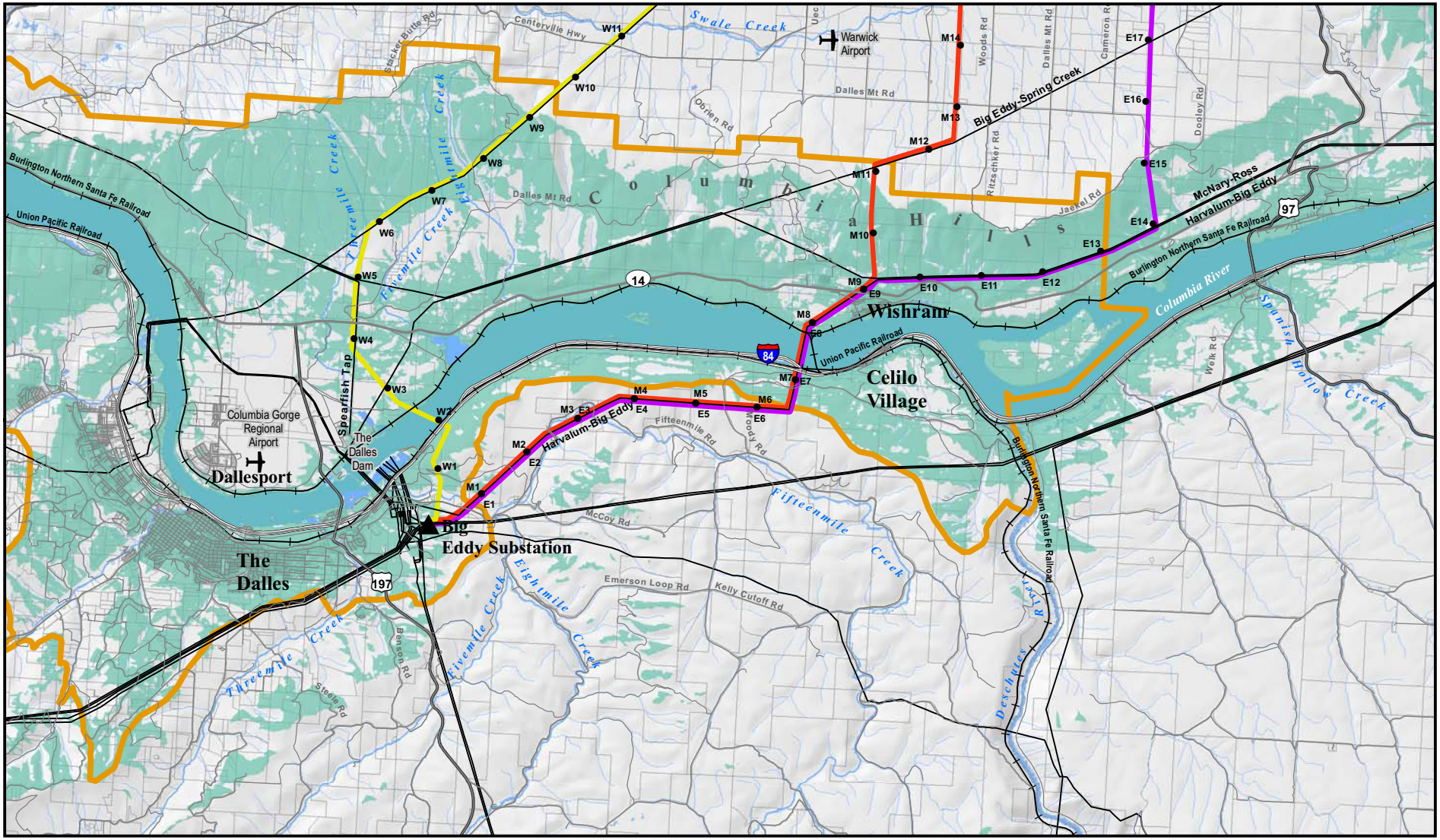
Skyline Assessment Results



Existing Facilities

- BPA Substation
- BPA Transmission Lines
- Railroads

Proposed Facilities

- West Alternative
- Middle Alternative
- East Alternative
- Line Mile Markers

- Area Visible from Columbia River
- Columbia River Gorge National Scenic Area

N W E S

0 1 2 3 Miles

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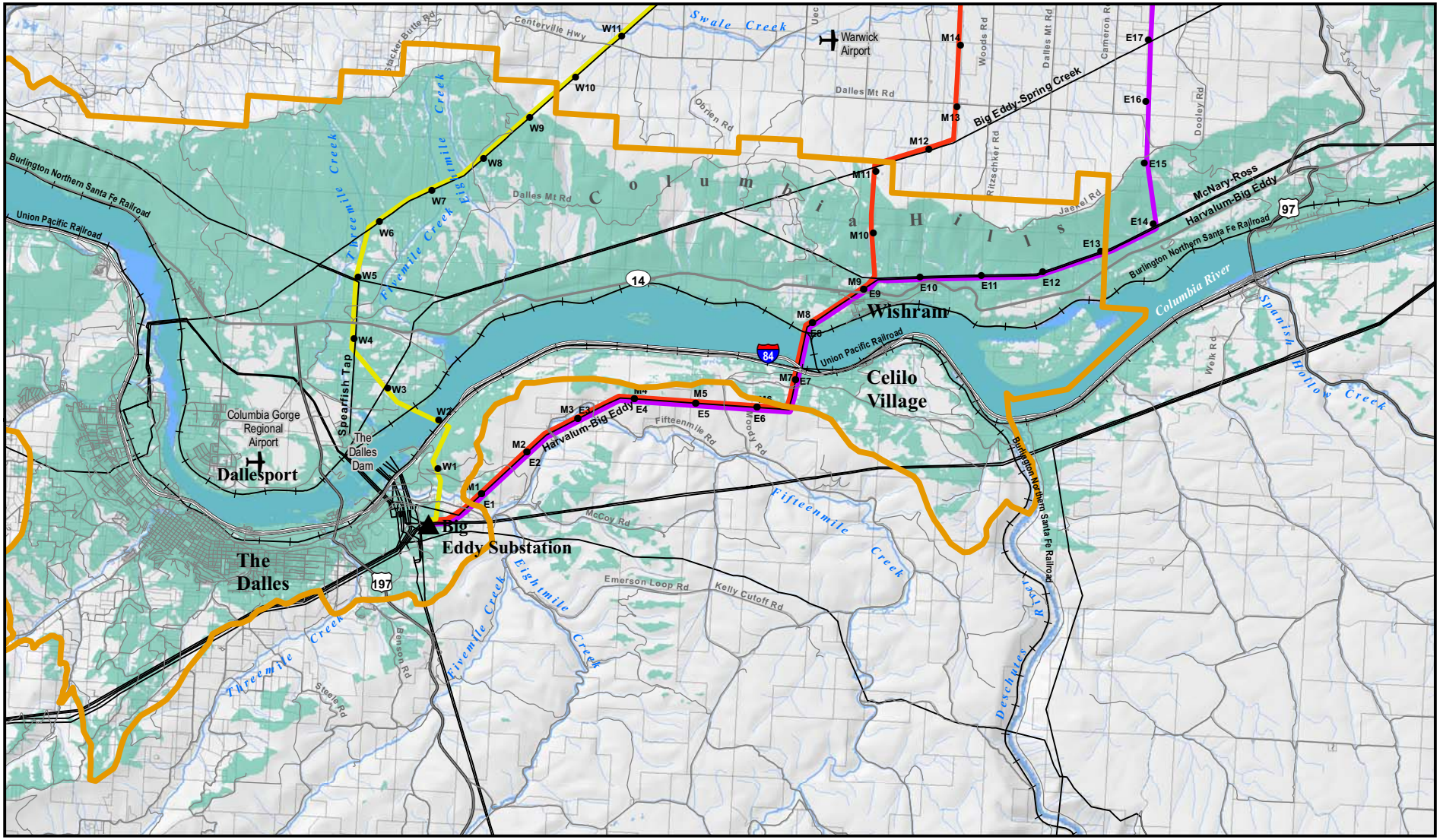
Map C-1. Columbia River Viewshed



Existing Facilities

- BPA Substation
- BPA Transmission Lines
- Railroads

Proposed Facilities

- West Alternative
- Middle Alternative
- East Alternative
- Line Mile Markers

- Area Visible from I-84
- Columbia River Gorge National Scenic Area

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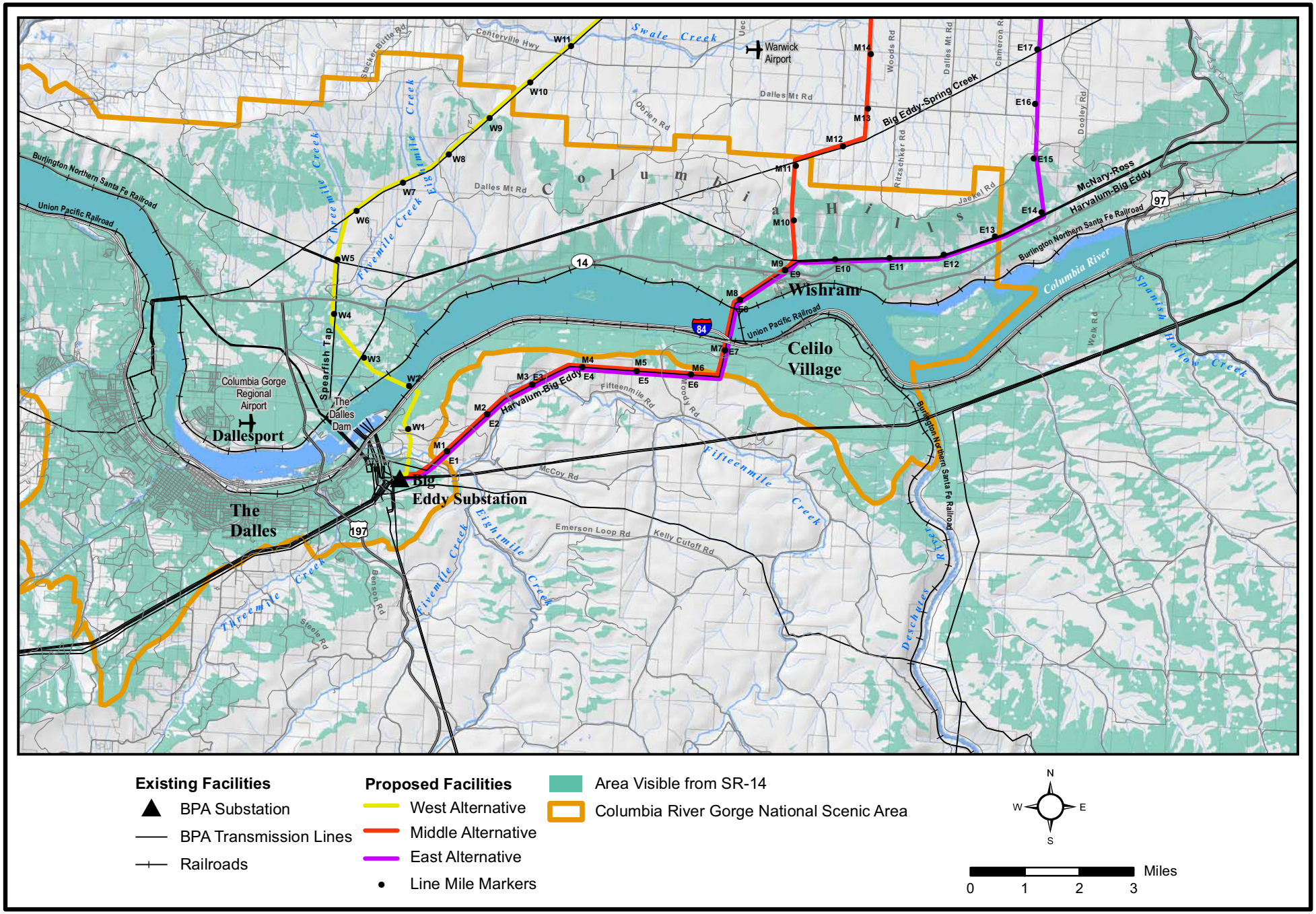
Map C-2. Interstate 84 Viewshed



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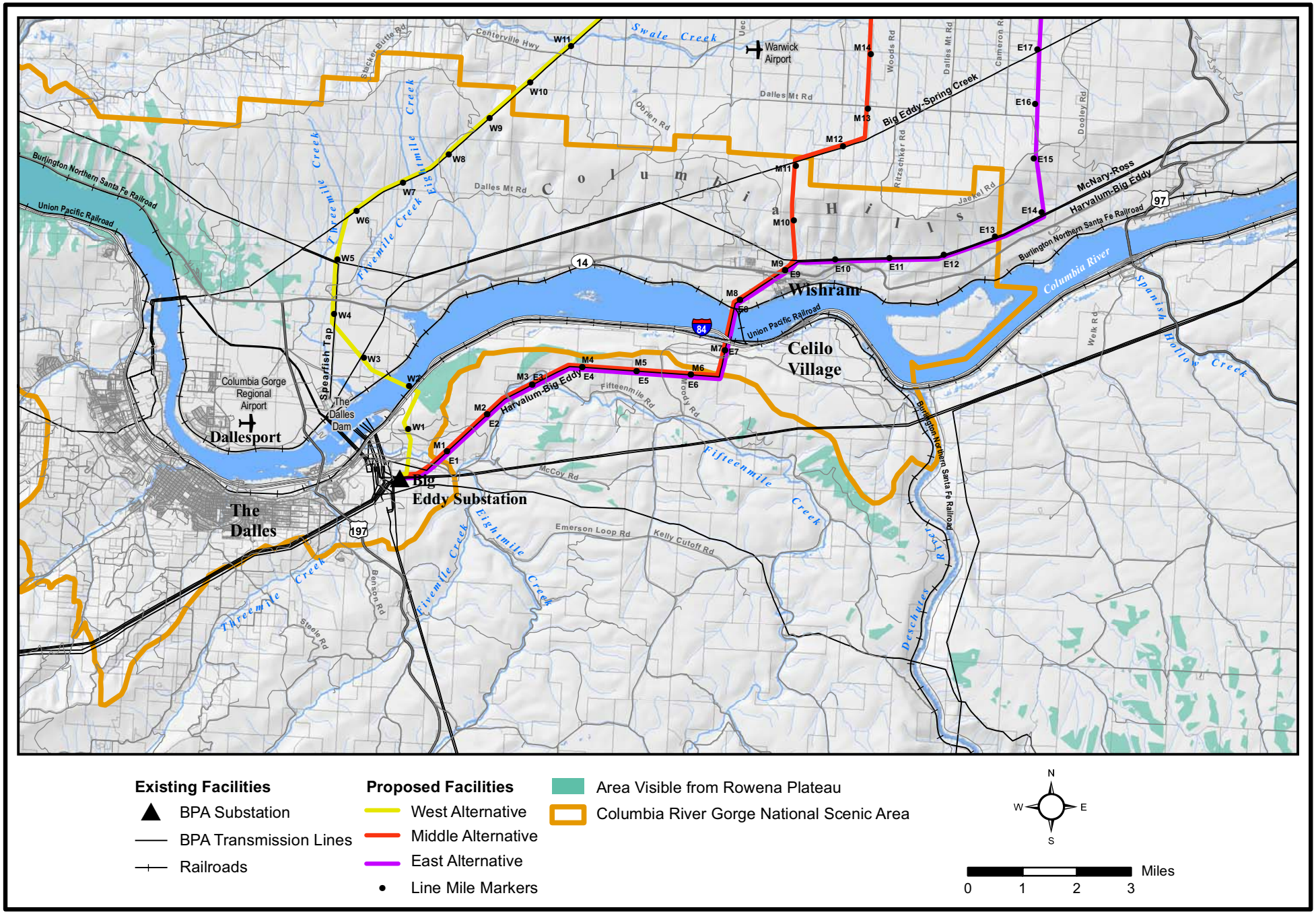
Map C-3. Washington State Route 14 Viewshed



Existing Facilities

- BPA Substation
- BPA Transmission Lines
- Railroads

Proposed Facilities

- West Alternative
- Middle Alternative
- East Alternative
- Line Mile Markers

- Area Visible from Rowena Plateau
- Columbia River Gorge National Scenic Area

N
W E
S

0 1 2 3 Miles

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Map C-4. Rowena Plateau Viewshed