



Hood River – White Salmon BRIDGE REPLACEMENT PROJECT

(OR SHPO Case No. 19-0587; WA DAHP Project Tracking Code: 2019-05-03456)

Draft Historic Resources Technical Report

October 1, 2020

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TABLE OF CONTENTS

Executive Summary	1
1. Introduction	1
2. Project Alternatives	3
2.1. No Action Alternative	7
2.2. Preferred Alternative EC-2.....	8
2.3. Alternative EC-1	14
2.4. Alternative EC-3	19
2.5. Construction of the Build Alternatives	23
3. Methodology.....	24
3.1. Area of Potential Effect	24
3.2. Consultation and Public Involvement.....	27
3.3. Regulations, Standards, and Guidelines	27
3.4. Research and Field Methods.....	29
3.5. Previous Investigations.....	31
3.5.1. Previous Hood River Bridge Evaluations.....	31
4. Historic Context.....	32
4.1. Ethnographic Period and Exploration.....	32
4.1.1. Ethnographic Period	32
4.1.2. Exploration	33
4.2. White Salmon Community Context.....	34
4.2.1. Early Settlement	34
4.2.2. The Town of White Salmon is Established	35
4.2.3. Transportation Improvements Promote White Salmon’s Development.....	36
4.2.4. Modern Industry and Tourism	39
4.2.5. Historic Residential Development Along the Bluff	39
4.3. Hood River Community Context	42
4.3.1. Euro-American Settlement	42
4.3.2. Residential Development.....	44
4.3.3. Hood River’s Role within Hood River County.....	45
4.3.4. Hood River Industries	45
4.3.5. Agriculture and Timber Industries.....	45
4.3.6. Tourism	47
4.4. The Columbia River Highway National Historic Landmark District	48
4.5. The Hood River–White Salmon Interstate Bridge	49
4.5.1. Construction of the Bridge.....	50
4.5.2. The Bridge’s Impact on Regional Transportation	53
4.5.3. Bonneville Dam Operations Lead to Substantial Bridge Modifications.....	53
4.5.4. OWBC Sells the Hood River Bridge to the Port of Hood River	54
4.6. Historical Architectural Styles in the APE	55
4.6.1. English/Tudor Cottage	55

4.6.2.	Colonial Revival	55
4.6.3.	Ranch	56
4.6.4.	Northwest Regional (Contemporary)	56
5.	Summary of Built Environment Findings	57
5.1.	Reconnaissance-Level Survey Results	57
5.2.	Intensive-Level Survey Results	71
6.	Environmental Impacts.....	72
6.1.	Summary of Project Alternatives	72
6.1.1.	No Action Alternative	72
6.1.2.	Preferred Alternative EC-2.....	73
6.1.3.	Alternative EC-3.....	74
6.2.	Types of Adverse Effects.....	74
6.3.	Finding of Effects.....	75
6.3.1.	Physical Destruction of or Damage to All or Part of the Property	76
6.3.2.	Change of the Character of the Property’s Use or of Physical Features within the Property’s Setting that Contribute to its Historic Significance	76
6.3.3.	Introduction of Visual, Atmospheric or Audible Elements that Diminish the Integrity of the Property’s Significant Historic Features	77
6.3.4.	Reasonably Foreseeable Effects.....	78
6.3.5.	Conclusion.....	79
6.4.	Summaries of Findings of Effect for Individual Historic Properties.....	79
6.4.1.	Hood River Bridge (Adverse Effect)	79
6.4.2.	Resource #8. 267 SE Oak Street, White Salmon, Washington (No Effect).....	81
6.4.3.	Resource #10. 301 SE Oak Street, White Salmon, Washington (No Adverse Effect).....	84
6.4.4.	Resource #21. 345 W Jewett Boulevard, White Salmon, Washington (No Adverse Effect)	86
6.4.5.	Resource #24. Van Alstine Residence at 435 W Jewett Boulevard, White Salmon, Washington (No Adverse Effect).....	87
6.4.6.	Resource #25. 447 W Jewett Boulevard, White Salmon, Washington (No Adverse Effect)	89
6.4.7.	Resource #40. Spokane, Portland & Seattle Railway.....	91
6.4.8.	Hood River Loops (No Adverse Effect).....	93
6.4.9.	Resource #46. Bryant Farmstead/Ranch at 2495 Old Columbia River Highway, Hood River, Oregon (No Adverse Effect)	94
6.4.10.	Resource #63. Oregon Railway & Navigation Segment, Hood River, Oregon (No Adverse Effect)	96
7.	Recommendations for Avoidance, Minimization, and Mitigation	98
8.	Preparers	99
9.	References	99

LIST OF FIGURES

Figure 1-1. Project area	2
Figure 2-1. Location of the Preferred Alternative EC-2, Alternative EC-1, and Alternative EC-3.....	4
Figure 2-2. Navigation clearance of existing bridge	6
Figure 2-3. Navigation clearance of proposed replacement bridge.....	6
Figure 2-4. Preferred Alternative EC-2 alignment.....	10
Figure 2-5. Preferred Alternative EC-2 enlargements	11
Figure 2-6. Replacement bridge typical cross section	13
Figure 2-7. Replacement bridge cross section with pedestrian overlook	13
Figure 2-8. Alternative EC-1 alignment.....	15
Figure 2-9. Alternative EC-1 enlargements.....	17
Figure 2-10. Alternative EC-3 alignment.....	20
Figure 2-11. Alternative EC-3 enlargements	21
Figure 3-1. APE, Portions of the White Salmon, Washington, and, Hood River, Oregon, USGS Quadrangles	25
Figure 3-2. APE and proposed alignment of the three action alternatives	26
Figure 4-1. 1897 photograph of unidentified man, possibly Wasco or Wishram, sitting on Chinookan canoe near Celilo Falls in a photograph taken by Benjamin Gifford. This photograph was taken about 90 years after Meriwether Clark documented Upper Chinookan people fishing in canoes near present-day White Salmon (Allen 2003).	33
Figure 4-2. Prominent White Salmon citizens in 1907. A.H. Jewett is third from left (Community Partners 2020).....	34
Figure 4-3. White Salmon in 1909, 2 years after incorporation (left) and in 1927 (right) (Community Partners 2020).....	35
Figure 4-4. White Salmon Town Center: 1910 Sanborn map (left) and 1929 Sanborn map (right) (Sanborn Map Company 1910, 1929).....	36
Figure 4-5. White Salmon Steamboat Dock and Landing (Gorge Heritage Museum 2020).	37
Figure 4-6. Construction of Dock Grade Road, connecting the dock to the town of White Salmon (Gorge Heritage Museum 2020).	37
Figure 4-7. Klickitat County map section, with arrow showing White Salmon in the Fruit Valley precinct (Ogle and Co. 1913).	38
Figure 4-8. Hood River Bridge in 1927, 3 years after completion (Community Partners 2020).	39
Figure 4-9. White Salmon development by 1913 (Ogle and Co. 1913). The map section enlargement at rights depicts Jewett’s First Addition (center arrow), Lauterbauch’s Second Addition (left arrow), and Egan’s Addition (right arrow). The “Original Town” plat is on the north side of Jewett’s First Addition... ..	40
Figure 4-10. Coe homestead c.1854 (Historic Hood River).....	43
Figure 4-11. Sanborn Map Company maps of Hood River in 1893, 1902 and 1909	43
Figure 4-12. OR&N Company Railroad (1901) (Historic Hood River)	44
Figure 4-13. Sanborn Map Company maps of Hood River in 1916, 1928 and 1942	45

Figure 4-14. Barn circa 1910. Photo taken as part of a promotion of Hood River agriculture to prospective orchardists from around the country (Historic Hood River).....	46
Figure 4-15. Davenport Brother Lumber Company c. 1905 (Historic Hood River)	46
Figure 4-16. Windsurfing on Columbia River (1994) (Historic Hood River)	47
Figure 4-17. 1920s Eddy postcard view of the Hood River Bridge taken from the Columbia River Highway’s “Hood River Loops” looking north towards Washington State. Courtesy of Historic Hood River.	48
Figure 4-18. The Columbia River Highway’s Hood River Loops, viewing east towards the Hood River Bridge.....	49
Figure 4-19. Hood River Bridge (cover of <i>Engineering News Record</i> , April 20, 1925).....	50
Figure 4-20. Leslie Butler drives in last spike, 1924 (historichoodriver.com).	52
Figure 4-21. Reeves postcard of Hood River Bridge, 1925.	52
Figure 4-22. Construction of new north approach, on the left, 1938 (Historic Hood River).	54
Figure 5-1. Map of identified historic resources located in White Salmon	70
Figure 5-2. Map of identified historic resources located in Hood River.....	71
Figure 6-1. View of existing bridge (top) and simulation of proposed bridge (bottom), looking southeast	76
Figure 6-2. Hood River Bridge aerial view, 1947 (earthexplorerusgs.gov)	81
Figure 6-3. The English/Tudor Cottage residence at 267 SE Oak Street (1920) in White Salmon, Washington.....	82
Figure 6-4. 267 SE Oak Street west elevation, looking southwest towards Hood River Bridge.	83
Figure 6-5. Photograph from 267 SE Oak Street looking southwest towards Hood River Bridge.	84
Figure 6-6. Single-Family Residence at 301 SE Oak Street, White Salmon, Washington	85
Figure 6-7. Photograph from 301 SE Oak Street looking southwest towards Hood River Bridge	86
Figure 6-8. Northwest Regional residence at 345 W Jewett Boulevard, White Salmon, Washington.....	86
Figure 6-9. Ranch-style residence at 435 W Jewett Boulevard/Van Alstine House (1965) in White Salmon, Washington.....	88
Figure 6-10. Van Alstine House, looking southeast towards Hood River Bridge and Mount Hood	89
Figure 6-11. Colonial Revival-style residence at 447 W Jewett Boulevard (1940) in White Salmon, Washington.....	90
Figure 6-12. Photograph from 447 W Jewett Boulevard looking southeast towards Hood River Bridge ..	91
Figure 6-13. Photograph of SP&S segment near White Salmon, Washington (looking east).....	92
Figure 6-14. Hood River Loops, viewing east.....	93
Figure 6-15. Bryant Farmstead/Ranch at 2495 Old Columbia River Highway (1930) in Hood River, Oregon	95
Figure 6-16. Photograph of OR&N segment in Hood River, Oregon (looking east)	96
Figure 6-17. Photograph of OR&N segment (foreground) in Hood River, Oregon (looking north towards the Hood River Bridge in the background)	97

LIST OF TABLES

Table 2-1. Summary Comparison of Key Elements of Alternatives.....	5
Table 3-1. Research Sources	30
Table 5-1. List of Resources Identified During the Reconnaissance-Level Survey	57
Table 5-2. List of Resources Evaluated During the Intensive-Level Survey	72
Table 6-1. Section 106 Effect Findings for Eligible/Listed Properties.....	79
Table 8-1. List of Preparers	99

LIST OF APPENDICES

Appendix A. Historic Resources Table
Appendix B. Determination of Eligibility Forms
Appendix C. Finding of Effects Forms

ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
BMP	best management practices
DAHP	Department of Archaeology and Historic Preservation
dBA	A-weighted decibel
DOE	Determination of Eligibility
EIS	environmental impact statement
FHWA	Federal Highway Administration
GEO	Governor’s Executive Order
Gilpin	Gilpin Construction Company
HMP	Historic Mile Post
HRA	Historical Research Associates, Inc.
I-84	Interstate 84
MATS	Mt. Adams Transportation Service
MOA	Memorandum of Agreement
mph	miles per hour
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OHWM	ordinary high-water mark
OR&N	Oregon Railway & Navigation
OWBC	Oregon–Washington Bridge Company
NHL	National Historic Landmark
PA	Programmatic Agreement
PSH	Primary State Highway
SHPO	State Historic Preservation Office
SP&S	Spokane, Portland & Seattle
SR	State Route
the Port	Port of Hood River
the Project	Hood River–White Salmon Bridge Replacement Project
USACE	US Army Corps of Engineers
WDFW	Washington Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation

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EXECUTIVE SUMMARY

The *Historic Resources Technical Report* documents the results of the baseline architectural survey, Determinations of Eligibility, and Finding of Effect (FOE) for the Hood River–White Salmon Bridge Replacement Project (Project), prepared for the Oregon Department of Transportation (ODOT) to satisfy the regulatory requirements of Section 106 of the National Historic Preservation Act (NHPA) (54 United States Code [U.S.C.] 306108) and 36 Code of Federal Regulations (CFR) Part 800, and to support compliance with Section 4(f) of the US Department of Transportation Act of 1966 (49 U.S.C. 303; 23 U.S.C. 138). The Project’s purpose is to rectify current and future transportation inadequacies and deficiencies associated with the existing bridge. Once the replacement bridge is constructed and open for use, the existing Hood River Bridge would be removed.

The Project is subject to Section 106 of the NHPA, due to the need to obtain permits from multiple federal agencies including the US Coast Guard and US Army Corps of Engineers. The Federal Highway Administration (FHWA) may also provide funding for the proposed Project. These federal permitting and funding actions would be considered undertakings by the respective agencies and thus require review under Section 106. If FHWA were to provide funding, the Project would also be subject to Section 4(f) of the US Department of Transportation Act. Historic resources in the Area of Potential Effects (APE) were identified and evaluated in accordance with 36 CFR Part 800 in 2017-2020. Following a reconnaissance and intensive level survey of the APE and the application of the National Register of Historic Places (NRHP) Criteria for Evaluation, 62 individual resources, one National Historic Landmark (NHL) District, and two potential residential districts built prior to 1974 were identified. Of the 62 individual resources, nine were determined eligible for the NRHP. The assessment also determined that the Hood River Loops remains a contributing resource as a part of the Columbia River Highway NHL District. The two residential districts were determined not eligible for the NRHP.

The Criteria of Adverse Effect (36 CFR 800.5(a)) were then applied to the ten historic properties. Potential Project effects include changes to the settings of historic properties by the removal of the existing bridge and introduction of new transportation facilities and bridge structure, construction-related vibration and noise, and impacts from changes in bridge operation. The Project effects assessment of the historic properties resulted in a recommended Project FOE of “adverse effect” consistent with 36 CFR 800.5 due to the demolition of the Hood River Bridge—a historic property. The report proposes mitigation measures to resolve the adverse effect consistent with 36 CFR 800.6. A Memorandum of Agreement is currently being prepared between FHWA, ODOT, Washington State Department of Transportation, Port of Hood River, tribes, local jurisdictions, and other consulting parties.

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1. INTRODUCTION

The Hood River–White Salmon Bridge (“Hood River Bridge”) Replacement Project (the “Project,” formerly named the State Route (SR)-35 Columbia River Crossing Project) would construct a replacement bridge and then remove the existing Hood River Bridge between White Salmon, Washington, and Hood River, Oregon (**Figure 1-1**). The bridge is owned by the Port of Hood River (the Port), serving an average of over 4 million trips annually.

The overall need for the Project is to rectify current and future transportation inadequacies and deficiencies associated with the existing bridge. Specifically, these needs are to:

- **Present Capacity:** substandard width and operational issues are causing traffic congestion on the bridge and at both approaches
- **Future Transportation Demand:** the existing bridge is not designed to meet future travel demand for vehicles.
- **Bicycle and Pedestrian Facilities:** lack of bicycle and pedestrian facilities limits multi-modal mobility
- **Safety:** narrow lanes and lack of shoulder create real and perceived safety hazards
- **Social Demands/Economic Development:** the existing bridge restricts the current and projected flow of goods, labor and consumers across the river
- **Legislation:** comply with federal funding obligation Transportation Equity Act for the 21st Century (TEA-21), the Washington State Legislature designation of the SR-35 corridor, and Oregon HB 2017
- **River Navigation:** the substandard horizontal clearance creates difficulties for safe vessel navigation
- **Seismic Deficiencies:** the existing bridge does not meet current seismic standards and is vulnerable to a seismic event

The Project began in 1999 with a feasibility study that ultimately resulted in the publication of the SR-35 Columbia River Crossing Draft Environmental Impact Statement (EIS) in 2003, which identified the “EC-2 West Alignment” as the preliminary preferred alternative. In 2011, the Type, Size, and Location Study recommended a fixed-span concrete segmental box-girder bridge as the recommended bridge type. In 2017, the Project was relaunched to complete the National Environmental Policy Act (NEPA) process. This report provides an update to the existing conditions and anticipated construction, direct, and indirect effects on historic resources. Measures to avoid, minimize, and/or mitigate these effects are also identified in this report.



Figure 1-1. Project area

2. PROJECT ALTERNATIVES

Four alternatives are being evaluated to address the Project's purpose and need:

- No Action Alternative
- Preferred Alternative EC-2
- Alternative EC-1
- Alternative EC-3

Figure 2-1 shows the alignment of the existing bridge, which represents the No Action Alternative, and the three build alternatives. The build alternatives connect to SR 14 in White Salmon, Washington, and Button Bridge Road in Hood River, Oregon, just north of the Interstate 84 (I-84)/United States Highway 30 (US 30) interchange (Exit 64).

Each alternative is summarized in **Table 2-1** and described in more detail in the following sections.

Figure 2-2 and **Figure 2-3** illustrate the navigational clearance for the existing bridge and the replacement bridge (same for each build alternative).

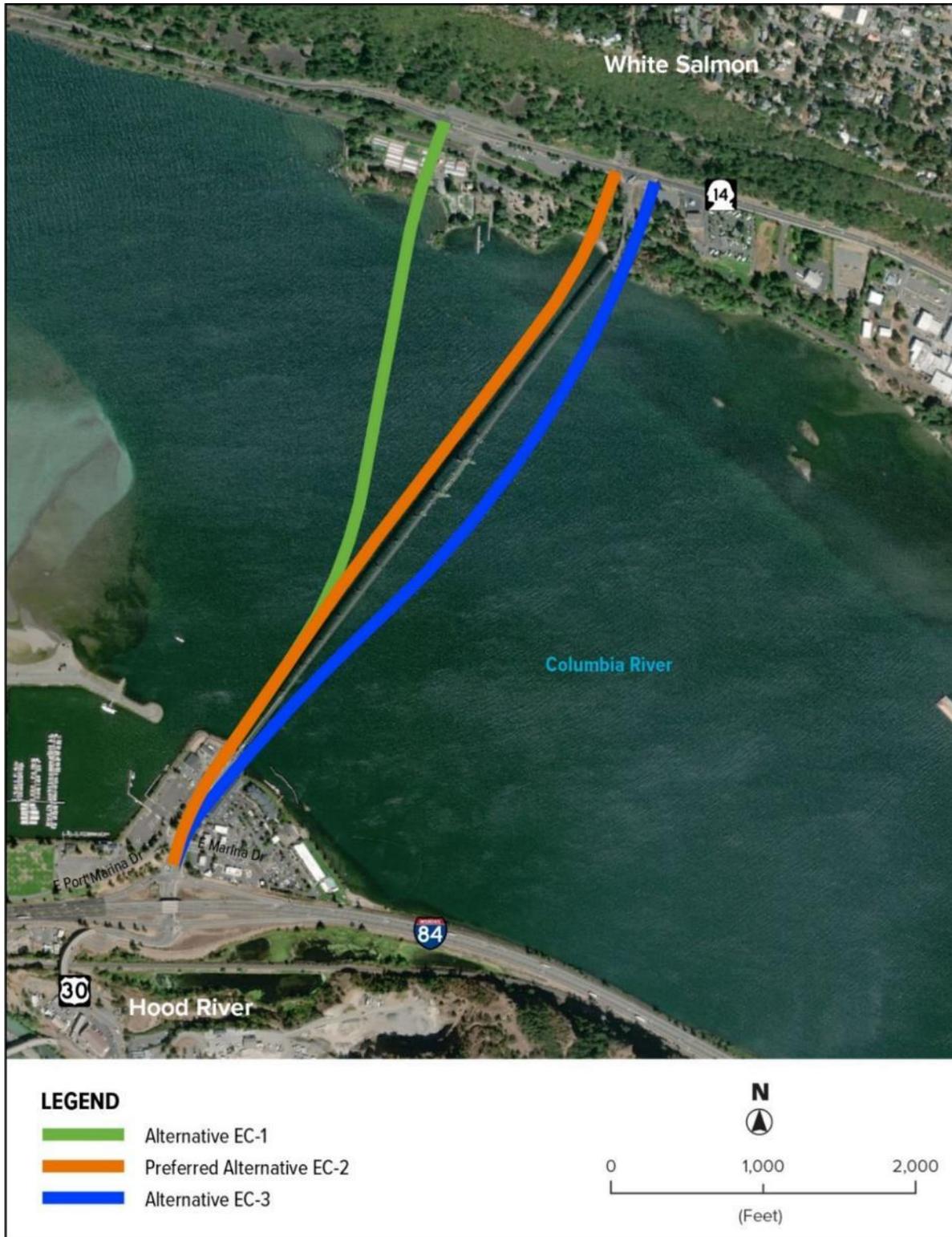


Figure 2-1. Location of the Preferred Alternative EC-2, Alternative EC-1, and Alternative EC-3

Table 2-1. Summary Comparison of Key Elements of Alternatives

	No Action Alternative	Preferred Alternative EC-2	Alternative EC-1	Alternative EC-3
Bridge alignment	No change	WA: Slightly west of existing OR: Slightly west of existing	WA: West of existing OR: Slightly west of existing	WA: Slightly east of existing OR: Slightly east of existing
Bridge structure				
Bridge type	Steel deck truss bridge with vertical lift span	Segmental concrete box-girder bridge (fixed span)		
Total number of piers (in water / on land)	28 (20 / 8)	13 (13 / 0)	13 (11 / 2)	13 (12 / 1)
Structure length	4,418 feet	4,412 feet	4,375 feet	4,553 feet
Travel lanes	9-foot 4.75-inch lanes	12-foot lanes		
Roadway shoulders	No shoulders	8-foot shoulders		
Vehicle height limit	14 feet-7 inches	None		
Shared Use Path	None	12-foot wide, only on west side with overlooks		
Bridge deck	Steel-grated	Concrete		
Vehicle Gross Weight Limit	80,000 pounds; no trip permit allowance for overweight vehicles	> 80,000 pounds, with approved trip permit		
Design speed	Unknown	50 miles per hour (mph)		
Posted speed	25 mph	35 mph		
Toll collection	Toll booth on Oregon side	Electronic tolling/No toll booth		
Stormwater treatment	None	Detention and water quality treatment		
Navigation clearance	246 feet horizontal by 57 feet vertical when bridge is down and up to 148 feet vertical when lifted	450 feet horizontal x 80 feet vertical (maximum horizontal opening) 250 feet horizontal x 90 feet vertical (centered within maximum vertical opening)		
State Route (SR) 14/Hood River Bridge intersection	Signalized intersection	Roundabout slightly west of existing intersection; SR 14 raised approximately 2 feet above existing road level	Roundabout with connection to N. Dock Grade Road west of existing intersection; SR 14 raised approximately 17 feet above existing road level	Roundabout slightly east of existing intersection; SR 14 remains at existing road level
Button Bridge Road/E. Marina Way intersection	Signalized intersection	Signalized intersection		
Anticipated construction duration	None	2.5 years to 3 years		

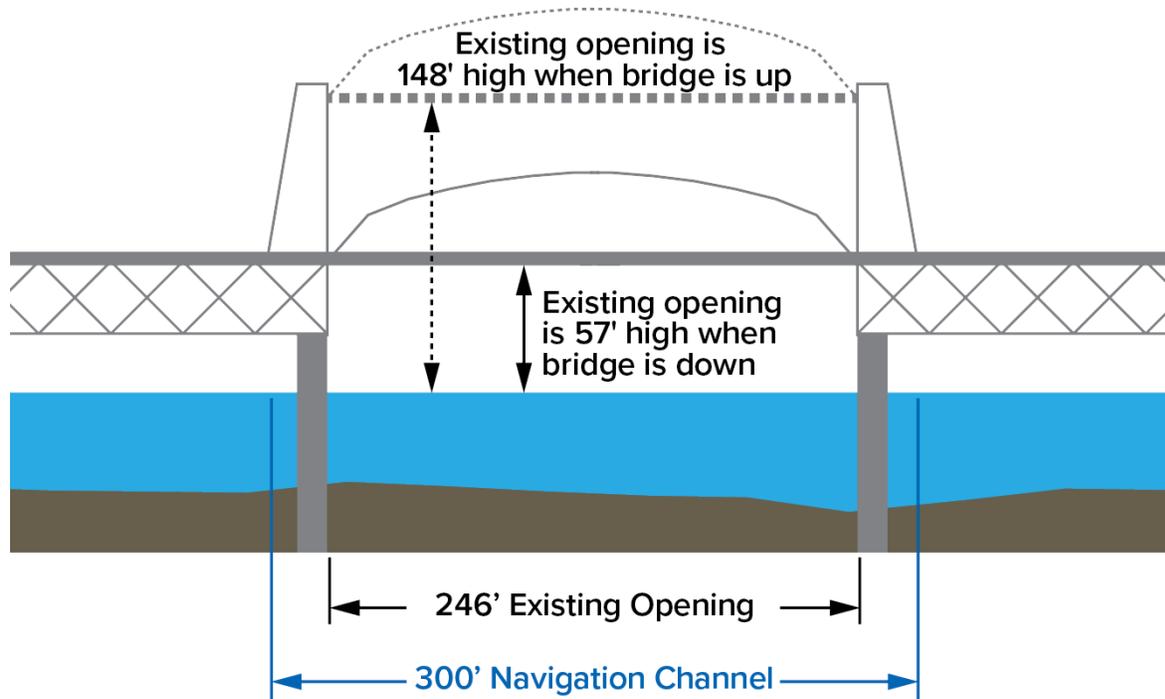


Figure 2-2. Navigation clearance of existing bridge

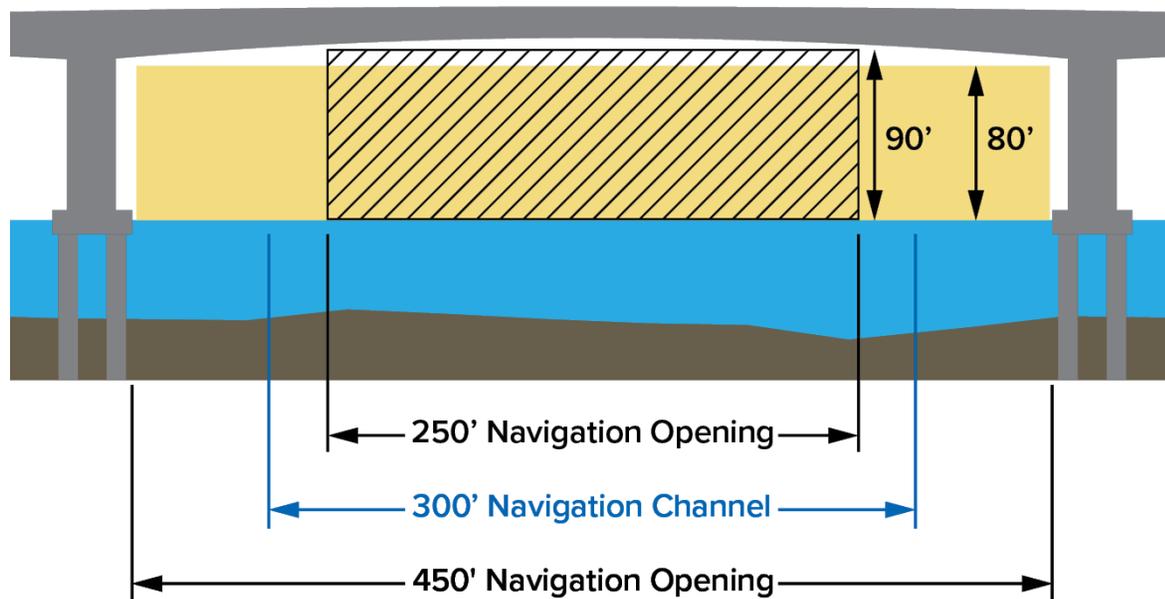


Figure 2-3. Navigation clearance of proposed replacement bridge

2.1. No Action Alternative

The No Action Alternative would retain the existing bridge in its existing condition and configuration. Routine operations and maintenance would continue. Under the No Action Alternative, elements of the existing bridge include the following:

- **Alignment:** The bridge would continue to span the Columbia River between its northern terminus at the SR 14/Hood River Bridge intersection in White Salmon, Washington, and its southern terminus at the Button Bridge Road/E. Marina Way intersection in Hood River, Oregon, as shown in the aerial photograph in **Figure 2-1**.
- **Type:** The bridge would continue to be a 4,418-foot steel deck truss bridge with a vertical lift span. The bridge would continue to have 20 piers in the Columbia River.
- **Ownership:** The bridge would likely continue to be owned and operated by the Port.
- **Vehicle lanes:** The bridge would continue to have one narrow (9 feet, 4.75 inches) travel lane in each direction and no shoulders.
- **Bicycle and pedestrian facilities:** The bridge would continue to have no pedestrian or bicycle facilities, and signage would continue to prohibit pedestrians and bicycles on the bridge.
- **Speed:** The posted speed limit on the bridge would continue to be 25 miles per hour (mph).
- **Vehicle restrictions:** Vehicles would continue to be weight-restricted to 80,000 pounds; vehicles with approved trip permits would still not be allowed to use the bridge. Wide loads would continue to be prohibited without special arrangements, and large vehicles would be encouraged to turn their mirrors in. The height limit for vehicles would continue to be 14 feet, 7 inches where the lift span occurs.
- **Tolling:** The bridge would continue to be tolled for all vehicles, with a toll booth on the south end of the bridge and electronic tolls collected through the Port's Breezeby system. Plans to shift to all electronic tolling are being considered, but there is no certainty they will be implemented.
- **Navigational clearance:** The horizontal clearance for marine vessels would continue to be 246 feet, narrower than the navigation channel width of 300 feet, as shown in **Figure 2-2**. The vertical clearance would continue to be 57 feet when the lift span is down and 148 feet when it is raised; vessels would continue to be required to request bridge lifts in advance. The lift span section would continue to use gate and signals to stop traffic for bridge lifts.
- **Seismic resilience:** The bridge would continue to be seismically vulnerable and would not be cost effective to be seismically retrofitted.
- **Stormwater:** No stormwater detention or water quality treatment would be provided for the bridge. Stormwater on the bridge would continue to drain directly into the Columbia River through the steel-grated deck.
- **Roadway connections:** The bridge would continue to connect to SR 14 on the Washington side at the existing signalized SR 14/Hood River Bridge intersection. On the Oregon side, the southern end of the bridge would continue to transition to Button Bridge Road, connecting to the local road network at the existing signalized Button Bridge Road/E. Marina Way intersection

north of I-84. The bridge would continue to cross over the BNSF Railway tracks on the Washington side and over the Waterfront Trail along the Oregon shoreline.

- **Bicycle and pedestrian connections:** The bridge would continue not to provide bicycle or pedestrian connections across the Columbia River. Bicyclists and pedestrians wanting to cross the river would continue to need to use an alternate means of transportation, such as the Mt. Adams Transportation Service (MATS) White Salmon/Bingen to Hood River bus (buses provide bicycle racks) or a private vehicle.

The technical report considers two scenarios for the No Action Alternative:

- **End of bridge lifespan:** Assumes that the existing Hood River Bridge would remain in operation through 2045¹ and would be closed sometime after 2045 when maintenance costs would become unaffordable. At such a time, the bridge would be closed to vehicles, and cross-river travel would have to use a detour route approximately 21 miles east on SR 14 or 23 miles east on I-84 to cross the Columbia River using The Dalles Bridge (US 197). Alternatively, vehicles could travel 25 miles west on SR 14 or 21 miles west on I-84 to cross the Columbia River via the Bridge of the Gods. When the bridge would be closed, the lift span would be kept in a raised position to support large vessel passage that previously required a bridge lift.
- **Catastrophic event:** Addresses the possibility that an extreme event that damages or otherwise renders the bridge inoperable would occur prior to 2045. Such events could include an earthquake, landslide, vessel strike, or other unbearable loads that the bridge structure cannot support.

2.2. Preferred Alternative EC-2

Alternative EC-2 would construct a replacement bridge west of the existing bridge. The existing bridge would be removed following construction of the replacement bridge. Under Alternative EC-2, elements of the replacement bridge would include the following:

- **Alignment:** The main span of the bridge would be approximately 200 feet west of the existing lift span. The bridge terminus in White Salmon, Washington, would be located approximately 123 feet west of the existing SR 14/Hood River Bridge intersection, while the southern terminus would be in roughly the same location at the Button Bridge Road/E. Marina Way intersection in Hood River, Oregon, as shown in **Figure 2-4** and **Figure 2-5**.
- **Type:** The bridge would be a 4,412-foot fixed-span segmental concrete box-girder bridge with a concrete deck and no lift span. The bridge would have 13 piers in the Columbia River.
- **Ownership:** While the Port may own and operate the replacement bridge, other options for the ownership and operation of the replacement bridge that may be considered include other governmental entities, a new bi-state bridge authority, and a public-private partnership, depending on the funding sources used to construct the replacement bridge.
- **Vehicle lanes:** The bridge would include one 12-foot travel lane in each direction and an 8-foot shoulder on each side, as shown in **Figure 2-6**.

¹ The year 2045 is the design horizon for the Project. The design horizon is the year for which the Project was designed to meet anticipated needs.

- **Bicycle and pedestrian facilities:** The bridge would include a 12-foot-wide shared use path separated from traffic with a barrier on the west side, as shown in **Figure 2-6**. In the middle of the bridge, the shared use path would widen an additional 10 feet in two locations to provide two 40-foot-long overlooks over the Columbia River and west into the Columbia River Gorge National Scenic Area with benches; the overlook locations are shown in **Figure 2-4** and **Figure 2-5**. The cross section of the overlooks is shown in **Figure 2-7**.
- **Speed:** The design speed for the bridge would be 50 mph, with a posted speed limit of 35 mph.
- **Vehicle restrictions:** Vehicles would no longer be limited by height, width, or weight. Vehicles exceeding 80,000 pounds that have approved trip permits could use the bridge.
- **Tolling:** Tolls for vehicles would be collected electronically so there would be no toll booth on either side of the bridge. No tolls would be collected from non-motorized users (e.g., pedestrians, bicyclists) who travel on the shared use path.
- **Navigational clearance:** Vertical clearance for marine vessels would be a minimum of 80 feet. The horizontal bridge opening for the navigation channel would be 450 feet, greater than the existing 300-foot-wide federally recognized navigation channel, as shown in **Figure 2-3**. Centered within this 450-foot opening, there would be a 250-foot-wide opening with a vertical clearance of 90 feet. Similar to the existing bridge, the replacement bridge would cross the navigation channel at roughly a perpendicular angle, as shown in **Figure 2-4** and **Figure 2-5**. **Reference source not found.**
- **Seismic resilience:** The bridge would be designed to be seismically sound under a 1,000-year event and operational under a Cascadia Subduction Zone earthquake.
- **Stormwater:** Stormwater generated by new impervious surfaces on the bridge and improved roadways would be collected and piped to detention and treatment facilities on both sides of the bridge, as shown in **Figure 2-5**. On the Washington side, separate stormwater facilities would be used for the roadways and the bridge.
- **Roadway connections:** The bridge would connect to SR 14 on the Washington side at a new two-lane roundabout slightly west of the existing SR 14/Hood River Bridge intersection, as shown in **Figure 2-5**. On the Oregon side, the southern end of the bridge would transition to Button Bridge Road, connecting to the local road network at the existing signalized Button Bridge Road/E. Marina Way intersection north of I-84. The private driveway on Button Bridge Road north of E. Marina Way may be closed under this alternative. Like the existing bridge, the replacement bridge would cross over the BNSF Railway tracks on the Washington side and over the Waterfront Trail along the Oregon shoreline.
- **Bicycle and pedestrian connections:** The new shared use path would connect to existing sidewalks along the south side of SR 14 in Washington and to roadway shoulders (for bicyclists) on both sides of SR 14 at the new roundabout with marked crosswalks, as shown in **Figure 2-5**. On the Oregon side, the shared use path would connect to existing sidewalks, bicycle lanes, and local roadways at the signalized Button Bridge Road/E. Marina Way intersection.

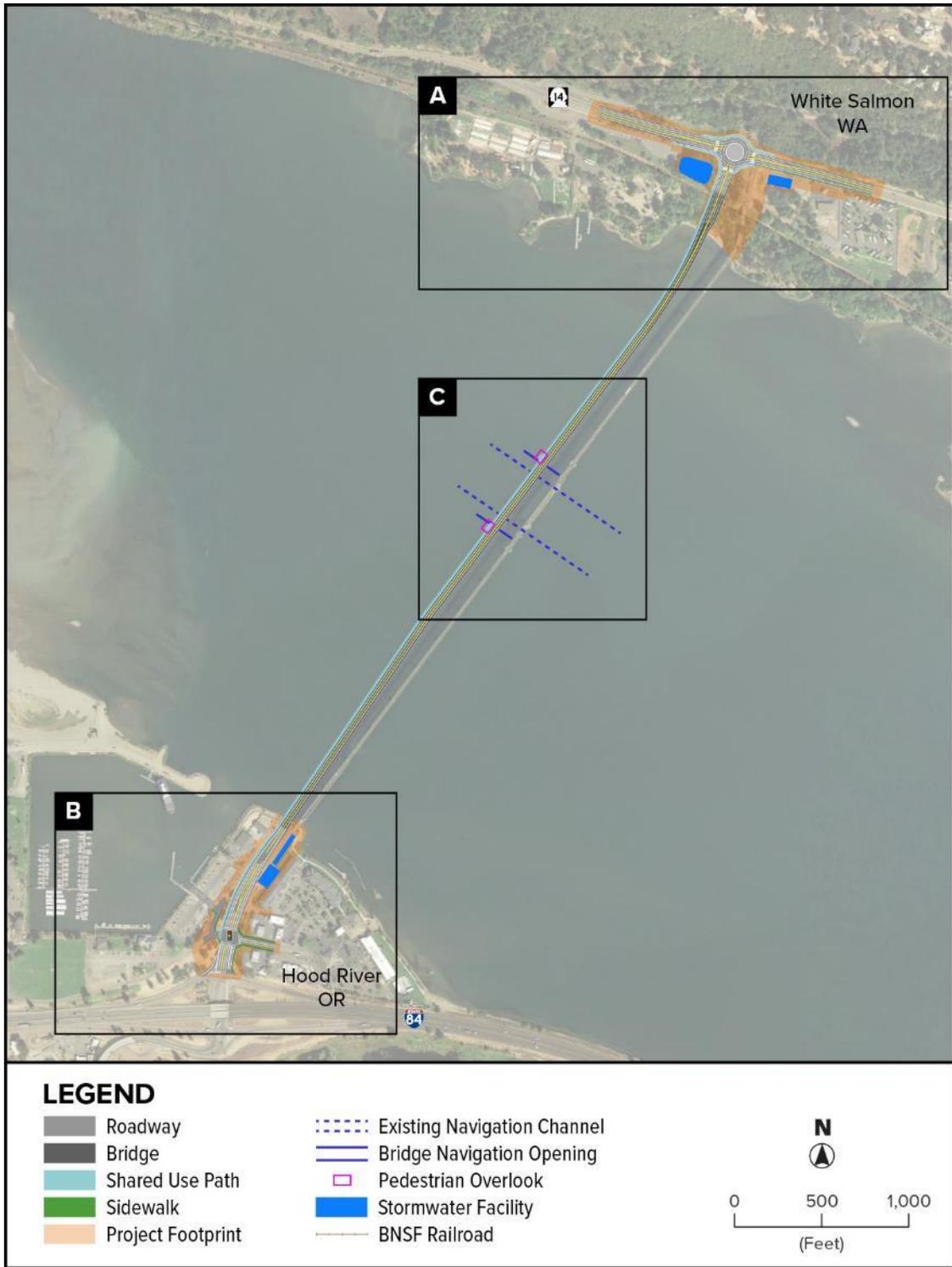


Figure 2-4. Preferred Alternative EC-2 alignment

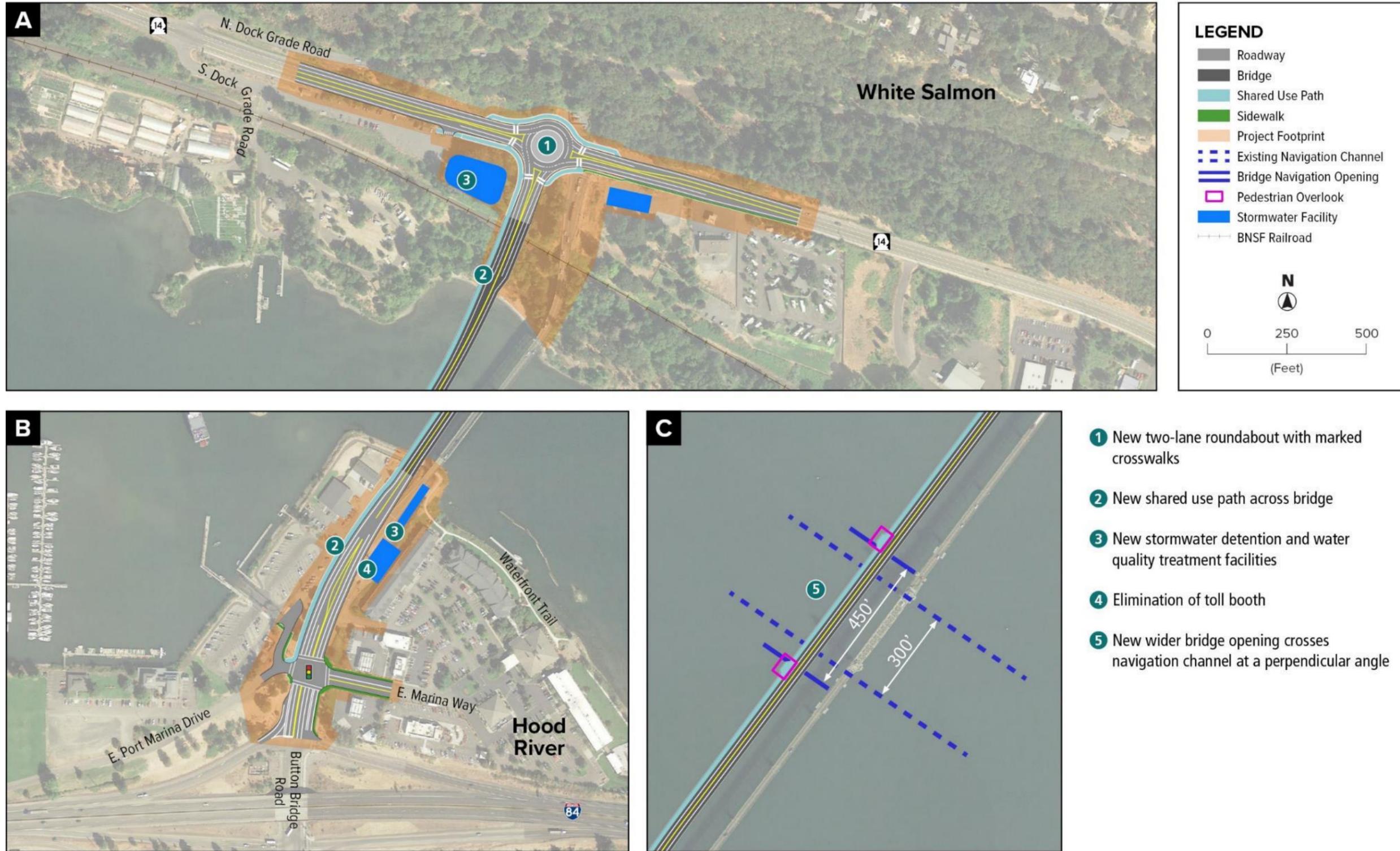


Figure 2-5. Preferred Alternative EC-2 enlargements

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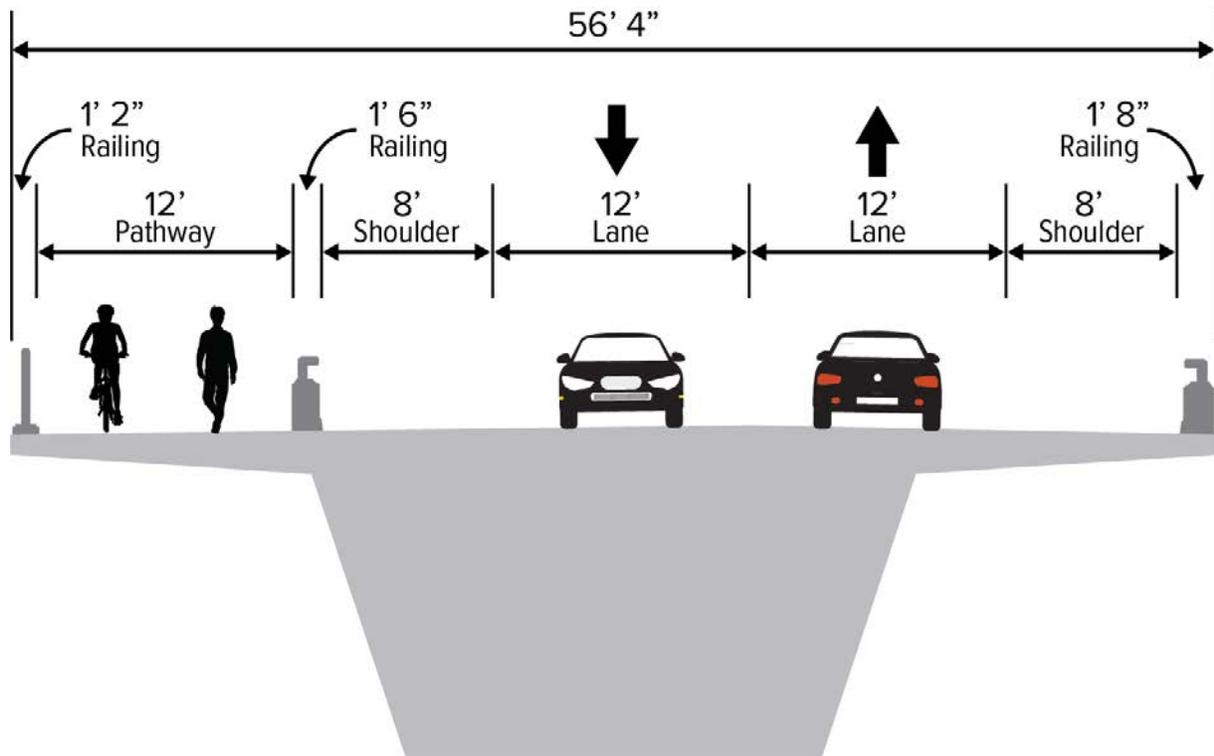


Figure 2-6. Replacement bridge typical cross section

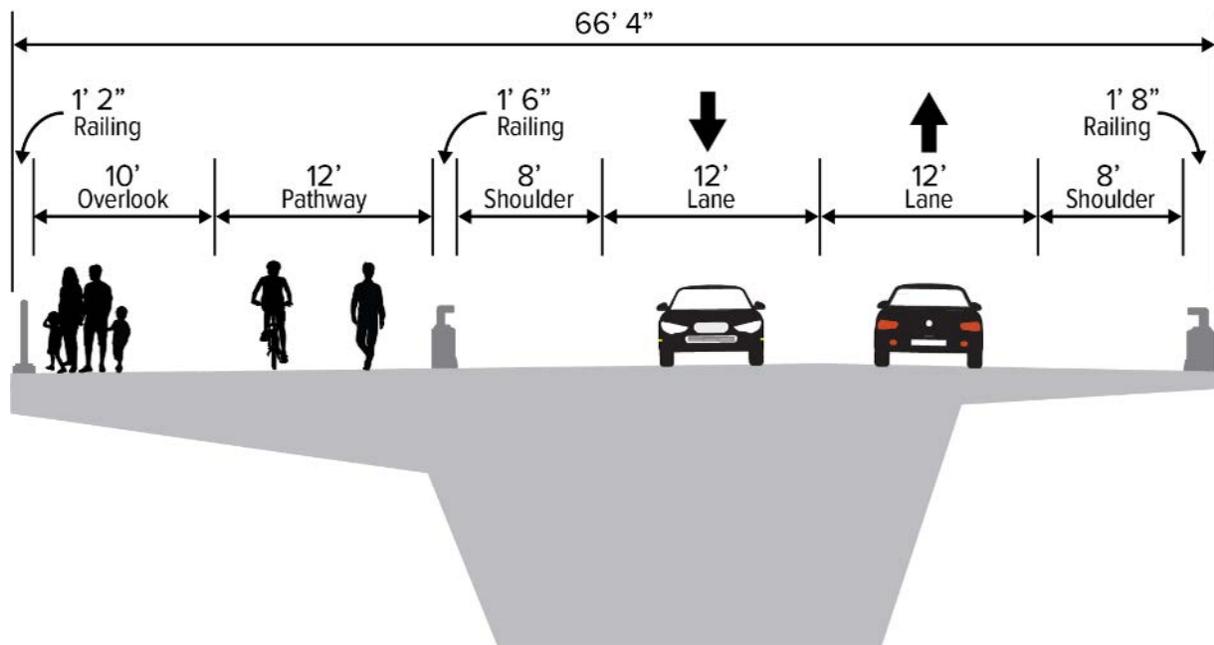


Figure 2-7. Replacement bridge cross section with pedestrian overlook

2.3. Alternative EC-1

Alternative EC-1 would construct a replacement bridge west of the existing bridge. Like Alternative EC-2, the existing bridge would be removed following construction of the replacement bridge. **Figure 2-8** shows the alignment of Alternative EC-1, and **Figure 2-9** provides enlargements of the improvements that would be constructed under Alternative EC-1.

Under Alternative EC-1, elements of the replacement bridge would be the same as the elements described for Alternative EC-2 in Section 2.2, with the following exceptions:

- **Alignment:** The main span of the bridge would be approximately 700 feet west of the existing lift span. The bridge terminus in White Salmon, Washington, would be located approximately 2,309 feet west of the existing SR 14/Hood River Bridge intersection, while the southern terminus would be in roughly the same location as the existing terminus at the Button Bridge Road/E. Marina Way intersection in Hood River, Oregon.
- **Type:** The bridge would be a 4,375-foot fixed-span segmental concrete box-girder bridge with a concrete deck and no lift span. The bridge would have 11 piers in the Columbia River.
- **Navigational clearance:** The navigational opening would be the same as Alternative EC-2, but the bridge would cross the navigation channel at a more skewed angle than under Alternative EC-2.
- **Roadway connections:** Connections to roadways would generally be the same as Alternative EC-2, but the bridge would connect to SR 14 on the Washington side at a new two-lane roundabout at the SR 14/Hood River Bridge/N. Dock Grade Road intersection west of the existing bridge. Access to S. Dock Grade Road would be provided via the driveway east of the Mt. Adams Chamber of Commerce and Heritage Plaza Park and Ride.
- **Bicycle and pedestrian connections:** Connections to bicycle and pedestrian facilities would generally be the same as Alternative EC-2, but the roundabout intersection with SR 14 on the Washington side would be located farther west at N. Dock Grade Road.

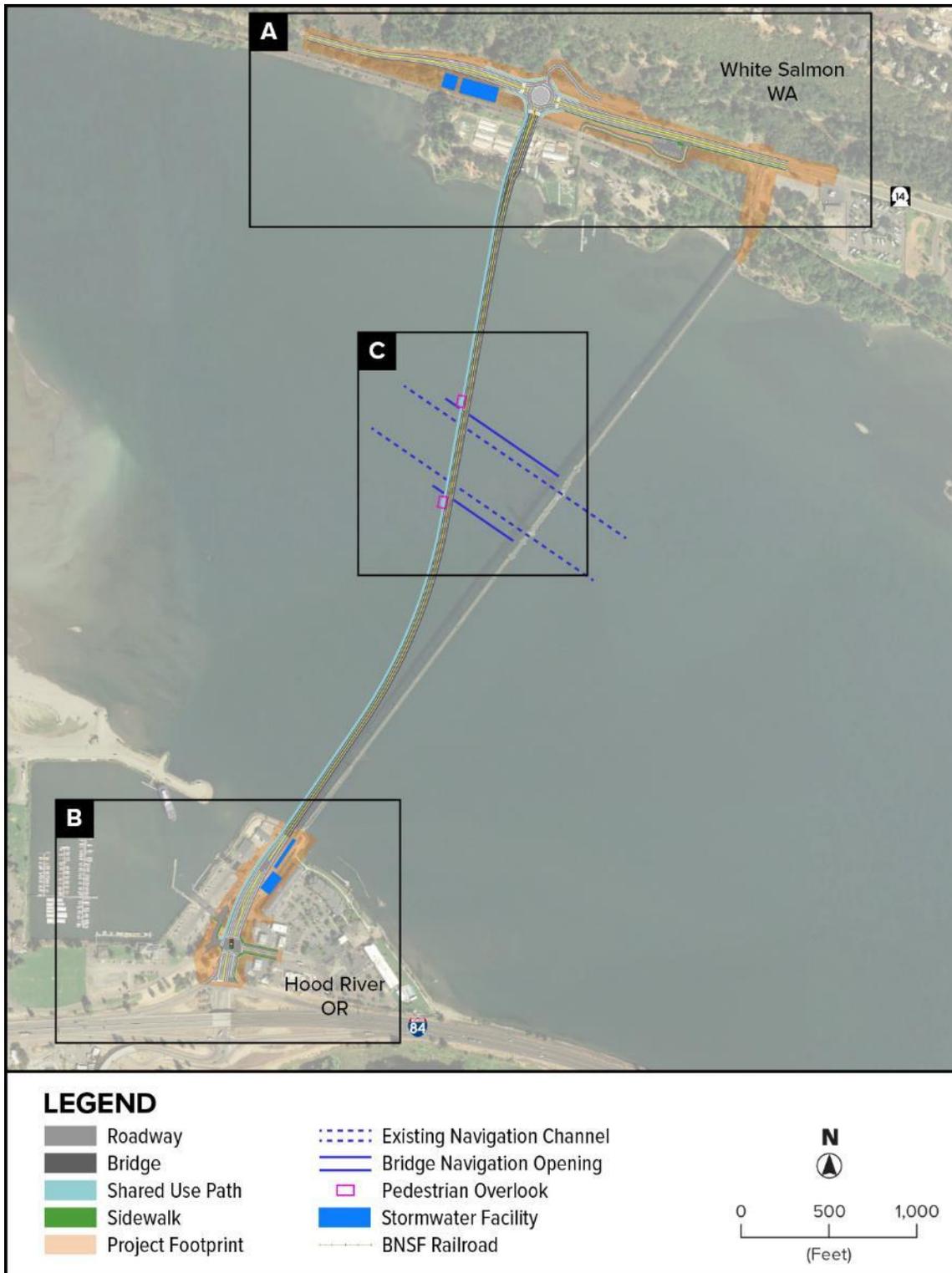


Figure 2-8. Alternative EC-1 alignment

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- 1 New two-lane roundabout with marked crosswalks
- 2 New shared use path across bridge
- 3 New stormwater detention and water quality treatment facilities
- 4 Access to S. Dock Grade Road provided from eastern end of Heritage Plaza Park and Ride
- 5 Elimination of toll booth
- 6 New wider bridge navigation opening crosses navigation channel at a skewed angle

Figure 2-9. Alternative EC-1 enlargements

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2.4. Alternative EC-3

Alternative EC-3 would construct a replacement bridge east of the existing bridge. Like Alternative EC-2, the existing bridge would be removed following construction of the replacement bridge. **Figure 2-10** shows the alignment of Alternative EC-3, and **Figure 2-11** provides enlargements of the improvements that would be constructed under Alternative EC-3.

Under Alternative EC-3, elements of the replacement bridge would be the same as the elements described for Alternative EC-2 in Section 2.2, with the following exceptions:

- **Alignment:** The main span of the bridge would be approximately 400 feet east of the existing lift span. The bridge terminus in White Salmon, Washington, would be located approximately 140 feet east of the existing SR 14/Hood River Bridge intersection, while the southern terminus would be roughly the same as the existing terminus at the Button Bridge Road/E. Marina Way intersection in Hood River, Oregon.
- **Type:** The bridge would be a 4,553-foot fixed-span segmental concrete box-girder bridge with a concrete deck and no lift span. The bridge would have 12 piers in the Columbia River.
- **Roadway connections:** Connections to roadways would generally be the same as Alternative EC-2, but the bridge would connect to SR 14 on the Washington side at a new two-lane roundabout slightly east of the existing SR 14/Hood River Bridge intersection. On the Oregon side, improvements would extend slightly farther south to the Button Bridge Road/I-84 on and off ramps. The private driveway on Button Bridge Road north of E. Marina Way would be closed under this alternative.
- **Bicycle and pedestrian connections:** Connections to bicycle and pedestrian facilities would generally be the same as Alternative EC-2, but the roundabout intersection with SR 14 on the Washington side would be located approximately 264 feet farther east than under Alternative EC-2.

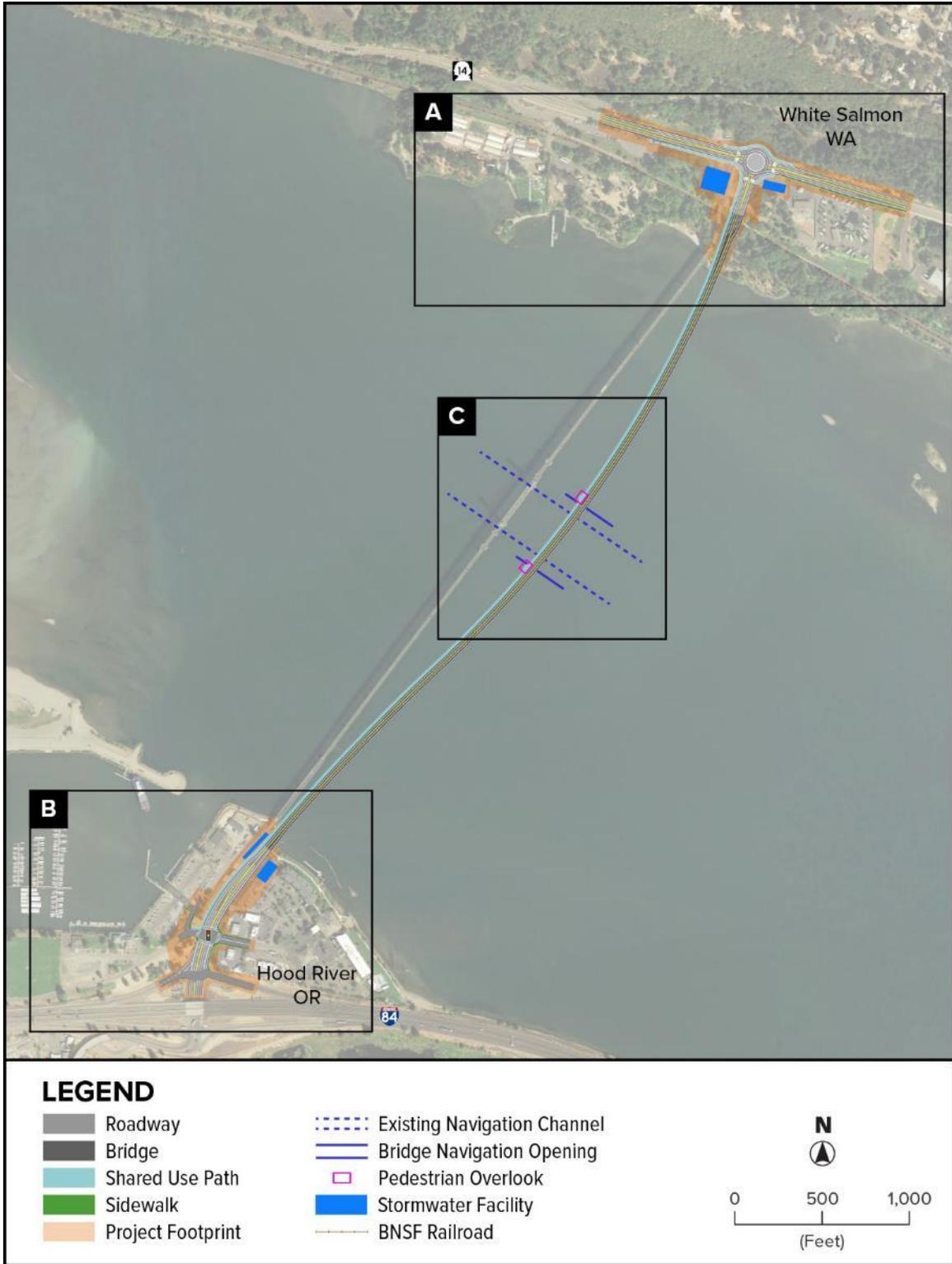
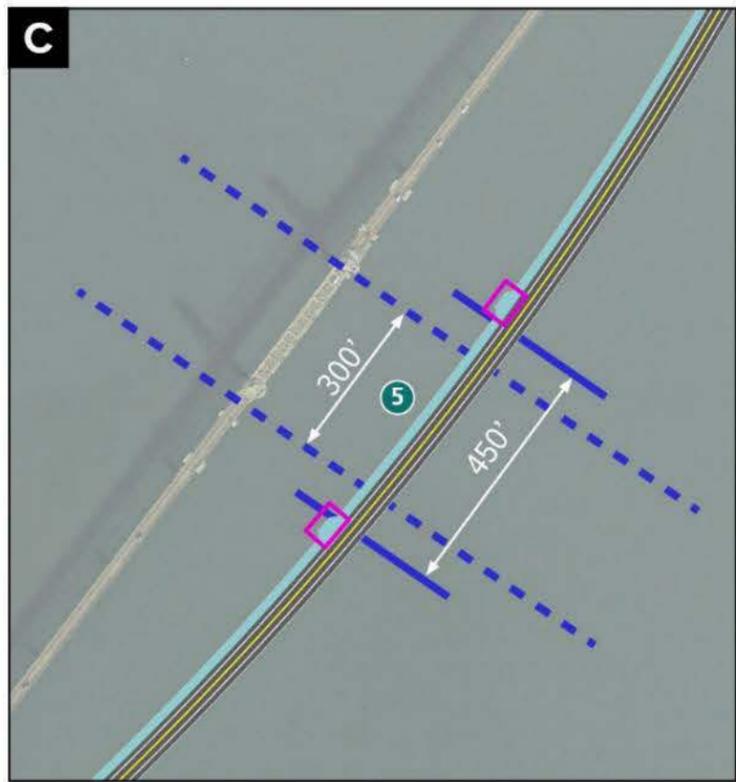


Figure 2-10. Alternative EC-3 alignment



- 1 New two-lane roundabout with marked crosswalks
- 2 New shared use path across bridge
- 3 New stormwater detention and water quality treatment facilities
- 4 Elimination of toll booth
- 5 New wider bridge opening crosses navigation channel at a perpendicular angle

Figure 2-11. Alternative EC-3 enlargements

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2.5. Construction of the Build Alternatives

Construction of the three build alternatives would be similar in duration and approach:

- **Timeline and sequencing:** The NEPA process is anticipated to be complete in late 2020; subsequent phases of the Project would be dependent on funding availability. Construction would take approximately 2.5 years to 3 years.
- **In-water work window:** All work below the ordinary high-water mark (OHWM) of the Columbia River would be conducted during the in-water work window established for the Project. Based on published guidelines from the US Army Corps of Engineers (USACE), Washington Department of Fish and Wildlife (WDFW), and Oregon Department of Fish and Wildlife (ODFW), the most restrictive in-water work window would be November 15–February 28, whereas the least restrictive could potentially extend between July 16–February 28.
- **Mobilization and site preparation:** The contractor would likely mobilize equipment to the construction site via barges and trucks. Erosion control measures (e.g., silt fences) and debris containment devices (e.g., floating debris booms) would be installed, and clearing and grubbing limits would be established prior to vegetation removal.
- **Construction staging:** At least two staging areas would be necessary for staging and storage of materials and equipment; the location of these areas would be determined later in the design process, and would be included in all relevant environmental permits and land use approvals. Materials arriving by barge may be offloaded to upland staging areas or may be temporarily stored on barges. In general, any staging areas and equipment fueling areas would be located above the OHWM and outside of environmentally sensitive areas. All temporarily disturbed areas would be revegetated upon Project completion.
- **Temporary construction bridge and platforms:** Installation of temporary work structures (e.g., bridges and platforms) would likely be needed to support construction of the replacement bridge and removal of the existing bridge. While the specific design and location of any such structures has not been developed at this stage of the design, it has been estimated for evaluation purposes that up to 200 12-inch timber piles may be needed at a given time to support the temporary work structures.
- **Dewatering and fish capture and release:** Dewatering would be necessary during construction to isolate foundation structures from the surrounding aquatic community and minimize the potential for impacts. Fish removal and exclusion in the areas to be dewatered would follow best management practices (BMPs) and would be supervised by a fish biologist. A reasonable effort would be made to capture threatened or endangered fish using methods that minimize the risk of injury.
- **Bridge foundation installation:** To install the piers, 48-inch driven piles would be used in bedrock areas (approximately 50 feet) and 6-foot to 10-foot drilled shafts would be used where bedrock is shallower.
- **Bridge superstructure construction:** Precast concrete elements would be used for the majority of the bridge superstructure to minimize potential impacts associated with pouring concrete over the Columbia River; however, some overwater concrete pouring would be required for casting pile caps, pouring for the spread footing, filling drilled shafts, fixing precast segments together, and paving the bridge roadway surface. The bridge superstructure would be built

using a balanced cantilever method of construction and would consist of both precast and cast-in-place concrete segments. Work could be conducted either from the bridge deck or from temporary barges. As each section of bridge is completed, additional finish work would be conducted, including surfacing, paving, and installation of other finish features, such as striping and signage.

- **Dismantling and removal of existing bridge:** The existing bridge would remain open until the replacement bridge is constructed and operational, at which point it would be dismantled and removed. This work would be conducted via barges and/or temporary work platforms.
- **Post-project site restoration:** Areas temporarily disturbed during construction would be restored upon completion of Project construction consistent with state and local regulations.

The method of delivery for Project final design and construction has not been determined at this time. Traditional delivery methods, such as design-bid-build, and alternative delivery methods, such as design-build and public-private partnerships, will continue to be considered by the Port. As part of Oregon's House Bill 2017, the Port was provided legal authority by the state to enter into a public-private partnership.

3. METHODOLOGY

This section describes the Area of Potential Effect (APE); applicable federal, state, and local regulations; and research and field methods.

3.1. Area of Potential Effect

Section 106 generally requires federal agencies involved in an undertaking to identify the APE, participate in formal consultation regarding the project, inventory any historic resources that may be located within the APE, and determine if the identified historic resources located within the APE are either previously listed and/or may be eligible to be listed in the National Register of Historic Places (NRHP). An APE is defined in 36 CFR 800.16(d), as follows:

... the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

The APE for this Project is in portions of both Washington State and Oregon State (**Figure 3-1** and Error! Reference source not found.). On the Washington side of the Columbia River, the APE extends into Sections 24 and 25 of Township 3 North, Range 10 East; and Sections 19 and 30 of Township 3 North, Range 11 East of the Willamette Meridian. On the Oregon side of the Columbia River, the APE lies within Section 25 and 36 of Township 3 North, Range 10 East; and Sections 30 and 31 of Township 3 North, Range 11 East.

The APE includes direct and indirect impacts, as well as permanent and temporary impacts, including stormwater conveyance for Alternatives EC-2 and EC-3 (EC-1 was eliminated from further consideration in the Supplemental Draft EIS process). The draft APE was initially defined by the Port by adapting the

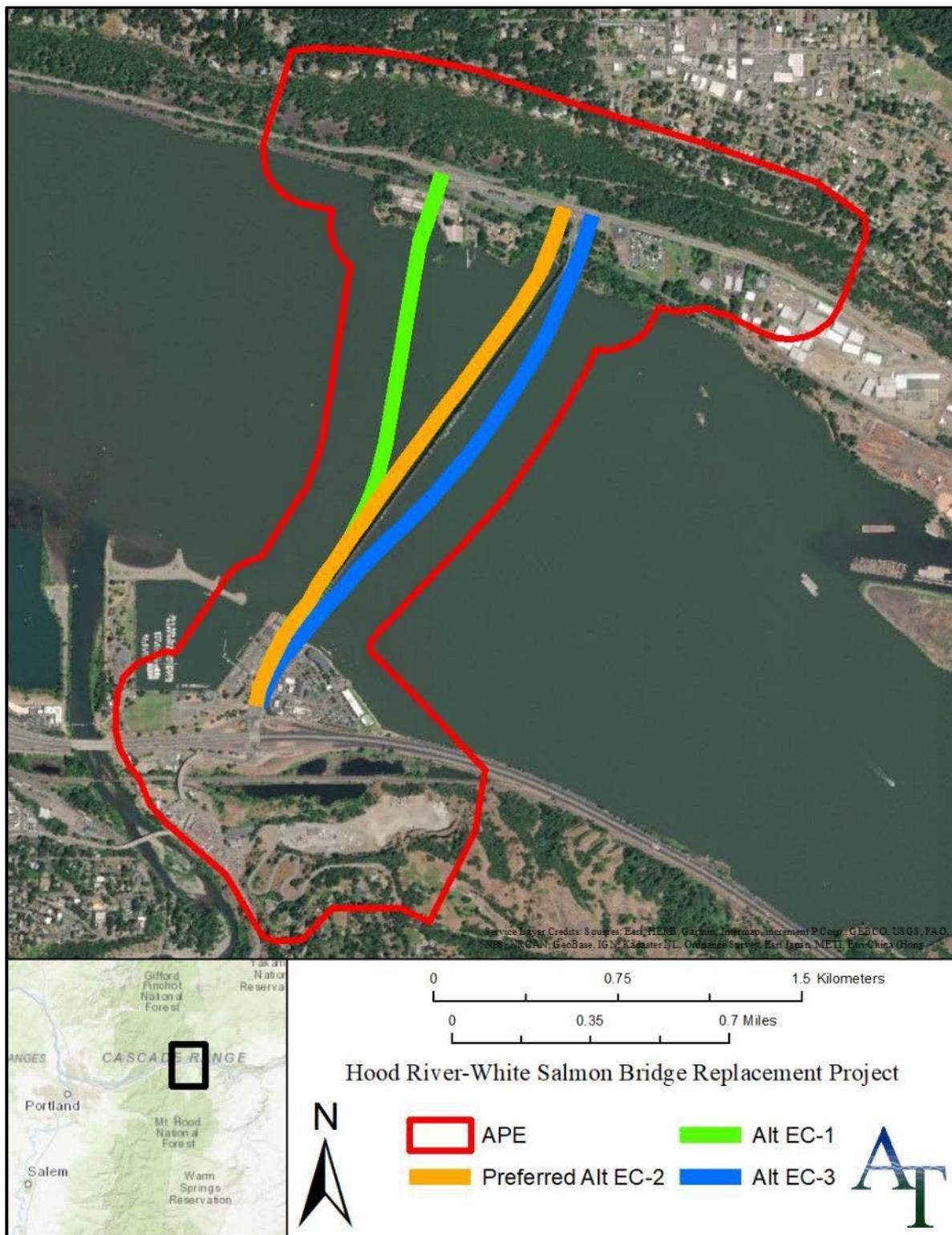


Figure 3-2. APE and proposed alignment of the three action alternatives

3.2. Consultation and Public Involvement

The Federal Highway Administration (FHWA), in coordination with ODOT, Washington State Department of Transportation (WSDOT), and the Port of Hood River, are consulting with the Oregon and Washington State Historic Preservation Offices (SHPOs). That consultation is ongoing. Meetings with Section 106 compliance teams at each SHPO are anticipated to review and provide comments on the APE, Project historic resource identification efforts, and assessment of potential Project effects. The NEPA analysis is still being conducted. The Supplemental Draft EIS will be available for public review and comment for 45 days. FHWA/ODOT is coordinating its procedures for public review of the NEPA documents with the Section 106 requirements for public involvement consistent with 36 CFR 800.2(d).

ODOT has notified several consulting parties, including the Oregon SHPO, Historic Columbia River Highway Advisory Committee, History Museum of Hood River County, City of Hood River Landmarks Review Board, Washington Department of Archaeology and Historic Preservation (DAHP), WSDOT, Klickitat County Historical Society, Gorge Heritage Museum/Western Klickitat County Historical Society, Washington Trust for Historic Preservation, Robert K. Krier, Historic Bridge Foundation, Bureau of Indian Affairs, Columbia River Inter-Tribal Fish Commission, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Reservation of Oregon, Confederated Tribes and Bands of the Yakama Nation, Nez Pierce Tribe, Confederated Tribes of the Grand Ronde Community of Oregon, Confederated Tribes of Siletz Indians, and Cowlitz Indian Tribe.

3.3. Regulations, Standards, and Guidelines

Historic resources are protected by a variety of federal and state laws, rules, and regulations. The Project is subject to Section 106 of the National Historic Preservation Act (NHPA), as amended (80 Stat. 915; 54 U.S.C 300101 et seq.), due to the need to obtain permits from multiple federal agencies including the US Coast Guard and USACE. The FHWA may also provide funding for the proposed Project. These federal permitting and funding actions would be considered undertakings by the respective agencies and thus subject to Section 106. The NHPA establishes a national policy of historical preservation and requires that the effects of federal actions on historic properties (i.e., properties eligible for or listed in the NRHP) be determined. If a resource is determined to be a historic property, the implementing regulations of Section 106 (36 CFR Part 800) require that adverse effects of the proposed project to that resource be avoided, minimized, and/or mitigated.

To be eligible for the NRHP, properties must be at least 50 years old (unless they have exceptional importance). Properties must also meet at least one of four NRHP criteria as listed in 36 CFR 60.4 and be significant at the local, state, or national level in American history, architecture, archaeology, engineering, or culture. The NRHP criteria include the following:

- Criterion A: be associated with events that have made a significant contribution to the broad patterns of our history
- Criterion B: be associated with the lives of persons significant in our past
- Criterion C: embody distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction

Criterion D: have yielded, or may be likely to yield, information important in prehistory or history

Criterion D is most often applied to archaeological districts and sites, but can also be applied to buildings, structures, and objects that contain important information. In order for these types of properties to be eligible under Criterion D, they themselves must be, or must have been, the principal source of the important information. In general, the above ground components of the built environment resources in the survey area are unlikely to be eligible under Criterion D as the resource's design, construction, and associative values were readily visible and thus hold little potential to yield additional information.

Consistent with 36 CFR 60.3, properties evaluated under the four National Register criteria fall under five categories: building, structure, object, site, or district.

Finally, historic properties must retain historic integrity to be eligible for the NRHP. The NRHP recognizes seven aspects or qualities that, in various combinations, define integrity: location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity, a property will possess its key aspects of integrity.

The NHPA encourages coordination with the environmental review process required under other federal statutes, including NEPA and Section 4(f) of the United States Department of Transportation Act of 1966, as codified in 23 United States Code [U.S.C.] Section 138 and 49 U.S.C. Part 303 (formerly 49 U.S.C. 1653); and 23 CFR 774, Section 4(f), as amended. Section 4(f) mandates that the FHWA cannot approve the use of land from significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historic sites, unless 1) there is no feasible and prudent alternative to the use of the land and the action includes all possible planning to minimize the harm to the site resulting from use, or 2) measures are implemented to minimize harm by the project such that the project would have a de minimis impact on the resource (23 CFR 774.17). NEPA establishes national policies and goals for the protection of the environment, including cultural resources. Historic resources must also be given consideration under NEPA (42 U.S.C. 4321-4335, as codified in 23 CFR Part 771 and 40 CFR Parts 1500-1508).

This Historic Resources Technical Report has been prepared in accordance with the 2011 Programmatic Agreement Among The Federal Highway Administration, The Advisory Council On Historic Preservation, The Oregon State Historic Preservation Office And The Oregon Department Of Transportation Regarding Implementing Section 106 Of The National Historic Preservation Act For The Federal-Aid Highway Program In Oregon (PA). The PA delegates program delivery to ODOT on behalf of the FHWA and sets forth the process by which FHWA, with the assistance of ODOT, will meet its responsibilities under Section 106 of the NHPA and implement the regulations set forth in 36 CFR Part 800. The PA applies to all Federal-Aid Highway Program undertakings administered by the FHWA Division in the state of Oregon.

In addition to federal laws, regulations, and guidelines, the States of Oregon and Washington have enacted legislation pertaining to historic resources.

Under Oregon Revised Statutes 358.653, state agencies or other political subdivisions that are responsible for real property of historic significance are required to consult with the SHPO to institute a

program to conserve the property and assure that such property is not inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate.

Local communities are also required to comply with Oregon Administrative Rule 660-023-0200, which implements Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces) of Oregon's Statewide Planning Goals and Guidelines. The City of Hood River's Comprehensive Plan, last updated on November 6, 2015, addresses Goal 5 resources within the boundaries of the City (City of Hood River 2015:9-14).

Under Washington Governor's Executive Order (GEO) 05-05, enacted in November 2005, all state agencies implementing or assisting capital projects using funds appropriated in the State's biennial Capital Budget are required to consider how future proposed projects may impact significant cultural and historic places. To do so, agencies are required to notify the DAHP, the Governor's Office of Indian Affairs, and concerned tribes and afford them an opportunity to review and provide comments about potential Project impacts. The goal behind the GEO is for the State to be proactive in protecting historical resources for future generations and to use taxpayer money wisely by avoiding unnecessary damage and loss of significant sites, structures, and buildings.

At the local level, the Klickitat County Code of Ordinances provides that "it is the continuing policy of Klickitat County to . . . preserve important historic, cultural, and natural aspects of our county heritage" (Klickitat County 2019). The City of White Salmon's Comprehensive Plan, Chapter III, enumerates four historic preservation policies to advance the City's goal of continuing to "identify, document and support preservation of historic assets in the community" (City of White Salmon 2012:13-14).

3.4. Research and Field Methods

The inventory and evaluation for this Project included research to develop a general historic context for the Project location as well as resource-specific research for the properties within the APE to confirm dates of construction, review land-use histories, establish each property's physical history, and place each property into the relevant historical contexts.

AECOM examined standard sources of information that identify known and potential historic resources to determine whether any buildings, structures, objects, districts, or sites had been previously recorded or evaluated in or near the APE. Sources included the Oregon Historic Sites Database, Washington Department of Archaeology and Historic Preservation database, NRHP, Oregon Historic Bridge Inventory, and Washington State Bridge Inventory System.

Architectural historians who meet the Secretary of the Interior's Professional Qualification Standards (Appendix A of 36 CFR Part 61) conducted intensive-level pedestrian field survey of select properties within the APE on April 4, 2020. The survey was conducted from the public right-of-way, unless access had been granted by property owners. The 13 resources that appeared to be potentially eligible for the NRHP were recorded and evaluated on individual Oregon Historic Site forms or in the DAHP database. The Hood River Loops (a part of the Columbia River Highway National Historic Landmark [NHL] District) were not evaluated, as they are already a component of an NHL District and a contributing resource within a NRHP-listed historic district.

The built environment study subjects primarily date from the early 1910s to the mid-1970s. The historical themes of this report focus on construction of the early settlement and development of the

White Salmon and Hood River communities, transportation (road, ferry, and bridge) developments, early twentieth-century residential subdivision, and recreation within the Historic Columbia River National Scenic Area.

To better understand the historic context and specific histories of built environment resources in the APE, AECOM conducted research in online repositories and databases for historical information, maps, and other relevant sources. AECOM also interviewed local historians and property owners via telephone and email for historic context and property-specific information.

Table 3-1 provides a list of the online sources. COVID-19-related closures prevented on-site repository research.

Table 3-1. Research Sources

Research Sources
Archives West primary source database
Genealogical databases (e.g., ancestry.com, genealogybank.com)
Google Books (digitalized books, magazines, journals, newsletters)
Google Earth Pro
Google Maps: Aerial Images and Street views
Gorge Heritage Museum
Historic Aerial Photography websites
Historic Map websites (e.g., historicmapworks.com)
Historic Newspapers databases (e.g., newspapers.com)
Historylink.org
History Museum of Hood River County
Hood River County Assessor
Hood River County Webmap
Klickitat County Assessor
Klickitat County Webmap
National Bridge Inventory Database
National Register Bulletins
National Register Nominations
Oregon Historic Sites Database
Oregon’s Historic Bridge Field Guide
Real Estate websites
Sanborn Map Company
Technical and Environmental reports obtained online
US Census Bureau Records
US Geological Survey maps
US General Land Office
Washington Department of Archaeology and Historic Preservation
Washington Historical Quarterly

Several circumstances affected the identification of persons associated with the White Salmon community's early twentieth-century properties. A comprehensive city directory from the historic period was not identified during research, although the 1913 Ogle and Company atlas of Klickitat County was an exception. In addition, US Census Bureau records, available for White Salmon from 1900 through 1940, generally omit the residents' street names and virtually never provide street numbers, although the records did provide other vital identifying information such as name, age, place of birth, and occupation. When White Salmon residents registered for the World War I and World War II drafts, they generally provided their city, county, and state, but not street name or number. During survey, the historical societies and organizations were closed due to the COVID-19 pandemic and unavailable for research or inquiries.

3.5. Previous Investigations

Previous recordation and documentation for the Hood River Bridge and the Historic Columbia River Highway were reviewed by architectural historians who meet the Secretary of the Interior's Professional Qualification Standards (Appendix A of 36 CFR Part 61). The previous eligibility conclusions for the Hood River Bridge received concurrence from the Washington DAHP. The bridge documentation was revised and updated by AECOM for this Project.

In addition to reviewing and updating the existing information on the Hood River Bridge, a review of Oregon and Washington architectural survey data and tax assessor data for properties within the APE was performed to identify historic resources that were either previously identified or that were older than 45 years old. This review identified one property that was listed in the NRHP and also included within a National Historic Landmark District. The Columbia River Highway NHL District includes a segment called "The Hood River Loops" within the project APE on the Oregon side of the Columbia River. The APE also includes the Hood River Bridge that was previously assessed as eligible for the NRHP (See Section 3.5.1 below). Thirty-eight residential properties, a railroad, and a residential district built between 1915 and 1974 were identified in Washington. Thirteen residential properties, six commercial properties, two hotel/restaurant properties, a railroad, and a residential district built between 1900s to 1967 were identified in Oregon. These properties are discussed in more detail in Section 5 and Appendices A and B.

3.5.1. Previous Hood River Bridge Evaluations

The Hood River Bridge was initially inventoried by Washington State in 1980 as part of a statewide Historic Bridge Survey. During this survey, the bridge was minimally recorded and was noted as not eligible for the NRHP.

As part of the previous cultural resource investigations related to past bridge proposals, a set of assessments of the Hood River Bridge was conducted to reassess its eligibility for the NRHP (Chapman and Fagan 2003; Ozbun and Fagan 2002:2; and Chapman and Fagan 2004). These assessments resulted in a recommendation that the bridge is eligible for listing on the NRHP under Criteria A, B, and C. Furthermore, these assessments recommend that the removal of the existing bridge would have an adverse effect on the historic structure (Chapman and Fagan 2004).

Both the Oregon SHPO and the Washington DAHP (then the Office of Archaeology and Historic Preservation) agreed that should the bridge be determined eligible and its removal considered an adverse effect (pers. communication Curran 2003; Houser 2003, 2004), both agencies would likely

recommend photographic and structural documentation following the Historic American Engineering Record specifications (Chapman and O'Brien 2004).

On October 8, 2004, the DAHP concurred with the NRHP recommendation for bridge eligibility under NRHP Criteria A, B, and C for its role in interstate transportation history, its association with builder C.N. McDonald, and its representation as a good and intact example of a Pennsylvania-Petit bridge design (Griffith 2004). However, the bridge had not been assessed utilizing the seven aspects of integrity, and this assessment would need to be completed by an architectural historian. Since 2004, no further cultural studies of the bridge have been conducted.

No architectural field survey, other than an analysis of the bridge, was completed during any previous assessments prepared for the Hood River Bridge projects. It should be noted that the Historic Columbia River Highway was listed in the NRHP on December 12, 1983 and much of it, including the portion known as the Hood River Loops, was designated as an NHL District on May 16, 2000.

4. HISTORIC CONTEXT

4.1. Ethnographic Period and Exploration

4.1.1. Ethnographic Period

Native American tribes settled in dense groupings along the Columbia River for thousands of years before the arrival of the first Euro-Americans in the early nineteenth century. These populations progressively decreased in the following decades due to epidemics and the taking of land by Euro-American emigrants. When Euro-Americans first arrived in what is now White Salmon, the inhabitants were the White Salmon, an upriver Chinookan group. Upper Chinookan peoples lived along both sides of the Columbia River beginning above the Sandy River and extending east to the Deschutes River. Parts of the area were also reportedly occupied by the Sahaptin-speaking Klickitat, who resided primarily in the Cascade Mountains and just east of the Cascades in present-day southern Washington (Adams and Ozbun 2018:4). In winter, when the villages were most heavily populated, several White Salmon villages were shared with Klickitat people (Jenks and Knoll 2019:8).

The Upper Chinookans in the White Salmon area were fishing and trading peoples, and fish formed the basis of their economy. They also depended on plant food, including tubers, bulbs, nuts, and berries gathered in neighboring mountains. The Upper Chinookan people usually went to the Cascade Range in late summer and fall to hunt deer, elk, mountain goats, mountain sheep, and other smaller animals. They also hunted seals and sea lions that were following the salmon and smelt upriver runs in the Columbia River (Adams and Ozbun 2018:4). In the winter months, people crafted toolkits, visited, and shared stories while living on food collected during summer and fall (Jenks and Knoll 2019:8).

During the ethnographic period, villages consisted of 100 to 200 people (Jenks and Knoll 2019:8). Before Euro-Americans arrived in the area, a 1770s smallpox epidemic killed an estimated one-third of the Chinookans in the lower Columbia region (Boyd 1996). As fur trading increased in the late eighteenth and early nineteenth century, exposure to European diseases increased, and Native American populations continued to decline (Adams and Ozbun 2018:4).

4.1.2. Exploration

The White Salmon exploration period began on October 29, 1805, with Lewis and Clark, when the expedition passed the mouth of Canoe Creek (White Salmon River) (Pattee et al. 2016:10, citing Plamondon 2004:42). The expedition did not camp in the White Salmon area; however, Clark observed a large Indian camp with 14 houses on the Columbia River's north shore, below the present town of White Salmon, and a group of Indians fishing in Canoe Creek with several canoes (Pattee et al. 2016:10, citing Moulton 1990) (**Figure 4-1**).



Figure 4-1. 1897 photograph of unidentified man, possibly Wasco or Wishram, sitting on Chinookan canoe near Celilo Falls in a photograph taken by Benjamin Gifford. This photograph was taken about 90 years after Meriwether Clark documented Upper Chinookan people fishing in canoes near present-day White Salmon (Allen 2003).

During the early nineteenth century, after the Lewis and Clark Expedition passed through, missionaries and fur trappers arrived in the region (Pattee et al. 2016).

The growth of the fur trade along the Columbia River and establishment of the Pacific Fur Company's Fort Astoria outpost at the mouth of the Columbia River in 1811. Based in The Dalles, the Hudson's Bay Company fur trappers reportedly strung trap lines for beavers along nearly all tributaries from Mt. Adams (Pattee et al. 2016).

Arriving in the 1830s and 1840s, Catholic and Protestant missionaries were the first Euro-Americans to establish permanent communities in the Pacific Northwest in an effort to convert Native populations to Christianity and Euro-American culture. More Euro-Americans migrated to the Pacific Northwest by the 1840s via the Oregon Trail. Most travelers sought to reach the Willamette Valley, but some chose to settle in the Columbia Gorge on either side of the river, with the intention of obtaining land from the federal government through the Donation Land Claim Act (Jenks and Noll 2019:8-9; Donovan and Associates 1992).

4.2. White Salmon Community Context

4.2.1. Early Settlement

The town of White Salmon began in 1852 as a small settlement on a bluff, just east of the confluence of the White Salmon and Columbia Rivers in what would become the Fruit District of Klickitat County. The area's first Euro-American settlers were Erastus S. Joslyn and his family, who in 1853, claimed land extending from the Columbia River up the bluff to east of the eventual White Salmon townsite. The area's first post office opened in 1868 at "Warner's Landing," on the bluff east of present White Salmon (Pattee et al. 2016:11). Early settlers harvested timber for Columbia River steamboats, raised stock that fed miners in eastern Washington, and farmed wheat (Historical Research Associates, Inc. [HRA] 1995:11).

A.H. Jewett, a horticulturalist from Illinois, is regarded as the founder of the town of White Salmon. Jewett and his wife Jennie Jewett arrived in the White Salmon area in 1874 and were remembered as doing more than any other residents to encourage the area's "home building" and "attractive" development (Thompson 1923:115). The Jewetts claimed land for an orchard on the bluff above the Joslyn claim, which later became the town of White Salmon (Pattee et al. 2016:11) (**Figure 4-2**). The bluff provided a gateway to farms and communities located in the White Salmon River valley. Jewett's farm began hosting tourists while a community grew along the bluff. By 1880, the community had been renamed White Salmon, and the community center had shifted west of the original Warner's Landing (Pattee et al. 2016:11; Interstate Publishing Company 1904).



Figure 4-2. Prominent White Salmon citizens in 1907. A.H. Jewett is third from left (Community Partners 2020).

The arrival of the Northern Pacific Railway to the Columbia River in 1884, along with an intense promotional campaign, stimulated a wave of immigration and farming, although farmers continued

using the river to transport products. By 1903, when the Columbia River and Northern Railway arrived in nearby Goldendale, White Salmon and its port had become an agricultural supply and processing center (HRA 1995:12). The success of the area’s commercial orchards encouraged further settlement. New investors bought land and established orchards in a period known locally as the “Apple Boom” (1910–1920). The boom declined after investors realized that much of the land promoted for orchards was not suitable for dry farming or the necessary irrigation infrastructure (Pattee et al. 2016:11).

4.2.2. The Town of White Salmon is Established

At the beginning of the Apple Boom, Jewett platted the town of White Salmon and established a system for pumping water from a large spring north of town (Pattee et al. 2016:11). The town was incorporated in 1907 and, in 1908, the Spokane, Portland & Seattle Railway (SP&S) extended through the area, stopping at Bingen, on the flatlands below White Salmon. The railroad station at Bingen was named “Bingen–White Salmon” and served both towns (Adams and Ozburn 2018:5). That year, White Salmon also received its first electric lights, fire hydrant, and sidewalks (City of White Salmon 2012:12). **Figure 4-3** depicts White Salmon’s development between 1909 and 1927.



Figure 4-3. White Salmon in 1909, 2 years after incorporation (left) and in 1927 (right) (Community Partners 2020).

Power was generated locally by the White Salmon River dam, built in 1910–1911 (Pattee et al. 2016:11). By then, the town of White Salmon had developed mainly around the intersection of Jewett Avenue (Highway 141) and what was formerly known as Main (Sanborn Map Company 1910) (Figure 4-4). Jewett Avenue east of Main had a dense cluster of businesses and services, including the post office, bank, meat market, bakery, furniture and hardware, barber shop, jewelry shop, and offices. In 1910, the White Salmon population was about 700 (Sanborn Map Company 1910).

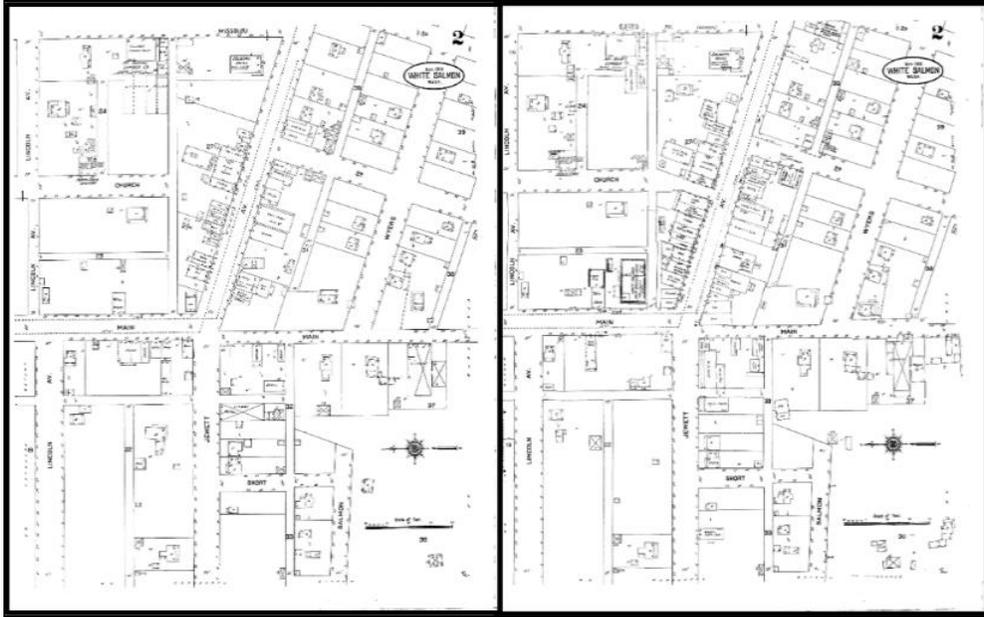


Figure 4-4. White Salmon Town Center: 1910 Sanborn map (left) and 1929 Sanborn map (right) (Sanborn Map Company 1910, 1929).

4.2.3. Transportation Improvements Promote White Salmon's Development

Transportation improvements during the 1920s enhanced White Salmon's connection to the local area and to traffic from across the Columbia River in Oregon. These improvements contributed to a substantial increase in White Salmon's population and further development of residential properties along the bluff. During the early settlement period, Klickitat County served as a transportation corridor for the region's early inhabitants, who settled mostly near the river in the 1860s and 1870s. The Columbia River provided the primary mode of transportation until the arrival of the railroad and construction of reliable roads. In 1907-1908, the SP&S was constructed between Portland and Spokane through Bingen and provided a competitive freight alternative to the Oregon Railroad & Navigation Company line located on the southern shore of the Columbia River. Until the Hood River Bridge was completed in 1924, a ferry service transported residents across the river between the two towns. From the ferry landing, wagons used a dock road to transport cargo and passengers to a flight of stairs that led up the embankment to the town of White Salmon (Ozbun et al. 2005:4) (**Figure 4-5**).



Figure 4-5. White Salmon Steamboat Dock and Landing (Gorge Heritage Museum 2020).

The Dock Grade Road was originally built in 1892 and enabled users to bypass Bingen on their way to White Salmon (*Mt. Adams Sun* 1962 June 21) (Figure 4-6). In 1923, the Dock Road was cleared and regraded by local citizens to enhance access into town from the riverside ferry dock (*Enterprise* 1923 March 9). The narrow road is approximately three-quarters of a mile long with steep grades (City of White Salmon 2012:24).



Figure 4-6. Construction of Dock Grade Road, connecting the dock to the town of White Salmon (Gorge Heritage Museum 2020).

Between 1907 and 1916, the North Bank Highway (Evergreen Highway/SR 14) originally served as a farm-to-market road connecting Vancouver with the agricultural lands near Pasco. A 1913 map of White Salmon within the Fruit Valley Precinct reflects its status as a crossroads of agricultural activity during that period (Figure 4-7). The North Bank Highway was upgraded in 1926 as a scenic road for all-season travel and re-designated as Primary State Highway (PSH) 8/Evergreen Highway in 1937 (Washington State Legislature 1937:937-938). US 830 replaced PSH 8 during the 1964 state highway renumbering

(Prah 1965:7). US 830 was subsequently decommissioned and re-designated as SR 14 in 1968, continuing to serve the area's commercial, agricultural, and recreational development (Ozbun et al. 2005:4; Washington State Legislature 1970).

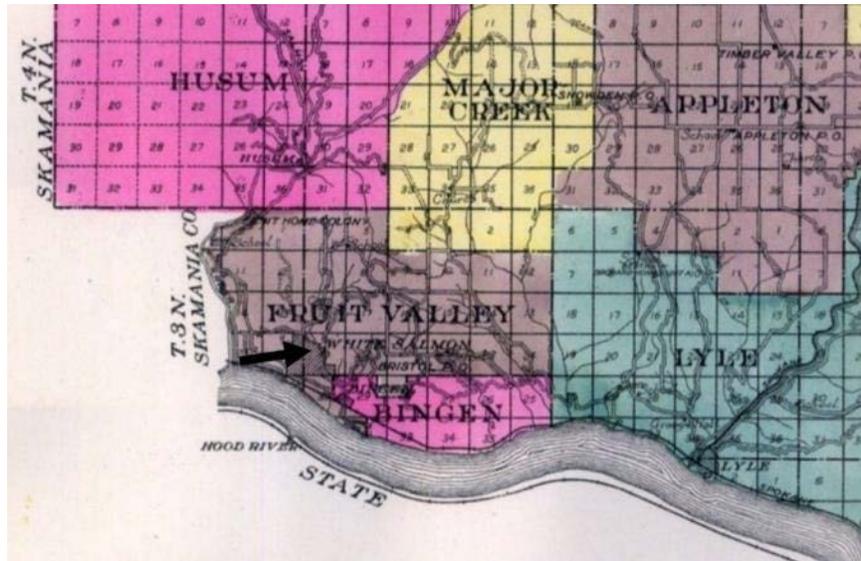


Figure 4-7. Klickitat County map section, with arrow showing White Salmon in the Fruit Valley precinct (Ogle and Co. 1913).

One of the most significant transportation improvements for the White Salmon community was construction of the Hood River Bridge, which opened in 1924 (Figure 4-8). Before the bridge was built, the only direct route between White Salmon and Hood River, Oregon, was a river ferry. Completion of the bridge was a boon to development in White Salmon and regional tourism. News of the proposed bridge inspired predictions that land values in White Salmon would double (*Enterprise* 1923 May 25). The bridge, nearly a half mile in length, is the second oldest automobile crossing of the Columbia River between Oregon and Washington after the Interstate Bridge (1917), between Portland, Oregon, and Vancouver, Washington (Burrow et al. 2013:94).



Figure 4-8. Hood River Bridge in 1927, 3 years after completion (Community Partners 2020).

The most publicized benefit of the new bridge was “development of the scenic attraction of the mid-Columbia Cascades” in conjunction with the 1922 completion of the Columbia River Highway (*Oregonian* 1924 July 27). The bridge also helped spur significant growth in White Salmon, where the population grew from 619 to 798 between 1920 and 1930. However, the bridge did not have the same impact on Hood River, where the population decreased by 1.46 percent during the same time period (US Census Bureau, Census of Population and Housing 1920–1930).

The construction of Bonneville Dam, which began operating in 1938 along the Columbia River downstream of Hood River, led to a substantial Hood River Bridge modification project between 1938 and 1940 to install a new lift span that provided vessels with a 135-foot clearance above the flood-stage water level, as well as new deck and approach spans (*Oregonian* 1938 January 10).

4.2.4. Modern Industry and Tourism

As technology evolved, farm machinery replaced horses and large harvest crews (HRA 1995:12). However, the area’s timber, recreation, and tourism industries remained strong throughout the twentieth century. SDS Lumber in nearby Bingen remains a major county employer (Becker 2006). White Salmon is now a popular destination for kiteboarders, whitewater rafters, and mountain bikers. Other popular tourist attractions are the Columbia River Gorge, White Salmon River, Gifford Pinchot National Forest, and the Mt. Adams Wilderness, as well as White Salmon’s restaurants, breweries, and art studios (White Salmon Washington 2020). White Salmon’s current population is about 2,500, an increase of 20 percent since 2010 (Best Places 2020). The variety of housing types in White Salmon include single-family residences, multi-family residences, manufactured homes, and senior citizen housing. In 2000, the population was almost 2,200 (City of White Salmon 2012:34).

4.2.5. Historic Residential Development Along the Bluff

During the early twentieth century, White Salmon’s primary industries remained lumber and agriculture, and residents lived within the town center and on surrounding farm and orchard lands. Examples of the community’s early architecture includes the Classical Revival-style public school, the Queen Anne Victorian-style Washington Hotel, and a number of Folk Victorian-style residences (Community Partners 2020). After the Jewetts platted the original town in 1907, most new subdivisions were established to the north, on buildable land away from the bluff. However, the most desirable location for expansive landscape and river views was the land skirting the bluff. Residential development of land along the bluff’s edge began between 1908 and 1913, when three subdivisions were platted. Jewett’s First Addition was platted along Oak Avenue at the south side of town center in 1908. In 1910, Egan’s Addition was platted at the southeast corner of Jewett’s First Addition. Lauterrbaugh’s [sic] Second Addition was platted along Jewett Avenue, on the west side of town, c.1910 (Klickitat County 2020; Ogle and Co. 1913) (Figure 4-9).

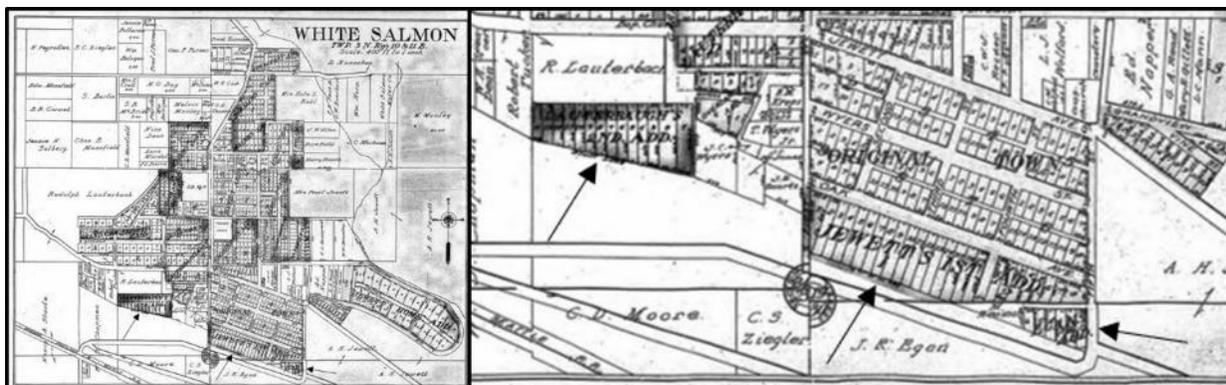


Figure 4-9. White Salmon development by 1913 (Ogle and Co. 1913). The map section enlargement at rights depicts Jewett’s First Addition (center arrow), Lauterbauch’s Second Addition (left arrow), and Egan’s Addition (right arrow). The “Original Town” plat is on the north side of Jewett’s First Addition.

The White Salmon properties evaluated for this Project were built in one of three early twentieth-century residential subdivisions platted along the bluff: Jewett’s First Addition to White Salmon, Lauterbauch’s Second Addition to White Salmon, or Egan’s Addition.

Jewett’s First Addition to White Salmon (1908)

Jewett’s First Addition to White Salmon was platted along the bluff in 1908, immediately south of Jewett’s original town plat. This addition was one of White Salmon’s original residential subdivisions platted along the White Salmon bluff, followed by Egan’s Addition in 1910, and Lauterbauch’s Second Addition c.1910.

The Jewetts filed the plat for First Addition on October 17, 1908. The plat extended along Oak Avenue across from the Jewetts’ original town plat and consisted of two blocks with 17 lots in Block 1 and 8 lots in Block two. Most of the 25 lots were narrow and measured about 50 feet by 250 feet. The addition was bounded by 1st Street to the west, Oak Avenue to the north, 5th Street to the east, and the bluff to the south. At the time the Jewetts platted the First Addition, they owned most of the property directly to the east, platted as “Jewett’s Home Addition.”

Lauterbauch’s Second Addition to White Salmon (c.1910)

The bluff property at 345 W Jewett Boulevard is located in Lauterbauch’s Second Addition to White Salmon, platted c.1910 between White Salmon’s town center to the east and the White Salmon River to the west. Lauterbauch’s Second Addition was one of White Salmon’s original residential subdivisions platted along the White Salmon bluff, preceded by Jewett’s First Addition in 1908 and completed around the same time as Egan’s Addition in 1910.

The Lauterbauch family (later changed to Lauterbach) arrived in the White Salmon area in 1892 and were important in the town’s early development. Rudolph Lauterbach was born in Germany in 1853 and immigrated to the United States in 1880, settling in Texas and marrying Wilhelmina Hillje. In 1893, the family moved to White Salmon. Rudolph served as postmaster for the next 10 years. Rudolph also purchased and operated Jacob Hunsaker’s general store, owned and operated a ranch near White Salmon, and worked as a contractor. Rudolph’s brother, J. W. Lauterbach, built the Washington Hotel in 1904 for local tourists. The Lauterbachs had large land holdings within the western part of White

Salmon, as well as rural land outside of town. Throughout the late nineteenth and early twentieth centuries, the Lauterbach family was active in cattle ranching and in the meat industry. Family members owned at least one ranch property near White Salmon as early as 1892 and were proprietors of a meat company during the 1930s through 1950s (Pattee et al. 2016:12-13).

Egan's Addition to White Salmon (1910) and Bluff Residential Development

Egan's Addition to White Salmon was platted along the bluff in 1910 at the southeast corner of the larger Jewett's First Addition to White Salmon. An alley runs between the north side of Egan's Addition and Block 2 of Jewett's First Addition. Egan's Addition was one of White Salmon's original residential subdivisions platted along the White Salmon bluff and was preceded by Jewett's First Addition in 1908 and completed around the same times as Lauterbach's Second Addition c.1910.

Egan's Addition was platted by John P. and Margaret Egan and filed in July 1910. The small subdivision has one block and seven lots that are 50 feet wide, but of varying lengths and angled on the south side to follow the edge of the bluff.

John P. Egan was profiled in an early county history as a "leading fruit grower of White Salmon district" (Interstate Publishing Company 1904:518). His parents immigrated from Ireland to Australia in 1841, and he was born there on January 24, 1843. During Egan's youth, he worked as a miner and stock-driver, then moved to San Francisco in 1874, where he worked as teamster. In 1880, he moved to White Salmon with his wife Margaret Hoben, the daughter of Irish farmers (Interstate Publishing Company 1904:518).

As the town of White Salmon grew, residents in the bluff's new subdivisions and other areas of town built new homes or improved existing ones. The *Enterprise* reported that, in 1922, about \$50,000 had been spent to build new homes and businesses, as well as remodel existing homes, and that such work was continuing. According to the *Enterprise*, the town's "beautiful new homes" had motivated other residents to build or consider building (*Enterprise* 1923 April 6). This phase of development introduced a wider variety of architectural styles to the bluff, including English Cottage and Craftsman.

Beginning around the midcentury, existing parcels were infilled with new construction, and the bluff was enjoying the influence of modern architects such as Richard Wilhelm Sundeleaf (1900–1987). Sundeleaf was a Portland-based architect who trained with A.E. Doyle for 1 year and Sutton & Whitney for 4 years before establishing a solo practice in 1928. He designed at least three White Salmon residences, including a Ranch-type residence on a Waubish Avenue bluff parcel (Archives West 2020a; Shapley 2020). New houses constructed along the bluff from the late 1940s to late 1960s, including Sundeleaf's design on Waubish Avenue, were often ranch-type buildings. During the early to middle 1970s, there were Contemporary-style houses built in all three bluff edge subdivisions that incorporated elements of the Northwest Regional architectural style, including at least one designed by Seattle-based architect Roland Terry, regarded as a master of the Northwest Regional architectural style (Archives West 2020b).

Although the bluff properties contained homes with varying architectural styles, many share certain features that significantly influenced property development and building design: deep lots with houses oriented toward sweeping views, building designs adapted to the sloping bluff lots, and the integration of local materials.

Many of the bluff lots are deep, enabling the properties to extend the entire distance from the street frontage to the bluff edge. In fact, the bluff lots are often at least twice as deep as the original town lots

and the lots in most other subdivisions. To make the most of proximity to the bluff, many bluff properties were developed with homes at the parcel's rear, close to the bluff edge. This provided residents with expansive window views toward the Columbia River, the Gorge, and Mt. Hood, the "crowning glory of the region . . . thirty miles southeast of White Salmon, yet appearing almost at hand, so vividly does it loom up against the sky" (Interstate Publishing Company 1904:145). In most cases, the homes were oriented toward the view as evidenced by large picture windows, porches, and patios at the rear/south-facing elevation. Accessory buildings such as garages and sheds were often located closer to the street.

The building designs for bluff parcels also incorporated the bluff's topography and natural materials. In a 1904 history of Klickitat County, the author described the town of White Salmon as:

Situated upon the high basaltic bluff that leaves the river bottom a few rods from the water's edge and reaches upward almost perpendicularly six hundred feet. From the river, these gently-sloping timbered heights to the southward are indeed picturesque. The village nestles among the oaks near the edge of the bluff (Interstate Publishing Company 1904:145).

House designs along the bluff lots have adapted to the "gently-sloping timbered heights" by incorporating walkout or daylight basements, usually visible from the rear/south-facing elevation. In addition, the buildings and landscaping have incorporated the local basalt that forms the bluff. For instance, basalt boulders have been used in residential building foundations, wall aprons, retaining walls, exterior staircases, planter boxes, and general landscaping. The abundance of basalt formations has also influenced the placement of residences and ancillary buildings within the lots, which have been sited to avoid outcroppings.

Some bluff properties are accessed by private roads or alleys, which has resulted in extremely narrow, unmaintained roadways to certain residences (City of White Salmon 2012:25).

4.3. Hood River Community Context

4.3.1. Euro-American Settlement

Mary and Nathaniel Coe were two of the first Euro-American settlers in the Hood River area. Appointed special postal agent for the Oregon Territory by President Millard Fillmore in 1851, Nathaniel Coe filed a Donation Land Claim for 320 acres in the valley of Dog River in June 1854. The valley was renamed Hood River in 1858 (Donovan and Associates 1992). At that time, 17 families resided in the Hood River Valley, including the William Jenkins and Nathan Benson families, who were New York acquaintances of Nathaniel Coe (Hood River County History n.d.; Coon 1915). The Coes established a farm with a wide variety of crops while the Jenkins and Benson families raised cattle and oxen (Marschner 2013). The Coe homestead also served as a community center, courthouse, church, and funeral parlor (**Figure 4-10**). Development of the Hood River area attracted additional settlers in the following decades with the first pioneers of the Oregon Trail arriving in 1862 (Donovan and Associates 1992).



Figure 4-10. Coe homestead c.1854 (Historic Hood River)

Speculation on the construction of a railroad connecting Hood River with Portland in 1880 spurred the development of Hood River and the platting of the town in 1881 by Henry C. Coe, son of Mary and Nathaniel (Donovan 2006; Marschner 2013). The town consisted of four blocks but expanded in the following decades to encompass the entire Coe homestead and acreage farther west and south (**Figure 4-11**). Train service via the Oregon Railroad Navigation Company reached Hood River on November 20, 1882. The development of reliable transportation routes transformed the community into a trading center and facilitated its growth, including the construction of the Mt. Hood Hotel in 1881 and the first school circa 1883; incorporation of the town in 1885; and formation of the *Glacier* weekly newspaper in 1889 (Donovan and Associates 1992:7; Donovan 2006). Between 1890 and 1900, Hood River’s population increased from 201 to 622. The population began to diversify with farmers of Japanese, Finnish, German, and French ethnicity settling in the valley (Hood River County History n.d.).

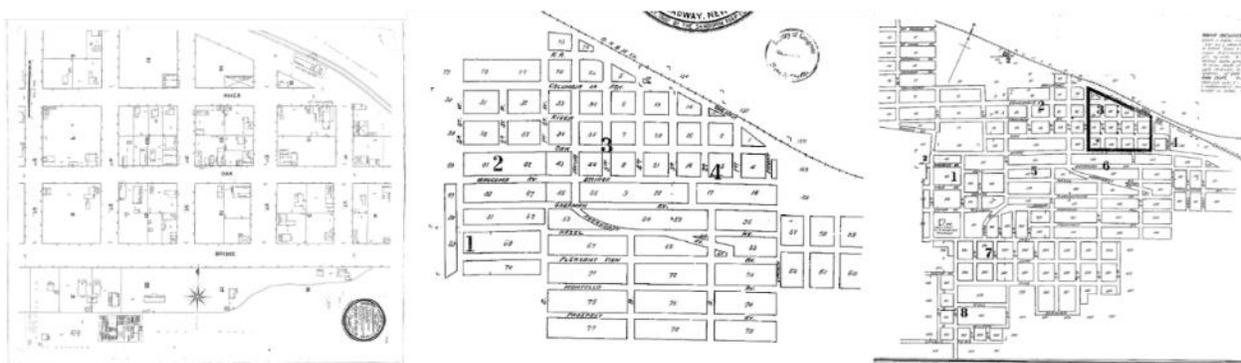


Figure 4-11. Sanborn Map Company maps of Hood River in 1893, 1902 and 1909

At the turn of the century, Hood River maintained strong growth with the formation of the Hood River Electric Light & Power company in 1901 and fire department in 1904, the realignment of the Oregon Railway & Navigation (OR&N) Company Railroad and construction of the Mount Hood Railroad in the

first decade of the 1900s (**Figure 4-12**), the establishment of telephone service in 1907, and a population of 2,500 in 1908 (Donovan and Associates 1992; Donovan 2006). The completion of the Columbia River Highway to Portland in 1916 and to The Dalles in 1922 increased reliable access to and from Hood River but also marked the decline of the city's peak development (Donovan and Associates 1992).

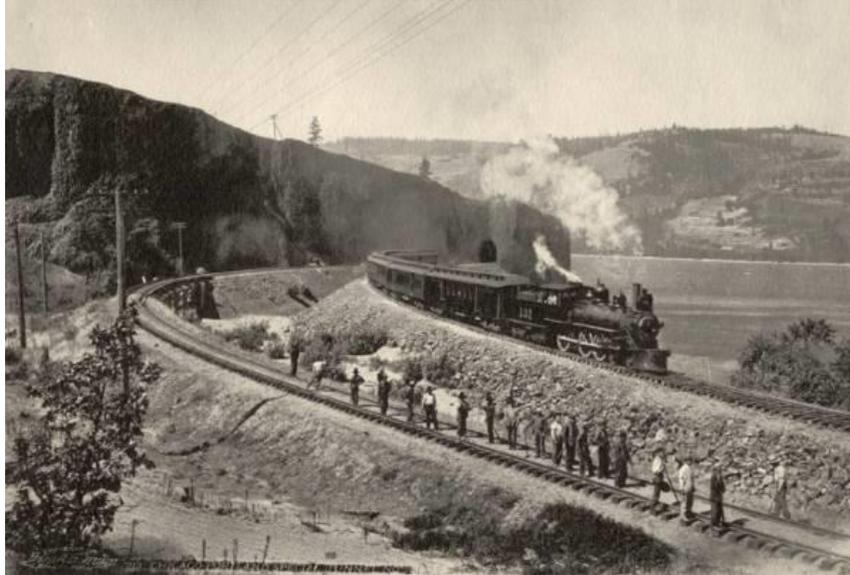


Figure 4-12. OR&N Company Railroad (1901) (Historic Hood River)

Hood River continued to grow steadily throughout the twentieth century, highlighted by advancements in transportation including the construction of the Hood River Bridge and the Mount Hood Loop Highway in 1924, the Bonneville Dam and Locks in 1938, and the first two lanes of a water grade route (now I-84) through the Columbia Gorge by 1953. By 1940, the population reached 3,280 and increased to 3,701 in 1950, 3,657 in 1960, 3,991 in 1970, and approximately 4,520 in 1986 (Donovan and Associates 1992).

4.3.2. Residential Development

Residential development in Hood River originated around the Coe homestead and present downtown area (**Figure 4-13**). The first residences consisted primarily of small wood-frame cottages with a few larger Victorian houses. The town continued to expand with the growth of the agriculture industry at the beginning of the twentieth century (Donovan 2006:1). The 1905 Lewis and Clark Centennial Exposition in Portland focused attention on Hood River's budding fruit industry and contributed to a dramatic increase in land values from 1905 to 1910.



Figure 4-13. Sanborn Map Company maps of Hood River in 1916, 1928 and 1942

The city expanded farther west and south between 1899 and 1911, covering more of the original Coe homestead and parts of land claimed by early settlers William Jenkins, O.L. Stranaham, and James Benson. Buildings during this period were generally larger and reflective of new architectural styles such as Colonial Revival, Craftsman, and Classic Box styles (Donovan 2006:2). Growth slowed significantly during the Great Depression of the 1930s and 1940s, but the post-war era ushered in a new period of development, typified by tract houses and Ranch-style architecture (Donovan 2006:3). Hood River’s expansion to the east of the Hood River covered large swaths of land claimed by early settlers Nathan Benson and Timothy Emerson through the Donation Land Claim Act in 1867 and 1897, respectively. Development waned during the 1970s and 1980s as Hood River experienced a recession.

4.3.3. Hood River’s Role within Hood River County

Following the formation of Hood River County in 1908, Hood River became the county seat (Hood River County History n.d.). Hood River is the largest city in the county, with a population of approximately 7,806 in 2018 (United States Census Bureau 2020). The city’s primary industries include agriculture, recreation, timber, tourism, and hydroelectric development.

4.3.4. Hood River Industries

Agriculture and timber provided the backbone to Hood River’s economy during the nineteenth century. Advancements in transportation aided the growth of these industries and established new ones such as tourism. The economy would evolve during the twentieth century with the introduction and/or development of the hydroelectric, recreation, and tourist industries (Hood River County History n.d.).

4.3.5. Agriculture and Timber Industries

Many of the earliest Euro-American settlers arrived from mid-western states to develop farmsteads (**Figure 4-14**). Fruit crops such as apples and peaches were planted throughout the Hood River Valley in the 19th century. The high yields of these crops led to larger operations to serve more distant markets made accessible by the arrival of railroads in the late nineteenth and early twentieth century. The popularity of the produce throughout the Pacific Northwest provided stability for the industry in the proceeding decades (Donovan and Associates 1992).



Figure 4-14. Barn circa 1910. Photo taken as part of a promotion of Hood River agriculture to prospective orchardists from around the country (Historic Hood River)



Figure 4-15. Davenport Brother Lumber Company c. 1905 (Historic Hood River)

The abundance of timber surrounding Hood River and easy access to the Columbia River established Hood River as an ideal location for the timber industry in the nineteenth century. By 1899, Hood River was reported as having the largest lumber mill in the state, producing more than 100,000 feet of lumber per day (Donovan and Associates 1992). By the early twentieth century, the Davenport Brothers Lumber Company holdings stretched from the Mount Hood Forest Reserve to the Columbia River (**Figure 4-15**). According to the Hood River Glacier, the Parkertown mill was “cutting an average about 50,000 feet per day” (History Museum of Hood River County 2013). The arrival of railroads provided more reliable transportation and the ability for the agriculture and timber industries to reach new markets and expand their operations (Donovan and Associates 1992; Jenks and Noll 2019:8-9).

4.3.6. Tourism

Completion of the Columbia River Highway, the nation’s first scenic highway, established greater access to and from Hood River and ushered in the community’s tourist industry (Donovan 2006:2). Coinciding with the rise of automobile culture in the 1910s, the opening of the highway allowed for Portland residents to visit Hood River and stops along the highway by their own means and schedule. Despite the development of a water-grade route, tourists continued to flock to the highway for its scenic views of the Columbia Gorge and access to recreation areas in the following decades (Donovan and Associates 1992).

Amidst an economic recession, the water sports industry brought an infusion of revenue to the hotel and tourist industries of Hood River in the 1980s (Donovan 2006:3). The water sports industry, particularly windsurfing, grew rapidly in the early 1980s with four windsurfing shops opening in Hood River and 200 competitors participating in the second annual Gorge Pro-Am in 1985 (**Figure 4-16**). The rise of the sport’s popularity and the ideal conditions of the Columbia Gorge established Hood River as a top tourist destination for wind surfing and sail boarding (Stuart 2011; Donovan and Associates 1992).



Figure 4-16. Windsurfing on Columbia River (1994) (Historic Hood River)

The arrival of the wind surfing coincided with the development of commercial wineries in the Columbia Gorge. Although grape growing in the Columbia Gorge dates back to the 1880s with the Jewitt family of White Salmon, the first commercial vineyards in the Hood River Valley were not established until the early 1980s (Oregon Wine 2020; Oregon Wine History 2019a, 2019b). The propagation of wineries expanded Hood River’s tourist industry in the following decades, bringing a new source of income to local hotels and businesses. In 2017, Hood River was identified as one of the ten best wine destination in the world by Wine Enthusiast (Gregutt 2017).

4.4. The Columbia River Highway National Historic Landmark District

Constructed between 1913 and 1922, the Columbia River Highway NHL District is located in the state of Oregon, along the south side of the Columbia River between the cities of Troutdale and The Dalles. The Columbia River Highway travels along and around the basalt cliffs of the Columbia River Gorge and provides views of alcoves featuring waterfalls and streams, fruit orchards, and the Columbia River. The Columbia River Highway is constructed of packed earth, gravel, Warrenite bitulithic asphalt, and reinforced concrete. The district features multiple bridges, masonry guard walls, and wood guard fences. The Columbia River Highway NRHP historic district consists of 55 miles of the original 73.8-mile route. The highway’s NHL district comprises 51 miles of the original route. The Hood River Loops are positioned along the cliffs of the Columbia River Gorge near the east end of Hood River (**Figure 4-17**). This feature of the Columbia River Highway consists of a series of curves spanning more than 300 feet with sections of wood guard fencing. Consistent with other loop features on the Columbia River Highway, the Hood River Loops’ grade is 5 percent or less and includes a minimum 100-foot turning radii. Other notable loops on the Columbia River Highway include the Figure-Eight Loops east of Crown Point, in Multnomah County, and the Rowena Loops east of Mosier, in Wasco County.

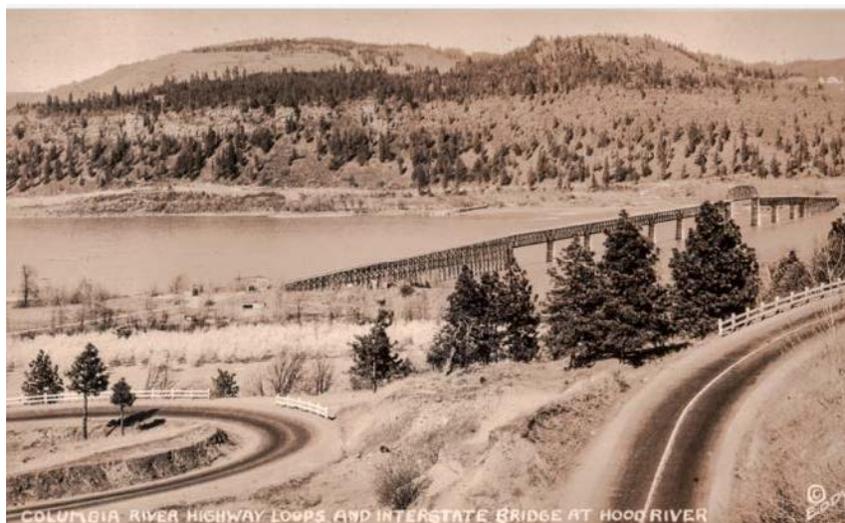


Figure 4-17. 1920s Eddy postcard view of the Hood River Bridge taken from the Columbia River Highway’s “Hood River Loops” looking north towards Washington State. Courtesy of Historic Hood River.

Sections of the Columbia River Highway between Warrendale and Hood River were demolished in the 1950s, 1960s, and 1970s for the construction of the water-level route that became I-84. However, the highway’s alignment in Multnomah, Hood River, and Wasco Counties generally follows the design

standards that Samuel C. Lancaster developed for the highway segments in Multnomah County. Roy A. Klein, the Oregon State Highway Department’s locating engineer, developed the Hood River Loops using Lancaster’s design standards for grade and curvature (**Figure 4-18**). The remaining pieces of highway in the NHL district, including the Hood River Loops, retain their character-defining features, including masonry walls, wood fences, bridges, viaducts, tunnels, and loops. They also possess a high degree of overall integrity.

The Columbia River Highway NHL District is narrow and linear shaped and extends from the Sandy River to The Dalles. The NHL district is divided into three discontinuous segments. Segment 1 includes the road and contributing features from the Sandy River to Warrendale (Historic Mile Post [HMP] 14.2 to 38.5). Segment 2 includes the road and contributing features from Tanner Creek to Cascade Locks (HMP 41.7 to 45.8). Segment 3 includes the road and contributing features from Hood River to The Dalles (HMP 65.8 to 88.4). The Hood River Loops are in Segment 3, at HMP 67.07 to 67.6.



Figure 4-18. The Columbia River Highway’s Hood River Loops, viewing east towards the Hood River Bridge.

4.5. The Hood River–White Salmon Interstate Bridge

The Hood River Bridge was a major transportation development for the Hood River and White Salmon communities, and the region in general (**Figure 4-19**). Constructed in 1923-24 by the Oregon–Washington Bridge Company (OWBC) as a private toll bridge, the Hood River Bridge is the second oldest automobile crossing of the Columbia River between Oregon and Washington after the Interstate Bridge (1917), between Portland, Oregon, and Vancouver, Washington (Burrow et al. 2013:94). Before the Hood River Bridge opened in 1924, the Hood River community had long sought a way to cross the river by vehicle. The OWBC partially funded bridge construction by convincing local residents to contribute money to the project. Members of Portland’s business community, anticipating increased commerce through improved transportation, also contributed \$100,000 to the project (Dohnal 2003:126). After

securing the necessary funds, the OWBC hired Gray & Chandler of Seattle to prepare the design. The firm's principals were Henry L. Gray and Elbert M. Chandler, who happened to be president of the OWBC. Charles B. Wing, professor of civil engineering at Stanford University, was the consulting engineer who reviewed the plans. The OWBC hired the Portland-based Gilpin Construction Company (Gilpin) as the contractor (Potts 1923).

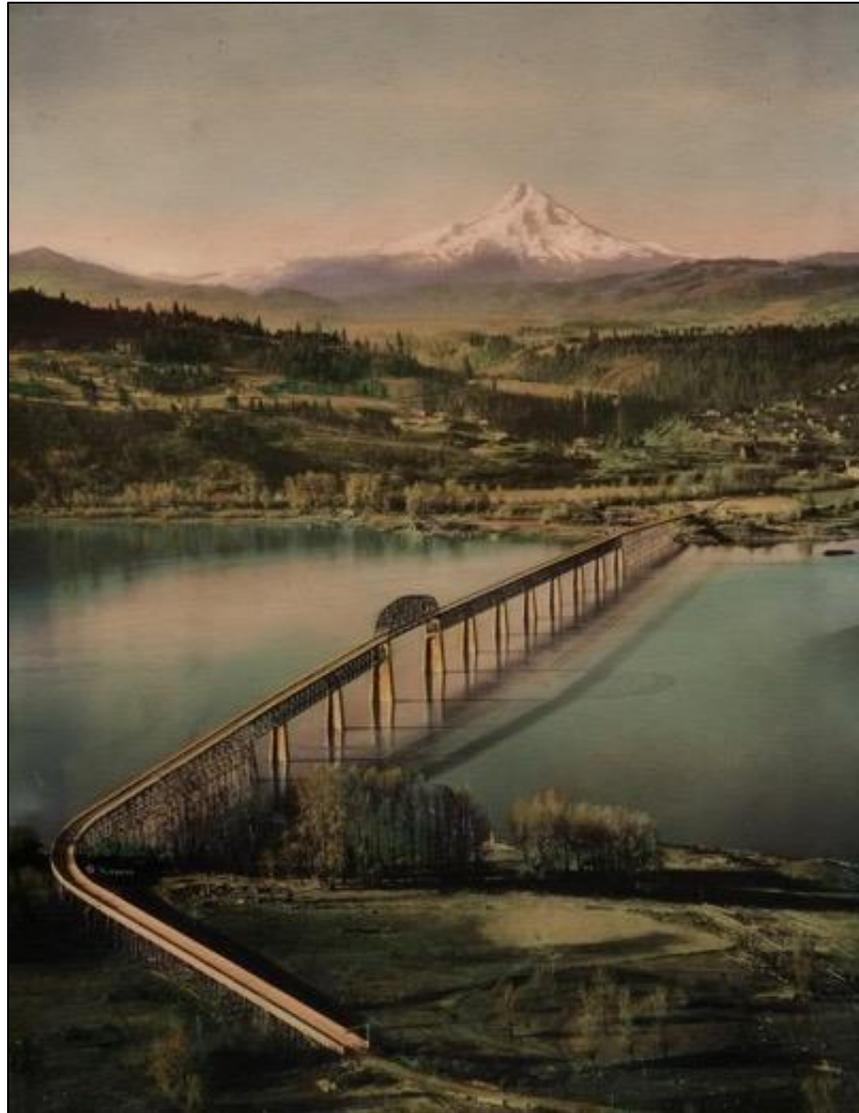


Figure 4-19. Hood River Bridge (cover of *Engineering News Record*, April 20, 1925).

4.5.1. Construction of the Bridge

Noted bridge builder and Gilpin vice-president Charles N. McDonald supervised construction of the Hood River Bridge. McDonald had worked on numerous bridge projects in the Pacific Northwest since 1887, such as the John Day Bridge (1888) for the OR&N Company and steel bridges for the Astoria & Columbia River Railway and Northern Pacific Railway. His company constructed the Young's Bay Bridge near Astoria (Potts 1923). McDonald was also the supervisor for construction of the Hawthorne (1910)

and Steel (1912) Bridges in Portland and built other bridges in Spokane, Salem, and Albany. (The Hood River Bridge's 1938 retrofit included a vertical-lift tower design based on the Hawthorne and Steel Bridge designs). McDonald hired veteran crew members from his earlier bridge projects to work on the Hood River Bridge (*Oregonian* 1924 May 11).

The materials used for Hood River Bridge construction originated from both distant and local sources. The steel was fabricated at the American Bridge Company plant in Ambridge, Pennsylvania, and then shipped from Baltimore to Portland on the steamer *Centanius* via the Panama Canal. Upon arrival in Portland, the steel was transferred into 30 rail cars and transported via the Oregon–Washington Railroad & Navigation Company line to a staging area at a deep-water Columbia River landing. To produce concrete for the piers, the cement mixing plant used gravel and sand extracted from the Columbia River bottom (*Oregonian* 1924 May 11).

Bridge construction began in August 1923 and was an impressive exhibition of the era's most advanced bridge-building technology (Dohnal 2003:127). The *Oregonian* reported that "The assembled piledrivers, floating concrete machinery and other massive equipment [is] the heaviest that has ever been utilized on a river job east of Portland" (*Oregonian* 1924 March 2). The bridge builders used 30,000 feet of piling, 1.8 million pounds of fabricated steel, 5,000 yards of reinforced concrete, and 1 million board feet of lumber (Dohnal 2003:127).

Upon completion, the main bridge structure measured 2,134 feet (nearly half a mile) of steel construction. With over 1,500 feet of timber approaches, the total length neared 3,700 feet. *Oregonian* reporter Ernest C. Potts described the bridge design as:

[O]ne channel span of 262.5 feet, set 44.5 feet above extreme high waters. No crafts of any present design using the river at this point will have difficulty in passing beneath the span and there will be no draw or lift . . . On the Oregon, or west side, there will be seven [spans] and on the Washington side two approach spans linking the channel span with shore approaches. Each such span will be 208 feet long . . . Roadway of the bridge will be 20 feet wide with no sidewalks (Potts 1923).

The bridge was supported by 11 reinforced-concrete piers (Potts 1923). Those piers supporting the shorter spans were 40 feet wide at the bottom and tapered to 30 feet wide at the top. The heavier piers under the channel span were constructed as 50 feet wide at the bottom and 29 feet wide at the top (*Oregonian* 1924 May 11). Upon completion, the total construction cost was \$500,000 (*Morning Oregonian* 1924 August 21).

On December 6, 1924, the bridge was dedicated during a celebration hosted by the Hood River Chamber of Commerce with the participation of chapters from Spokane, Seattle, Portland, Yakima and other smaller cities in the region (*Sunday Oregonian* 1924 August 24). Local banker Leslie Butler drove the final spike (*Statesman Journal* 1924 December 7). That day, between 10:00 A.M. and 4:00 P.M., both automobiles and pedestrians were permitted to traverse the bridge (**Figure 4-20**). About 1,500 residents from both Oregon and Washington walked the length of the bridge, while more than 1,200 automobiles made the round trip (Dohnal 2003:126; *Statesman Journal* 1924 December 7). After opening day, the OWBC began operating the bridge for automobiles and collecting tolls.



Figure 4-20. Leslie Butler drives in last spike, 1924 (historichoodriver.com).

During construction, the bridge was sometimes referred to as the Waukoma (or Waucoma) Interstate Bridge. Since completion, the bridge has been known alternatively as the Hood River–White Salmon Interstate Bridge, Hood River Bridge, and White Salmon Bridge. **Figure 4-21** depicts the newly completed bridge.

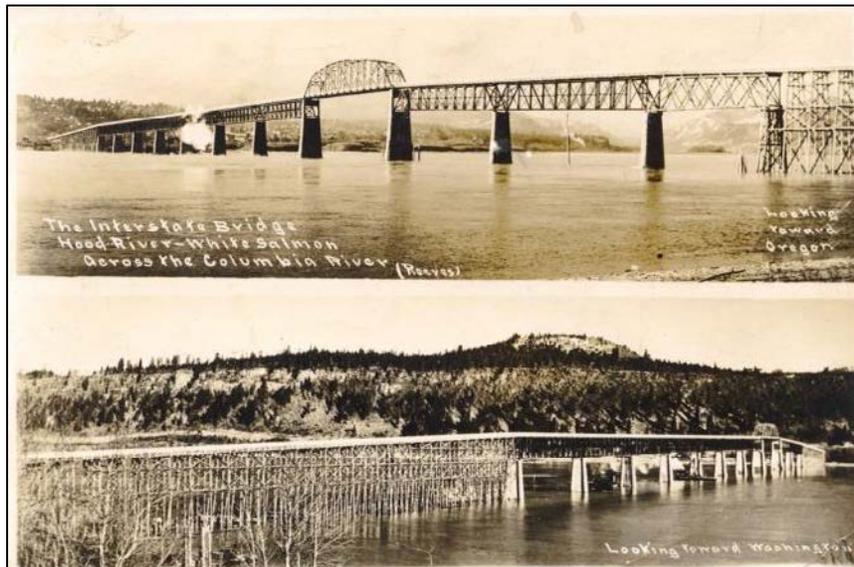


Figure 4-21. Reeves postcard of Hood River Bridge, 1925.

4.5.2. The Bridge's Impact on Regional Transportation

The Hood River Bridge substantially impacted regional transportation by establishing the second Columbia River automobile crossing between Oregon and Washington. The region's first automobile crossing of the Columbia was the Interstate Bridge, built in 1917 between Portland and Vancouver, over 60 miles west of Hood River. Before completion of the Hood River Bridge, the only way to cross the Columbia River near Hood River was the Hood River–White Salmon ferry (Potts 1923).

News of the upcoming Hood River Bridge project created excitement for residents on both sides of the river. When construction began, the highly anticipated bridge was featured on the front page of the *Sunday Oregonian's* August 12, 1923, issue. The full-page article entitled “Waukoma Bridge Important Motor Link” included bridge drawings and photographs, and observations about the implications for regional transportation:

It is hardly necessary to point out that the bridge will have an important effect in opening up a large area from which traffic will readily flow to Portland. People of the Yakima district [in Washington] are keenly interested in the project. A new road has just been opened up through Glenwood which puts the Yakima territory much nearer to White Salmon and the Columbia than heretofore. The bridge will be the connecting link which will give the territory a satisfactory outlet to Portland, putting it appreciably nearer to Portland than to Seattle (Potts 1923).

As the Portland business community had anticipated, the combination of the new Hood River Bridge and the Columbia River Highway encouraged shopping in Portland and facilitated mail shipment of purchases (Dohnal 2003:127).

The most publicized benefit of the new bridge was “development of the scenic attraction of the mid-Columbia Cascades” in conjunction with the 1922 completion of the Columbia River Highway (*Oregonian* 1924 July 27). Soon after the bridge opened to traffic, the *Oregonian* published another full-page feature touting the new recreation and travel opportunities in the most scenic section of the Columbia Gorge. The popular “loop” promoted in the *Oregonian* led motorists from Portland past Multnomah Falls to Hood River, across the bridge to White Salmon, west to Vancouver, and back to Portland over the Interstate Bridge, a distance of about 162 miles (Gratke 1925). Despite the bridge's construction in 1924, Hood River's population decreased by 1.46 percent between 1920 and 1930. White Salmon meanwhile grew from having 619 residents to 798 (US Census Bureau, Census of Population and Housing, 1920-1930).

4.5.3. Bonneville Dam Operations Lead to Substantial Bridge Modifications

The construction of Bonneville Dam, which began operating in 1938 along the Columbia River downstream of Hood River, led to a substantial Hood River Bridge modification project. In 1937, the United States Secretary of War notified the OWBC that its Hood River Bridge would require raising based on an anticipated water-level rise of about 20 feet from USACE dam construction. The dam inundated an upstream area known as the Bonneville Pool (Columbia River Reservoir), which necessitated elevating sections of the bridge deck. The elevated sections were the two trestle approaches that lost elevations as they contacted the shores. The new Pratt deck trusses were installed at these bridge ends (**Figure 4-22**). The Pennsylvania-Petit fixed span was converted to a vertical-lift span to accommodate tall vessels. Although the bridge was privately owned, the government appropriated \$342,000 for construction of the new vertical-lift span (*Oregonian* 1938 January 10). The government also financed

modifications to Bridge of the Gods, at Cascade Locks (1926), another bridge on the Lower Columbia impacted by dam construction (Holstine and Hobbs 2005:98).

Chandler, one of the Hood River Bridge's original designers, drafted the plan set to convert the central Pennsylvania-Petit fixed span to a vertical-lift span. The plans required reinforcing the piers and adding structural members to the adjacent Pratt through trusses. Chandler modeled the lift towers, with their concrete counterweights, after the steel towers supporting the Hawthorne and Steel Bridges in downtown Portland. The Hood River Bridge alterations were in progress between 1938 and 1940, including "installation of a new structure and a lift span" that nearly doubled the bridge's steel and provided vessels with a 135-foot clearance above the flood-stage water level (*Oregonian* 1938 January 10).

The modification project added nine concrete piers to the original 11 concrete piers for a total of 20. Two existing piers were strengthened to support weight of a center lift span (*Oregonian* 1938 July 15). The project also added nine steel Pratt deck truss spans to the original 10 steel Pratt deck truss spans for a total of 19. On the Washington side, the six new steel Pratt deck truss spans extended the steel work 1,246 feet beyond the end of the existing steel. On the Oregon side, the three new spans replaced 624 feet of piling (*Oregonian* 1938 January 10).

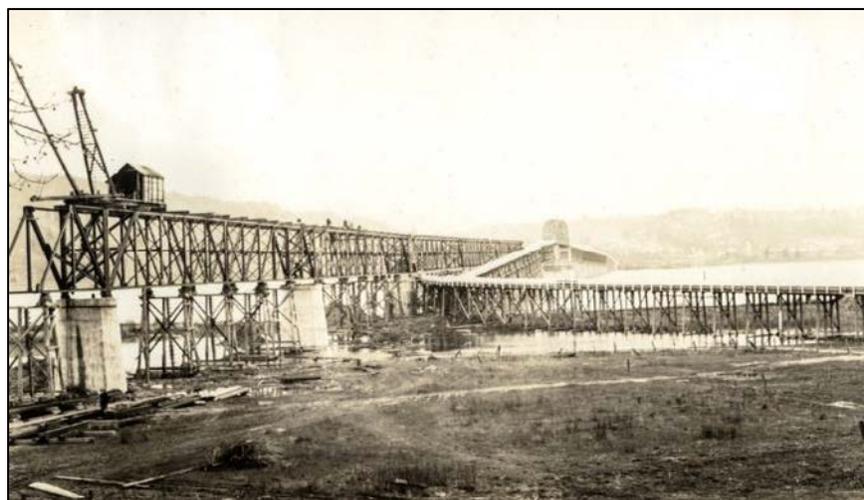


Figure 4-22. Construction of new north approach, on the left, 1938 (Historic Hood River).

4.5.4. OWBC Sells the Hood River Bridge to the Port of Hood River

In 1950, the OWBC sold the bridge to the Port for \$800,000. This sale transferred bridge ownership and operations from the private company that built the bridge 26 years earlier to a public entity. The Port had been organized and incorporated on July 28, 1933, in anticipation of the Bonneville Dam Project to fulfill state and federal goals of developing industrial lands in the Columbia River Basin (Port of Hood River 2020). Following acquisition of the bridge, the Port implemented automobile tolls for 75 cents and truck tolls depending upon weight (up to \$5.00). The Port also spent \$725,000 to replace the timber trestles beneath the bridge approaches with two new steel girder spans (Port of Hood River 2020).

After bridge acquisition and major structural improvements in the 1950s, the Port conducted ongoing maintenance and upgrades. In 1965, the Port replaced railing and curbs with steel posts, added mercury

vapor lights, and replaced the original tollbooth with the present building. In 1967, United Telephone Company installed a \$4 million cable across the bridge. In 1971-72, the Port installed portal bracing, replaced guardrails, repainted the bridge, and replaced operations of the river navigation and aerial obstruction lights with photocell. In 1976, the Port began mechanical maintenance, sandblasting, cleaning, and painting. In 1977, the Port welded 10 spans and installed new power and control cable supports and a marine radio. In 1978, the Port installed mechanical traffic axle counters and made improvements to the concrete bridge supports (Port of Hood River 2020).

During the 1980s, pier cap repairs began, and deck grating and repainting were completed. United Telephone Service replaced its cable underwater between the towers. In 1996, a phase one seismic retrofit was completed and in 1997 the Washington approach was widened for \$1.6 million. In 1999, the Port initiated a lift span upgrade project, which was completed in 2000 for \$1.8 million. A \$7.5 million re-decking project was completed in 2004 and a major bridge deck maintenance welding project was completed in 2014 (Port of Hood River 2020).

4.6. Historical Architectural Styles in the APE

This section characterizes the most common architectural styles to provide context for the historic significance evaluations. The single-family residences, agricultural property, and commercial building in the APE that were evaluated for this Project were constructed in Hood River and White Salmon between the late 1910s and mid-1970s. These buildings reflect the variety in architectural design trends during the periods in which they were constructed. European revival styles were common in the early twentieth-century examples, while modern and contemporary styles proliferated during the late 1960s to mid-1970s, particularly the Northwest Regional-style homes along the White Salmon bluff. This section discusses the English/Tudor Cottage, Colonial Revival, Ranch, and Northwest Regional architectural styles.

4.6.1. English/Tudor Cottage

The popularity of Tudor Revival style architecture in America spanned from the end of the nineteenth century, peaked in the 1920s, and faded from favor by 1940. Early examples of the style were large, architect-designed mansions that copied Elizabethan and Jacobean manors. These high-style examples often featured patterned brick work and cut stone exteriors, castellated towers, large fluted chimneys with ornamental chimney pots, and large, multi-pane leaded glass windows, half-timbering in gable ends, and slate or tile roofs. While the rich still commissioned prototypes or slightly more reserved designs, upper-middle and middle-class suburban neighborhoods featured more modest designs that were loosely based on variations of the English building traditions and also integrated new building materials like brick veneer, faux-thatched roofs, and faux half-timbering. Hallmarks of the style generally consist of steeply pitched roofs, a prominent front-facing gable on the façade with cross-gables, narrow, multi-light windows in groups, an arched door/porch entry, and prominent chimneys (McAlester 2013:448-454; Howe 2002:284-290).

4.6.2. Colonial Revival

The Colonial Revival style was the most popular in America between circa 1880 and 1950. The style refers to the rebirth in interest of the early English and Dutch colonial styles. Houses built in the period between 1915 and 1930 often include details influenced by early examples of American architecture, with 1920 to 1930 representing a time when the most accurate details were integrated into the designs. Residences are typically one to three stories, and hallmarks of the classical style include a symmetrically

arranged façade with central door flanked by balanced windows, an accentuated front door with portico or porch hood supported by columns, multi-pane windows (commonly in pairs), fanlights, pediments, and roof dormers. Wall cladding materials varied greatly and could include brick, wood shingles, wide and narrow horizontal wood siding, as well as stucco. Roof types within the style also varied greatly from side-gable, hipped, Gambrel (Dutch Colonial), and second-story overhang. Reverence of Colonial Revival architecture spanned nearly six decades and was adapted for urban and suburban settings from rowhouses to large classical-inspired houses. Although large examples come to mind when Colonial Revival is mentioned, single-story examples very popular in the United States in the 1940s. The style also evolved over time to accommodate modern lifestyles with post-war examples featuring integrated garages on the facades and more reserved architectural details (McAlester 2013:408-429; Harris 1998:106-208).

4.6.3. Ranch

The popularity and versatility of the Ranch style lent itself to both residential and non-residential uses expressed in schools, restaurants, government buildings, small shopping centers, and medical offices. Within the APE, the Ranch style was commonly adapted for application on single-family residences. The Ranch style developed in California in the late 1920s and early 1930s and reached peak popularity in first two decades after World War II.

The Ranch style incorporated a variety of historic quasi-colonial/early American period precedents, including the nineteenth-century California adobe house and the nineteenth-century California single-wall, board and batten rural buildings. The style was used profusely for post-war single-family suburban tract homes featuring elongated, asymmetrical one-story plans with low pitched hip, cross gable, or side gable forms. Eaves are usually wide and create an overhanging shelter for a walkway along the sides of the house. A recessed entry is also common, as are large picture windows on the main facade. Early examples may feature metal casement windows but sliding metal frame windows are the most common. Siding can be wood, brick, stucco, or a combination. Houses are typically composed of wings in a U or L shape that create for semi-enclosed outdoor living areas at the rear, often accessible from much of the house (McAlester 2013:596-603, 608-609).

4.6.4. Northwest Regional (Contemporary)

The Northwest style is a regional interpretation of Modernist architecture that emerged in Portland during the late 1930s. The style is characterized by “a sensitive approach to the natural environment, takes into consideration Oregon’s mild climate, predominantly gray skies, and abundant supply of wood and wood products.” Design characteristics include regard for the building site, lack of historic ornamentation, and use of regional materials (Flathman 2010). During the early- to mid-1970s, there were Northwest Regional-style houses built in all three of the residential subdivisions along the White Salmon bluff, including at least one designed by Seattle-based architect Roland Terry, regarded as a master of the Northwest Regional architectural style (Archives West 2020b). Northwest Regional-style residences incorporated local materials such as extensive wood siding and large windows to enhance natural lighting and views toward Mt. Hood.

5. SUMMARY OF BUILT ENVIRONMENT FINDINGS

5.1. Reconnaissance-Level Survey Results

A previous reconnaissance-level survey identified 65 built environment resources that required NRHP eligibility evaluations for the Project, including a survey update for the Hood River Bridge, which was previously determined eligible. Of these 65 resources surveyed, 12 were recommended for intensive level survey. The Hood River Loops, which is already listed in the NRHP and is a part of the Columbia River Highway NHL District, was not reevaluated but is included in the list below. **Table 5-1** summarizes the results of the reconnaissance-level survey. Mapped locations of these resources are also included in **Figures 5-1 and 5-2**. An additional table of these historical resources with photographs is included in Appendix A.

Table 5-1. List of Resources Identified During the Reconnaissance-Level Survey

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
1	105 SW Garfield Ave. White Salmon, WA	1940 single-family residence with two additions and replacement windows throughout. Siding has also been entirely replaced. <i>Lacks integrity of design, workmanship, feeling, association, and materials.</i>	Not eligible under Criterion A, B, or C due to significant exterior alterations/lack of integrity. House may be associated with Lauterbach family, but house fails to retain associative integrity.
2	107 SW Oak St. White Salmon, WA	1946 Dutch Colonial Revival single-family residence with replacement siding, trim, and windows. <i>Lacks integrity of design, feeling, workmanship, and materials.</i>	Not eligible under Criterion A, B, or C due to significant exterior alterations/lack of integrity.
3	115 SW Oak St White Salmon, WA	1948 Minimal Traditional style, one-story single-family residence with replacement siding and windows, and large rear deck addition. Craftsman detailing is modern. <i>Lacks integrity of design, feeling, workmanship, and materials.</i>	Not eligible under Criterion A, B, or C due to significant exterior alterations/lack of integrity.
4	163 SE Oak St White Salmon, WA	1915 single-family residence with replacement siding and windows and addition of two shed dormers and a garage. New landscaping and circular drive. <i>Lacks integrity of design, feeling, workmanship, setting, and materials.</i>	Not eligible under Criterion A, B, or C due to significant exterior alterations/lack of integrity.

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
5	187 SE Oak St White Salmon, WA	1910 Craftsman-style, single-family residence, flush-faced dormers on Oak Street side, original outbuildings, large gable addition on cliff side with paired slider doors on second floor. New driveway and landscaping. Setting altered by new home to west. <i>Lacks integrity of design, feeling, association, workmanship, setting, and materials.</i>	Not eligible under Criterion A, B, or C due to significant exterior alterations/lack of integrity.
6	225 SE Oak St White Salmon, WA	1915 Craftsman-style single-family residence with substantial alterations on rear elevation. Aluminum replacement windows located on every elevation. River side porch and gable sleeping porch have been enclosed with new sliding windows. <i>Lacks integrity of design, feeling, workmanship, and materials.</i>	Not eligible under Criterion A, B, or C due to significant exterior alterations/lack of integrity.
7	239 SE Oak St White Salmon, WA	1908 single-family residence with substantial alterations completed in the 1970s and 1990s. Includes full-length second story porch. <i>Lacks integrity of design, workmanship, feeling, and materials.</i>	Not eligible under Criterion A, B, or C due to significant remodeling of exterior/lack of integrity.
8	267 Oak St, White Salmon, WA	c.1920 single-family residence (tax records assign 1950 built date). Two modern homes constructed within historic property boundaries, blocking view and diminishing setting. <i>Retains integrity of design, materials, association, feeling, location, and workmanship. Lacks integrity of setting.</i>	Potential eligibility under Criterion A unknown without further research. Potential eligibility under Criterion B unknown without further research. Potentially eligible under Criterion C for embodying the distinctive characteristics of a type, period, or method of construction.
9	275 Dock Grade Rd, White Salmon, WA	1950 Contemporary Ranch-style single-family residence with substantial alterations, including replacement siding and windows. <i>Lacks integrity of design, workmanship, feeling, and materials.</i>	Not eligible under Criterion A, B, or C due to significant remodeling of exterior/lack of integrity.

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
10	301 SE Oak White Salmon, WA	<p>1918 English Cottage-style, single-family residence and historic-era detached garage. Vinyl replacement windows on upper floor. Modern homes next door at 281 SE Oak Street may have diminished integrity of setting and obstructed views to the west.</p> <p><i>Retains overall integrity of feeling, association, location, and workmanship. Integrity of materials and setting have been diminished by replacement windows and more dense development surrounding property.</i></p>	<p>Potential eligibility under Criterion A unknown without further research.</p> <p>Potential eligibility under Criterion B unknown without further research.</p> <p>Potentially eligible under Criterion C for embodying the distinctive characteristics of a type, period, or method of construction. Rare style/type in White Salmon.</p>
11	339 SE Oak St. White Salmon, WA	<p>1918 Craftsman-style, single-family residence with addition of a large non-original façade window and replacement siding.</p> <p><i>Lacks integrity of design, workmanship, feeling, and materials.</i></p>	<p>Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.</p>
12	447 SE Oak St. White Salmon, WA	<p>1961 Ranch-style single-family residence. Some window replacement, rear porch alterations, large rear window sash do appear to be from period. Rear porch constructed of pressure-treated lumber.</p> <p><i>Lacks integrity of materials, design, association, and workmanship.</i></p>	<p>Not eligible under Criterion A, B, or C due to exterior alterations/lack of integrity. Common building/design type.</p>
13	475 SE Oak St. White Salmon, WA	<p>1974 Contemporary-style, single-family residence associated with the smaller adjacent residence at 493 SE Oak Street. Raised seam metal roof appears to be an alteration.</p> <p><i>Retains integrity of setting, association, design, feeling, workmanship, and location.</i></p>	<p>Potential eligibility under Criterion A unknown without further research.</p> <p>Potential eligibility under Criterion B unknown without further research.</p> <p>Potentially eligible under Criterion C for embodying the distinctive characteristics of a type, period, or method of construction, or representing the work of a master.</p>

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
14	493 SE Oak St. White Salmon, WA	1974 Contemporary-style, single-family residence likely associated with the larger adjacent residence at 475 SE Oak Street as a guest house or caretaker's cottage for the larger residence. Raised seam metal roof appears to be an alteration. <i>Retains integrity of setting, association, design, feeling, workmanship, and location.</i>	Not eligible under Criterion A, B, or C. Common building/design type. May be historically associated with 475 SE Oak Street due to architectural similarities. Potential historical associations will be reviewed during 475 SE Oak Street evaluation.
15	615 SE Oak St. White Salmon, WA	1966 Ranch-style, single-family residence with under- and over-sized vinyl replacement windows. <i>Lacks integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to exterior alterations/lack of integrity.
16	625 Oak St. White Salmon, WA	1960 single-family residence that may originally date to 1920s with outbuilding connected by addition. <i>Lacks integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.
17	681 SE Oak St. White Salmon, WA	1946 single-family residence that may have been remodeled during the 1970s and is associated with property at 707 SE Oak. Features new raised seam metal roof. <i>Lacks integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity. Common building/design type.
18	707 SE Oak St. White Salmon, WA	1976 Contemporary Georgian style with Northwest elements, single-family residence. Siding potentially replaced. Large detached garage and garden shed. Previously dated to 1951. Earlier building likely demolished. Part of two-unit lot with 681 SE Oak. <i>Lacks integrity of feeling, association, design, and materials.</i>	Not eligible under Criterion A, B, or C due to alterations/lack of integrity. Design not indicative of time period. Will not be 50 years old when Project constructed.

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
19	705 SE Oak St. White Salmon, WA	1976 Ranch-style, single-family residence with large property including formal garden, pool, and pool house. <i>Retains integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C. Common building/design type.
20	325 W Jewett Blvd. White Salmon, WA	1954 Ranch-style, single-family residence with vinyl replacement windows and newer standing seam sheet metal roofing. <i>Lacks integrity of design, workmanship, feeling, and materials.</i>	Not eligible under Criterion A, B, or C. Common building/design type.
21	345 W Jewett Blvd. White Salmon, WA	1973 Contemporary Northwest Regional-style, single-family residence. Only alteration is standing seam sheet metal roofing. <i>Retains integrity of materials, design, setting, association, feeling, workmanship, and location.</i>	Potential eligibility under Criterion A unknown without further research. Potential eligibility under Criterion B unknown without further research. Potentially eligible under Criterion C for embodying the distinctive characteristics of a type, period, or method of construction, or representing the work of a master.
22	365 W Jewett Blvd. White Salmon, WA	1956 Contemporary-style, single-family residence. Setting altered due to neighboring development. <i>Retains integrity of association, design, feeling, materials, workmanship, and location.</i>	Not eligible under Criterion A, B, or C. Common building/design type.
23	423 Highway 141 White Salmon, WA	1938 Colonial Revival-style, single-family residence. <i>Lacks integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity. Common building/design type.

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
24	435 WA-141 White Salmon, WA	1966 custom-built, Ranch-style, single-family residence. Alterations include river side elevation changes to fenestration—window replacements, new sliding glass doors, new wood porch. <i>Retains integrity of setting, association, feeling, materials, workmanship, and location.</i>	Potential eligibility under Criterion A unknown without further research. Potential eligibility under Criterion B unknown without further research Potentially eligible under Criterion C for embodying the distinctive characteristics of a type, period, or method of construction.
25	447 W Jewett Blvd. White Salmon, WA	1940 Cottage Revival-style, single-family residence. <i>Retains integrity of setting, association, design, feeling, materials, workmanship, and location.</i>	Potential eligibility under Criterion A unknown without further research. Potential eligibility under Criterion B unknown without further research. Potentially eligible under Criterion C for embodying the distinctive characteristics of a type, period, or method of construction.
26	455 WA-141 White Salmon, WA	1961 Ranch-style, single-family residence with replacement siding, doors, and windows. <i>Lacks integrity of materials, design, workmanship, and feeling.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity. Common building/design type.
27	467 W Jewett White Salmon, WA	1962 Contemporary-style, single-family residence with stone veneer applied at the foundation. T1-11 vertical siding does not appear original. Round vinyl window installed along façade in the early 2000s. <i>Lacks integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to exterior alterations/lack of integrity.
28	491 W Jewett Blvd. White Salmon, WA	1940 single-family residence with replacement siding (c.1970) and oversized vinyl replacement windows on every elevation. <i>Lacks integrity of materials, design, feeling, association, and workmanship.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity. Common building/design type.

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
29	495 W Jewett Blvd. White Salmon, WA	1971 Ranch-style, single-family residence. <i>Retains integrity of setting, association, design, feeling, materials, workmanship, and location.</i>	Not eligible under Criterion A, B, or C. Common building/design type.
30	515 W Jewett Blvd. White Salmon, WA	1940 Ranch-style, single-family residence that exhibits early replacement windows (potentially from 1950s/1960s) <i>Lacks integrity of materials, design, workmanship, and feeling.</i>	Not eligible under Criterion A, B, or C due to exterior alterations/lack of integrity. Common building/design type.
31	547 W Jewett Blvd. White Salmon, WA	Original 1950s single-family residence has been demolished and a new building is currently under construction. <i>Lacks integrity of association, design, feeling, materials, workmanship, and location.</i>	Not eligible under Criterion A, B, or C due to demolition of property's primary building/lack of integrity.
32	545 Waubish St. White Salmon, WA	1959 single-family residence, owned by local artist, undergoing complete renovation (2019). <i>Lacks integrity of association, design, feeling materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.
33	567 Waubish St. White Salmon, WA	1940 Minimal Traditional-style, single-family residence with replacement siding and windows. <i>Lacks integrity of materials.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.
34	581 Waubish St. White Salmon, WA	1961 single-family residence with replacement siding and windows, fan light addition above front door, and many other alterations and additions. <i>Lacks integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.
35	585 Waubish St. White Salmon, WA	1964 single-family residence remodeled circa 2017. Original house type unidentifiable due to level of alterations. <i>Lacks integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
36	601 Waubish St. White Salmon, WA	1947 Ranch-style, single-family residence with c.1960s detached garage addition and replacement doors on original attached garage. Rear elevation features several large pane fixed sash—likely replacements and newer sliding glass doors. Replacement rear porch. <i>Lacks integrity of design, materials, feeling, and workmanship.</i>	Not eligible under Criterion A, B, or C due to exterior alterations/lack of integrity. Common building/design type.
37	647 Waubish St. White Salmon, WA	1950 Ranch-style, single-family residence with vinyl replacement windows and altered setting based on improvements at adjacent 625 Oak Street property. Gable roof peak visible from street side elevation suggests river-side alterations. <i>Lacks integrity of design, materials, feeling, and setting.</i>	Not eligible under Criterion A, B, or C due to alterations/lack of integrity and common building/design type.
38	663 Waubish St. White Salmon, WA	1950 Ranch-style, single-family residence with vinyl replacement windows and large bay window addition to the façade. <i>Lacks integrity of association, design, feeling, and materials.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.
39	White Salmon Bluff Historic District	Collection of residences dating from c. 1900-1975 located on bluff overlooking the Columbia River. <i>Lacks integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to the preponderance of non-contributing resources (32 non-contributing and 6 potentially contributing)
40	SP&S	Early twentieth-century railroad alignment.	Potentially eligible under Criterion A for its associations with economic development in the region between Spokane and Portland. Not eligible under Criteria B and C as it is not associated with significant groups or individuals and does not embody the distinctive characteristics of a type, period, or method of construction.

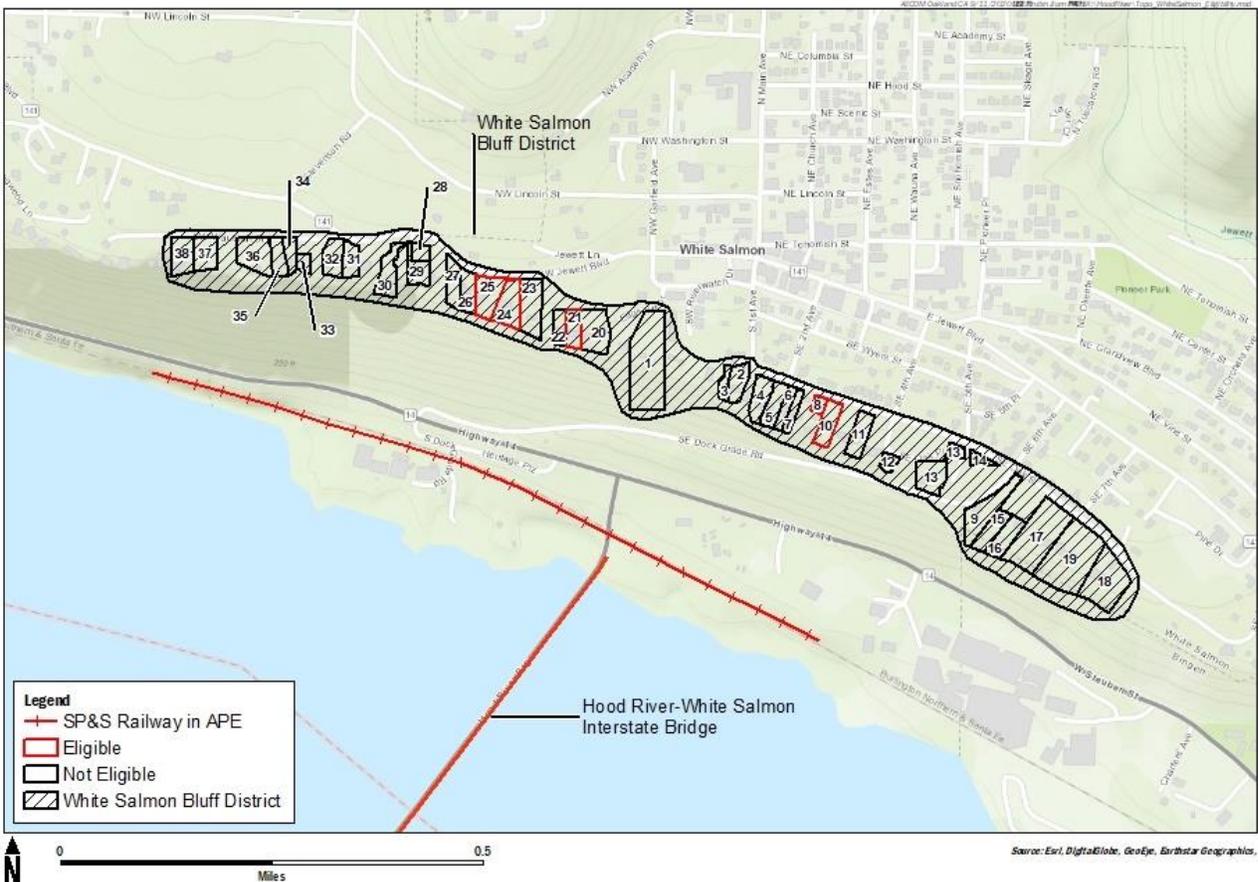
Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
41	100 HWY 35 Hood River, OR	1906 single-family residence with substantial alterations and absence of original fabric. <i>Lacks integrity of design, materials, association, and feeling.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.
42	104 HWY 35/106 HWY 35 Hood River, OR	1956 relocation and integration of previously constructed buildings for commercial use on lot with 108 Highway 35. Siding and window replacements. <i>Lacks integrity of design, materials, workmanship, association, location, and feeling.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.
43	108 HWY 35 Hood River, OR	1956 Commercial-style building with replacement siding and windows. Shares lot with 104/106 Highway 35 buildings. <i>Lacks integrity of design, workmanship, materials, association, and feeling.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.
44	1108 Marina Way, Hood River, OR	1967 Modern Best Western Hotel with major additions completed c.1990 c.2010. <i>Lacks integrity of design, materials, association, and feeling.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.
45	1109 Marina Way Hood River, OR	1967 Modern restaurant associated with the Best Western Hotel at 1108 Marina Way with substantially altered setting. <i>Retains overall integrity, except for integrity of setting.</i>	Potential eligibility under Criterion A unknown without further research. Potential eligibility under Criterion B unknown without further research. Potentially eligible under Criterion C for embodying the distinctive characteristics of a type, period, or method of construction. Distinctive architectural type.

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
46	2495 Old Columbia River Dr. Hood River, OR	1930s farmstead with single-family residence not visible from the right-of-way and three to four contributing agricultural outbuildings. <i>Retains integrity.</i>	Potentially eligible under Criterion A as a historic district. Potential eligibility under Criterion B unknown without further research. Potential eligibility under Criterion C unknown without view of farmstead residence.
47	2500 Old Columbia River Dr. Hood River, OR	1952 Ranch-style, single-family residence with replacement windows throughout. Replacement garage door. <i>Lacks integrity of materials.</i>	Not eligible under Criterion A, B, or C due to exterior alterations/lack of integrity. Common building/design type.
48	2540 Riverview Dr. Hood River, OR	1968 Ranch-style, single-family residence with vinyl replacement windows throughout. Neighboring houses extremely close together—diminishes physical context. <i>Lacks integrity of setting, design, feeling, association, and materials.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity. Common building/design type.
49	2550 Riverview Dr. Hood River, OR	1965 Ranch-style, single-family residence with vinyl replacement windows and new oversized window trim. Pergola/trellis addition over front entry. <i>Lacks integrity of design, feeling, association, and materials.</i>	Not eligible under Criterion A, B, or C due to exterior alterations/lack of integrity. Common building/design type.
50	2554 Riverview Dr. Hood River, OR	1965 Ranch-style, single-family residence with vinyl replacement windows and garage doors. <i>Lacks integrity of design, feeling, association, and materials.</i>	Not eligible under Criterion A, B, or C due to exterior alterations/lack of integrity. Common building/design type.

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
51	2560 Riverview Dr. Hood River, OR	1949 Ranch-style, single-family residence. <i>Retains integrity of design, feeling, association, setting, and location.</i>	Potentially eligible under Criterion A for its associations with residential development in Hood River. Potential eligibility under Criterion B unknown without further research. Potentially eligible under Criterion C for embodying the distinctive characteristics of a type, period, or method of construction. Potentially early example of architectural type and architect-designed.
52	2570 Riverview Dr. Hood River, OR	1957 single-family residence that was substantially altered c.1995. <i>Lacks integrity of design, feeling, workmanship, association, and materials.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity.
53	2590 Riverview Dr. Hood River, OR	1954 Ranch-style, single-family residence with Contemporary details and vinyl replacement windows throughout. <i>Lacks integrity of design, feeling, workmanship, association, feeling, and materials.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity. Common building/design type.
54	2600 Riverview Dr. Hood River, OR	1965 split-level, single-family residence. Substantially updated. Large replacement picture windows on Columbia River side, new front door, replacement vinyl windows <i>Lacks integrity of design, feeling, workmanship, association, feeling, and materials.</i>	Not eligible under Criterion A, B, or C. Common building/design type.
55	2610 Riverview Dr. Hood River, OR	1957 Ranch-style, single-family residence with vinyl replacement windows throughout most of the house. River-side windows replaced with oversized fixed-pane windows. New vinyl garage doors. <i>Lacks integrity of design, feeling, association, and materials.</i>	Not eligible under Criterion A, B, or C due to substantial exterior alterations/lack of integrity. Common building/design type.

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
56	2615 Riverview Dr. Hood River, OR	1961 two-story, Contemporary Ranch-style single-family residence. <i>Retains integrity association, design, feeling, workmanship, and location.</i>	Potentially eligible under Criterion A for its associations with residential development in Hood River. Not eligible under Criterion B. Potentially eligible under Criterion C for embodying the distinctive characteristics of a type, period, or method of construction
57	2630 Old Columbia River Dr. Hood River, OR	1930s industrial property with stone and gravel processing plant and owned by Hood River Sand and Gravel. All original buildings and structures appear to have been removed. <i>Lacks integrity of setting, association, design, feeling, materials, workmanship, and location.</i>	Not eligible under Criterion A, B, or C due to loss of original buildings and structures/lack of integrity.
58	2660 Dock Rd. Hood River, OR	c.1900 Standard Oil plant. Building with roof sign may be original, but substantially altered. Other original buildings and structures appear to be removed. <i>Lacks integrity of setting, association, design, feeling, materials, workmanship, and location.</i>	Not eligible under Criterion A, B, or C due to loss of original buildings and structures/lack of integrity.
59	2680 Dock Rd. Hood River, OR	c.1935 commercial building that has been extensively altered and presently houses Wind River Archery. Built date based on historic photographs and oral history. <i>Lack integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to extensive alterations/lack of integrity.

Res. #	Address	Construction Date/Resource Type/Integrity	Eligibility
60	403 HWY 35 Hood River, OR	Potential Quonset hut with replacement vinyl garage door and loss of hooded side windows owned by Curtis Homes. [The built date is designated as 1960, but it may date to c.1940 based on historic re-use patterns of Quonset huts during World War II.] Diminished setting due to construction of neighboring elevated roadway. <i>Lacks integrity of setting, design, feeling, and materials.</i>	Not eligible under Criterion A, B, or C due to alterations/lack of integrity.
61	490 Highline Dr. Hood River, OR	1960 Ranch-style, single-family residence with vinyl replacement windows, vinyl replacement siding, replacement garage doors. New window openings on Columbia River side of house. <i>Lacks integrity of design, feeling, workmanship, association, and materials.</i>	Not eligible under Criterion A, B, or C due to exterior alterations/lack of integrity. Common building/design type.
62	Riverview Drive Historic District	Collection of residences dating from c. 1900-1975 located on bluff overlooking the Columbia River. <i>Lacks integrity of association, design, feeling, materials, and workmanship.</i>	Not eligible under Criterion A, B, or C due to the preponderance of non-contributing resources (17 non-contributing and 4 potentially contributing).
63	OR&N	Early twentieth-century railroad alignment.	Potentially eligible under Criterion A for its associations with economic development in the Columbia River Gorge and Portland. Not eligible under Criteria B and C as it is not associated with significant groups or individuals and does not embody the distinctive characteristics of a type, period, or method of construction.
No #	Hood River Bridge	1924 (elevated due to the Bonneville Dam in 1938) Vertical-lift Pennsylvania-Petit steel through-truss bridge.	Previously determined eligible for the NRHP under Criteria A, B, and C.
No #	Hood River Loops (Columbia River Highway NHL District)	1913-1937 Highway	Listed in the NRHP (Criteria A and C) and as a contributing resource to the Columbia River Highway NHL District (Criteria 1 and 4).



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Hood River-White Salmon Bridge Replacement Project
AK27764

WHITE SALMON HISTORIC RESOURCES
Topographic

Figure 5-1. Map of identified historic resources located in White Salmon

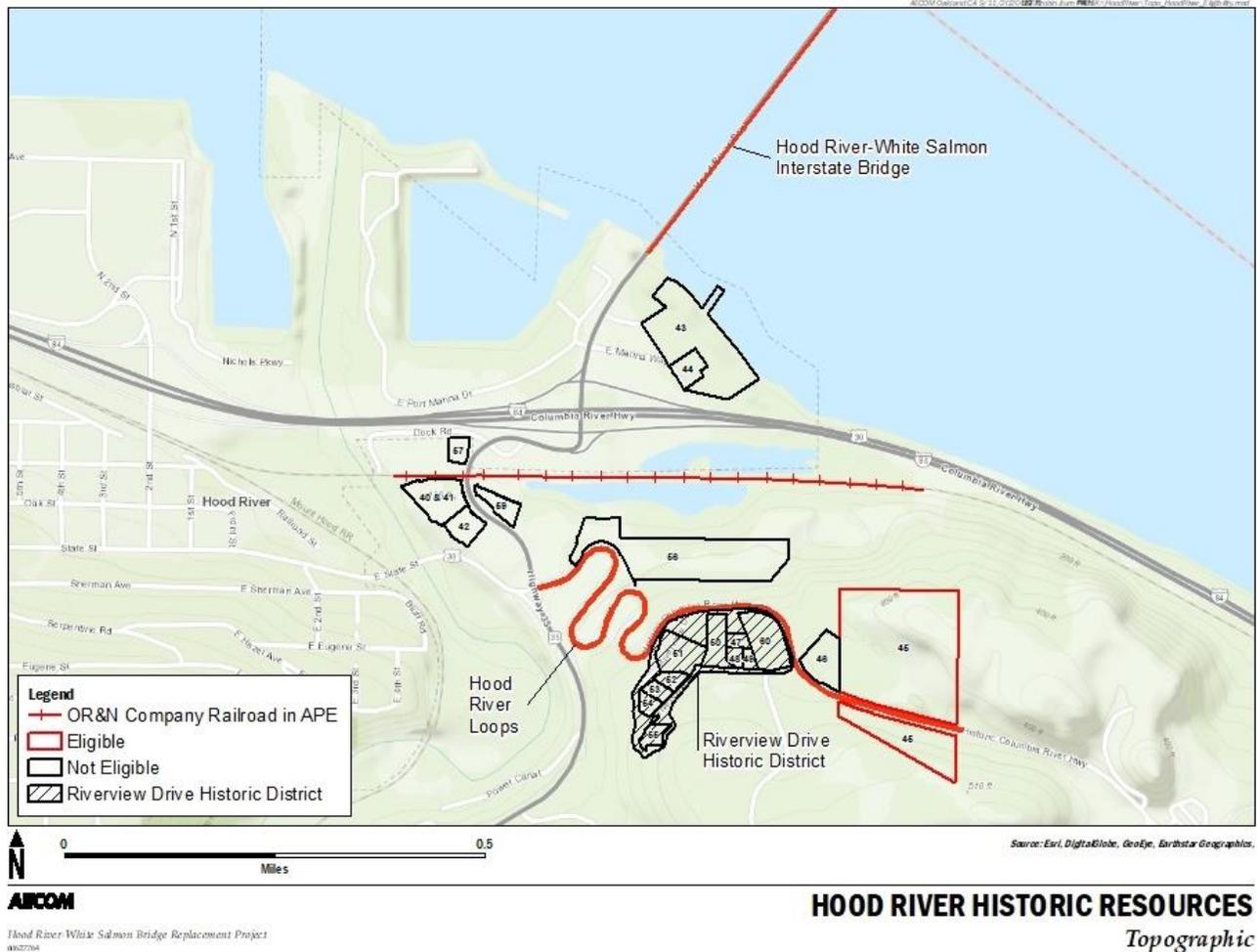


Figure 5-2. Map of identified historic resources located in Hood River

5.2. Intensive-Level Survey Results

Following the reconnaissance-level survey and evaluation, AECOM prepared intensive-level documentation for 13 resources that appeared to be potentially eligible for the NRHP: the Hood River Bridge (located in both Oregon and Washington), five properties in Hood River, Oregon, and seven properties in White Salmon, Washington. A Determination of Eligibility (DOE) form was completed for each property (Appendix B). A DOE form for the Hood River Loops was not prepared as it is a NRHP- and NHL-listed property. **Table 5-2** summarizes the results of the intensive-level survey. Nine properties were determined eligible for the NRHP. Effects to these nine historic properties and the Hood River Loops are assessed in Section 6.

Table 5-2. List of Resources Evaluated During the Intensive-Level Survey

Resource # & Property	Address	Architectural Style	Eligibility
Hood River Bridge (1924)	Spanning Columbia River between Hood River, Oregon, and White Salmon, Washington	N/A	NRHP Criteria A and C
#8. Single-Family Residence (1920)	267 SE Oak Street, White Salmon, Washington	English/Tudor Cottage	NRHP Criterion C
#10. Single-Family Residence (1918)	301 SE Oak Street, White Salmon, Washington	English/Tudor Cottage	NRHP Criterion A
#13. Single-Family Residence (1974)	475 SE Oak Street, White Salmon, Washington	Northwest Regional	Not Eligible
#21. Single-Family Residence (1973)	345 W Jewett Boulevard, White Salmon, Washington	Northwest Regional	NRHP Criterion C
#24. Single-Family Residence (1965)	435 W Jewett Boulevard, White Salmon, Washington	Ranch	NRHP Criterion C
#25. Single-Family Residence (1940)	447 W Jewett Boulevard, White Salmon, Washington	Colonial Revival	NRHP Criterion C
#40. SP&S Railway	White Salmon	Railroad	NRHP Criterion A
#44 & #45. Eddie Mays Inn and Restaurant (1967)	1108-1109 Marina Way, Hood River, Oregon	Modern	Not Eligible
#46. Bryant Property: Farmstead/Ranch with house (1930)	2495 Old Columbia River Drive, Hood River, Oregon	N/A	NRHP Criterion C
#51. Robert Stow Henshaw House (1949)	2560 Riverview Drive, Hood River, Oregon	Ranch	Not Eligible
#56. Charles C. and Monica L. Cox House (1961)	2615 Riverview Drive, Hood River, Oregon	Ranch	Not Eligible
#63. OR&N Railroad	Hood River	Railroad	NRHP Criterion A

Notes: N/A = not applicable; NRHP = National Register of Historic Places; OR&N = Oregon Railway and Navigation; SP&S = Spokane, Portland & Seattle Railway

6. ENVIRONMENTAL IMPACTS

6.1. Summary of Project Alternatives

The No Action Alternative and two action alternatives (EC-2 and EC-3) are described briefly in the following sections. Alternative EC-1 was eliminated from further consideration due to its lack of feasibility.

6.1.1. No Action Alternative

As described in Section 2.1, the No Action Alternative would retain the bridge in its existing condition and configuration. Routine operations would continue, and maintenance would be implemented to continue operations. The bridge would retain its present alignment, type, ownership, vehicle lanes, speed limit, 80,000-lb vehicle weight restriction, and 14-foot, 7-inch height limit. The bridge would continue to have no pedestrian or bicycle facilities. The bridge would continue to be tolled for all vehicles, with a toll booth on the south end of the bridge and electronic tolls collected through the Port's Breezeby system. The horizontal clearance for marine vessels would remain 246 feet, narrower

than the navigation channel width of 300 feet. The vertical clearance would remain 57 feet when the lift span is down and 148 feet when raised; vessels would still be required to request bridge lifts in advance. The lift span section would continue using gate and signals to stop traffic for bridge lifts.

The No Action Alternative would result in the bridge remaining seismically vulnerable without a cost-effective way to conduct a seismic retrofit. No stormwater detention or water quality treatment would be provided for the bridge. Stormwater on the bridge would continue to drain directly into the Columbia River through the steel-grated deck. The bridge would continue to connect to SR 14 on the Washington side at the existing signalized SR 14/Hood River Bridge intersection. On the Oregon side, the southern end of the bridge would continue to transition to Button Bridge Road, connecting to the local road network at the existing signalized Button Bridge Road/E. Marina Way intersection north of I-84. The bridge would continue to cross over the BNSF Railway tracks on the Washington side and over the Waterfront Trail along the Oregon shoreline. Bicyclists and pedestrians seeking to cross the river would continue to use alternate means of transportation.

Based on findings in the Supplemental Draft EIS, implementation of the No Action Alternative would result in one of two outcomes: 1) end of bridge lifespan, which assumes the bridge would remain in operation through 2045, when it would be closed, and 2) catastrophic event, which assumes an extreme event prior to 2045 could damage the bridge or render it inoperable.

6.1.2. Preferred Alternative EC-2

Alternative EC-2 (**Figure 2-4**) was identified as the Preliminary Preferred Alternative in the Draft EIS and reconfirmed as the Preferred Alternative in the Supplemental Draft EIS based on public input and a review of the build alternatives. Alternative EC-2 would construct a replacement bridge west of the existing bridge, and the existing bridge would be removed following construction of the replacement bridge. Under Alternative EC-2, the replacement bridge's main span would be approximately 200 feet west of the existing lift span. The bridge terminus in White Salmon, Washington, would be located approximately 123 feet west of the existing SR 14/Hood River Bridge intersection, while the southern terminus would be in roughly the same location at the Button Bridge Road/E. Marina Way intersection in Hood River, Oregon.

The replacement bridge would be a 4,412-foot fixed-span segmental concrete box-girder bridge with a concrete deck and no lift span. The bridge would have 13 piers in the Columbia River. The Port may continue to own and operate the replacement bridge; however, other options for ownership and operation of the replacement bridge could include other governmental entities, a new bi-state bridge authority, and a public-private partnership, depending on the funding sources used to construct the replacement bridge. There would be one 12-foot travel lane in each direction and an 8-foot shoulder on each side. A 12-foot-wide shared use path would be separated from traffic by a barrier on the west side. In the center of the bridge, the shared use path would widen an additional 10 feet in two locations to provide two 40-foot-long overlooks over the Columbia River and west into the heart of the Columbia River Gorge.

The design speed for the bridge would be 50 mph with a posted speed limit of 35 mph. Vehicles would no longer be limited by height, width, or weight. Vehicles exceeding 80,000 pounds could use the bridge with approved trip permits. Tolls for vehicles would be collected electronically, without the need for toll booths. Vertical clearance for marine vessels would be a minimum of 80 feet. The horizontal bridge opening for the navigation channel would be 450 feet, greater than the existing 300-foot-wide federally

recognized navigation channel. Centered within this 450-foot opening would be a 250-foot wide opening with a vertical clearance of 90 feet. The replacement bridge would cross the navigation channel at a roughly perpendicular angle, similar to that of the existing bridge.

The bridge would be designed to be seismically sound under a 1,000-year event and operational under a Cascadia Subduction Zone earthquake. Stormwater generated by new impervious surfaces on the bridge and improved roadways would be collected and piped to detention and treatment facilities on both sides of the bridge. On the Washington side, separate stormwater facilities would be used for the roadways and the bridge. The bridge would connect to SR 14 on the Washington side at a new two-lane roundabout slightly west of the existing SR 14/Hood River Bridge intersection. On the Oregon side, the southern end of the bridge would transition to Button Bridge Road, connecting to the local road network at the existing signalized Button Bridge Road/E. Marina Way intersection north of I-84. The private driveway on Button Bridge Road north of E. Marina Way may be closed under this alternative. Like the existing bridge, the replacement bridge would cross over the BNSF Railway tracks on the Washington side and over the Waterfront Trail along the Oregon shoreline. The new shared use path would connect to existing sidewalks along the south side of SR 14 in Washington and to roadway shoulders (for bicyclists) on both sides of SR 14 at the new roundabout with marked crosswalks, as shown in **Figure 2-5**. On the Oregon side, the shared use path would connect to existing sidewalks, bicycle lanes, and local roadways at the signalized Button Bridge Road/E. Marina Way intersection.

6.1.3. Alternative EC-3

Alternative EC-3 (**Figure 2-10**) would construct a replacement bridge east of the existing bridge. Like Alternative EC-2, the existing bridge would be removed following construction of the replacement bridge. Under Alternative EC-3, the replacement bridge would be the same as the Alternative EC-2 bridge, except for the following. The main bridge span would be approximately 400 feet east of the existing lift span. The bridge terminus in White Salmon, Washington, would be located approximately 140 feet east of the existing SR 14/Hood River Bridge intersection, while the southern terminus would be roughly the same as the existing terminus at the Button Bridge Road/E. Marina Way intersection in Hood River, Oregon. The bridge would be a 4,553-foot fixed-span segmental concrete box girder bridge with a concrete deck and no lift span. The bridge would have 12 piers in the Columbia River. Connections to roadways would generally be the same as Alternative EC-2, but the bridge would connect to SR 14 on the Washington side at a new two-lane roundabout slightly east of the existing SR 14/Hood River Bridge intersection. On the Oregon side, improvements would extend slightly farther south to the Button Bridge Road/I-84 on and off ramps. The private driveway on Button Bridge Road north of E. Marina Way would be closed. Connections to bicycle and pedestrian facilities would generally be the same as Alternative EC-2, but the roundabout intersection with SR 14 on the Washington side would be located approximately 264 feet farther east than under Alternative EC-2 (**Figure 2-11**).

6.2. Types of Adverse Effects

The properties found to be eligible for the NRHP were evaluated for short-term, long-term, and cumulative Project effects under each of the alternatives. Consistent with 36 CFR 800.5(a)(1), an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Each identified historic property in the APE was assessed for potential effects using the criteria of effect and adverse effect from 36 CFR 800.5. These criteria are used to determine whether the undertaking could

change the characteristics that qualify a property for inclusion in the NRHP. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time or be farther removed in distance.

Examples of adverse effects include the following:

- Physical destruction of or damage to all or part of the property
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's standards for the treatment of historic properties (36 CFR part 68) and applicable guidelines
- Removal of the property from its historic location
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance
- Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features
- Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization
- Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance

In determining the effects of the undertaking upon historic properties, the agency finding would be "no historic properties affected" (36 CFR 800.4(d)(1)), "no adverse effect" (36 CFR 800.5(b)), or "adverse effect" (36 CFR 800.5(d)(2)).

6.3. Finding of Effects

The Project's build alternatives have the potential to cause adverse effects related to:

- (1) Physical destruction of or damage to all or part of the property (demolition of the NRHP-eligible Hood River Bridge)
- (2) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance (construction of a new bridge)
- (3) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features (noise and vibrations related to construction and bridge operation)

These potential effects, as well as potential reasonably foreseeable and cumulative effects, are discussed in the following sections. **Figure 6-1** provides a comparison of the existing view of the Hood River Bridge with a view of the proposed replacement bridge from the same vantage point.



Figure 6-1. View of existing bridge (top) and simulation of proposed bridge (bottom), looking southeast

6.3.1. Physical Destruction of or Damage to All or Part of the Property

The NRHP-eligible Hood River Bridge will be demolished as a result of the Project. The bridge demolition will result in physical destruction of all of the property, causing an adverse effect to the historic bridge property.

6.3.2. Change of the Character of the Property's Use or of Physical Features within the Property's Setting that Contribute to its Historic Significance

Demolition of the Hood River Bridge and construction of a new bridge creates the potential for adverse effects to historic properties by causing a change to physical features within the properties' setting that contribute to its historic significance. Aside from the Hood River Bridge, there are nine NRHP-eligible properties within the APE: the Hood River Loops, five single-family residences in White Salmon, Washington, one single-family residence in Hood River, Oregon, and two railroad alignment (one in Washington and one in Oregon). Based on effects evaluations for each of these nine historic properties, removal and replacement of the Hood River Bridge pursuant to the build alternatives will not adversely affect any of these nine properties (see Section 6.4, *Summaries of Findings of Effect for Individual Historic Properties*, and Finding of Effects forms in Appendix C).

6.3.3. Introduction of Visual, Atmospheric or Audible Elements that Diminish the Integrity of the Property's Significant Historic Features

The Project may introduce visual, atmospheric, or audible elements that could cause short-term and/or long-term impacts, as described below.

Short-Term Effects

Short-term effects are those that would result from construction activities, and the duration of the impact is limited to the duration of construction. The construction impacts to historic properties would be impacts to the vicinity or indirect impacts and include noise and vibration due to nearby construction activities, increased truck traffic, traffic congestion and changes to access, increased dust, and short-term visual changes due to items such as construction equipment, staging areas, and material storage.

Construction would be carried out in several reasonably discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. Bridge construction would involve clearing, cut-and-fill activities, removing old roadways, and paving. The greatest amount of construction noise would be associated with the pile driving, demolition, and earthwork phase of the Project near the Columbia River shoreline. Also, construction noise would be associated with the construction of the bridge approaches and traffic circle.

Construction would result in a temporary increase in noise at areas near the construction site for the build alternatives only; however. Short-term noise levels for construction activities maximum noise levels from construction equipment would range from 69 A-weighted decibels (dBA) to 106 dBA at 50 feet. Construction noise at properties farther away would decrease at a rate of 6 dBA per doubling of distance from the source. The number of occurrences of the maximum sound level noise peaks would increase during construction, particularly during pile-driving activities. Because various pieces of equipment would be turned off, idling, or operating at less than full power at any time, and because construction machinery is typically used to complete short-term tasks at any given location, average noise levels during the day would be less than maximum noise levels. Construction noise is exempt from local regulations during daytime hours. Construction workers also would be subject to construction noise while working on the site. Construction noise levels could be reduced by the construction practices identified in Section 7 of the *Final Noise Technical Report* (WSP 2020).

Short-term vibration from construction activities would also potentially occur. If construction-related vibration exceeds certain thresholds within the applicable screening distance, effect avoidance and minimization measures would be recommended. These measures would include pre- and post-construction assessments, on-site monitoring during construction, and stop work authorization (Wilson, Ihrig & Associates, Inc. 2012; Johnson and Hannen 2015). If a resource is affected by vibration, a treatment plan consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties and thus consistent with the requirements of 36 CFR 800.5(b) would be prepared to make the applicable repairs. With the exception of the Hood River Bridge, no historic properties are located within the applicable screening distance for vibration and/or are a type of resource for which vibration could affect its historic characteristics.

Long-Term Effects

Increased traffic noise could result in long-term effects to historic resources. Existing noise levels were modeled at 25 locations that are representative of properties that could potentially be affected by the Project. The 25 modeled receivers represented 1 residence, 10 apartment units, 35 RV camping spaces,

1 public trail, 1 public park, 1 private outdoor recreation area, 1 hotel, and 1 tribal campground/treaty fishing access site). The modeling locations were chosen because they are representative of outdoor ground floor and above ground floor areas of frequent human use, such as residential front yards, outdoor patios, trails, benches, or sitting areas (WSP 2020:32). Of the 25 total modeled sites, the outdoor pool at the Hood River WaterPlay recreation area is the only site predicted to experience traffic noise levels above the ODOT Noise Abatement Approach Criteria of 65 dBA with the other build alternatives and No Action Alternative in 2045. Roadway traffic noise levels under Alternative EC-3 are not expected to change much over time despite a projected increase in future traffic volumes on the existing roadway network. Alternative EC-3 traffic noise levels in the year 2045 for all modeled sites are within 3 dBA of existing noise levels, with increases up to 3 dBA and decreases up to 2 dBA from existing noise levels. Reduction in noise levels with Alternative EC-3 is primarily the result of the shift of the roadway alignment and reduced bridge noise with the replacement bridge deck. No substantial increase to impacts is predicted under Alternative EC-3 2045 conditions (WSP 2020:50).

Noise Effects on Historic Properties

In conclusion, construction impacts would result in a temporary increase in noise at areas near the construction site for the build alternatives only. Direct impacts for the no-action and build alternatives would result in one recreation area approaching the ODOT and WSDOT Noise Abatement Approach Criteria. No indirect impacts are anticipated for the no-action and build alternatives (WSP 2020:50). The short-term and long-term noise related to construction activities during the Project and traffic following Project completion would, therefore, not create an adverse effect on any historic properties.

6.3.4. Reasonably Foreseeable Effects

Under 36 CFR 800.5(a)(1), adverse effects to historic properties may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative. Cumulative effects are those environmental effects that result from the incremental effect of the proposed action.

The analysis of cumulative effects involves a series of steps conducted in the following order:

- Identify the resource topics that could potentially experience direct or indirect effects from construction and operation of the proposed Project.
- Define the geographic area (spatial boundary) within which cumulative effects would be assessed, as well as the time frame (temporal boundary).
- Describe the current status or condition of the resource being analyzed, as well as its historic condition (prior to any notable change).
- Identify Project effects that are reasonably likely to occur within the APE during the established time frame and assess whether they would be adversely affect the historic property.
- Describe the combined effect on the resource being analyzed when the direct and indirect effects of the Project are combined with those that are reasonably foreseeable.

Based on the short-term construction effects and long-term operational effects, and excluding the Hood River Bridge, the Project is not expected to meaningfully cause reasonably foreseeable effects to the nine remaining historic properties. The setting of the historic properties has evolved over time and will continue to evolve due to the actions of local, state, and federal projects in the vicinity. While the

proposed Project would modify a part of historic setting, these modifications would not alter the characteristics that make the historic properties eligible for the NRHP. The Hood River Bridge, therefore, would be the only historic property that would be adversely affected by the proposed Project.

6.3.5. Conclusion

Project-related effects would be limited to physical destruction of the Hood River Bridge. While some historic properties could experience minimal increases in noise-related effects caused by construction and facility operation, these increases would not adversely affect the characteristics that make these resources eligible for the NRHP. These effects are not expected to diminish the historical integrity of the historic properties or substantively alter the characteristics that make them significant. Based on destruction of the Hood River Bridge, the Project would result in an adverse effect to historic properties, pursuant to 36 CFR 800.5(b).

6.4. Summaries of Findings of Effect for Individual Historic Properties

Table 6-1 provides the finding of effects for the individual historic properties, which are summarized below. These findings apply to the build alternatives for the Project (Alternatives EC-2 and EC-3), which would have similar affects to historic properties in the APE. Because no federal funds would be expended under the No Action Alternative and no other federal undertakings would occur, Section 106 of the NHPA would not apply.

Table 6-1. Section 106 Effect Findings for Eligible/Listed Properties

Resource # & Property	Address	Level of Effect
No #. Hood River Bridge (1924)	Spanning Columbia River between Hood River, Oregon, and White Salmon, Washington	Adverse
#8. Single-Family Residence (1920)	267 SE Oak Street, White Salmon, Washington	No Effect
#10. Single-Family Residence (1918)	301 SE Oak Street, White Salmon, Washington	No Adverse Effect
#21. Single-Family Residence (1973)	345 W Jewett Boulevard, White Salmon, Washington	No Adverse Effect
#24. Single-Family Residence (1965)	435 W Jewett Boulevard, White Salmon, Washington	No Adverse Effect
#25. Single-Family Residence (1940)	447 W Jewett Boulevard, White Salmon, Washington	No Adverse Effect
#40. SP&S Railway	White Salmon	No Adverse Effect
No #. Hood River Loops (1913-1937)	Historic Columbia River Highway, Oregon	No Adverse Effect
#46. Bryant Property: Farmstead/ Ranch with house (1930)	2495 Old Columbia River Drive, Hood River, Oregon	No Adverse Effect
#63. OR&N Railroad	Hood River	No Adverse Effect

6.4.1. Hood River Bridge (Adverse Effect)

The Hood River Bridge, constructed in 1924, is eligible for the NRHP. The bridge has statewide significance under NRHP Criterion A in the area of Transportation as the second oldest Columbia River

vehicle crossing between Oregon and Washington and for its association with private bridge development and operation during the early twentieth century. Since its initial construction in 1924, the bridge has served as a major Columbia River crossing, supporting regional commerce and facilitating tourism and recreation (**Figure 6-2**). The bridge's substantial 1938 modifications are also significantly associated with the Bonneville Dam Project, which required that the bridge accommodate higher water levels of the new Columbia River reservoir and the passage of tall vessels. The period of significance for Criterion A begins in 1924, when the bridge opened, and ends in 1950, when the OWBC, a private company, transferred ownership and operations of the bridge to the Port, a public entity. This period of significance encompasses the bridge modification project associated with the historic construction of Bonneville Dam. The bridge's modifications demonstrate the dam's significant impacts to transportation infrastructure on the Columbia River.

The bridge was previously determined eligible under NRHP Criterion B for its association with bridge contractor Charles N. McDonald. However, that association does not meet the threshold for Criterion B significance. According to National Register Bulletin 32, a property that is significant as an important example of an individual's skill as an architect or engineer should be nominated under Criterion C rather than Criterion B (Boland n.d.:14). Therefore, McDonald's association with the bridge was re-evaluated under Criterion C.

The bridge is locally significant under NRHP Criterion C in the area of Engineering for the design of its central span, which embodies the distinctive characteristics of the vertical-lift Pennsylvania-Petit steel through-truss. The bridge is one of the few remaining bridges of its type in the Oregon-Washington region. ODOT has classified the Hood River Bridge as a Category I for its historic significance and high integrity of significant features. Holstine and Hobbs (2005) classified the bridge as one of the Washington's "premier" historic bridges, and the bridge appears to be one of the few surviving examples of a Pennsylvania-Petit truss system in the state.

The Hood River Bridge may also be significant under Criterion C for representing the work of bridge contractor Charles N. McDonald, who supervised construction for Gilpin. McDonald was a prominent contractor who had worked on numerous bridge projects in the Pacific Northwest since 1887. He is notable for supervising construction of the Hawthorne and Steel Bridges in Portland, on which he based the Hood River Bridge's vertical-lift tower design. Although the Hood River Bridge dates from 1924, the period of significance under Criterion C is 1938, when the bridge was substantially modified by incorporation of the distinctive vertical-lift span and underwent other major design alterations.

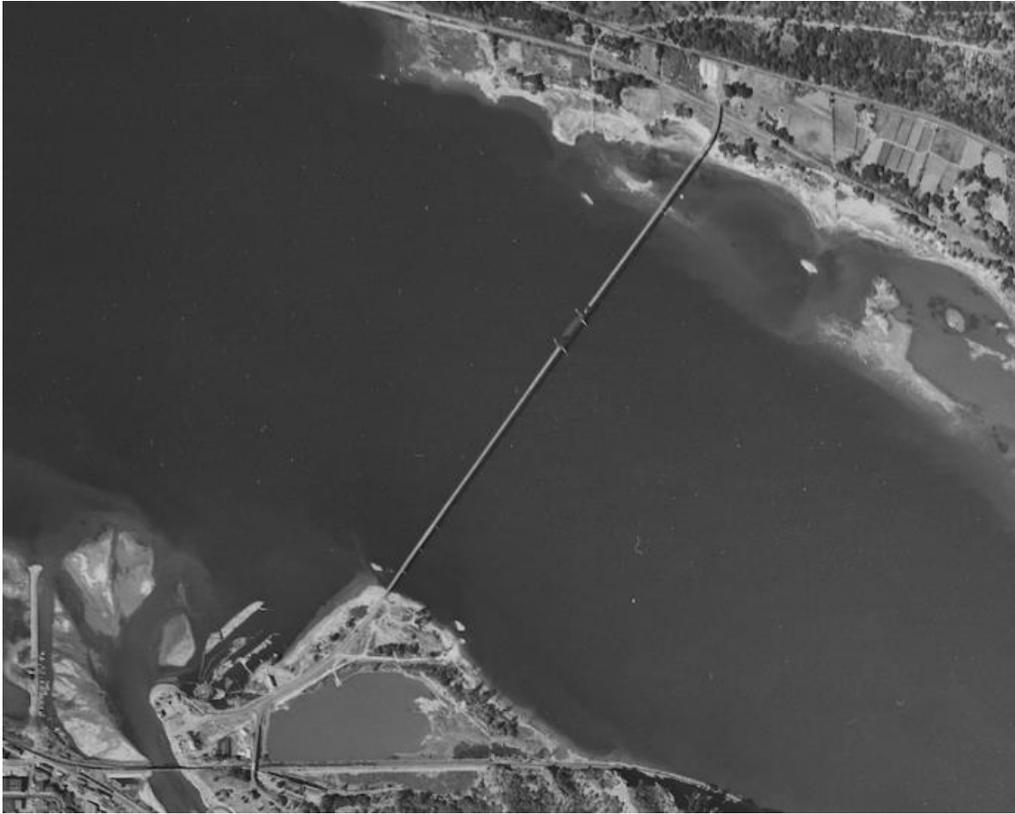


Figure 6-2. Hood River Bridge aerial view, 1947 (earthexplorerusgs.gov)

Historic Properties Adversely Affected

The FHWA, in conjunction with ODOT, has determined that the Hood River Bridge is eligible for the NRHP. In addition, the Washington and Oregon SHPOs previously concurred with a determination of eligibility for the bridge in 2004. The Oregon SHPO reaffirmed the bridge's eligibility status in 2019. Project Alternatives EC-2 and EC-3 will involve physical destruction of the property and removal of the property from its historic location, adversely affecting the characteristics that make the bridge eligible for the NRHP.

6.4.2. Resource #8. 267 SE Oak Street, White Salmon, Washington (No Effect)

The bluff residence at 267 SE Oak Street, constructed in 1920 in the English/Tudor Cottage architectural style, is eligible for the NRHP. The residence is locally significant under NRHP Criterion C in the area of Architecture for embodying the distinctive characteristics of a small 1920s-era cottage and is one of the few remaining examples of early, mostly unaltered, residential architecture along the White Salmon bluff (**Figure 6-3**). The period of significance is 1920, when the house was constructed. The boundaries of the property are its legal parcel.



Figure 6-3. The English/Tudor Cottage residence at 267 SE Oak Street (1920) in White Salmon, Washington.

No Effect

The FHWA, in conjunction with ODOT, has determined that 267 SE Oak Street remains eligible for the NRHP. Evaluating the Level of Effect for the proposed undertaking on the property requires application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5. Project Alternatives EC-2 and EC-3 (build alternatives) will involve altering the setting of 267 SE Oak Street, but these changes would have no effects upon the characteristics that make the property eligible for the NRHP.

Potential permanent and/or operational effects consist of the replacement of Hood River Bridge that would alter the view of the bridge from 267 SE Oak Street. Temporary changes would consist of the visual intrusion and construction-related noise and atmospheric effects from equipment and temporary structures. Short-term noise levels for construction activities are expected to range from approximately 70 to 100 dBA due to construction activities and possible increased traffic. Noise and atmospheric effects would be minimized through the implementation of construction BMPs.

The Project would have no effects upon 267 SE Oak Street for the following reasons. First, the construction of 267 SE Oak Street was not necessarily historically associated with construction of the Hood River Bridge. Second, views from 267 SE Oak Street to the bridge are non-existent or highly obscured due to the construction of the two modern houses to the south (**Figure 6-4** Error! Reference s

ource not found. and **Figure 6-5**Error! Reference source not found.). Third, the historic qualities of the setting viewed from 267 SE Oak Street have been altered by increased industrial activities and residential development since it was constructed. Lastly, the alignments of the proposed Project would be similar to the alignment of the existing bridge and would not obscure, fragment, or significantly contrast with the existing visual environment as observed from 267 SE Oak Street. The Project features, construction-related activities, and facility operation, therefore, would not affect the characteristics that make 267 SE Oak Street eligible for the NRHP.



Figure 6-4. 267 SE Oak Street west elevation, looking southwest towards Hood River Bridge.



Figure 6-5. Photograph from 267 SE Oak Street looking southwest towards Hood River Bridge.

6.4.3. Resource #10. 301 SE Oak Street, White Salmon, Washington (No Adverse Effect)

The bluff residence at 301 SE Oak Street, constructed in 1918 in the English/Tudor Cottage architectural style, is eligible for the NRHP (**Figure 6-6**). The residence is locally significant under NRHP Criterion A in the area of Community Planning and Development for its association with an early phase of residential development in White Salmon, as documented by the local newspaper. The period of significance begins in 1918, the year of construction. The boundaries of the property are its legal parcel.



Figure 6-6. Single-Family Residence at 301 SE Oak Street, White Salmon, Washington

No Adverse Effect

The FHWA, in conjunction with ODOT, has determined that 301 SE Oak Street remains eligible for the NRHP. Evaluating the Level of Effect for the proposed undertaking on the property requires application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5. Project Alternatives EC-2 and EC-3 (build alternatives) will involve altering the setting of 301 SE Oak Street, but these changes would have no adverse effects upon the characteristics that make the property eligible for the NRHP.

Potential permanent and/or operational effects consist of the replacement of Hood River Bridge that would alter the view of the bridge from 301 SE Oak Street. Temporary changes would consist of the visual intrusion and construction-related noise and atmospheric effects from equipment and temporary structures. Short-term noise levels for construction activities are expected to range from approximately 70 to 100 dBA due to construction activities and possible increased traffic. Noise and atmospheric effects would be minimized through the implementation of construction BMPs.

The Project would have no adverse effects upon 301 SE Oak Street for the following reasons. First, the construction of 301 SE Oak Street was not necessarily historically associated with construction of the Hood River Bridge. Second, views from 301 SE Oak Street to the bridge are partially obstructed by vegetation along the western boundary of the property (**Figure 6-7**). Third, the historic qualities of the setting viewed from 301 SE Oak Street have been altered by increased industrial activities and residential development since it was constructed. Lastly, the alignments of the proposed Project would be similar to the alignment of the existing bridge and would not obscure, fragment, or significantly contrast with the existing visual environment as observed from 301 SE Oak Street. The Project features, construction-related activities, and facility operation, therefore, would not adversely affect the characteristics that make 301 SE Oak Street eligible for the NRHP.



Figure 6-7. Photograph from 301 SE Oak Street looking southwest towards Hood River Bridge

6.4.4. Resource #21. 345 W Jewett Boulevard, White Salmon, Washington (No Adverse Effect)

The property at 345 W Jewett Boulevard, constructed in 1973, is eligible for the NRHP. The residence is locally significant under Criterion C in the area of Architecture. It embodies the distinctive characteristics of a Northwest-style residence that has adapted to the White Salmon bluff's particular topography and climate through incorporation of ample wood in the siding, a distinctive roof opening with large windows to enhance natural lighting and views toward Mt. Hood, and a building configuration that shelters the front entrance from intense bluff winds (**Figure 6-8**Error! Reference source not found.). The period of significance is 1973, when the house was constructed. The boundaries are the legal parcel.



Figure 6-8. Northwest Regional residence at 345 W Jewett Boulevard, White Salmon, Washington

No Adverse Effect

The FHWA, in conjunction with ODOT, has determined that 345 W Jewett Boulevard remains eligible for the NRHP. Evaluating the Level of Effect for the proposed undertaking on the property requires application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5. Project Alternatives EC-2 and EC-3 (build alternatives) will involve altering the setting of 345 W Jewett Boulevard, but these changes would have no adverse effects upon the characteristics that make the property eligible for the NRHP.

Potential permanent and/or operational effects consist of the replacement of Hood River Bridge that would alter the view of the bridge from 345 W Jewett Boulevard. Temporary changes would consist of the visual intrusion and construction-related noise and atmospheric effects from equipment and temporary structures. Short-term noise levels for construction activities are expected to range from approximately 70 to 100 dBA due to construction activities and possible increased traffic. Noise and atmospheric effects would be minimized through the implementation of construction BMPs. It should be noted that access was not granted to this property by the property owner and so effects were estimated using mapping and by approximating effects based on the nature of effects to similarly situated properties.

The Project would have no adverse effects upon 345 W Jewett Boulevard for the following reasons. First, the construction of 345 W Jewett Boulevard was not necessarily historically associated with construction of the Hood River Bridge. Second, views from 345 W Jewett Boulevard to the bridge appear to be partially obstructed by vegetation along the south side of the property. Third, the historic qualities of the setting viewed from 345 W Jewett Boulevard have been altered by increased industrial activities and residential development since it was constructed. Lastly, the alignments of the proposed Project would be similar to the alignment of the existing bridge and would not obscure, fragment, or significantly contrast with the existing visual environment as observed from 345 W Jewett Boulevard. The Project features, construction-related activities, and facility operation, therefore, would not adversely affect the characteristics that make 345 W Jewett Boulevard eligible for the NRHP.

6.4.5. Resource #24. Van Alstine Residence at 435 W Jewett Boulevard, White Salmon, Washington (No Adverse Effect)

The property at 435 W Jewett Boulevard, constructed in 1965, is eligible for the NRHP. The residence is locally significant under Criterion C in the area of Architecture for embodying the distinctive characteristics of Ranch architecture, including its rectangular form, horizontal wood board and brick siding, hipped and gable roof forms with moderate overhangs, and original wood windows (**Figure 6-9**Error! Reference source not found.). The house is one of the few remaining examples of White Salmon bluff residences from the early midcentury that largely retains historical integrity. The period of significance is 1965, when the house was constructed. The boundaries are the legal parcel.



Figure 6-9. Ranch-style residence at 435 W Jewett Boulevard/Van Alstine House (1965) in White Salmon, Washington

No Adverse Effect

The FHWA, in conjunction with ODOT, has determined that the Van Alstine House remains eligible for the NRHP. Evaluating the Level of Effect for the proposed undertaking on the property requires application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5. Project Alternatives EC-2 and EC-3 (build alternatives) will involve altering the setting of the Van Alstine House, but these changes would have no adverse effects upon the characteristics that make the property eligible for the NRHP.

Potential permanent and/or operational effects consist of the replacement of Hood River Bridge that would alter the view of the bridge from the Van Alstine House. Temporary changes would consist of the visual intrusion and construction-related noise and atmospheric effects from equipment and temporary structures. Short-term noise levels for construction activities are expected to range from approximately 70 to 100 dBA due to construction activities and possible increased traffic. Noise and atmospheric effects would be minimized through the implementation of construction BMPs.

The Project would have no adverse effects upon the Van Alstine House for the following reasons. First, the construction of the Van Alstine House was not necessarily historically associated with construction of the Hood River Bridge. Second, the historic qualities of the setting viewed from the Van Alstine House have been altered by increased industrial activities and residential development since it was constructed. Lastly, the alignments of the proposed Project would be similar to the alignment of the existing bridge and would not obscure, fragment, or significantly contrast with the existing visual environment as observed from the Van Alstine House (**Figure 6-10**). The Project features, construction-related activities, and facility operation, therefore, would not adversely affect the characteristics that make the Van Alstine House eligible for the NRHP.



Figure 6-10. Van Alstine House, looking southeast towards Hood River Bridge and Mount Hood

6.4.6. Resource #25. 447 W Jewett Boulevard, White Salmon, Washington (No Adverse Effect)

The bluff residence at 447 W Jewett Boulevard, constructed in 1940 in the Colonial Revival architectural style, is eligible for the NRHP. The residence is locally significant under NRHP Criterion C in the area of Architecture for embodying the distinctive characteristics of a World War II-era residence with Colonial Revival details that has adapted to the White Salmon bluff's particular topography and heavily incorporated the bluff's natural basalt into the building's design, construction, and landscaping (**Figure 6-11**). The house is one of the few remaining examples of mostly unaltered White Salmon bluff residences from the early midcentury. The period of significance is 1940, when the house was constructed. The boundaries of the property are its legal parcel.



Figure 6-11. Colonial Revival-style residence at 447 W Jewett Boulevard (1940) in White Salmon, Washington.

No Adverse Effect

The FHWA, in conjunction with ODOT, has determined that 447 W Jewett Boulevard remains eligible for the NRHP. Evaluating the Level of Effect for the proposed undertaking on the property requires application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5. Project Alternatives EC-2 and EC-3 (build alternatives) will involve altering the setting of 447 W Jewett Boulevard, but these changes would have no adverse effects upon the characteristics that make the property eligible for the NRHP.

Potential permanent and/or operational effects consist of the replacement of Hood River Bridge that would alter the view of the bridge from 447 W Jewett Boulevard (**Figure 6-12**). Temporary changes would consist of the visual intrusion and construction-related noise and atmospheric effects from equipment and temporary structures. Short-term noise levels for construction activities are expected to range from approximately 70 to 100 dBA due to construction activities and possible increased traffic. Noise and atmospheric effects would be minimized through the implementation of construction BMPs.

The Project would have no adverse effects upon 447 W Jewett Boulevard for the following reasons. First, the construction of 447 W Jewett Boulevard was not necessarily historically associated with construction of the Hood River Bridge. Second, views from 447 W Jewett Boulevard to the bridge are partially obstructed by deciduous and coniferous vegetation along the southern and eastern boundary of the property. Third, the historic qualities of the setting viewed from 447 W Jewett Boulevard have been altered by increased industrial activities and residential development since it was constructed. Lastly, the alignments of the proposed Project would be similar to the alignment of the existing bridge and would not obscure, fragment, or significantly contrast with the existing visual environment as

observed from 447 W Jewett Boulevard. The Project features, construction-related activities, and facility operation, therefore, would not adversely affect the characteristics that make 447 W Jewett Boulevard eligible for the NRHP.



Figure 6-12. Photograph from 447 W Jewett Boulevard looking southeast towards Hood River Bridge

6.4.7. Resource #40. Spokane, Portland & Seattle Railway

The approximately 1/3-mile SP&S Railway segment traverses the flatlands along the Columbia River in the Bingen–White Salmon area of Klickitat County, Washington. The segment is part of the larger railway that was completed and placed into operation in 1908. The segment runs parallel between the Columbia River, immediately to the south, and Washington SR 14 (Lewis and Clark Highway) to the north. The segment extends in a west-northwest/east-southeast orientation. Around the segment’s midway point, it passes beneath the north end of the Hood River Bridge. Large sections of the rail segment are lined with trees and other vegetation, mostly on the north side, except where the rail passes industrial properties. The segment consists of the single-track main line, and the modern steel rails are standard gauge replacements (**Figure 6-13**Error! Reference source not found.). The rails have a standard profile, resembling a steel I-beam, and the railroad ties are modern, pressure-treated replacements. The railroad’s grade crossing at South Dock Road has a basic modern signal configuration consisting of a crossbuck and a bell attached to a mast, flashing red lights, and gates that lower before the train arrives.

The railroad segment is eligible for the NRHP under Criterion A in the areas of Commerce and Transportation for its association with the larger SP&S linear resource and its promotion of industrial and commercial growth in communities along the Columbia River Gorge during the early twentieth century and contributions to national defense during World War II. The property is significant at the local and state level and retains a period of significance (1908-1970) that corresponds to its completion in 1908 and 1970 merger to become part of the BNSF Railroad.



Figure 6-13. Photograph of SP&S segment near White Salmon, Washington (looking east)

No Adverse Effect

The FHWA, in conjunction with ODOT, has determined that the SP&S segment is eligible for the NRHP. Evaluating the Level of Effect for the proposed undertaking on the property requires application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5. Project Alternatives EC-2 and EC-3 (build alternatives) will involve altering the setting of the SP&S, but these changes would have no adverse effects upon the characteristics that make the property eligible for the NRHP.

Potential permanent and/or operational effects consist of the replacement of Hood River Bridge that would alter the view of the bridge from the SP&S segment. Temporary changes would consist of the visual intrusion and construction-related noise and atmospheric effects from equipment and temporary structures. Short-term noise levels for construction activities are expected to range from approximately 70 to 100 dBA due to construction activities and possible increased traffic. Noise and atmospheric effects would be minimized through the implementation of construction BMPs.

The Project would have no adverse effects upon the SP&S segment for the following reasons. First, the construction of the SP&S predates the construction of the Hood River Bridge. Second, views from SP&S to the bridge are partially obstructed by vegetation along the southern boundary of the property. Third, the historic qualities of the setting viewed from the SP&S segment have been altered by increased industrial activities and residential development since it was constructed. Lastly, the alignments of the proposed Project would be similar to the alignment of the existing bridge and would not obscure, fragment, or significantly contrast with the existing visual environment as observed from the SP&S. The

Project features, construction-related activities, and facility operation, therefore, would not adversely affect the characteristics that make the SP&S segment eligible for the NRHP.

6.4.8. Hood River Loops (No Adverse Effect)

The Columbia River Highway NHL District was constructed between 1913 and 1937 and is nationally significant for exemplifying modern highway development in the twentieth century and advancing road designs. These advancements include maintaining grade and curve standards, the implementation of comprehensive drainage systems, and design of dry and mortared masonry walls, reinforced concrete bridges, and asphaltic concrete pavement (**Figure 6-14**). The NHL District is also significant in American landscape architecture as the first scenic highway in the country and as the “most important contribution to the fields of civil engineering and landscape architecture by Samuel C. Lancaster” (Hadlow 2000:44). The period of significance extends from its initial construction in 1913 to the completion of Toothrock Tunnel in 1937.

The NHL District, including the Hood River Loops located in Hood River, Oregon, was initially listed in the NRHP as a historic district significant under Criteria A and C in 1983 (Smith 1983). In 2000, much of the Columbia River Highway, including the Hood River Loops, received designation from the Secretary of the Interior as an NHL under Criteria 1 and 4 (Hadlow 2000). The Hood River Loops have been identified as a distinct feature of the district. A field assessment completed as a part of this Project affirms that the Loops remain a contributing segment of the NRHP-listed Columbia River Highway historic district and the NHL district.



Figure 6-14. Hood River Loops, viewing east

No Adverse Effect

The FHWA, in conjunction with ODOT, has determined that the Columbia River Highway Hood River Loops remain listed in the NRHP and is a part of Segment 3 of the Columbia River Highway NHL District. Evaluating the Level of Effect for the proposed undertaking on the historic bridge requires application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5. Project Alternatives EC-2 and EC-3 (build alternatives) will involve altering the setting of the Hood River Loops, but these changes would have no adverse effects upon the characteristics that make the Hood River Loops a contributing part of the Columbia River Highway NHL District.

Potential permanent and/or operational effects consist of the replacement of Hood River Bridge that would alter the view of the bridge from the Columbia River Highway Hood River Loops. Temporary changes would consist of the visual intrusion and construction-related noise and atmospheric effects from equipment and temporary structures. Short-term noise levels for construction activities are expected to range from approximately 70 to 100 dBA due to construction activities and possible increased traffic. Noise and atmospheric effects would be minimized through the implementation of construction BMPs. There would therefore be no effect to the Columbia River Highway NHL District.

The Project effects would have no adverse effects upon the Columbia River Highway Hood River Loops for the following reasons. First, the construction of the Hood River Loops was not necessarily historically associated with construction of the Hood River Bridge. Second, the roadway connecting the Hood River Loops with the bridge has been significantly altered due to modern road realignments thus reducing their physical relationship to one another. Third, views from the Hood River Loops to the bridge are intermittent due to the weaving layout of the roadway and due to deciduous and coniferous vegetation located on the river side of the roadway. Fourth, the historic qualities of the setting viewed from the Hood River Loops has been altered by increased industrial activities since it was constructed. Fifth, the Project would not have any physical effects upon the spatial organization, circulation, topography, or vegetation nor would it adversely affect the “control points” or “beauty spots” that relate to the waterfalls, rock formations, alcoves, sided canyons, or scenic vistas identified as significant components of the Hood River Loops in the Columbia River Highway NHL District nomination. Lastly, the alignments of the proposed Project would be similar to the alignment of the existing bridge and would not obscure, fragment, or significantly contrast with the existing visual environment visible from the highway. The Project features, construction-related activities, and facility operation, therefore, would not adversely affect the characteristics that make the Columbia River Highway NHL District, including the Hood River Loops, eligible for NHL designation. This level of effect applies both to Segment 3 of the Columbia River Highway NHL District and to the district as a whole.

6.4.9. Resource #46. Bryant Farmstead/Ranch at 2495 Old Columbia River Highway, Hood River, Oregon (No Adverse Effect)

The Bryant Property, constructed in 1930, may be eligible for the NRHP for its potential local significance under NRHP Criterion C. Based on limited survey access, the property appears to reflect character-defining features of a small, early twentieth-century ranch/farmstead, one of the few examples of this property type in its immediate vicinity (**Figure 6-15**). The recommendation of eligibility is based on the lack of property access and the inability to clearly view the main residence. The boundaries of the property are its legal parcel.



Figure 6-15. Bryant Farmstead/Ranch at 2495 Old Columbia River Highway (1930) in Hood River, Oregon

No Adverse Effect

The FHWA, in conjunction with ODOT, has determined that 2495 Old Columbia River Drive remains eligible for the NRHP. Evaluating the Level of Effect for the proposed undertaking on 2495 Old Columbia River Drive requires application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5. Project Alternatives EC-2 and EC-3 (build alternatives) will involve altering the setting of 2495 Old Columbia River Drive, but these changes would have no adverse effects upon the characteristics that make 2495 Old Columbia River Drive eligible for the NRHP.

Potential permanent and/or operational effects consist of the replacement of Hood River Bridge that would alter the view of the bridge from 2495 Old Columbia River Drive. Temporary changes would consist of the visual intrusion and construction-related noise and atmospheric effects from equipment and temporary structures. Short-term noise levels for construction activities are expected to range from approximately 70 to 100 dBA due to construction activities and possible increased traffic. Noise and atmospheric effects would be minimized through the implementation of construction BMPs.

The Project effects would have no adverse effects upon 2495 Old Columbia River Drive for the following reasons. First, the construction of 2495 Old Columbia River Drive was not necessarily historically associated with construction of the Hood River Bridge. Second, views from 2495 Old Columbia River Drive to the bridge are limited to the north end of the property and obstructed by deciduous vegetation. Third, the historic qualities of the setting viewed from 2495 Old Columbia River Drive has been altered by increased industrial activities and residential development since it was constructed. Lastly, the alignments of the proposed Project would be similar to the alignment of the existing bridge and would not obscure, fragment, or significantly contrast with the existing visual environment visible from 2495 Old Columbia River Drive. The Project features, construction-related activities, and facility operation,

therefore, would not adversely affect the characteristics that make 2495 Old Columbia River Drive eligible for NRHP designation.

6.4.10. Resource #63. Oregon Railway & Navigation Segment, Hood River, Oregon (No Adverse Effect)

The OR&N segment in the Hood River area of Hood River County, Oregon, runs in an east-west orientation parallel to the Columbia River and I-84 that are immediately to the north. The segment, completed in 1882, begins on the east side of the Hood River tributary and extends to the east along a gravel pit at the Hood River Sand, Gravel and Ready-Mix Company site. The segment is part of the larger 431-mile OR&N mainline that connected Portland with Huntington, Oregon, when completed and placed into operation in 1884. The single-track main line features modern, standard-gauge steel rails that have a standard profile resembling a steel I-beam. The railroad ties are modern pressure-treated wood replacements. A gravel track ballast covers the standard-width berm that is bordered with trees and other vegetation (**Figure 6-16**).

The railroad segment is eligible for the NRHP under Criterion A in the areas of Commerce and Transportation for its association with the larger OR&N linear resource and its promotion of industrial and commercial growth in communities along the Columbia River Gorge during the late nineteenth and early twentieth century. The property is significant at the local level and retains a period of significance (1882-1930) that corresponds to its completion in 1882 and the beginning of the abandoning of OR&N lines in the 1930s.



Figure 6-16. Photograph of OR&N segment in Hood River, Oregon (looking east)

No Adverse Effect

The FHWA, in conjunction with ODOT, has determined that the OR&N railroad segment is eligible for the NRHP. Evaluating the Level of Effect for the proposed undertaking on the property requires application of the Criteria of Adverse Effect as set forth in 36 CFR 800.5. Project Alternatives EC-2 and EC-3 (build alternatives) will involve altering the setting of the OR&N, but these changes would have no adverse effects upon the characteristics that make the property eligible for the NRHP.

Potential permanent and/or operational effects consist of the replacement of Hood River Bridge that would alter the view of the bridge from the OR&N railroad segment. Temporary changes would consist of the visual intrusion and construction-related noise and atmospheric effects from equipment and temporary structures. Short-term noise levels for construction activities are expected to range from approximately 70 to 100 dBA due to construction activities and possible increased traffic. Noise and atmospheric effects would be minimized through the implementation of construction BMPs.

The Project would have no adverse effects upon the OR&N railroad segment for the following reasons. First, the construction of the OR&N predates the construction of the Hood River Bridge. Second, views from OR&N to the bridge are partially obstructed by vegetation, buildings, and structures. Third, the historic qualities of the setting viewed from the OR&N segment have been altered by increased industrial activities, construction of an interstate highway, and residential and commercial development since it was constructed (**Figure 6-17**). Lastly, the alignments of the proposed Project would be similar to the alignment of the existing bridge and would not obscure, fragment, or significantly contrast with the existing visual environment as observed from the OR&N. The Project features, construction-related activities, and facility operation, therefore, would not adversely affect the characteristics that make the OR&N segment eligible for the NRHP.

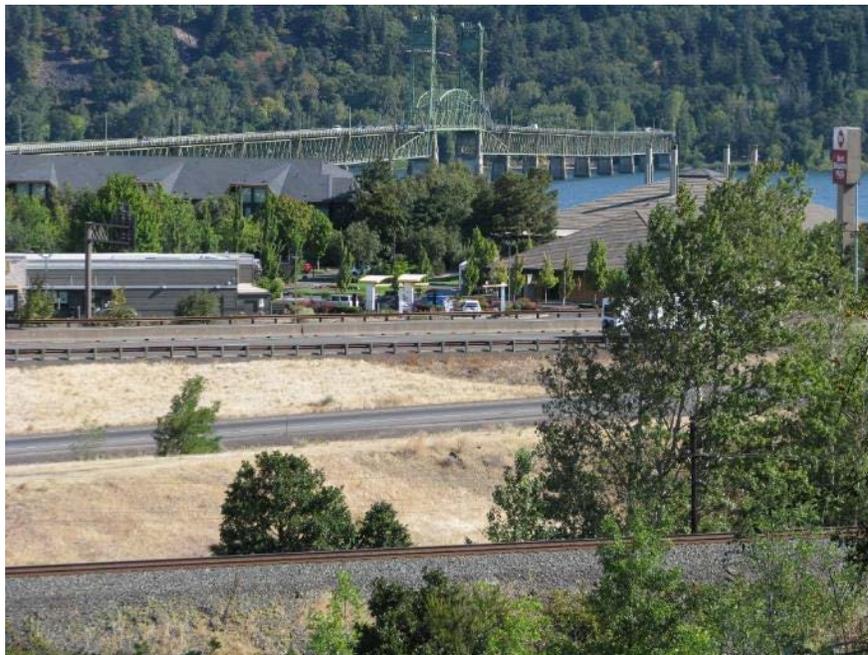


Figure 6-17. Photograph of OR&N segment (foreground) in Hood River, Oregon (looking north towards the Hood River Bridge in the background)

7. RECOMMENDATIONS FOR AVOIDANCE, MINIMIZATION, AND MITIGATION

Avoidance, minimization, or mitigation measures, as identified through consultation with ODOT, WSDOT, Oregon and Washington SHPOs, Port of Hood River, tribes, and consulting parties will resolve adverse effects to historic properties. The implementation of BMPs during construction would reduce the potential for Project-related noise, vibration, and inadvertent effects to historic properties. Effect avoidance and minimization measures are recommended for the potential for construction-related vibration.

According to the Advisory Council on Historic Preservation (ACHP), consulting about options to resolve adverse effects should focus on the historic resource and the nature of the Project. The property's boundaries, period of significance, characteristics that qualify it for the NRHP are critical to evaluate the appropriateness of measures proposed to avoid, minimize, or mitigate the adverse effects. An important goal of Section 106 consultation to resolve adverse effects is to identify an outcome that represents the broader public interest. Key issues in determining appropriate resolution of adverse effects include considering the concerns and interests of consulting parties as well as the community (ACHP 2020).

Following consultation in regard to the evaluation of historical resources and assessment of effects, a Memorandum of Agreement (MOA) would be prepared to resolve adverse effects to historic properties. Under the build alternatives, the Hood River Bridge would be adversely affected. Consultation between ODOT, WSDOT, Oregon and Washington SHPOs, Port of Hood River, tribes, and consulting parties will be performed during the preparation of the MOA. Some potential mitigation concepts could include one or more of the following:

- Adaptations to bridge design
- Incorporation of public art
- Use of historic bridge components in the new design
- Historic American Engineering Record documentation
- Recordation of oral histories
- Placement of historical interpretive panels
- Online encyclopedia submissions
- Documentation of Columbia River crossings between Oregon and Washington
- Creation of a museum exhibit

Once the terms of the MOA are agreed to by the signatories to the agreement and executed, the Section 106 process would be concluded.

8. PREPARERS

Individuals involved in preparing this technical report are identified in **Table 8-1**.

Table 8-1. List of Preparers

Name	Role	Education	Years of Experience
AECOM			
Kirk Ranzetta	Senior Architectural Historian	Ph. D., Urban Affairs and Public Policy	24
Tim Wood	Architectural Historian	M.S., Historic Preservation	4
Shoshana Jones	Architectural Historian	J.D., Law; M.A., History	8
Patience Stuart	Project Manager, Senior Architectural Historian	M.S., Historic Preservation	10
ODOT			
Robert Hadlow	Senior Historian, ODOT Reviewer	Ph.D., US and Public History	30

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