

3.8 Cultural Resources

This section analyzes the potential impacts of the Modified LPA to cultural resources in the Area of Potential Effects (APE; see Section 3.8.2) compared to the No-Build Alternative. In addition, this section describes design changes or new information obtained since 2013, existing conditions, project planning to avoid and minimize effects, and the ongoing process to develop a Programmatic Agreement (PA) to resolve adverse effects to historic properties (see Section 3.8.6). This section summarizes information in the Archaeology Technical Report and Historic Built Environment Technical Report, which were prepared to comply with NEPA, and summarizes compliance with Section 106 of the National Historic Preservation Act (NHPA; 54 USC 306101) and its implementing regulations at 36 CFR Part 800 (Protection of Historic Properties) (NHPA Section 106).

The term *cultural resources* refers to sites, buildings, structures, objects, and districts, which may also include traditional cultural properties (TCPs), historic properties of religious and cultural significance to Indian tribes (HPRCSIT), and cultural landscapes.¹ Cultural resources may be considered *historic properties* as defined in 36 CFR 800.16 if they are included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). To be NRHP-eligible, historic properties must meet one or more NRHP significance criteria; possess integrity of location, design, setting, materials, workmanship, feeling, and association; and typically be 50 years of age or older. Resources meet the NRHP significance criteria if they:

- (Criterion A) are associated with events that have made a significant contribution to the broad patterns of our history.
- (Criterion B) are associated with the lives of persons significant in our past.

¹ TCPs are defined by the National Park Service (NPS) as properties that are eligible for the NRHP for their “association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King 1992:1).

HPRCSIT is a term used in federal law and regulation to describe an historic property to which specifically a Native American tribe or Native Hawaiian organization attaches traditional religious and cultural importance and may be determined eligible in accordance with Section 101(d)(6)(A) of the NHPA (54 USC 302706a). Though conceptually similar, HPRCSIT are differentiated from TCPs because they must be associated with a Native American tribe or Native Hawaiian organization rather than a general “living community.”

A cultural landscape is defined by NPS as “a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values” (Birnbaum 1992). Cultural landscapes are generally categorized as at least one of four types: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes.

Evaluation of Cultural Resources

The evaluation of impacts to cultural resources in this section of the Draft SEIS uses terminology associated with Section 106 of the National Historic Preservation Act. Several new terms are introduced:

- **Area of Potential Effects (APE)** is used to represent the study area for cultural resources (see Section 3.8.2).
- **Direct Effects** to cultural resources are those caused by the undertaking at the same time and place with no intervening cause and regardless of type (e.g., visual, physical, auditory), and may be permanent or temporary.
- **Indirect Effects** to cultural resources are those caused by the undertaking that are later in time or farther removed in distance but still reasonably foreseeable.

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- (Criterion C) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, 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.

Certain categories of resources are typically not considered eligible for listing in the NRHP: cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years (NPS 1995). However, these properties may qualify as NRHP-eligible if they are:

- (Criteria Consideration A). A religious property deriving primary significance from architectural or artistic distinction or historical importance.
- (Criteria Consideration B). A building or structure removed from its original location, but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event.
- (Criteria Consideration C). A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with the figure's productive life.
- (Criteria Consideration D). A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events.
- (Criteria Consideration E). A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived.
- (Criteria Consideration F). A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance.
- (Criteria Consideration G). A property achieving significance within the past 50 years if it is of exceptional importance.

Archaeological sites are physical remnants of past human activity, including items left behind by past peoples (i.e., artifacts) and physical modifications to the landscape (i.e., features). Historic built environment resources are buildings, objects, structures, sites, or districts (NPS 1995). TCPs are places, landscape features, or locations associated with cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community that meet one or more of the four NRHP significance criteria (Parker and King 1992). Historic districts may be composed of a collection of all or some of these resources—archaeological sites, historic built environment resources, and TCPs (NPS 1995).

Cultural resources may be listed in national, state, or local historic registers and may also be identified as important to a particular group during public outreach or formal consultation under Section 106. Project elements that occur on federal lands are also required to comply with the Archaeological Resources Protection Act of 1979 (ARPA; 16 USC 470) and the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA; 25 USC 3001-3013). In Oregon, statutes that consider cultural resources include Archaeological Objects and Sites (Oregon Revised Statutes [ORS] 358.905 to 358.961), Permit and Conditions for Excavation or Removal of Archaeological or Historical Material on Public Lands (ORS 390.235), and Indian Graves and Protected Objects (ORS 97.740-97.760). In Washington, these laws include Archaeological Sites and Resources (Revised Code of Washington [RCW] 27.53), Indian Graves and Records (RCW 27.44), and Abandoned and Historic Cemeteries and Historic Graves (RCW 68.60). In addition, the City of Portland, the City of Vancouver,

and Clark County have ordinances and environmental policies that consider the preservation of cultural resources.

Section 106 of the NHPA requires federal agencies to consider the effects on historic properties of undertakings they carry out, assist, fund, permit, license, or approve and consult on anticipated effects on historic properties.

FHWA and FTA, co-lead federal agencies under Section 106, initiated consultation for the Modified LPA. In September 2020, FHWA and FTA extended formal letters inviting consultation on the IBR Program with 21 tribes and Native Hawaiian Organizations that consulted during the Columbia River Crossing (CRC) project. Through this initial effort, 10 federally recognized tribes expressed an interest in consultation. In February 2022, as a result of consultation with the National Park Service (NPS), letters were sent to an additional 17 tribes. None of those tribes accepted the invitation to consult. A complete list of consulting tribes and a summary of the IBR Program's outreach efforts is included in the Tribal Consultation section of Appendix A. In March 2022, FHWA and FTA contacted 48 points of contact from governments and organizations, sending information about the IBR Program and an invitation to be a NHPA Section 106 consulting party.

In correspondence dated February 7, 2023, FHWA and FTA notified consulting parties and consulting tribes that the IBR Program would be treated as a new undertaking under Section 106, provided maps depicting their determination of the APE, and initiated consultation on the PA. On February 8, 2023, the IBR Program solicited feedback from consulting parties on the APE during a consulting party meeting. The Oregon State Historic Preservation Office (SHPO) agreed with the definition of the APE in correspondence dated March 7, 2023, and the Washington Department of Archaeology and Historic Preservation (DAHP) agreed with the definition of the APE in correspondence dated March 10, 2023. In response to comments from consulting parties and in response to design modifications the APE was revised and FHWA and FTA provided documentation of the revised APE in correspondence to consulting parties dated September 8, 2023. FHWA and FTA provided documentation of additional revisions to the APE in correspondence to consulting parties dated December 27, 2023, and July 1, 2024. Section 106 consultation for the current undertaking is ongoing, including development of a PA. Stipulations in the PA will outline processes for continued consultation, phasing of additional historic property identification, evaluation, effect determination, and mitigation in accordance with 36 CFR Part 800. More detail is provided in Section 3.8.6, Mitigation and Programmatic Agreement.

From April 17 through May 18, 2023, a cultural resources online open house was held to provide an opportunity for public input on efforts to research and identify cultural resources in and near the APE. Information regarding the methods and process for public involvement is provided in Appendix B. Efforts to engage the public specifically related to the cultural resources online open house included advertisement on IBR social media and the home page of the IBR Program website, email notifications to Program partners and community organizations, postcard mailing to addresses in the Program vicinity, press release distribution, and promotion in the April 2023 IBR Program newsletter. In addition, IBR Program cultural resources staff participated in in-person neighborhood forums in May and June 2023 and have staffed virtual and in-person office hours to field questions from the public. Reports on historic properties and the Draft PA will be made available for review to the general public at the IBR project office and through online open houses. Documentation that includes sensitive information exempt from the Freedom of Information Act will not be readily available for public review pursuant to Section 304 of NHPA.

In addition to Section 106 compliance, historic properties that are NRHP-listed or determined to be NRHP-eligible are also subject to applicable state laws and Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 USC 303). The Section 4(f) Evaluation is Chapter 4 of this Draft SEIS.

3.8.1 Changes or New Information Since 2013

The Columbia River Crossing (CRC) Selected Alternative identified in the 2011 Record of Decision (ROD), as revised by the 2012 and 2013 re-evaluations, is referred to as the CRC Locally Preferred Alternative (CRC LPA). Over the past 10+ years since the CRC Locally Preferred Alternative (CRC was identified, the physical environment in the study area, community priorities, and regulations have changed, which necessitated design revisions and resulted in the IBR Modified LPA (see Section 2.5.2). Evaluation of potential impacts associated with cultural resources has been updated in this Draft SEIS to include:

- Initiation of a new undertaking under Section 106.
- Updated APE based on changes to the construction footprint.
- Updated information on known historic properties within the APE in response to reduced construction footprint and expansion of historic built environment analysis to consider resources that would be 50 years of age at the time of the Modified LPA's anticipated completion date in 2032.
- Updates to direct and indirect effects of the Modified LPA and design options.

Table 3.8-1 compares the effects identified for the CRC LPA and the IBR Program's Modified LPA resulting from the changes listed above. As shown, changes to the design of the CRC LPA may result in fewer adverse effects on archaeological sites. Meanwhile, although the construction footprint of the Modified LPA is less than the CRC LPA in some areas, the number of historic built environment resources affected increased because the quantity of historic built environment resources assessed increased. Compared to 25 resources assessed by CRC, 39 resources were assessed for the Modified LPA. This increase is due to the following additions:

- Resources built between 1967 (the most recent resources evaluated in the CRC Final EIS) and 1982 were evaluated because they would be at least 50 years of age at the time of the Modified LPA's anticipated completion date in 2032.
- Both the northbound and southbound portions of the Interstate Bridge are assessed for effects in this Draft SEIS, while the CRC Final EIS evaluated only the northbound portion of the bridge.
- The CRC Final EIS considered the Vancouver National Historic Reserve (VNHR) as one property. This analysis refines that approach by separately considering the four historic districts and one historic site that are located within the boundaries of the VNHR, but previously documented separately as NRHP-eligible or NRHP-listed historic properties. These include Vancouver National Historic Reserve Historic District, Pearson Field Historic District, Vancouver Barracks Historic District, Officers Row Historic District, and Fort Vancouver National Historic Site. Portions of the VNHR are owned and managed separately by NPS and City of Vancouver.

A detailed description of effects on archaeological sites and historic built environment resources from the IBR Modified LPA and design options is provided in Section 3.8.3, Direct Effects.

Table 3.8-1. Comparison of CRC LPA Effects and IBR Modified LPA Effects

Technical Considerations	CRC LPA Effects as Identified in the 2011 Final EIS	Modified LPA Effects as Identified in this Section ^a	Explanation of Differences
Number of NRHP-listed or NRHP-eligible historic built environment resources adversely affected	3	12	<ul style="list-style-type: none"> • Pier 99 (OR 1, also referred to as Totem Pole Marina No. 2) would have been adversely affected under CRC but was demolished in 2023 by activities unrelated to the IBR Program. • Northbound portion of the Interstate Bridge would be adversely affected under both CRC and IBR. • Additional adverse effects of the I-5 southbound portion of the Interstate Bridge and the Normandy Apartments with the Modified LPA. • VNHR was previously assessed as one property. Under the IBR Program, four districts and one site, which are located within the boundary of VNHR but previously documented as separate historic properties, are assessed separately and found to be adversely affected separately. • Four previously unevaluated properties would be adversely affected, of which two were built between 1967 and 1982.^b
Number of archaeological sites adversely affected	32	12	<ul style="list-style-type: none"> • Changes in project construction footprint reduced the number of adverse effects.

a Given the complexities of the IBR Program and the anticipated mix of construction contract delivery methods, additional cultural resource investigations completed consistent with a Section 106 phased identification process that will be stipulated in the PA are required and may result in changes to these totals. When executed, the PA will include stipulations that specify the process for continued consultation, evaluation, effect determination, and mitigation in accordance with 36 CFR Part 800. Current totals are based on Section 106 investigations completed at the time of document publication.

b These include Jantzen Beach Moorage (OR 111), Jantzen Beach Water Tank (OR 109), Harbor Shops (OR 107), and Bridge Substation (WA 1192).

CFR = Code of Federal Regulations; CRC = Columbia River Crossing; EIS = Environmental Impact Statement; IBR = Interstate Bridge Replacement; LPA = Locally Preferred Alternative; NRHP = National Register of Historic Places; PA = Programmatic Agreement; VNHR = Vancouver National Historic Reserve

3.8.2 Existing Conditions

This section describes the APE and summarizes baseline conditions in the APE, as described in the Archaeology and Historic Built Environment Technical Reports. These reports include context and background for the precontact and post-contact periods that inform the significance analysis of documented historic properties. In addition, this section presents the findings of archaeological and historic built environment investigations conducted to date to identify historic properties within the APE.

Area of Potential Effects

The APE is shown in Figure 3.8-1. The APE is defined as “the geographic area or areas within which an undertaking may directly or indirectly cause alteration in the character or use of historic properties, if any

such properties exist” (36 CFR 800.16(d)). The APE was established through FHWA’s and FTA’s consultation with SHPO, DAHP, 10 consulting tribes, and other Section 106 consulting parties.

The APE was delineated to account for direct and indirect effects. The APE includes the project footprint (limits of ground disturbance) of the Modified LPA plus a 100-foot buffer. In addition, it includes all areas within the NPS VNHR, as well as a non-contiguous area consisting of the property boundary for the Ruby Junction Maintenance Facility in Gresham, Oregon, and the C-TRAN Operations and Maintenance Facility in Vancouver, Washington. The 100-foot buffer from the project footprint account for potential visual or air quality effects, such as dust created during construction or noise or vibration effects, which could affect historic properties. Potential effects are assessed for historic properties on parcels crossed by the APE boundary, including parcels where only part of the historic property boundary is within the APE boundary. In total, the APE encompasses 1,094.07 acres, including 49.05 acres for the Ruby Junction Maintenance Facility and 1.79 acres for the C-TRAN Operations and Maintenance Facility.

Context

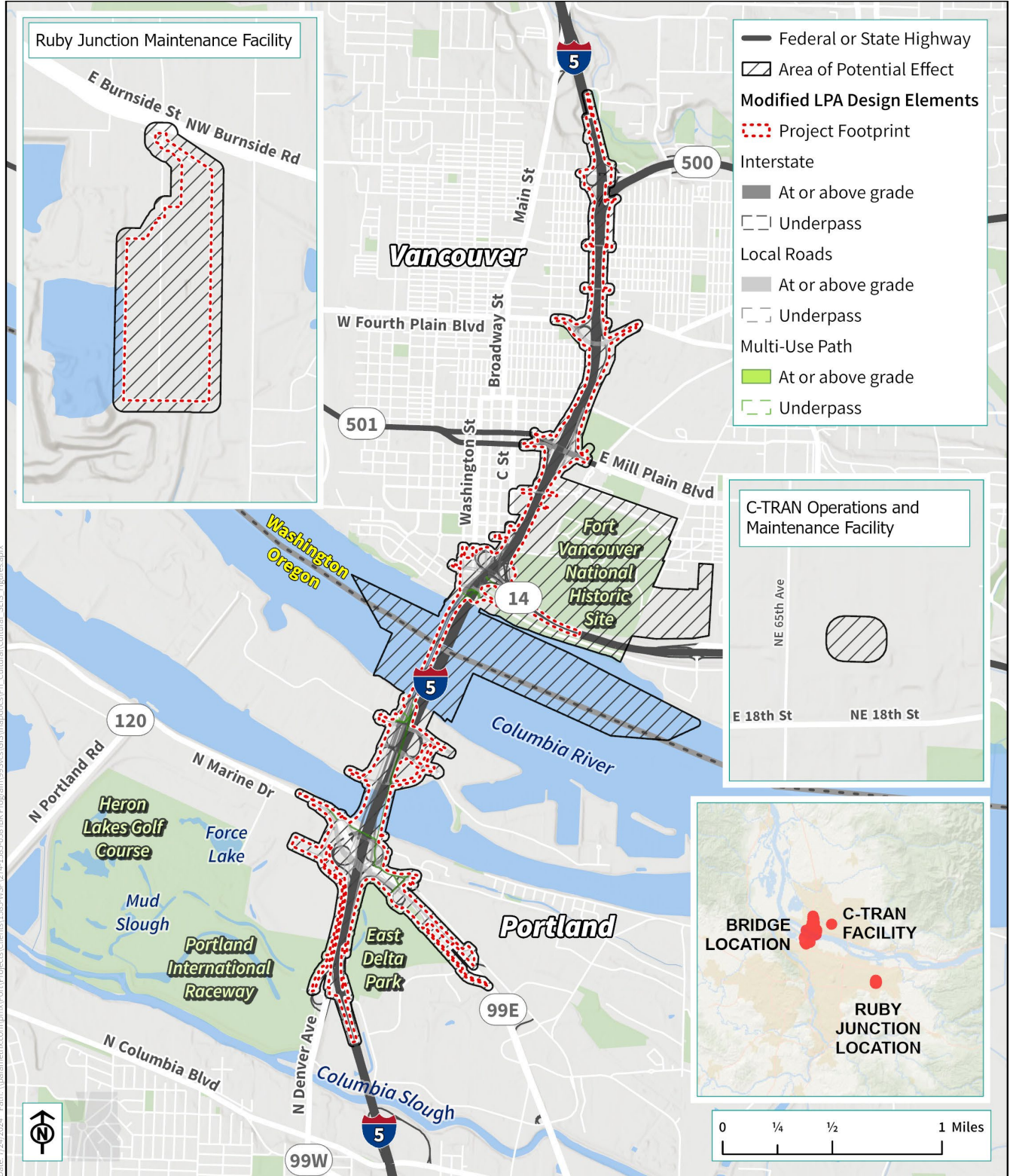
Precontact Period Background

While there is archaeological evidence that Native Americans inhabited the Pacific Northwest more than 10,000 years ago, the archaeological record for Native American land use in the lower Columbia River begins around 3,500 years ago. The scarcity of archaeological sites from earlier periods in the region is thought to be related to the submergence and burial of earlier archaeological sites as sea levels rose quickly during the early to middle Holocene epoch. The Holocene epoch is the period extending from around 12,000 years ago to the present. Numerous precontact archaeological sites dated to after around 3,500 years ago are located along the shores of the lower Columbia River, indicating widespread and persistent Native American occupation of the region at this time. At the time of European American contact, the shores of the Lower Columbia River in the vicinity of the APE were inhabited by Native peoples, with numerous villages located along the river between the outer coast and what is now referred to as The Dalles, as well as several ethnographically named places in the vicinity of the APE.

The Native American groups inhabiting the APE were part of an extensive network of villages, trade, and harvesting, fishing, and resource sites. The Native peoples practiced a seasonal mobility pattern in which they occupied winter villages inland before moving to spring fishing locations on the Columbia River and its tributaries. The river and its tributaries, in addition to providing important resources, also served as an important transportation route for these groups. While salmon was the primary staple, other fish were also harvested, including sturgeon, eulachon, smelt, and lamprey. Important fishing spots included the mouth of the Columbia River, the Columbia at The Dalles and at Hayden Island (in the APE), and on the Willamette River at Willamette Falls. Summer villages were centers of gathering and trade. Common trade goods included beaver, elk, and otter skins; whale blubber; plants, such as wapato, camas, and berries; obsidian, shell beads, and dentalium shell; and manufactured goods such as baskets. Later, Europeans introduced items such as wool blankets and copper kettles. Villages consisted of multifamily houses and other structures such as fish-drying sheds or scaffolds, sweat and menstrual lodges, and temporary dwelling houses. In the late summer and fall, small bands would begin to move inland to hunt game such as deer, elk, and fowl and gather roots, nuts, fruits, and berries while enroute to their winter villages.

The 10 federally recognized tribes, and one non-federally recognized tribe, consulting on the Program have been invited to prepare geographic and ethnographic context statements in lieu of standard context statements so the tribes can share information about the background of this region from their perspective and in their own words. Two federally recognized tribes have accepted this invitation. Preparation of these context statements is in progress. Completed context statements will be provided in an appendix of the Archaeology Technical Report. The IBR Program recognizes that the context statements prepared may not reflect the histories of those tribes that have chosen not to participate.

Figure 3.8-1. Area of Potential Effects



Post-Contact Period Background

Starting in the late 18th century, maritime expeditions by Europeans and European Americans began to interact with Native Americans along the Oregon coast and the mouth of the Columbia River. In 1792, a party

from the Vancouver expedition—a British expedition that circumnavigated the globe in the late 18th century—briefly traveled up the Columbia River from its mouth to Reed Island, passing through the APE. European and European American settlement of the region accelerated shortly after Meriweather Lewis and William Clark completed their overland expedition to the Pacific Coast in 1806. This expedition also passed through the APE.

The introduction of foreign diseases such as smallpox and malaria caused severe epidemics among Pacific Northwest Native populations in the late 1700s and periodic outbreaks throughout the 1800s. At the time of contact between Native peoples of the lower Columbia and Lewis and Clark’s Corps of Discovery, populations had already declined considerably. Settlers then began arriving along the Oregon Trail in the 1840s. British agency in the region ended with the Treaty of Oregon in 1846, which settled competing colonial claims in favor of the United States.

A series of Pacific Coast, southwest Washington, and Willamette Valley treaties were negotiated between the United States and local Native American tribes between 1848 and 1855. The first treaties signed with the surviving tribes of western Oregon would have established several Indian reserves in the Willamette Valley. Congress never ratified these treaties due to opposition to the reservations by European American settlers. A second round of treaties, one of which included the Native peoples of the Clackamas and lower Willamette River drainages, was ratified, and two reservations (Siletz and Grand Ronde) were established by executive order shortly thereafter. With the creation of the reservations, federal troops began the process of relocating the Willamette Valley groups to the reservations.

Oregon

During the 19th century, Hayden Island was used by Native peoples and the Hudson’s Bay Company (HBC). European American settlement along the Columbia River’s southern bank remained sparse in the mid-1800s, as settlers migrating into the region along the Oregon Trail commonly continued south into the Willamette Valley to settle in the vicinity of Oregon City or in the Tualatin Valley. Homesteading in North Portland was hindered by the area’s topography, which consisted of a series of swales, lakes, and wetland marshes. The Donation Land Claims of George W. Force and J. R. Switzler (encompassing the present-day site of the Interstate Bridge approach on the south bank of the Columbia River) during this period were noted by surveyors as frequently inundated. The area remained sparsely developed throughout the 19th century, with the only notable development being a single streetcar line extending northward from East Portland to the docks of the Vancouver-Portland ferry on the south shore of the Oregon Slough (now North Portland Harbor) near the east end of Hayden Island. Further development of this area began in the early 20th century, though it remained limited. Union Meat constructed a large-scale meatpacking facility on the south shore of the Oregon Slough near the west end of Hayden Island from 1907 to 1909, the neighborhood of Bridgeton was platted in 1912, and a ferry landing was constructed at nearby Columbia Beach in 1916. In addition to upland developments, small groupings of floating homes began to be developed along the Columbia Slough during this period, with concentrations in the vicinity of the Union Meat facility and Bridgeton. Navigation of the Columbia River was instrumental to 19th-century development of Portland. Vessels regularly sailed between the settlements of Astoria, Vancouver, and Portland, bringing in supplies and people and shipping out goods and raw materials. The U.S. Army Corps of Engineers (USACE) began to make modifications of Columbia River and Willamette River channels in the vicinity of the APE in 1867 and continued through at late 1800s and early 1900s, including survey, dredging, shoaling, and the construction of levees, dams, dikes, and revetments.

Over the first half of the 20th century, the area between the Columbia River and Columbia Slough to the south was gradually developed as an industrial district. Supported by federal reclamation projects beginning in 1913 and continuing through World War I, four drainage districts—from east to west, Sandy Drainage Improvement Company, Multnomah Drainage District No. 1, Peninsula Drainage District 1, and Peninsula Drainage District 2—were created, and newly available land turned over for agricultural uses. The four drainage districts (now collectively known as the Columbia Slough Drainage District), served an important role in the redevelopment of North Portland, Northeast Portland, Gresham, Fairview, and Troutdale.

Reclamation associated with these drainage districts and their associated levee infrastructure resulted in new productive land uses and improved public health through sewage flow controls. Industrial developments along the Oregon Slough gradually expanded southward. Parcels transitioned to uses such as heavy industry, boat building and repair workshops, recreational developments such as golf courses, and, farther to the east, the Portland-Columbia Airport (now Portland International Airport).

As vessels used on the Lower Columbia River grew in size, the U.S. Congress authorized USACE under the Rivers and Harbor Act of 1930 to increase the depth and width of the Lower Columbia River Federal Navigation Channel, expanding the navigation channel from Portland to the Columbia River's mouth and from Portland to the Bonneville Dam and Locks. Between 1915 and 1939, the Port of Vancouver and USACE constructed associated channel maintenance and navigations structures, including the Hayden Island Pile Dike System, built 1915-circa 1920s by Port of Vancouver; Vancouver Bar-Washington Side Pile Dike System, built 1915-1931 by Port of Vancouver and USACE; Upper Vancouver Bar - Oregon Bank Pile Dike system, built 1936-1939 by USACE; and the Lower Vancouver Turning Basin and Upper Vancouver Turning Basin, with the construction of both authorized by the Rivers and Harbors Act of 1933 and modifications authorized by amendments to the Rivers and Harbors Act in 1935 and 1937. The navigation channel from the Columbia River's mouth to the Willamette River was further expanded and additional modifications and repairs were made to its channel control and navigation structures in the 1960s under the Rivers and Harbors Act of 1962 (33 USC Public Law 87-874) to accommodate additional increases in shipping volume.

The onset of World War II and the rapid development of Portland's wartime industries created an acute need for wartime housing in the city. The area between the Columbia Slough and Columbia River and to the west of present-day I-5 was developed by Henry Kaiser, owner of the Oregon Shipbuilding Corporation, to provide housing for company workers; it became known as Vanport. When the housing development was completed in 1943, it included 703 apartment buildings and 17 multiunit dwellings, as well as a post office, schools, fire stations, a movie theater, social buildings, a library, an infirmary, a police station, and various other service and administration facilities. The population of Vanport increased exponentially, growing from 6,000 in January 1943 to a peak of 39,000 in August 1943.

A sizable percentage of Vanport's population were Black employees of Kaiser's shipyards, with 6,000 of Oregon's estimated 15,000 Black citizens residing in the Vanport development. Though it was never articulated as official policy, Vanport was a predominantly segregated community; Black residents were placed into a specific section of the city, and there are documented examples of overtly racist internal communications among the development's administering agencies. On May 30, 1948, when the levee protecting Vanport from Smith Lake broke, the community was flooded, many of its buildings and structures were destroyed, and 15 people were killed. Rather than attempt to rebuild, the City of Portland and state officials chose to demolish what remained of the settlement.

In the latter decades of the 20th century, the North Portland area gradually changed to include a variety of land uses. While industrial development remained along the Columbia River, large areas to the west of I-5 along the Columbia Slough are now occupied by the protected Smith and Bybee Wetlands Natural Area, Heron Lakes Golf Club, and Portland International Raceway. Land to the east of I-5 was redeveloped as small residential, commercial, and light-industrial developments, as well as recreational areas such as Delta Park and the Columbia Edgewater Country Club.

The earliest European American settlement of Hayden Island was the 1866 claim of Gay and Mary Jane Hayden. The Haydens reportedly constructed a property on the island, though 19th century surveyors never documented this property. By the turn of the 20th century, much of Hayden Island had been acquired by the Portland Electric and Railway Company (later the Portland Electric Power Company and then Portland General Electric) to prevent competitive developments to its ferry business between Portland and Vancouver. The Hayden Island Amusement Company (later Hayden Company and then Hayden Island Inc.) acquired portions of Portland General Electric's Hayden Island landholdings in the late 1920s and 1930s, developing a

portion of the island as the Jantzen Beach Amusement Park. During World War II, Hayden Island Inc. began a decades-long effort to develop Hayden Island as a residential and commercial center, culminating in the company's 12-year development plan, which spanned from 1968 to 1980 and included large-scale commercial developments such as the Jantzen Beach Center as well as numerous hotels, multifamily residential developments, and floating home moorages.

Washington

In the early 19th century, to better capitalize on regional commercial interests, the HBC established Fort Vancouver upriver of the mouth of the Columbia River. During this period, the HBC and the Northwest Company, another British trading company, utilized the Columbia River as a primary transportation route between their trading posts along the Columbia River and its tributaries. The fort was originally established in 1825 on high ground on the north side of the Columbia River, east of its current location. It was relocated in 1829 to its current location to be closer to the river. An extensive multicultural settlement known historically as Fort Vancouver Village or Kanaka Village, where most HBC employees lived, developed around the fort beginning in 1827. Following the Oregon Treaty of 1846, Fort Vancouver came under the jurisdiction of the United States. Shortly thereafter, a portion of Fort Vancouver became a military reservation. Over time, the reservation expanded to encompass much of the original Fort Vancouver footprint. This facility, originally referred to as Fort Vancouver and later referred to as the Vancouver Barracks, remained exclusively in use by the military until the 1940s, when it was designated as a national monument by NPS. Military use of the facility continued until 2012, though in a much-reduced capacity.

Beginning in the 1850s, the Vancouver townsite began to form to the west of Fort Vancouver on the former Donation Land Claim of Amos and Esther Short. In the later decades of the 19th century, Vancouver grew into the primary shipping point in Clark County for agricultural products and timber. Numerous rudimentary trails and roads from outlying settlements were developed, as well as several rail lines including the Spokane, Portland and Seattle Railway, a joint venture of the Northern Pacific Railroad and Great Northern Railway. Vancouver continued to expand into the 20th century, with small suburban residential and commercial areas established to the north of the original townsite and around the northern and eastern boundaries of Fort Vancouver.

In anticipation of a Great Northern Railway line connecting Vancouver to other Northwest cities such as Seattle, Portland, and Spokane, many of the residential areas closer to the original townsite were platted in the early 20th century. These included Columbia Orchard Lot in 1900, Swans Addition in 1905, Arnada Park in 1906, and Thompson's Addition in 1907. Following the completion of the Great Northern Railway line in 1908, Vancouver annexed other bordering areas, including the North Bank and Northern Pacific railyards to the west and Vancouver Heights, Lay's Addition, and portions of Irvington and Harney Hill to the east. New residents and commercial businesses poured into Vancouver, beginning a period of substantial growth that continued through World War I, which bolstered the city's shipyards and lumber mills.

Vancouver experienced a downturn during the late 1920s and into the 1930s, as agricultural declines and the Great Depression hampered local industries. The period's economic disruption was alleviated in part by federal programs such as the Civilian Conservation Corps, the western branch of which was headquartered in the Vancouver Barracks, which provided temporary employment for many of the city's unemployed workers. The construction of the nearby Bonneville Dam in 1938 provided additional employment opportunities for Vancouver residents, and the cheap energy it provided brought new industrial developments, such as aluminum product manufacturing, which helped to revitalize the local economy in the years leading up to World War II. The reindustrialization of Vancouver's economy during the war resulted in a second housing boom in the city, supported by the establishment of the Vancouver Housing Authority, a local governmental organization tasked with developing permanent housing for wartime (and later low-income) workers.

The completion of I-5 in 1955 bisected the city, separating the military reserve of Fort Vancouver and its adjacent suburban areas from the main portion of the city and its residential neighborhoods to the north. In the late 1950s, urban renewal programs were proposed to redevelop sections of the city. These programs removed older residential developments and replaced them with new uses. Within the APE, urban renewal projects included the conversion of lands within the Esther Short neighborhood along the Columbia River to light-industrial uses and the demolition and reconstruction of historic residential areas. These programs of urban renewal led to a backlash in the late 1960s, causing the city to change its policy from demolition to improvement. Fort Vancouver was also redeveloped by NPS during this period. In 1961, the U.S. Congress changed the name of the Fort Vancouver National Monument to the Fort Vancouver National Historic Site and increased its authorized boundaries. The Fort Vancouver National Reserve was established by the U.S. Congress in 1996 and encompassed much of the original military reserve on the east side of I-5 and added the City of Vancouver and U.S. Army properties as part of the Fort Vancouver National Historic Site.

While the local political movement that grew out of the urban renewal programs of the 1950s and 1960s led to increased community-led commercial growth and housing in Vancouver's suburban areas, its downtown core suffered from commercial decline in the later decades of the twentieth century. In the 1990s and early 2000s, the City pursued public-private partnerships aimed at downtown revitalization, including improvements at and around Esther Short Park and conversion of the mid-twentieth century industrial waterfront to mixed commercial and residential uses.

Previous Cultural Resources Studies

Archaeological investigations in the vicinity of the APE began in 1947, within the boundary of HBC Fort Vancouver. Several additional archaeological studies were performed in Fort Vancouver in the late twentieth century and early twenty-first century, including extensive excavations in advance of the reconstruction of I-5 and SR 14 from 1974 to 1982 and an ongoing public archaeology field school administered by NPS.

Numerous cultural resources studies in support of private, local, and state projects have been performed within and adjacent to the Washington portion of the APE during the late twentieth and early twenty-first centuries. These studies have covered much of the Washington portion of the APE. Comparatively few cultural resources studies have been performed on the Oregon portion of the APE.

On the Washington portion of the APE, between 2006 and 2012 archaeological background research and survey conducted for the CRC project and APE documented 32 archaeological sites. The CRC project surveys included an underwater survey under the existing Interstate Bridge within the Washington portion of the CRC APE. No underwater archaeological sites were documented during this survey. No archaeological survey was performed within the Oregon portion of the CRC APE.

Geoarchaeological investigations, consisting of both rotonomic borings and ground-penetrating radar, were performed in support of the CRC project within both the Washington and Oregon portions of the CRC APE. These investigations revealed widespread and thick deposits of fill in Oregon and thick deposits of fill in portions of the Washington CRC APE. In both the Oregon and Washington portions of the CRC APE, several locations were identified as having the potential for encountering deeply buried archaeological deposits.

Precontact and Historical Archaeology

In the Pacific Northwest, **prehistoric or precontact archaeology** is associated with Native American peoples, culture, and settlements (Little et al. 2000).

Historical archaeology or post-contact archaeology is defined by NPS guidance as dating from after the beginning of European American settlement of the area and addresses both European American and Native American peoples, culture, and settlement, within the historic period (Little et al. 2000).

However, historical or post-contact archaeology is understood to be inclusive of all people, cultures, and settlement, within the historic period.

Historic built environment background research and survey was conducted for the CRC project between 2005 and 2013. The CRC project surveyed 877 resources constructed prior to 1967. Of these, 201 were identified as NRHP-listed or considered eligible for listing in the NRHP. In Oregon, four properties were identified as previously listed or eligible for listing in the NRHP, and one property was determined eligible as part of the CRC study. In Washington, 24 properties were identified as previously listed in the NRHP and 172 properties were determined eligible for listing in the NRHP as part of the CRC study.

Cultural Resources Identified

Archaeological Sites

For the purposes of this analysis, an archaeological site was considered if it is listed in the NRHP, is eligible for the NRHP, or has not been formally evaluated for listing in the NRHP. Archaeological sites determined not eligible for the NRHP were not considered for this analysis.

A review of archaeological resource data available on the Washington Information System for Archaeological and Architectural Resources Database and the Oregon Archaeological Records Remote Access identified 34 archaeological sites within or directly adjacent to the APE. These resources include 14 eligible for listing in the NRHP and one as-yet unevaluated resources.² Nineteen additional archaeological sites within or adjacent to the APE were previously determined not eligible for listing in the NRHP and are therefore not included in the count of archaeological sites. Additional information about the 14 eligible and one unevaluated archaeological sites is summarized in Table 3.8-2, below. Since location information relating to archaeological sites is protected under federal and state law, figures depicting specific resource locations are not provided.

While archaeological studies were previously performed for the CRC project, additional studies are in progress to verify known archaeological resource presence and dimensions, and to identify unrecorded terrestrial and marine archaeological sites. Further studies will be performed through phased identification as allowed under Section 106 of NHPA (36 CFR 800.4 (b)(2)) and would be stipulated in the Section 106 PA. The IBR Program would disclose anticipated effects, if any, to terrestrial or marine archaeological sites identified through phased identification and offer the public opportunities to comment through methods such as online open houses, listening sessions, community briefings, community working groups, and public comments submitted by email or telephone.

Oregon

No archaeological sites have yet been documented within or directly adjacent to the Oregon portion of the APE.

Washington

Fifteen archaeological sites have been documented within the Washington portion of the APE. Table 3.8-2 summarizes key information about these resources. Of these archaeological sites, 14 are eligible for listing in the NRHP and one remains unevaluated.

² Of the 14 eligible and one unevaluated archaeological sites, 12 are located within the Modified LPA and have the potential to be impacted by construction-related physical ground disturbance (45CL152, 45CL160, 45CL162, 45CL163, 45CL300, 45CL514, 45CL653, 45CL910, 45CL918, 45CL920, 45CL921, and 45CL922). Three resources (45CL217, 45CL400, and 45CL582) are located within the APE but outside the Modified LPA. See Section 3.8.3, which addresses direct effects.

Table 3.8-2. Archaeological Sites within the Washington Portion of the Area of Potential Effect

Trinomial	Management	Resource Name	IBR NRHP Eligibility Status	Resource Type
45CL152	Historic Trust	Providence Academy	Eligible	Multicomponent: historic structural features, privies, trash pits, refuse scatter, lithic materials.
45CL160	City of Vancouver	Officers Row	Eligible	Historic structural features, debris, refuse.
45CL162	City of Vancouver, NPS, and FHWA Western Federal Lands	Vancouver Barracks	Eligible	Historic structural features, debris, refuse.
45CL163	NPS	Fort Vancouver National Historic Site	Eligible	Multicomponent: historic fort, debris, precontact lithic material, bones, charcoal, fire-altered rocks, and features.
45CL217	Veterans Affairs	Post Cemetery	Eligible	Cemetery.
45CL300	VNHR	Fort Vancouver Village	Eligible	Multicomponent: historic fort village, debris, structural remains, lithic material.
45CL400	Underwater, WA DNR	Quartermaster East/Benoit Site	Eligible	Submerged multicomponent: historic refuse, precontact net weight, trade bead.
45CL514	Private	Killian Pacific	Eligible but portions no longer extant	Historic structural features, refuse scatter related to City Blocks 24 and 25.
45CL582	City of Vancouver	Vancouver Convention Center	Eligible	33 features and seven yard middens associated with City Block 62 and north half of City Block 66.
45CL653	City of Vancouver	N/A	Unevaluated	Historic refuse scatter.
45CL910	WSDOT	N/A	Eligible	Historic structural features, refuse scatter.
45CL918	WSDOT	N/A	Eligible	Multicomponent: historic trash pits, refuse, lithic debitage.
45CL920	WSDOT	N/A	Eligible	Historic structural features, refuse scatter.
45CL921	WSDOT	N/A	Eligible	Historic structural features; foundations, refuse, trash pits.
45CL922	WSDOT	N/A	Eligible	Historic trash pits, refuse scatter, human dental remains.

DNR = Department of Natural Resources; N/A=Not Available; NRHP = National Register of Historic Places; NPS = National Park Service; VNHR = Vancouver National Historic Reserve; WSDOT = Washington Department of Transportation

Historic Built Environment Resources

For the purposes of this analysis, a historic built environment resource was considered if it is listed in the NRHP or is eligible for the NRHP. Historic built environment resources determined not eligible for the NRHP were not considered.

For the purposes of this undertaking, and in consultation with Oregon SHPO and Washington DAHP, historic built environment resources with construction dates in or prior to 1982 were identified as historic-age resources requiring evaluation because they would be 50 years of age at the time of the Modified LPA's anticipated completion date in 2032. Therefore, resources within the APE constructed between 1967 (the year that the CRC survey analysis concluded evaluation) and 1982 have been added to the evaluation. Survey fieldwork to support preparation of Section 106 Documentation Forms for Individual Properties and preparation of the Historic Built Environment Technical Report was conducted in January 2023 and August 2023. Survey methodology included review of resources on any parcel crossed by the APE boundary.

The IBR Program review of historic built environment resources identified 36 historic properties in the APE constructed prior to 1982 that are listed in the NRHP or considered eligible for listing in the NRHP. These properties are summarized in Table 3.8-3 (Oregon), Table 3.8-4 (Interstate Bridge), and Table 3.8-5 (Washington). Appendix C to the Historic Built Environment Technical Report, Section 106 Documentation Forms for Individual Properties, provides the detailed evaluation for the NRHP eligibility status.

Oregon

The IBR Program review of historic built environment resources in Oregon identified seven historic properties eligible for listing in the NRHP. Of these seven properties, two were previously identified as NRHP-eligible historic properties, and five were not previously identified. These properties are summarized in Table 3.8-3 and depicted in Figure 3.8-2.

Interstate

Three identified historic built environment resources—the northbound and southbound portions of the Interstate Bridge and the Lower Columbia River Federal Navigation Historic District—span the Columbia River between Oregon and Washington. The northbound Interstate Bridge was previously listed in the NRHP. The southbound Interstate Bridge is considered eligible for listing in the NRHP. The Lower Columbia River Federal Navigation Historic District was recommended eligible for listing in the NRHP through consultation with the USACE. Additional detail about these resources is provided in Table 3.8-4 and are shown in Figure 3.8-3.

Washington

The IBR Program review of historic built environment resources in Washington identified 26 historic properties listed in or eligible for listing in the NRHP. This includes eight historic built environment resources previously listed in the NRHP and 22 eligible for listing in the NRHP. These properties are summarized in Table 3.8-5 and are shown in Figure 3.8-4 and Figure 3.8-5.

Traditional Cultural Properties

Formal consultation, as defined in 36 CFR 800.3, with consulting tribes and other consulting parties is ongoing. As of this writing, no traditional cultural properties have been identified in or adjacent to the APE, either during the previous CRC project Section 106 process or the current Section 106 review.

Table 3.8-3. Oregon Historic Built Environment Resources

Map ID	Resource ID	Property Name	Previously Identified (Yes/No)	NRHP Eligibility Status	Year Built	Address	Description
OR 2	663154	Columbia Slough Drainage Districts Historic District	Yes	Eligible (2023 IBR recommendation); Eligible (2011 determination); Criteria A and C	1916–1960	Various	System of levees, dikes, and ditches along the Columbia Slough.
OR 155 ^a	N/A	East Vanport Commercial Center	No	Eligible (2023 IBR recommendation); Criterion A	1938	10850 N Denver Avenue	Northwest regional-style department store (sport facility).
OR 56	50293	Portland Assembly Center	Yes	Eligible (2023 IBR recommendation); Not eligible (2009); Criterion A	1924	2060 N Marine Drive	Complex of architecturally indistinct exposition halls associated with regional agricultural and social events and gatherings, and site of Oregon's only Temporary Assembly Center for Japanese American interred during WWII.
OR 111	N/A	Jantzen Beach Moorage	No	Eligible (2023 IBR recommendation); Criterion A	ca. 1960s	1501 N Jantzen Avenue	Large-scale moorage consisting of 175 floating homes and associated docks and infrastructure.
OR 109	N/A	Jantzen Beach Water Tank	No	Eligible (2023 IBR recommendation); Criteria A and C	1970	N Center Avenue	Cylindrical two-story steel water tower.
OR 107	N/A	Harbor Shops	No	Eligible (2023 IBR recommendation); Criteria A and C	1980	11915 N Center Avenue	Second phase strip mall type development associated with Hayden Island, Inc.'s large-scale planned commercial development.
OR 120 ^a	N/A	Hayden Island Yacht Club Clubhouse	No	Eligible (2023 IBR recommendation); Criteria A and C	1972	12050 N Jantzen Drive	Modern-style (Northwest Regional and Shed-style elements) clubhouse.

^a While the resource boundary shown in Figure 3.8-2 is outside the APE, the parcel boundary for this property crosses the APE and the resource is considered in this study. APE = Area of Potential Effects; ca. = circa; Dr = Drive; N = North; N/A = Not Available; No. = Number; NRHP = National Register of Historic Places; VNHR = Vancouver National Historic Reserve

Figure 3.8-2. Oregon Historic Built Environment Resources

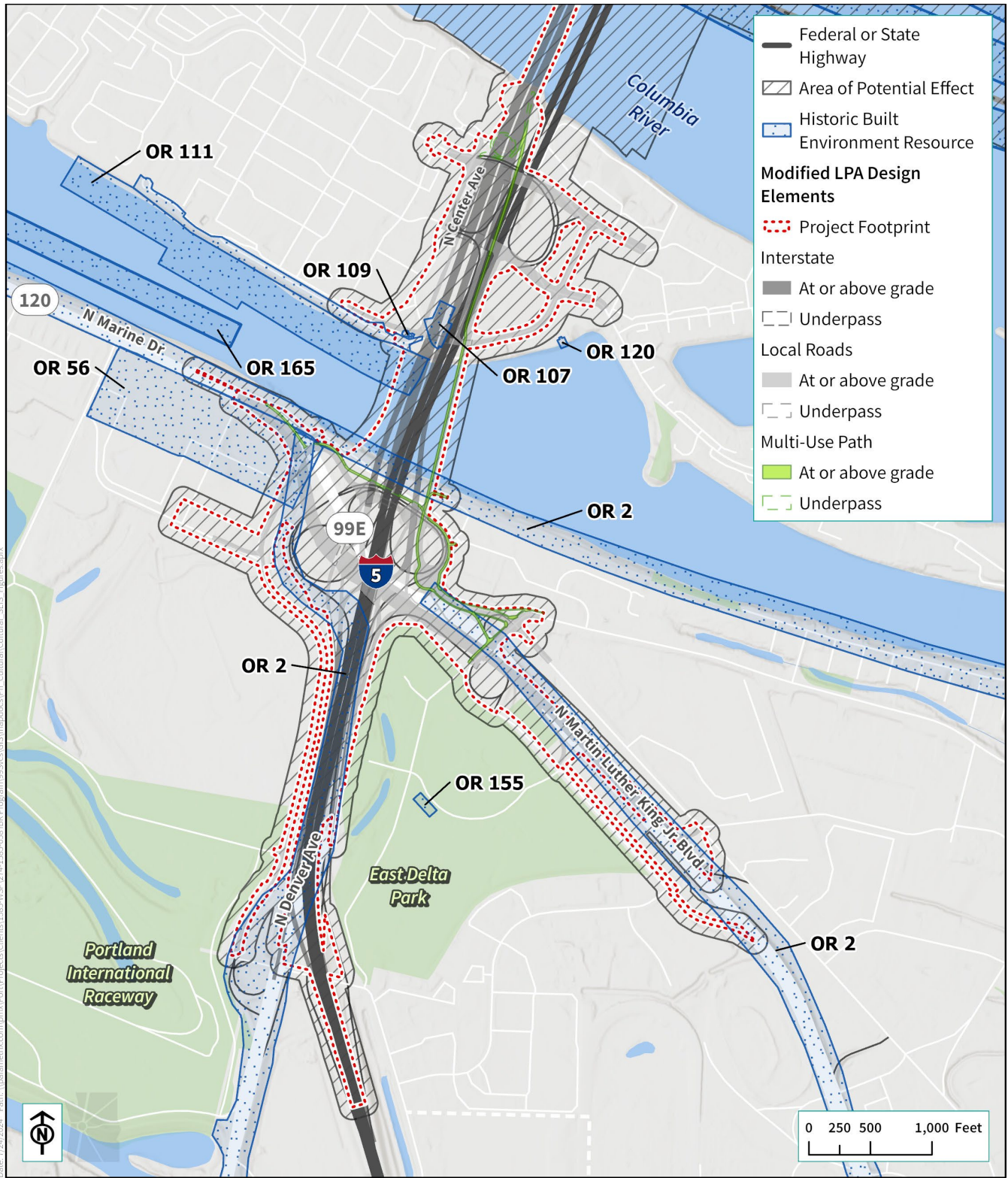


Table 3.8-4. Interstate Historic Built Environment Resources

Map ID	Resource ID	Property Name	Previously Identified (Yes/No)	NRHP Eligibility Status	Year Built	Address	Description
OR 50; WA 381a	OR 49361; WA N/A	Interstate Bridge (northbound)	Yes	NRHP-listed (1982); Criteria A and C	1917	Columbia River	Through-truss bridge.
OR 51; WA 381b	OR N/A; WA 18781	Interstate Bridge (southbound)	No	Eligible (2023 IBR recommendation); Criteria A and C	1956–1958	Columbia River	Through-truss bridge.
OR 165 and WA 1356	N/A	Lower Columbia River Federal Navigation Historic District	No	Eligible (2023 USACE recommendation); Criterion C	1873–1969	Columbia River	A pair of USACE-dredged federal navigation channels in the Lower Columbia River and associated turning basins, pile dike systems, and artificial landforms.

N/A = Not Available; NRHP = National Register of Historic Places; USACE = U.S. Army Corps of Engineers

Figure 3.8-3. Interstate Historic Built Environment Resources

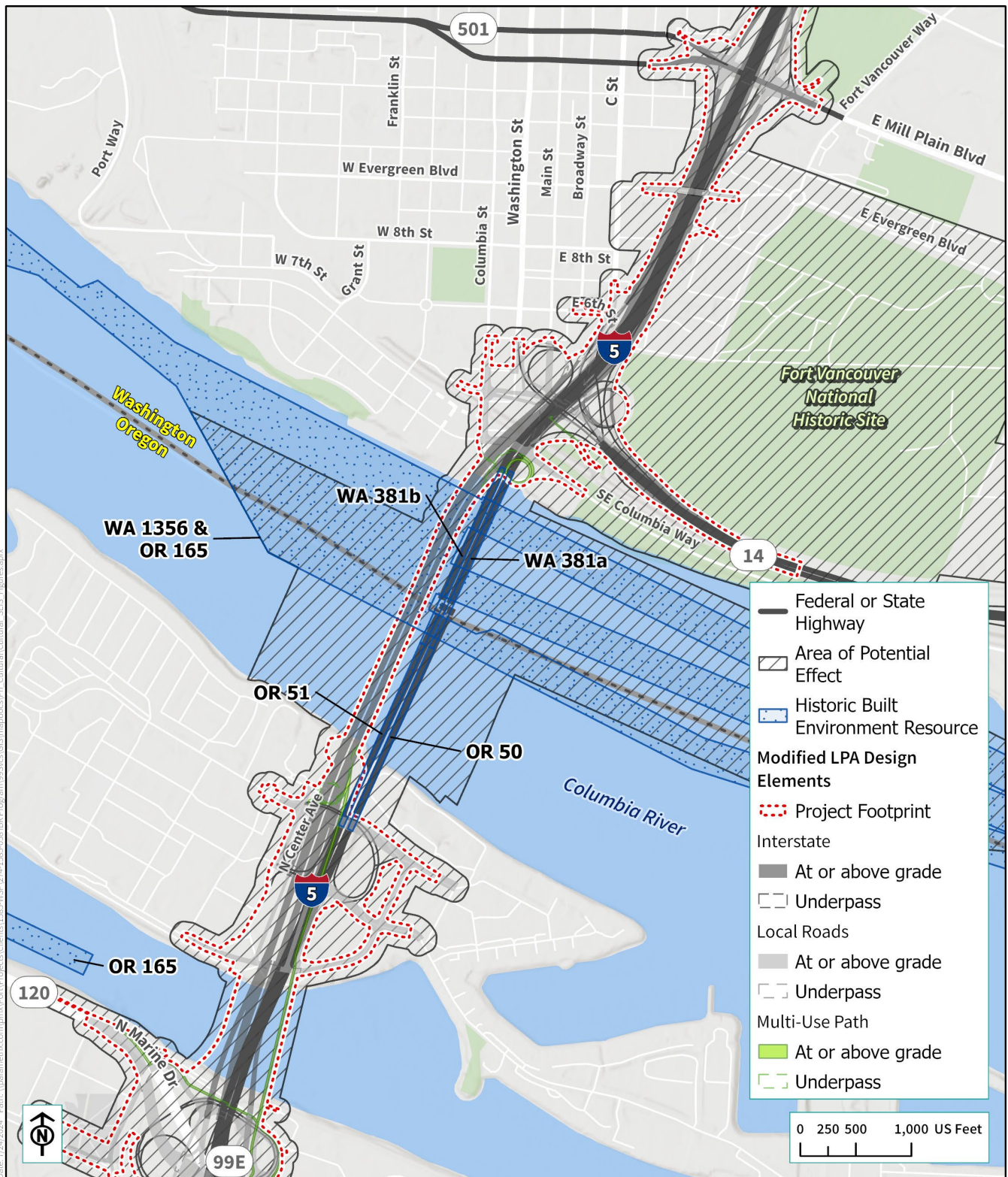


Table 3.8-5. Washington Historic Built Environment Resources

Map ID	Property ID	Property Name	Previously Identified (Yes/No)	NRHP Eligibility Status	Year Built	Address	Description
WA 1138	731246	Who Song and Larry's	No	Eligible (2023 IBR recommendation); Criterion C	1980	111 SE Columbia Way	Roadside-style restaurant.
WA 1192	89097	Bridge Substation	Yes	Eligible (2023 IBR recommendation); Criterion C	ca. 1918	100 SE Columbia Boulevard	Classical Revival-style energy facility.
WA 7	33716	Fendrich's Furniture	Yes	Eligible (2023 IBR recommendation); Criterion C	1947	209 West 6th Street	Modern-style commercial building.
WA 10	2124	Smith Tower	Yes	Eligible (2023 IBR recommendation); Criteria A and C	1966	515 Washington Street	Modern-style cylindrical multifamily apartment tower.
WA 21	20430	The Evergreen Hotel	Yes	NRHP-listed (1979); Criterion A	1928	500 Main Street	Italian Renaissance Revival-style hotel.
WA 29	20436	U.S. National Bank Building	Yes	NRHP-listed (1984); Criterion C	1912	601-603 Main Street	Classical Revival-style financial building (now mixed-use restaurant/multifamily residential).
WA 149	89160	Normandy Apartments	Yes	Eligible (2023 IBR recommendation); Criteria A and C	1925/1930	318 E 7th Street	Tudor-style, U-court courtyard multifamily apartment building.

Interstate Bridge Replacement Program

Map ID	Property ID	Property Name	Previously Identified (Yes/No)	NRHP Eligibility Status	Year Built	Address	Description
WA 1357	674732	VNHR Historic District	Yes	NRHP-Listed (2007); Criteria A and C, with Criterion Consideration G	1824–1966	Vancouver, Washington	Historic District consisting of four subdistricts and a site. ^a
WA 918	N/A	Officers Row Historic District	Yes	NRHP-listed (1974, 2006); Criteria A and C	1849–1903	601–1607 E Evergreen Boulevard	Historic district consisting of 21 built environment resources.
WA 369	674448	Pearson Field Historic District	Yes	NRHP-listed (1990, 2006); Criterion A	ca. 1904–1929	1105 E 5th Street	Historic district consisting of three built environment resources.
WA 1358	674435	Vancouver Barracks Historic District	Yes	Eligible (1979); Criterion A	1888-1981	Vancouver, Washington	Historic district consisting of 23 built environment resources.
WA 1359	674436	Fort Vancouver National Historic Site	Yes	NRHP-Listed (1966); Criterion A	1844	Vancouver, Washington	Site consisting of 74 built environment resources and contributing archaeological sites.
WA 1148	731279	Washington State Patrol District Five Headquarters	No	Eligible (2023 IBR recommendation); Criterion A	1975	605 E Evergreen Boulevard	Modern-style correctional facility.

Map ID	Property ID	Property Name	Previously Identified (Yes/No)	NRHP Eligibility Status	Year Built	Address	Description
WA 150	18827	House of Providence	Yes	NRHP-listed (1978); Criteria A, B, and C	1873–ca. 1930	400 E Evergreen Boulevard	Georgian/Federal and French Colonial-style institutional building and campus (now mixed-use commercial).
WA 1233	89149	Earls House	Yes	Eligible (2023 IBR recommendation); Criterion C	1938	815 East 22nd Street	Minimal Traditional-style residence.
WA 1144	731267	Office Building	Yes	Eligible (2023 IBR recommendation); Criterion C	1977	1514 E Street	Postmodern commercial building.
WA 1182b b	731284	Rudy Luepke Senior Center	No	Eligible (2023 IBR recommendation); Criterion A	1979	1009 E McLoughlin Boulevard	Northwest Regional-style meeting hall.
WA 382	44853	Radio Transmission Building	Yes	Eligible (2023 IBR recommendation); Criteria A and C	1940	1601 E Fourth Plain Boulevard	Modern-style hospital (now museum).
WA 1319	20317	Vancouver Barracks National Cemetery	Yes	Eligible (2023 IBR recommendation); Eligible (2016 determination); Criterion A	1882	1200 E Fourth Plain Boulevard	Cemetery.
WA 1320	731277	St. James Acres Catholic Cemetery	No	Eligible (2023 IBR recommendation); Criteria A and D	1871	1401 E 29th Street	Cemetery.

Interstate Bridge Replacement Program

Map ID	Property ID	Property Name	Previously Identified (Yes/No)	NRHP Eligibility Status	Year Built	Address	Description
WA 1258	89483	Mickler House	Yes	Eligible (2023 IBR recommendation); Criterion A	ca. 1908	901 E 29th Street	Workingman’s Foursquare residence.
WA 1168	731275 / 731276	Duplex Residences	No	Eligible (2023 IBR recommendation); Criteria A and C	1968	2901 K Street	Contemporary-style multifamily residences.
WA 61	89120	Porter House	Yes	Eligible (2023 IBR recommendation); Eligible (2011 determination); Criteria A and C	1915	3000 K Street	Craftsman-style residence.
WA 62	25537	Hall House	Yes	Eligible (2023 IBR recommendation); Criterion C	1910	903 E 31st Street	Craftsman-style residence.
WA 191	89189	Hood, William H. and Myrtle, Residence	Yes	Eligible (2023 IBR recommendation); Criterion C	ca. 1919	3405 K Street	Craftsman-style residence.
WA 900	20458	Covington House	Yes	NRHP-listed (1972); Criterion C	ca. 1848	4201 Main Street	Hall-and-Parlor-Pioneer Log-style residence.

a VNHR Historic District (WA1357) includes archaeological resources as contributing components. Archaeological resources that contribute to the historic district are identified in Table 3.8-2, including 45CL160, 45CL162, 45CL163, and 45CL300.

b While the resource boundary shown in Figure 3.8-4 is outside the APE, the parcel boundary for this property crosses the APE and the resource is considered in this study. APE = Area of Potential Effects; IBR = Interstate Bridge Replacement (Program); N/A = Not Available; NRHP = National Register of Historic Places; VNHR = Vancouver National Historic Reserve.

Figure 3.8-4. Washington Historic Built Environment Resources – South

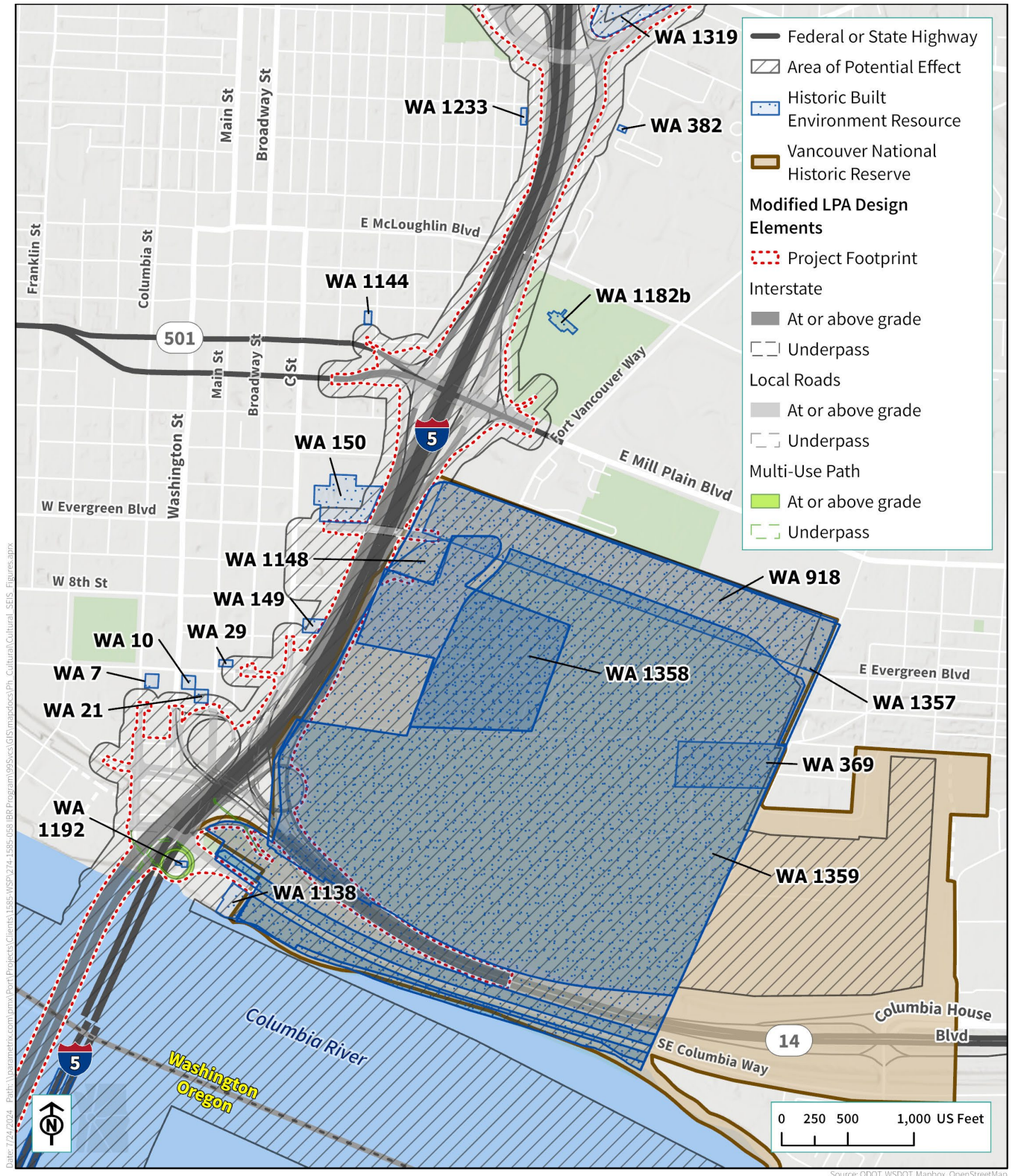
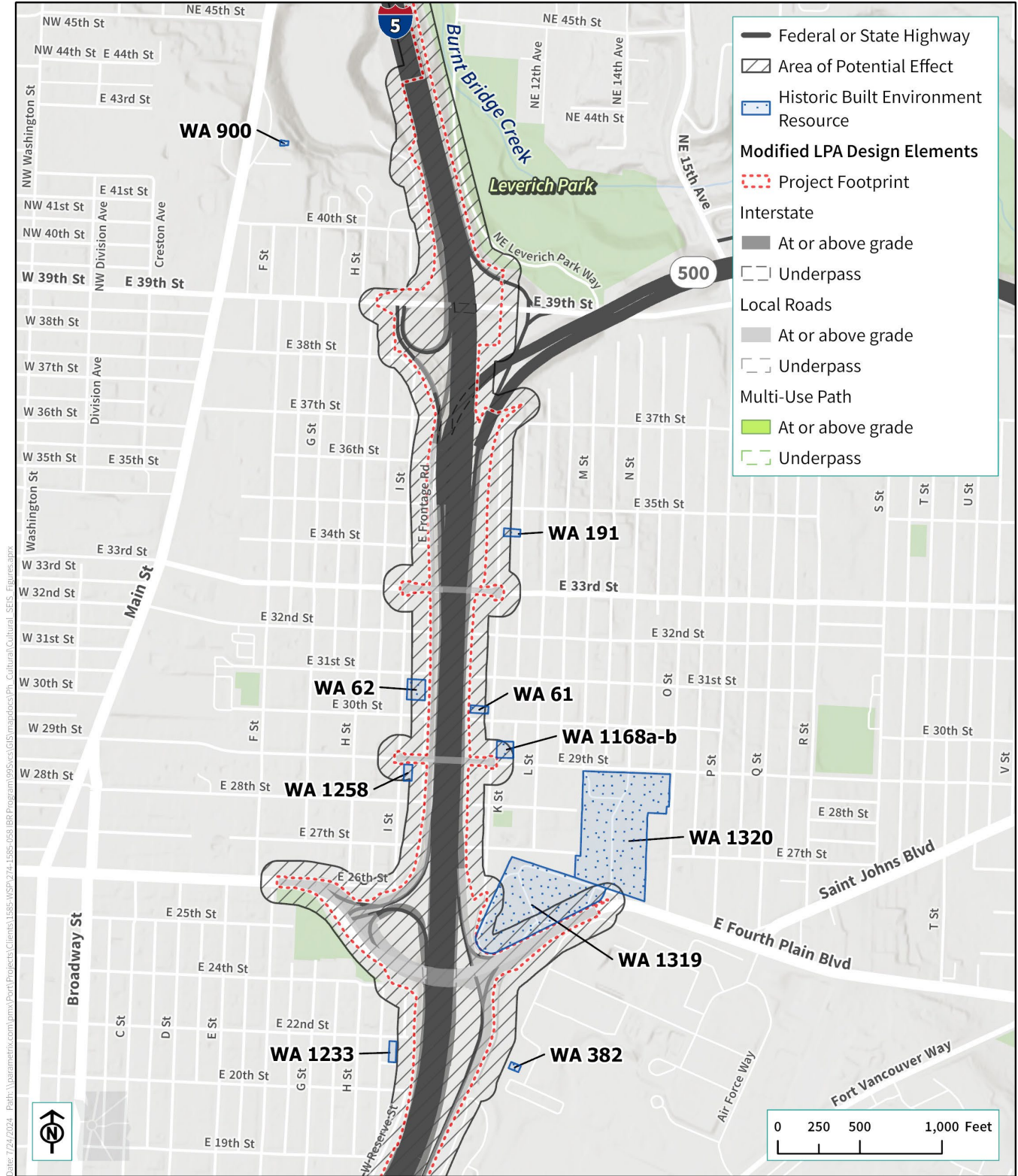


Figure 3.8-5. Washington Historic Built Environment Resources – North



Date: 7/24/2024 Path: \\parametrix.com\pm\p\Projects\Clients\ES&S\538274_1382-108_IBR\Program\resources\GIS\mapdocs\3p_Cultural\Cultural_SEIS_Figures.aprx
 Source: ODOT, WSDOT, Mapbox, OpenStreetMap

3.8.3 Direct Effects

Direct effects on historic properties are described below for the No-Build Alternative and the Modified LPA. Direct effects under Section 106 are based on "...causality, and not the physicality, of the effect. This means that if the effect comes from the undertaking at the same time and place with no intervening cause, it is considered 'direct' regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). 'Indirect' effects are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable" (ACHP 2019). Indirect effects are discussed in Section 3.8.4.

Direct effects assessed include, but are not limited to, physical or atmospheric effects that permanently alter, damage, or destroy historic properties; visual effects from permanent introduction of new visual elements that diminish or remove the characteristics that make a cultural resource eligible for listing in the NRHP; effects to historic properties from air quality, noise, or vibrations that are the result of Modified LPA operations that diminish or remove characteristics that make a cultural resource eligible for listing in the NRHP; and construction easements that permanently occupy part or all of a historic property for the purposes of project construction and operation.

Under 36 CFR 800.5(a)(1), an adverse effect on a historic property would occur if an undertaking altered, 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.

Table 3.8-6 summarizes the effects of the No-Build Alternative, Modified LPA, and design options³ on cultural resources. Detailed analysis of the effects is provided in the following sections.

Table 3.8-6. Summary of No-Build Alternative and Modified LPA Effects on Cultural Resources

Resource	Modified LPA (All Design Options)	No-Build Alternative
Number of NRHP-listed or NRHP-eligible historic built environment resources affected	12	0
Number of archaeological sites affected	12	0

LPA = Locally Preferred Alternative; NRHP = National Register of Historic Places

The No-Build Alternative would retain the existing infrastructure, and the existing Interstate Bridge, which consists of two distinct historic properties (OR 50; WA 381a and OR51; WA 381b), would continue to operate as they do today. Projected increases in traffic volumes would potentially result in increased congestion and delays for all travelers, as well as additional costs and uncertainty for all businesses that rely on this corridor for freight movement. Additionally, needs for repair and maintenance would potentially increase as the bridge ages, and the bridge would remain vulnerable to mechanical failure or damage from a seismic event. Under the No-Build Alternative, construction and associated construction-phase activities such as traffic detours; temporary closures; and noise, glare, dust, and vibration would not occur. The No-Build Alternative would

³ In cases where the effects analysis is the same for all Modified LPA design options, the various design options are not separately addressed in the Modified LPA Direct Effects Analysis column of Tables 3.8-7, 3.8-8, and 3.8-9.

have no permanent or temporary effects to historic properties, including archaeological sites and historic built environment resources, but it would fail to address present and future travel demand, mobility needs, and safety considerations in the APE.

Modified LPA

Archaeological Sites

Construction-related physical ground disturbance is anticipated to be the primary source of potential permanent and temporary direct effects to archaeological sites. An example of an adverse effect would include physical destruction of or damage to all or part of the archaeological site.

As described in Section 3.8.2, Existing Conditions, the APE contains 15 archaeological sites; 14 eligible for listing in the NRHP and one unevaluated. These resources are located within the Washington portion of the APE. Of these, 12 are located within the Modified LPA and have the potential to be impacted by construction-related physical ground disturbance (45CL152, 45CL160, 45CL162, 45CL163, 45CL300, 45CL514, 45CL653, 45CL910, 45CL918, 45CL920, 45CL921, and 45CL922). Additionally, archaeological and geoarchaeological studies performed in support of the CRC project also highlight the potential for encountering as-yet-undocumented archaeological sites in previously unsurveyed areas and in deeply buried contexts at specific locations across the APE. Archaeological field studies to determine the dimensions, depths, and contents of known and as-yet-undocumented archaeological sites relative to the anticipated areas of ground disturbance associated with the Modified LPA have not yet been performed. These studies would be performed in accordance with stipulations under the IBR Program's Section 106 PA (see Section 3.8.6, Mitigation and Programmatic Agreement for more information) once it has been executed. Based on the anticipated nature and extent of ground disturbance associated with the Modified LPA, it is anticipated that construction would damage or destroy portions of 12 archaeological sites located within the Modified LPA's limits of construction within the APE. Potential effects to archaeological sites would be essentially the same across all design options.

Historic Built Environment Resources

Direct effects to the historic built environment analyzed herein, include those that would result in physical destruction or damage to the property or any part of the property that contributes to its historic significance; permanent changes within the property's setting that would alter characteristics that contribute to its historic significance; and the introduction of permanent visual, atmospheric, or audible elements that would diminish the integrity of the property's significant historic features. Work within temporary construction easements and staging areas, as well as temporary effects associated with construction such as noise, dust, and traffic congestion, were also analyzed given they are anticipated to be the primary sources of temporary effects to historic built environment resources.

The potential direct effects to the historic built environment are summarized in Table 3.8-7 for resources located in Oregon, in Table 3.8-8 for interstate resources located along the Interstate Bridge where it crosses the Columbia River, and in Table 3.8-9. for resources located in Washington. The Modified LPA would result in permanent direct effect to 12 historic built environment resources – three in Oregon, two interstate properties, and seven in Washington. This would include:

- Jantzen Beach Moorage (OR 111)
- Jantzen Beach Water Tank (OR 109)
- Harbor Shops (OR 107)
- Interstate Bridge northbound (OR 50; WA 381a)
- Interstate Bridge southbound (OR 51; WA381b)

- Bridge Substation (WA 1192)
- Normandy Apartments (WA 149)
- Vancouver National Heritage Reserve Historic District (WA 1357)
- Officers Row Historic District (WA 918)
- Pearson Field Historic District (WA 369)
- Vancouver Barracks Historic District (WA 1358)
- Fort Vancouver National Historic Site (WA 1359)

Potential direct effects to historic built environment resources would differ among design options for two historic properties:

- Normandy Apartments (WA 149).
 - The Modified LPA with centered I-5 mainline would not result in physical destruction of Normandy Apartments, but would result in permanent changes to the property’s setting from construction of the elevated light-rail transit alignment that would contribute to an adverse effect to this historic property. See Figure 3.8-6.
 - The Modified LPA with the westward shift of the I-5 mainline would result in physical destruction of the Normandy Apartments, and would result in permanent changes within the property’s setting as a result of construction of the elevated light-rail transit alignment that would contribute to an adverse effect to this historic property. See Figure 3.8-6.
- Vancouver National Historic Reserve Historic District (WA 1357).
 - The Modified LPA with the centered I-5 mainline would result in physical destruction or damage to part of the property by demolishing a portion of the contributing Army Road System on E 5th Street where it terminates against I-5. In addition, noise and vibration effects would affect contributing components of the historic district, and construction of the new bridges and ramp structures would affect the historic district’s setting, resulting in an adverse effect to this historic property. See Figure 3.8-7 and Figure 3.8-8.
 - The Modified LPA with the westward shift of the I-5 mainline would not require demolition of a portion of the contributing Army Road System on E 5th Street where it terminates against I-5. However, noise and vibration effects would affect contributing components of the historic district, and construction of the new bridge and ramp structures would affect the historic district’s setting, resulting in an adverse effect to this historic property. See Figure 3.8-7 and Figure 3.8-8.

The property-specific Section 106 effects assessments found in Appendix D of the Historic Built Environment Technical Report, Finding of Effect Forms, provide the detailed analysis for the Modified LPA direct effects analysis.

Figure 3.8-6. Design Options Comparison – Normandy Apartments (WA 149)

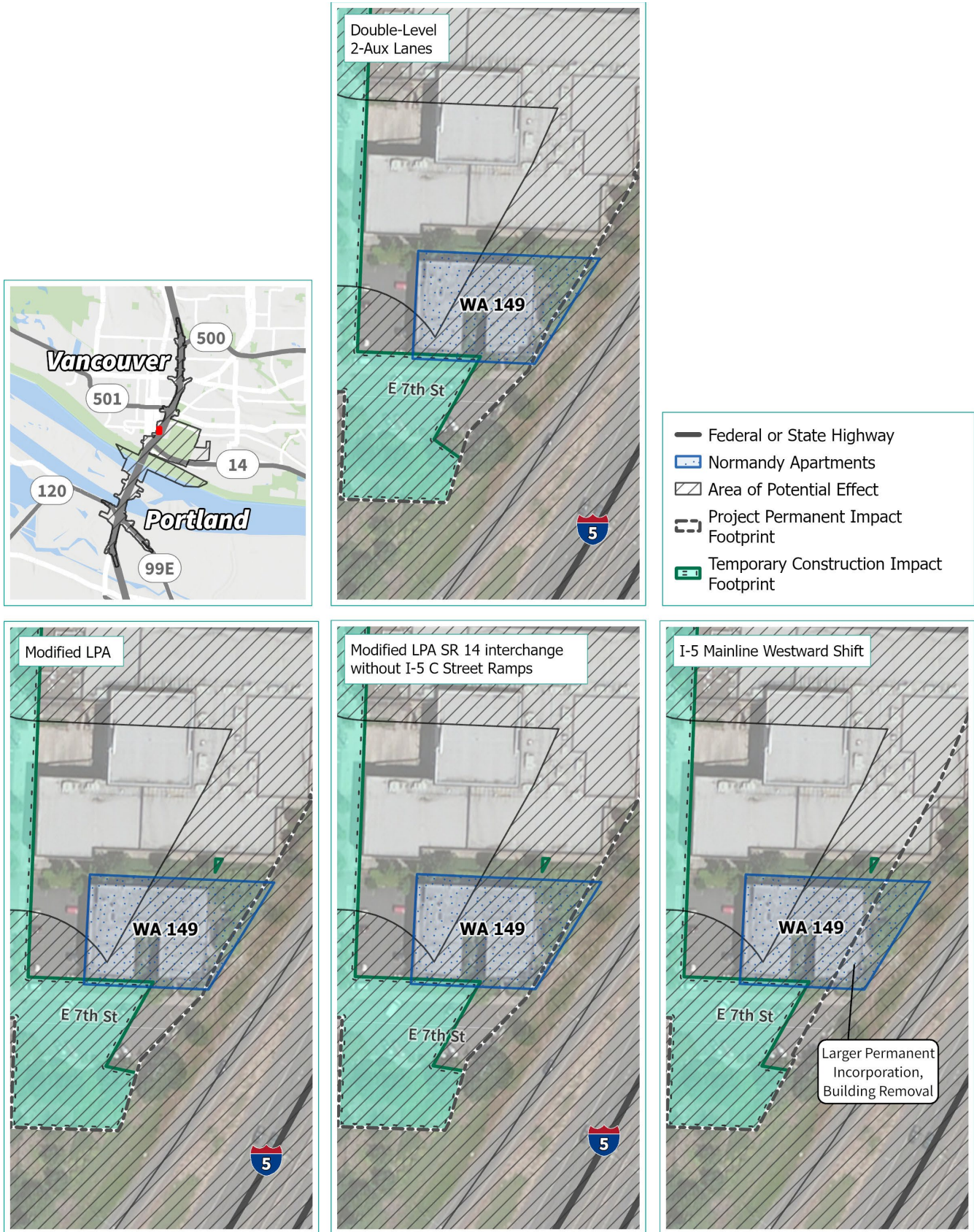


Figure 3.8-7. Design Options Comparison – Vancouver National Historic Reserve Historic District (WA 1357), South

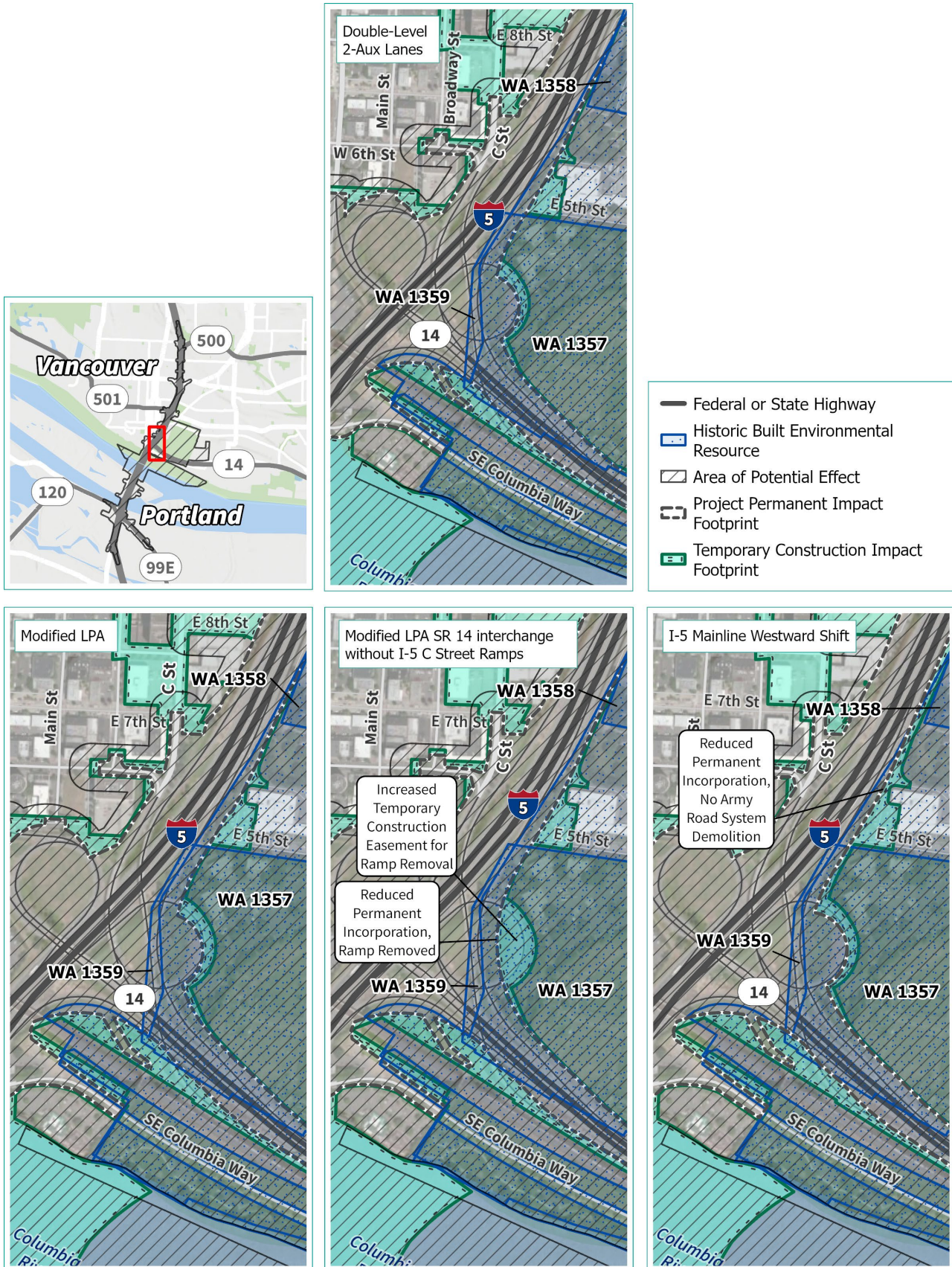


Figure 3.8-8. Design Options Comparison – Vancouver National Historic Reserve Historic District (WA 1357), North

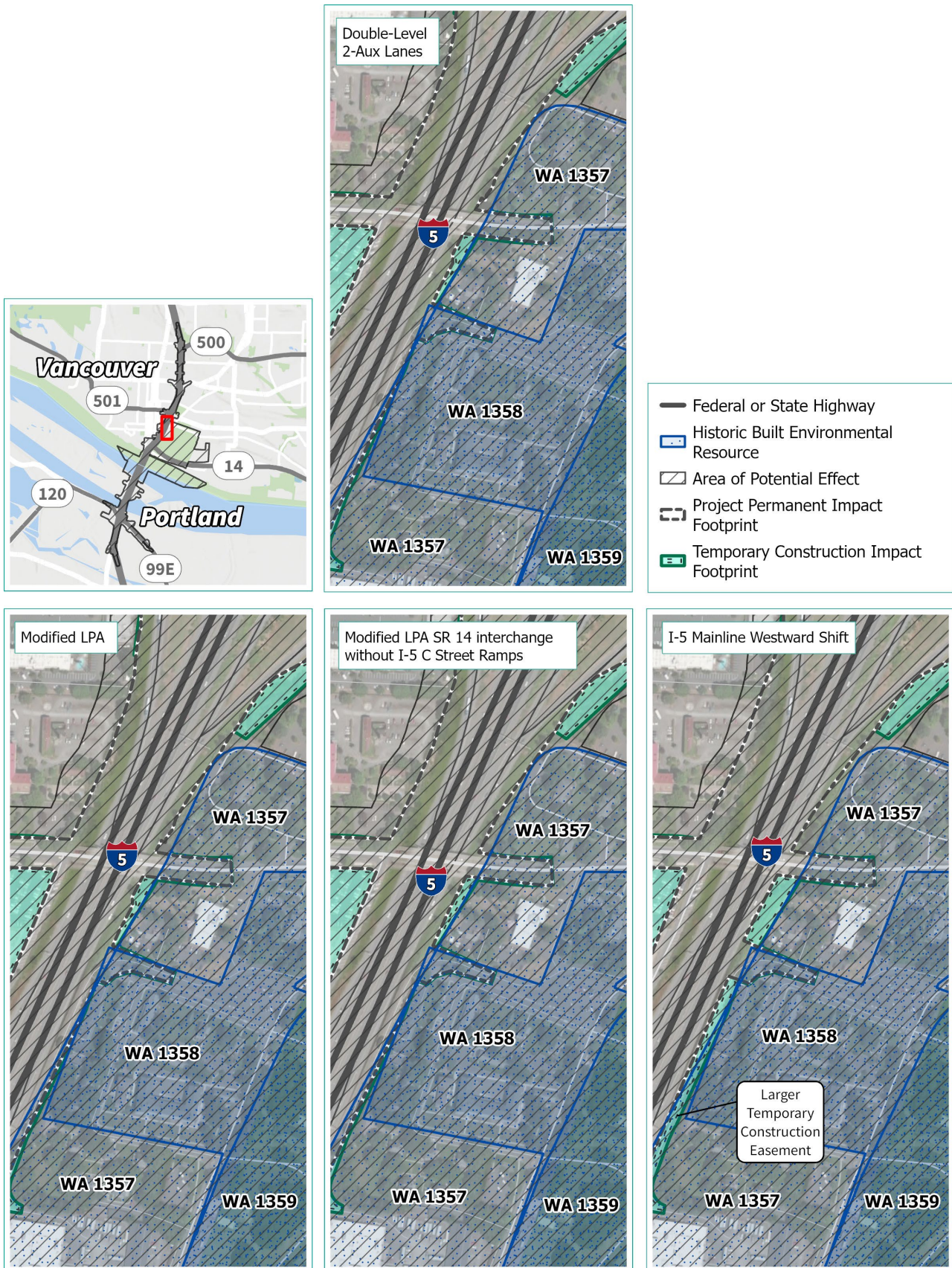


Table 3.8-7. Direct Effects of the Modified LPA on Oregon Historic Built Environment Resources

Map ID	Resource ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
OR 2	663154	Columbia Slough Drainage Districts Historic District	No Adverse Effect	<ul style="list-style-type: none"> Permanent physical change would be relatively small compared to the overall extent of the historic district. Alterations to Mud Slough Drainage would be limited to a small portion of the structure at the east side of I-5; most of the structure would not be affected and would retain its existing features. Temporary disturbances to vegetation and soil or temporary placement of fill would occur on approximately 2.56 acres. These areas represent only a small fraction of the overall historic district, which covers approximately 12,550 acres and includes a total of 27 linear miles of levees, fills, and cross levees. These temporary physical changes would not alter any of the characteristics 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. As such, the Modified LPA is considered to have No Adverse Effect on the Columbia Slough Drainage Districts Historic District.
OR 155	N/A	East Vanport Commercial Center	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the East Vanport Commercial Center.
OR 56	50293	Portland Assembly Center	No Adverse Effect	<ul style="list-style-type: none"> Construction activities, including construction of an expanded or new light-rail vehicle overnight facility, are more than 200 feet away from the existing complex of buildings and not expected to alter any of the Portland Assembly Center's contributing components. Permanent changes within the property's setting would not alter characteristics that contribute to its historic significance. These changes would not alter any of the characteristics 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. As such, the Modified LPA is considered to have No Adverse Effect on the Portland Assembly Center.

Interstate Bridge Replacement Program

Map ID	Resource ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
OR 111	N/A	Jantzen Beach Moorage	Adverse Effect	<ul style="list-style-type: none"> Physical destruction of part of the property that contributes to its historic significance. Construction of a new bridge and new light-rail transit bridge would require the removal of components that contribute to the NRHP eligibility of the Jantzen Beach Moorage, including a section of dock, at least two finger piers, and approximately 20 floating shelters. As such, the Modified LPA is considered to have an Adverse Effect on the Jantzen Beach Moorage.
OR 109	N/A	Jantzen Beach Water Tank	Adverse Effect	<ul style="list-style-type: none"> Physical destruction of the property. Permanent right-of-way acquisition and construction of the new road that would join the existing North Jantzen Avenue alignment west of the subject property would require the demolition of all extant features of the property, including the water tank, pump house, and the associated backup diesel generator. As such, the Modified LPA is considered to have an Adverse Effect on the Jantzen Beach Water Tank.
OR 107	N/A	Harbor Shops	Adverse Effect	<ul style="list-style-type: none"> Physical destruction of the property. Permanent right-of-way acquisition of the property to construct the proposed northbound and southbound Columbia River bridges would require demolition of extant features in the NRHP-eligible property, including the primary commercial building, surface parking lots and circulation, and planted medians. As such, the Modified LPA is considered to have an Adverse Effect on the Harbor Shops.
OR 120	N/A	Hayden Island Yacht Club Clubhouse	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the Hayden Island Yacht Club Clubhouse.

^a All design options under the Modified LPA would have the same direct effects, unless specifically stated.

LPA = Locally Preferred Alternative; N/A = Not applicable; NEPA = National Environmental Policy Act; NRHP = National Register of Historical Places

Table 3.8-8. Direct Effects of the Modified LPA on Interstate Historic Built Environment Resources

Map ID	Resource ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
OR 50; WA 381a	OR 49361; WA N/A	Interstate Bridge (northbound)	Adverse Effect	<ul style="list-style-type: none"> Physical destruction of the property. The Modified LPA would replace the existing northbound Interstate Bridge with a new northbound bridge. This would require removal of the existing northbound bridge. As such, the Modified LPA is considered to have an Adverse Effect on the Interstate Bridge (northbound).
OR 51; WA 381b	OR NA; WA 18781	Interstate Bridge (southbound)	Adverse Effect	<ul style="list-style-type: none"> Physical destruction of the property. The Modified LPA would replace the existing southbound Interstate Bridge with a new bridge. This would require the removal of the existing southbound Interstate Bridge. As such, the Modified LPA is considered to have an Adverse Effect on the Interstate Bridge (southbound).
OR 165 and WA 1356	N/A	Lower Columbia River Federal Navigation Historic District	No Adverse Effect	<ul style="list-style-type: none"> Physical change is relatively small in comparison to the overall extent of the historic district. The LCR FNC from Vancouver to Bonneville Lock and Dam is a nearly 40-mile-long structure, and construction of the two proposed bridges and their associated staging/work areas would be limited to its westernmost extent. The alignment of all three channels would be slightly revised, with the centerline of the northernmost channel route shifting slightly south and the centerline of the middle and southernmost channel routes shifting north to correspond with the pier locations of the proposed bridges. Additionally, the locations of the primary navigation channel route and the barge channel route would be switched. Although these changes would alter traffic along the LCR FNC, they would not alter its depth or design, the channel's character-defining features. Similarly, construction activities would be limited to the easternmost extent of the Upper Vancouver Turning Basin which would be shifted slightly west while maintaining its existing size. The easternmost pile dike within the Hayden Island Pile Dike System, the system's only pile dike located in the APE, would be avoided by construction and in-water staging activities. Each contributing structure would continue to be maintained by USACE and support ongoing safe navigation along the river. The Modified LPA would affect the NRHP-eligible LCR Federal Navigation Historic District, but that effect would not be adverse. Temporary in-water staging or work areas approximately 1,000 feet east of the existing bridges and 1,000 feet west of the proposed bridges would not alter any of the characteristics 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. As such, the Modified LPA is considered to have No Adverse Effect on the Lower Columbia River Federal Navigation Historic District.

^a All design options under the Modified LPA would have the same direct effects, unless specifically stated.

LCR FNC = Lower Columbia River Federal Navigation Channel; LPA = Locally Preferred Alternative; NEPA = National Environmental Policy Act; USACE = U.S. Army Corps of Engineers

Table 3.8-9. Direct Effects of the Modified LPA on Washington Historic Built Environment Resources

Map ID	Property ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
WA 1138	731246	Who Song and Larry's	No Adverse Effect	<ul style="list-style-type: none"> Construction impact area is within the Columbia River waterway to the east of Who Song and Larry's. The area would be used for staging and temporary construction activities, but these activities would not alter any of the characteristics 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. As such, the Modified LPA is considered to have No Adverse Effect on Who Song and Larry's.
WA 1192	89097	Bridge Substation	Adverse Effect	<ul style="list-style-type: none"> Physical destruction of the property. Permanent right-of-way acquisition and demolition of the bridge substation would be required to construct a proposed shared-use path and bridge. As such, the Modified LPA is considered to have an Adverse Effect on the Bridge Substation.
WA 7	33716	Fendrich's Furniture	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on Fendrich's Furniture.
WA 10	2124	Smith Tower	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on Smith Tower.
WA 21	20430	The Evergreen Hotel	No Adverse Effect	<ul style="list-style-type: none"> The entrance in the south elevation may be rendered inaccessible during construction. However, the building's other entrance, in the east elevation, would continue to function as normal. The east elevation is larger and more highly ornamented than the south elevation, and it faces a more intact street grid; consequently, the entrance on this elevation may be considered more important to the Evergreen Hotel's ability to convey its significant development history. It is anticipated that the entrance on the south elevation would be returned to regular use following the conclusion of construction activities. As such, the Modified LPA temporary construction easement along the Evergreen Hotel's southern property boundary would not alter any of the characteristics 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. As such, the Modified LPA is considered to have No Adverse Effect on the Evergreen Hotel.
WA 29	20436	U.S. National Bank Building	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the U.S. National Bank Building.

Map ID	Property ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
WA 149	89160	Normandy Apartments	Adverse Effect	<ul style="list-style-type: none"> • The Modified LPA with the centered I-5 mainline would not result in physical destruction or damage to the property or any part of the property that contributes to its historic significance. The Modified LPA would reconstruct and widen the I-5 corridor to the east of the property. Related activities would include the construction of a new elevated light-rail transit alignment and a ramp connecting I-5 to SR 14. A long, narrow permanent acquisition paralleling the eastern property boundary would be required. In addition, a subsurface easement extending under the southeast portion of the apartment building’s east wing would be required to accommodate tie-back anchors for a retaining wall to be constructed immediately east of the building. • Under all Modified LPA design options, permanent changes within the property’s setting would alter characteristics that contribute to its historic significance. New construction, including the elevated light-rail transit alignment, would be located within approximately 5 feet of the southeast corner of the apartment complex. This would reduce the current, approximately 33-foot-wide buffer between the building and the western edge of the pavement for the I-5 off-ramp connecting to SR 14. The large trees currently screening the east side of the building from I-5 would likely be removed for construction, eliminating the current visual barrier between the Normandy Apartments and the highway. The elevated light-rail transit alignment, which would rise to the approximate height of the apartment building, would introduce new and highly visible infrastructure that would undermine the property’s setting. Additionally, the noise analysis indicates that the property would experience increased noise effects relative to the No-Build Alternative that exceed thresholds set for residential properties. As such, the Modified LPA is considered to have an Adverse Effect on the Normandy Apartments. • The Modified LPA with the westward shift of the I-5 mainline would result in physical destruction of the property. The Modified LPA with the westward shift of the I-5 mainline includes ramps up to 40 feet to the west between SR 14 and Mill Plain Boulevard. This design option would require permanent right-of-way acquisition of the Normandy Apartments property and the demolition of the apartment building and its associated landscaping. The Modified LPA with the westward shift of the I-5 mainline would result in a greater degree of permanent effects to this NRHP-eligible property.
WA 1357	674732	VNHR Historic District	Adverse Effect	<ul style="list-style-type: none"> • The Modified LPA with the centered I-5 mainline would result in physical destruction or damage to part of the property by demolishing a portion of the contributing Army Road System on East 5th Street where it terminates against I-5. In addition, vibration effects from construction are anticipated to affect contributing components of the historic district. As such, the Modified LPA is considered to have an Adverse Effect on the VNHR Historic District.

Map ID	Property ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
				<ul style="list-style-type: none"> • The Modified LPA with the westward shift of the I-5 mainline would not require demolition of a portion of the contributing Army Road System. However, vibration effects from construction are also anticipated to affect contributing components of the historic district under this design option and would also be considered to result in an Adverse Effect to the VNHR Historic District. • The Modified LPA would require the permanent acquisition of approximately 1.06 acres of new right of way including a narrow strip of land on the western edge of the VNHR along the main body of I-5, small segments of land on the southern edge of the VNHR along the main body of SR 14, and a 290-foot-long linear acquisition for a new pathway adjacent to the contributing Old Apple Tree and the SR 14 interchange. These permanent acquisitions would be required to widen I-5, upgrade the SR 14 interchange, and construct the new shared-use path near the Old Apple Tree. • The Modified LPA with the centered I-5 mainline would require a subsurface easement extending approximately 50 feet beneath the reserve’s northwest corner to accommodate tieback anchors for a new retaining wall. These features are not anticipated to diminish the integrity of the property’s significant historic features. The Modified LPA with the westward shift of the I-5 mainline would not require subsurface easements. • Under all Modified LPA design options, changes within the property’s setting would alter characteristics that contribute to its historic significance. Construction of new bridge and ramp structures adjacent to the southwest corner of the historic district would introduce new visual elements into the viewshed of the Columbia River, which is an important element of the reconstructed Kanaka Village, Pearson Field, and an important interpretive view from the Mission 66 Visitor Center. Permanent introduction of visual elements would diminish the integrity of the property’s significant historic features. Permanent introduction of audible elements would diminish the integrity of the property’s significant historic features. The noise analysis indicates that the western and southwestern perimeter portions of the VNHR along I-5 and SR 14 would experience a noise impact, particularly to the westernmost buildings of the Officers Row area. These changes contribute to the Adverse Effect finding on the VNHR Historic District.

Map ID	Property ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
WA 918	N/A	Officers Row Historic District	Adverse Effect	<ul style="list-style-type: none"> Introduction of audible elements would diminish the integrity of the property’s significant historic features. While the NRHP documentation prepared in 1974 for this property does not explicitly identify a quiet setting as character defining for the property, the district was designed to minimize the passage of sound between buildings. Therefore, quiet is considered an important component of this property’s setting. The noise analysis indicates that multiple contributing buildings along the west edge of the Officers Row Historic District would experience increased noise levels relative to the No-Build Alternative that are above the 67 dBA criterion for Section 4(f) sites.^b This would diminish their integrity of setting and association sufficient to constitute an Adverse Effect on Officers Row Historic District.
WA 369	674448	Pearson Field Historic District	Adverse Effect	<ul style="list-style-type: none"> Changes within the property’s setting would alter characteristics that contribute to its historic significance. Under all design options, the Modified LPA would change the current setting of the Pearson Field Historic District by constructing infrastructure improvements approximately 2,880 feet west of the district’s western NRHP boundary including the new Columbia River bridges, ramps associated with the SR 14 interchange, and improvements to the SR 14 alignment. Although the district’s integrity of setting has been diminished since the end of its period of significance in 1941, principally by the construction of I-5 and SR 14, the property’s view of the historic Interstate Bridge remains a vital component of its historic integrity and ability to convey its significance. Permanent introduction of visual elements would diminish the integrity of the property’s significant historic features with the removal of the current bridge, and the property’s view of the historic Interstate Bridge remains a vital component of its historic integrity and ability to convey its significance. As such, the Modified LPA is considered to have an Adverse Effect on Pearson Field Historic District.
WA 1358	674435	Vancouver Barracks Historic District	Adverse Effect	<ul style="list-style-type: none"> The Modified LPA could result in physical destruction or damage to the property. Vibratory effects from the replacement of the highway retaining wall and upgrades to the roadbed are expected to impact the Post Hospital, which is a contributing component of this district. Physical damage from vibration is anticipated due to the building’s unreinforced masonry construction and proximity to construction activities (as close as 6 feet). Although the severity of potential damage from construction-related vibration cannot be readily evaluated in advance, a worst-case scenario assumes the potential for structural damage to the Post Hospital. Such damage would render the building unusable or result in its partial or complete collapse. A new permanent acquisition of 0.34 acres along its northwest corner is not anticipated to alter the contributing elements of the property. While some roadways along the west edge and northwest corner of the district would be demolished, these do not contribute to the district’s significance. Changes within the property’s setting would alter characteristics that

Map ID	Property ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
				<p>contribute to its historic significance. The district’s historic view of the Columbia River waterfront and the historic Interstate Bridge would be altered by replacement of the bridge, as well as upgrades to the SR 14 interchange and approach. Permanent introduction of visual elements would diminish the integrity of the property’s significant historic features. As such, the Modified LPA is considered to have an Adverse Effect on the Vancouver Barracks Historic District.</p>
WA 1359	674436	Fort Vancouver National Historic Site	Adverse Effect	<ul style="list-style-type: none"> • No physical destruction or damage to the property or any part of the property that contributes to its historic significance. Permanent acquisition of approximately 0.2 acres of new right of way, including small segments of land on the southern edge of the Fort Vancouver National Historic Site along the main body of SR 14. In the same area, a new temporary construction easement of 0.46 acres would be required. The acquisitions would reduce the size of the overall site, and both the permanent acquisitions and temporary construction easements could result in removal of some vegetation buffer along its southwest edge, which helps shield the site’s viewshed from some of the visual and auditory effects of the highways. • Permanent changes within the property’s setting would alter characteristics that contribute to its historic significance. The Modified LPA would introduce new visual elements into the historic site’s setting. These elements include replacement of the existing Interstate Bridge with a new structure which would be both on average taller and more substantial than the existing bridge, and associated upgrades to the SR 14 interchange to connect the new mid-level bridge span with ramps to the existing at grade alignment of I-5 and SR 14. Although the district’s integrity of setting has been diminished since the end of its period of significance (1844–1846) in the mid-nineteenth century, these changes would further degrade the site’s historic viewsheds of the Columbia River through the introduction of modern infrastructure on a greater size and scale than before. In addition, the temporary construction easement of 0.46 acres may result in the removal of some of the vegetation buffer along the southwest edge of the historic site. While this vegetation buffer would be replaced following implementation of the Program, the temporary physical changes would contribute to undermining the historic setting. Both these permanent and temporary changes within the property’s setting would alter characteristics that contribute to historic significance. As such, the Modified LPA is considered to have an Adverse Effect on the Fort Vancouver National Historic Site.

Map ID	Property ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
WA 1148	731279	Washington State Patrol District Five Headquarters	No Adverse Effect	<ul style="list-style-type: none"> The Modified LPA would require temporary construction easements (adjacent to permanent acquisitions of small areas from the southwest corner of the property, adjacent to Anderson Street, and from the northern boundary of the property, adjacent to E Evergreen Boulevard). However, these easements would not alter any of the characteristics 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. As such, the Modified LPA is considered to have No Adverse Effect on the Washington State Patrol District Five Headquarters. Infrastructure improvements proposed by the Modified LPA would alter the current setting of the Washington State Patrol District Five Headquarters property through the introduction of new visual, atmospheric, and audible elements. However, the degree of change from these new elements would be negligible. As such, the Modified LPA would have an effect on the NRHP-eligible Washington State Patrol District Five Headquarters, but that effect would not be adverse.
WA 150	18827	House of Providence	No Adverse Effect	<ul style="list-style-type: none"> The Modified LPA would require a temporary construction easement along the southern property boundary at E Evergreen Boulevard. The easement would extend approximately 10 feet into the House of Providence's historic property boundary, overlapping character-defining landscape features such as gate posts, a low hedge, and concrete curb along the public sidewalk. However, the Modified LPA includes plans to restore to preconstruction conditions the character-defining features of the House of Providence located within the temporary construction easement along the southern property boundary at E Evergreen Boulevard. This includes preserving the gate posts and replacing in-kind the hedge and curb, consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties. A subsurface easement would extend approximately 100 feet into the property boundary but would remain more than 100 feet from the House of Providence contributing resources and would not alter any of the characteristics 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. As such, the Modified LPA is considered to have No Adverse Effect on the House of Providence. Compared to the Modified LPA with the centered I-5 mainline, the Modified LPA with the westward shift of the I-5 mainline would expand the I-5 corridor into the eastern portion of the House of Providence's historic property boundary. The westernmost lanes of I-5, retaining wall, and noise wall would cross through the parcel containing the House of Providence, which would reduce the size of the area that historically contained the institution's grounds. The only

Map ID	Property ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
				<p>character-defining features that would be altered by the Modified LPA with the westward shift of the I-5 mainline are the hedge and curb along the property’s southern boundary, where a portion of these features would be removed. However, the loss of less than 50 feet of the hedge and curb represents a relatively small portion of these features, which currently run more than 350 feet along the southern property boundary; enough of the hedge and curb would remain unaltered at the center of the southern boundary to continue to convey the property’s historic landscape qualities. Additionally, under this design option, the subsurface easement would extend farther west into the parcel than with the centered I-5 mainline, but the easement would remain more than 50 feet from the primary building and its associated landscape features. Therefore, the Modified LPA with the westward shift of the I-5 mainline would result in the same No Adverse Effect finding for the House of Providence as the Modified LPA with the centered I-5 mainline.</p>
WA 1233	89149	Earls House	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the Earls House.
WA 1144	731267	Office Building, 1514 E Street	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the office building at 1514 E Street.
WA 1182b	731284	Rudy Luepke Senior Center	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the Rudy Luepke Senior Center.
WA 382	44853	Radio Transmission Building	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the Radio Transmission Building.
WA 1319	20317	Vancouver Barracks National Cemetery	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the Vancouver Barracks National Cemetery.
WA 1320	731277	St. James Acres Catholic Cemetery	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the St. James Acres Catholic Cemetery.

Map ID	Property ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
WA 1258	89483	Mickler House	No Adverse Effect	<ul style="list-style-type: none"> Modified LPA improvements to E 29th Street would require a temporary construction easement from the extreme northern edge of the tax lot. Activities in this easement have the potential to disturb the northern edge of the concrete-paved walkway connecting the north (principal) elevation of the Mickler House to the sidewalk along E 29th Street; while this feature is considered contributing to the property's significance, disturbance or damage would be limited to its extreme northern edge and would not diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. As such, the Modified LPA is considered to have No Adverse Effect on the Mickler House.
WA 1168	731275 / 731276	Duplex Residences, 2901-03 and 2905-07 K Street	No Adverse Effect	<ul style="list-style-type: none"> Temporary physical changes would damage or destroy characteristics that contribute to historic significance. The Modified LPA would include a temporary construction easement that extends into the property's southwest corner, which currently contains a portion of the property's grass lawn and one mature ornamental shrub. Construction activities may damage the lawn. However, the Modified LPA includes plans to restore the grass lawn. This includes replacing in-kind the lawn and preserving one mature ornamental shrub that would not be removed during construction, consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties. As such, the Modified LPA is considered to have No Adverse Effect on the duplex residences at 2901-03 and 2905-07 K Street.
WA 61	89120	Porter House	No Adverse Effect	<ul style="list-style-type: none"> The Modified LPA would construct additional interstate lanes to the west of the property and new intervening retaining and sound walls along the western edge of the alley separating the property from I-5. Construction of the retaining wall would require a permanent subsurface easement on the western portion of the Porter House property for the installation of subterranean tie-back anchors. The subsurface easement would extend into the yard to the rear of the dwelling's footprint. Surface-level construction activities are not anticipated to enter the tax lot, which is the NRHP eligibility boundary for the property. The Modified LPA would not alter any of the characteristics 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. As such, the Modified LPA is considered to have No Adverse Effect on the Porter House.

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Map ID	Property ID	Property Name	Section 106 Effects Finding	Modified LPA Direct Effects Analysis ^a
WA 62	25537	Hall House	No Adverse Effect	<ul style="list-style-type: none"> The Modified LPA would construct additional interstate lanes to the east of the residence, on the opposite side of J Street, and new intervening retaining and sound walls along the eastern edge of J Street. Construction of the walls would require a permanent subsurface easement on the eastern portion of the property for the installation of subterranean tie-back anchors. The subsurface easement would extend into the side yard but not beneath the dwelling's footprint. Surface-level construction activities are not anticipated to enter the tax lot, which is the NRHP -eligibility boundary for the property. The Modified LPA would not alter any of the characteristics 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. As such, the Modified LPA is considered to have No Adverse Effect on the Hall House.
WA 191	89189	Residence, 3405 K Street	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the residence at 3405 K Street.
WA 191	89189	Hood, William H. and Myrtle, Residence	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on the William H. and Myrtle Hood Residence.
WA 900	20458	Covington House	No Effect	<ul style="list-style-type: none"> No alteration to the characteristics of the historic property that qualify it for inclusion in or eligibility for the NRHP. As such, the Modified LPA is considered to have No Effect on Covington House.

a All design options under the Modified LPA would have the same direct effects, unless specifically stated.

b Decibel thresholds applied for assessment of direct effects from noise as a result of construction and highway traffic are codified in 23 CFR 772 Table 1, Noise Abatement Criteria. CFR = Code of Federal Regulations; IBR = Interstate Replacement Bridge; LPA = Locally Preferred Alternative; NEPA = National Environmental Policy Act; NRHP = National Register of Historic Places; VNHR = Vancouver National Historic Reserve

3.8.4 Indirect Effects

Indirect effects are those caused at a later time or farther away, but that are still reasonably foreseeable. The Modified LPA, including all design options, would include improved bicycle, pedestrian, highway, and transit access in Portland and Vancouver. This increased accessibility could make these areas more attractive for redevelopment or development of previously undeveloped areas. As described in Section 3.4, local and regional land use plans encourage growth and density in proposed areas near the stations proposed under the Modified LPA on Hayden Island and in downtown Vancouver, making these areas especially likely to redevelop.

Urban redevelopment frequently results in increased pressure to demolish or modify historic built environment resources in ways that are not compatible with their historic integrity, and new development in previously undeveloped areas can result in effects to significant settings of historic built environment resources. In addition, urban redevelopment or development of previously undeveloped areas can increase the potential for ground disturbance that could damage or destroy archaeological sites. While it is possible that implementation of the Modified LPA could result in access to new areas for future development or result in improved access to existing developed areas for redevelopment, there are currently no specific development or redevelopment projects that are contingent upon the Modified LPA planned. In addition, as discussed in Section 3.4, the Modified LPA is not expected to encourage urban sprawl-type growth in previously undeveloped areas. Therefore, no property-specific indirect effects have been identified for historic properties within the APE.

3.8.5 Program Planning to Avoid or Minimize Effects to Cultural Resources

Program planning has included identification of Modified LPA activities to avoid or minimize effects to historic properties. The “no adverse effect” findings for four historic built environment resources in the APE assumes implementation of the following activities:

- **House of Providence (WA 150).** Minimize effects by restoring to preconstruction conditions the character-defining features of the House of Providence located within the temporary construction easement along the southern property boundary at E Evergreen Boulevard. This includes preserving the gate posts, consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties.
- **Duplex Residence at 2901 K Street (WA 1168a and WA 1168b).** Minimize effects by restoring the grass lawn within the temporary construction easement that extends into the property’s southwest corner to its preconstruction state. This includes replacing in-kind the lawn and preserving one mature ornamental shrub that would not be removed during construction, consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties.
- **Vancouver Barracks National Cemetery (WA 1319).** Avoid effects by preserving character-defining features along E Fourth Plain Boulevard within the temporary construction easement. This includes preservation of the perimeter fence, cobblestone wall with gates, perimeter road, and planting inside the boundary fence, consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties.
- **Mickler House (WA 1258).** Reconstruct the fence, if necessary, following project completion. Minimize to the maximum extent possible the effects to the existing walkway and curb when implementing Americans with Disabilities Act design efforts.

Program planning also includes efforts to minimize effects to the Fort Vancouver National Historic Site. However, even with implementation of the following activity, the Modified LPA would result in an “adverse effect” finding for the Fort Vancouver National Historic Site:

- **Fort Vancouver National Historic Site (WA 1359).** Protect two historic trees in the allée, which are contributing components associated with the property, consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Replace the vegetation buffer removed within the temporary construction easement along the southwest edge of the property following Program implementation.

In addition, Program planning to avoid or minimize effects on cultural resources will include, for historic built properties within 500 feet of the construction activity, monitoring of construction activities where construction-related vibration would exceed 0.2 inches per second for transient vibrations and 0.1 inches per second for continuous vibrations.

3.8.6 Mitigation and Programmatic Agreement

Identification of the mitigation for adverse effects to historic properties assessed under NEPA will be completed through the NHPA Section 106 process. FHWA and FTA, in coordination with WSDOT and ODOT, and in consultation with Oregon SHPO, Washington DAHP, consulting tribes, and other consulting parties, have chosen to complete the Section 106 process and resolve adverse effects on historic properties through the development of a PA pursuant to 36 CFR 800.14(b). A Draft PA, with redactions for sensitive information as deemed appropriate by FHWA and FTA in consultation with consulting tribes and other consulting parties, is currently undergoing consultation and will be made available to the public prior to publication of the Final SEIS, as required by 36 CFR 800.14(b)(2)(ii). The Final PA will be executed prior to the issuance of the ROD and will be included as an appendix to the ROD.

A PA is used when effects on historic properties cannot be fully determined prior to approval for the undertaking, as allowed under 36 CFR 800.14(b)(1)(ii), and where other circumstances warrant a departure from the normal Section 106 process as allowed under 36 CFR 800.14(b)(1)(v). Given the complexities of the IBR Program and the anticipated mix of construction contract delivery methods, FHWA and FTA intend for the PA to include stipulations to govern the implementation of the Program post-PA execution. The PA will include stipulations that outline processes for continued consultation; APE amendment; post-PA execution phased identification of historic properties, assessment of effects, and resolution of adverse effects; training; inadvertent discovery; archaeological monitoring; treatment of historic built environment resources, archaeological resources, historic cemeteries, human remains; and other administrative stipulations.

FHWA and FTA, in coordination with WSDOT and ODOT, have initiated consultation on the development of the PA with Oregon SHPO, Washington DAHP, the federally recognized tribes, and other consulting parties. This initial consultation involved review of an outline of the PA and outlines of the attachments to the PA. Based on comments on the PA and attachment outlines, FHWA and FTA, in coordination with WSDOT and ODOT, will continue consultation with Oregon SHPO, Washington DAHP, the federally recognized tribes, and other consulting parties to prepare a draft of the PA and attachments. The draft will include the stipulations and legal language required by FHWA, FTA, and the Advisory Council on Historic Preservation for project and program-level PAs. The draft PA attachments will detail measures to resolve adverse effects on known historic properties and procedures for post-PA execution, cultural resource investigations, and consultation. Preparation of the draft is ongoing. The draft, once completed, will be made available to the public prior to publication of the Final SEIS.