

3.8 Historic and Archaeological Resources

The cultural resources in a given area form a vital contribution to the sense of place and identity for those who live, work, and visit that area. Cultural resources are broadly divided into the historic built environment (buildings, structures, and objects), archaeological sites, and other defined features or areas that are important to maintaining cultural identity.

Because of their importance, various types of cultural resources are protected by federal, state, and/or local laws. The National Historic Preservation Act (NHPA) of 1966 (as amended) establishes a process for identifying and preserving historic properties and resources in the United States. In particular, Section 106 of the NHPA defines the process by which federal agencies must take into account the effects of their undertakings on any district, site, building, structure, or object that is included on or eligible for inclusion (listing) on the National Register of Historic Places (NRHP).

Section 106 applies whenever there is a federal nexus to a project, that is, whenever the project requires a federal permit, uses federal dollars, or takes place (in whole or in part) on federal lands. The Section 106 regulatory procedures and requirements (provided in 36 CFR 800) require that “consulting parties”—parties with legal jurisdiction over or special interest in historic properties or resources—be included in decision-making that affects those resources. This includes the state department or office chartered to address the preservation of the state’s historic resources, other legal entities entrusted with the care and preservation of historic resources, as well as any Native American tribes with tribal ties to or an interest in the affected areas.

A cultural resource is considered an “historic property,” and “significant” pursuant to 36 CFR 800, if it is determined to be National Register-eligible. Eligible properties generally must be at least 50 years old, possess integrity of physical characteristics, and meet at least one of the four criteria of significance:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history.
- B. That are associated with the lives of persons significant in our past.
- C. That 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.
- D. That have yielded, or may be likely to yield, information important in prehistory or history.

For the CRC project, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the lead federal agencies for the project, identified the following Section 106 consulting parties:

- Chinook Tribe, Washington
- City of Portland

- City of Vancouver
- Confederated Tribes and Bands of the Yakama Nation, Washington
- Confederated Tribes of the Colville Reservation, Washington
- Confederated Tribes of the Grand Ronde Community of Oregon
- Confederated Tribes of the Siletz Reservation, Oregon
- Confederated Tribes of the Umatilla Reservation, Oregon
- Confederated Tribes of Warm Springs Reservation of Oregon
- Cowlitz Indian Tribe, Washington
- National Park Service (NPS)
- Nez Perce Tribe of Idaho
- Oregon State Historic Preservation Office (SHPO)
- Spokane Tribe of the Spokane Reservation, Washington
- Nisqually Indian Tribe, Washington
- United States Army Corps of Engineers
- Washington Department of Archaeology and Historic Preservation (DAHP)
- Washington Department of Natural Resources

TERMS & DEFINITIONS

Consulting Party

Section 106 requires that “consulting parties” be involved in all determinations of eligibility, findings of effect, and any Memorandum during the Section 106 process. These consulting parties include the State Historic Preservation Offices (DAHP and SHPO), federally and non-federally recognized tribes, local government, and other individuals or organizations with a demonstrated interest in the project and its effects on historic properties.

Accordingly, each of these consulting parties was notified of the project and given opportunity to participate. In addition, information about the project’s consideration of historic properties, excluding sensitive archaeological resources,⁸ was discussed publicly through the project’s public involvement program, which included a Cultural Resources Open House (see Chapter 6 and the Cultural Resources Technical Report for more information). These discussions have occurred throughout the project’s conceptual alternative development and evaluation phases, and will continue through construction.

Historic properties that are NRHP-listed or determined to be NRHP-eligible may also be subject to Section 4(f) provisions of the Department of Transportation Act of 1966. In addition, for archaeological sites that are NRHP-eligible under multiple criteria, the artifacts may warrant preservation in place, and would therefore qualify as Section 4(f) properties. The project team prepared a Section 4(f) Evaluation covering the historic properties whose NRHP qualifying characteristics may be “used” by the proposed project, and for three archaeological sites that are subject to Section 4(f) provisions. The 4(f) Evaluation is in Chapter 5 of the FEIS.

This section summarizes the potential adverse effects of the CRC project alternatives, and of the locally preferred alternative (LPA) in particular, on cultural resources in the project area and identifies mitigation measures to avoid or compensate for those effects. The information presented in this section is based on the CRC Archaeology and Historic Built Environment Technical Reports. These technical reports are included as electronic appendices to this FEIS.

⁸ Information regarding certain sensitive historic or cultural resources can be legally withheld from the public at large in order to protect those resources.

This section focuses primarily on the LPA. A comparison of impacts from the LPA and the DEIS alternatives is summarized in Exhibit 3.8-8. A more detailed description of the impacts of the DEIS alternatives on historic and archaeological resources is in the DEIS starting on page 3-211.

3.8.1 New Information Developed Since the Draft EIS

Since the completion of the Draft Environmental Impact Statement (DEIS), and in accordance with 36 CFR 800, the project has continued to follow the appropriate steps for identification and evaluation of resources and determinations of effects. Analytical steps completed since the publication of the DEIS include the following:

- Completed a shading analysis of the historic apple tree in Apple Tree Park, where new highway ramps would encroach on the tree.
- Conducted a parking utilization analysis to help identify critical on-street parking deficits. These deficits could indicate areas where loss-of-parking might have an effect on the occupancy and/or use of historic buildings or an adverse effect on characteristics that make the buildings historically significant.
- Conducted additional historic built-environment and archaeological investigations regarding the Ruby Junction Maintenance Facility and potential staging areas and casting yards.
- Conducted ethnographic/oral histories to assist in identifying historic and archaeological resources important to Native Americans, including, but not limited to, traditional cultural properties.
- Performed pedestrian archaeological surveys of accessible areas that would experience potential adverse effects. This survey consisted of archaeologists walking over the ground surface to determine the presence or absence of archaeological resources visible on the ground and to characterize the likelihood of areas to contain buried resources.
- Used non-invasive ground penetrating radar (GPR) to identify subsurface soil anomalies that could indicate the location of potential archaeological features and guide archaeological subsurface investigations.
- Collected and observed geo-core samples at geotechnical drilling locations to investigate the potential for the presence of archaeological resources.
- Monitored geotechnical drilling to identify presence or absence of archaeological resources in the samples.
- Performed subsurface archaeological testing to delineate the boundaries and evaluate the significance of archaeological sites.
- In coordination with the Oregon SHPO and the property owner, assessed impacts to LCI-713, an NRHP-listed ship moved into the study area after the completion of the historic survey in 2007.

In addition to new information developed since the DEIS, the FEIS includes refinements in design, impacts and mitigation measures. Where new information or design changes could potentially create new significant environmental impacts not previously evaluated in the DEIS, or could be meaningful to the decision-making process, this information and these changes were applied to all alternatives, as appropriate. However, most of the new information did not warrant updating analysis of the non-preferred alternatives because it would not meaningfully change the impacts, would not result in new significant impacts, and would not change other factors that led to the choice of the LPA. Therefore, most of the refinements were applied only to the LPA. As allowed under Section 6002 of SAFETEA-LU [23 USC 139(f)(4)(D)], to facilitate development of mitigation measures and compliance with other environmental laws, the project has developed the LPA to a higher level of detail than the other alternatives. This detail has allowed the project to develop more specific mitigation measures and to facilitate compliance with other environmental laws and regulations, such as Section 4(f) of the DOT Act, Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act, and Section 404 of the Clean Water Act. FTA and FHWA prepared NEPA re-evaluations and a documented categorical exclusion (DCE) to analyze changes in the project and project impacts that have occurred since the DEIS. Both agencies concluded from these evaluations that these changes and new information would not result in any new significant environmental impacts that were not previously considered in the DEIS. These changes in impacts are described in the re-evaluations and DCE included in Appendix O of this FEIS. Relevant refinements in information, design, impacts and mitigation are described in the following text.

3.8.2 Existing Conditions

Defining the Section 106 Area of Potential Effect

Defining the area of potential effect (APE) is one of the first steps in the Section 106 process. The CRC project team coordinated with the Oregon State Historic Preservation Office (SHPO), Washington Department of Archaeology and Historic Preservation (DAHP), the 11 consulting tribes, and other Section 106 consulting parties listed above to determine the project's cultural resources APE. The APE was defined as the area that could potentially experience direct or indirect effects to cultural resources from the range of project alternatives that were advanced for consideration in the DEIS (Exhibit 3.8-1). Because assessment techniques vary by resource type, the CRC project team identified two areas of concern within the APE. These areas of concern reflect the different boundaries for potential effects to the historic-period built environment and to archaeological resources. The APE has been updated to cover the areas where potential effects may be experienced with latest design of the LPA.

The archaeological area of concern (Exhibit 3.8-2) was defined by making a good faith effort to review and analyze background technical reports and maps for information regarding the location of formally recorded archaeological sites; information from oral histories; likely locations of archaeological resources; the sources, location and likely extent of project

effects on archaeological resources; and information from the consulting parties.

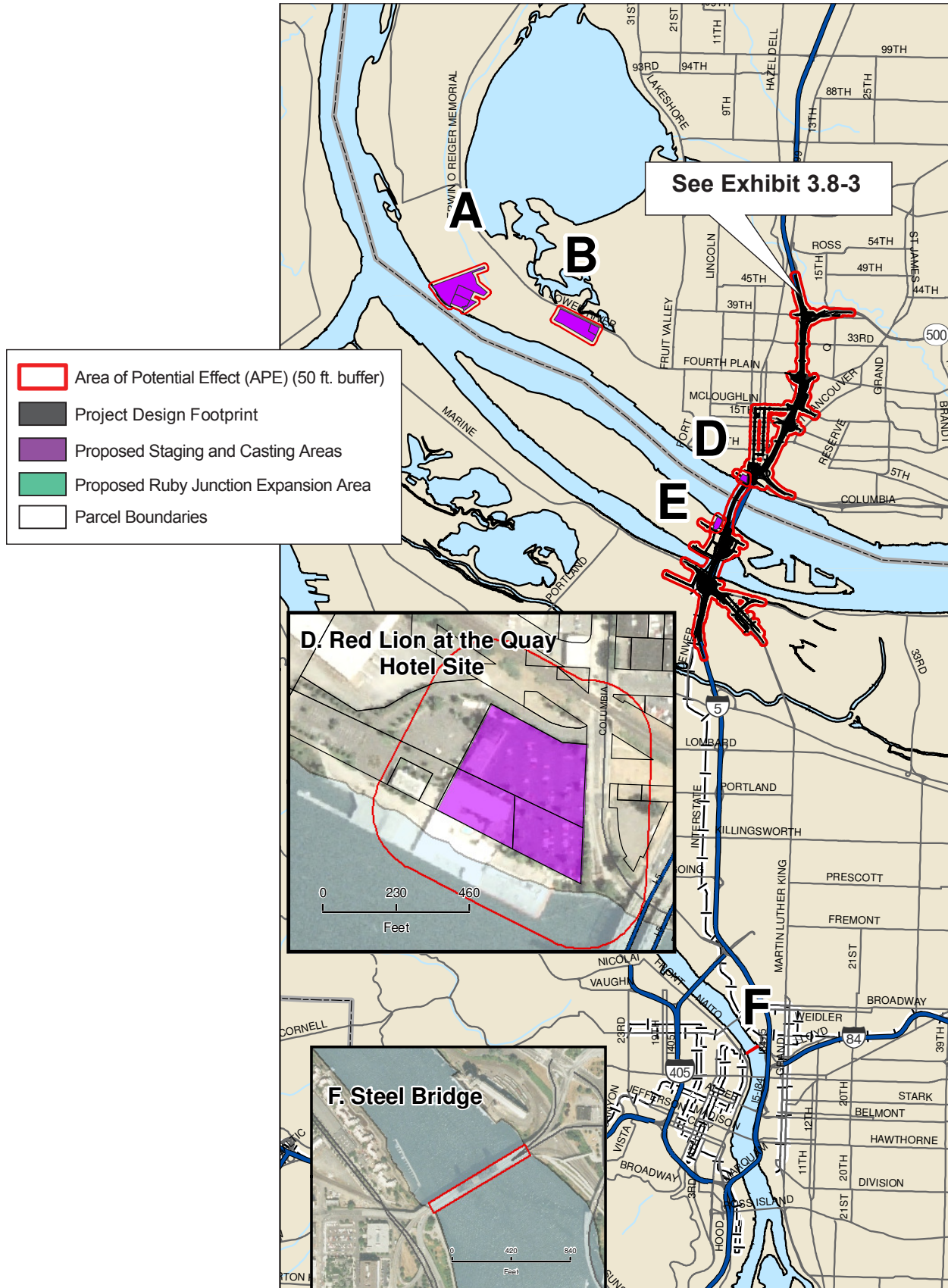
The archaeological area of concern included all areas within which ground-disturbing impacts might occur, plus a 50-foot-wide buffer area of additional land to accommodate potential staging areas. This area of concern includes landforms that date back to the Pleistocene age (12,000 years Before Present [BP]). These landforms are deeply buried in some parts of the APE.

The CRC project benefits from the fact that much of the project's APE, especially areas within or adjacent to it, has been archaeologically investigated as part of other projects. These past studies provide a wealth of information regarding the nature of the archaeological resources in the APE, and appropriate archaeological methods for investigating the area and its archaeological resources.

The historic built environment area of concern is divided into two subareas: where direct impacts could be expected to occur, and where indirect impacts could be expected to occur (Exhibit 3.8-3).⁹ The direct impact subarea of the APE extends one block on either side of the project highway and transit alternatives. The indirect impact subarea of the APE represents the area where indirect impacts, such as development changes, could occur from the proposed alternatives. Indirect impacts could also potentially occur in the area identified as being at risk for direct impacts.

⁹ A direct impact is the immediate result of project construction and operation. An indirect impact is one that is caused by project construction or operation but that is later in time or distant from the project.

Exhibit 3.8-1
Cultural Resources Area of Potential Effect (APE) (1 of 2)



Dimensions are approximate.

Exhibit 3.8-1

Cultural Resources Area of Potential Effect (APE) (2 of 2)

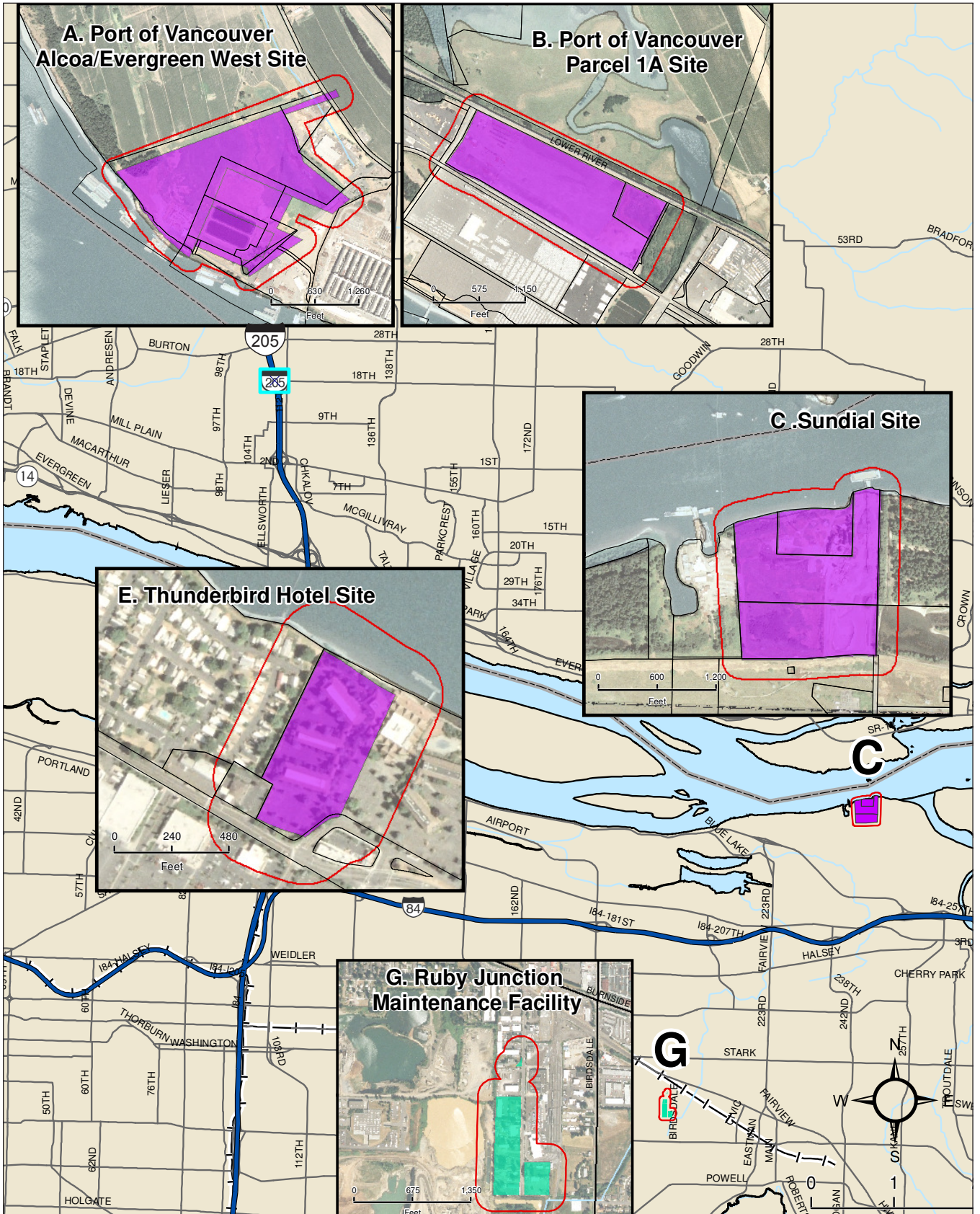
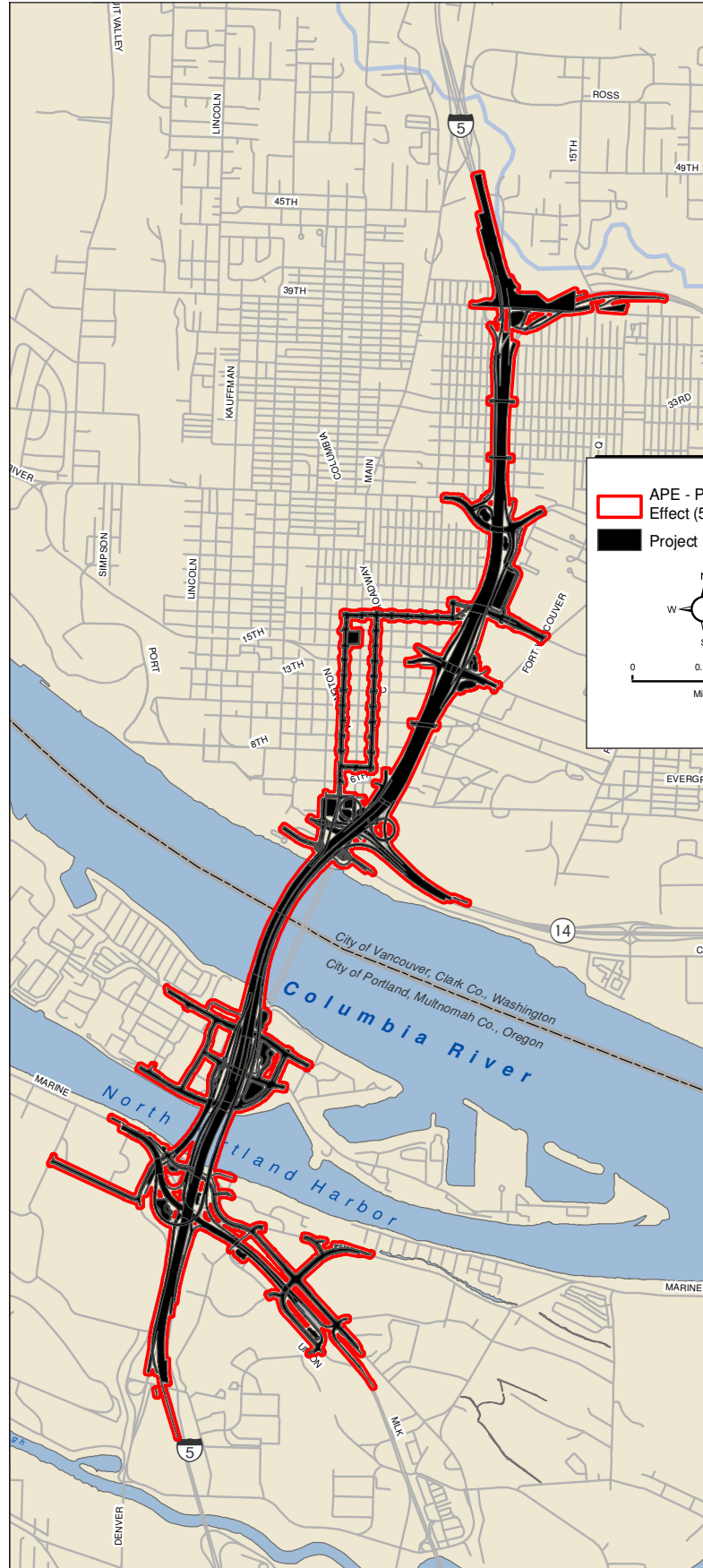


Exhibit 3.8-2
Archaeological Area of Concern



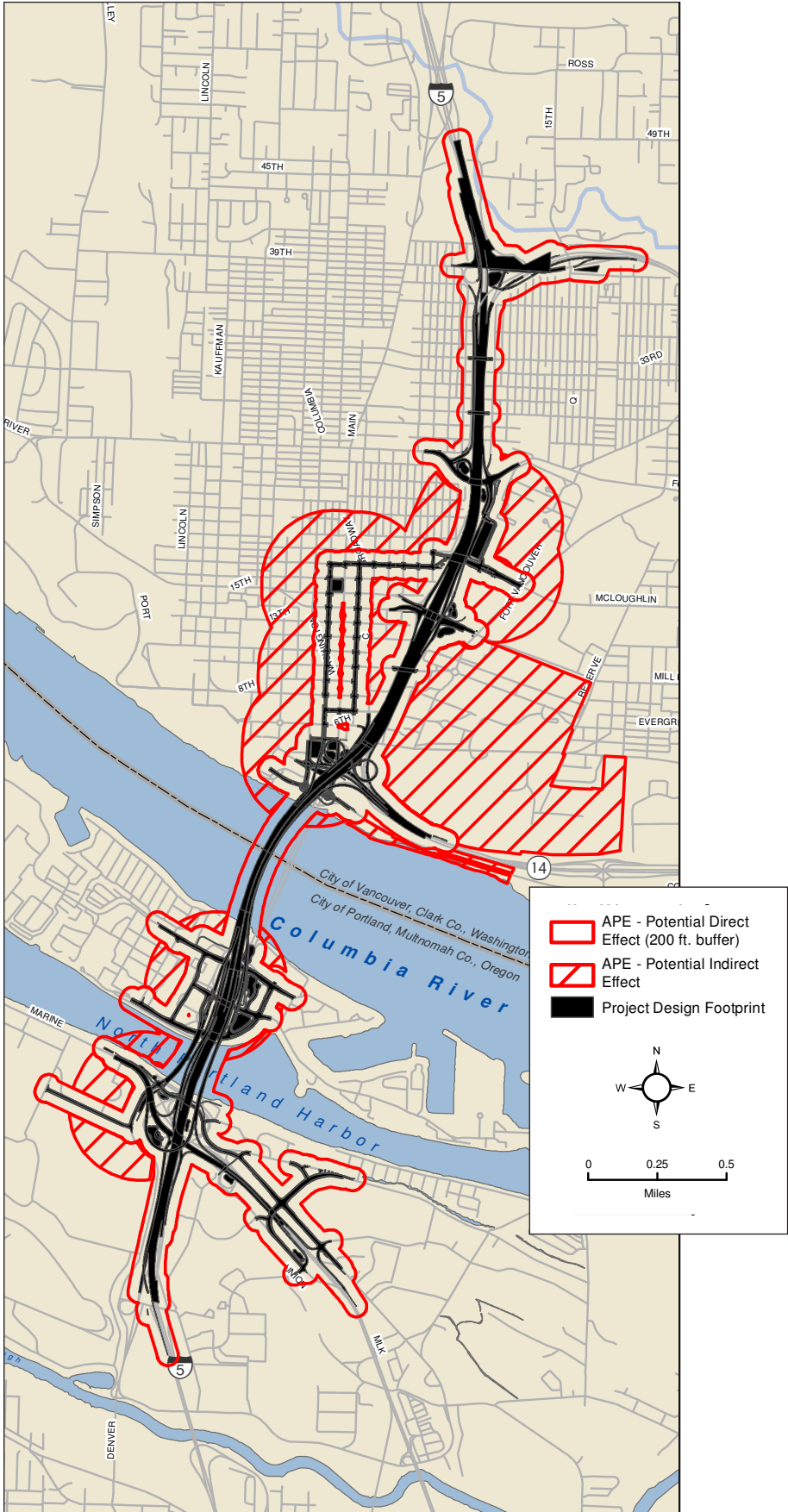
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1 Exhibit 3.8-3

2 **Historic Built Environment Area of Concern**

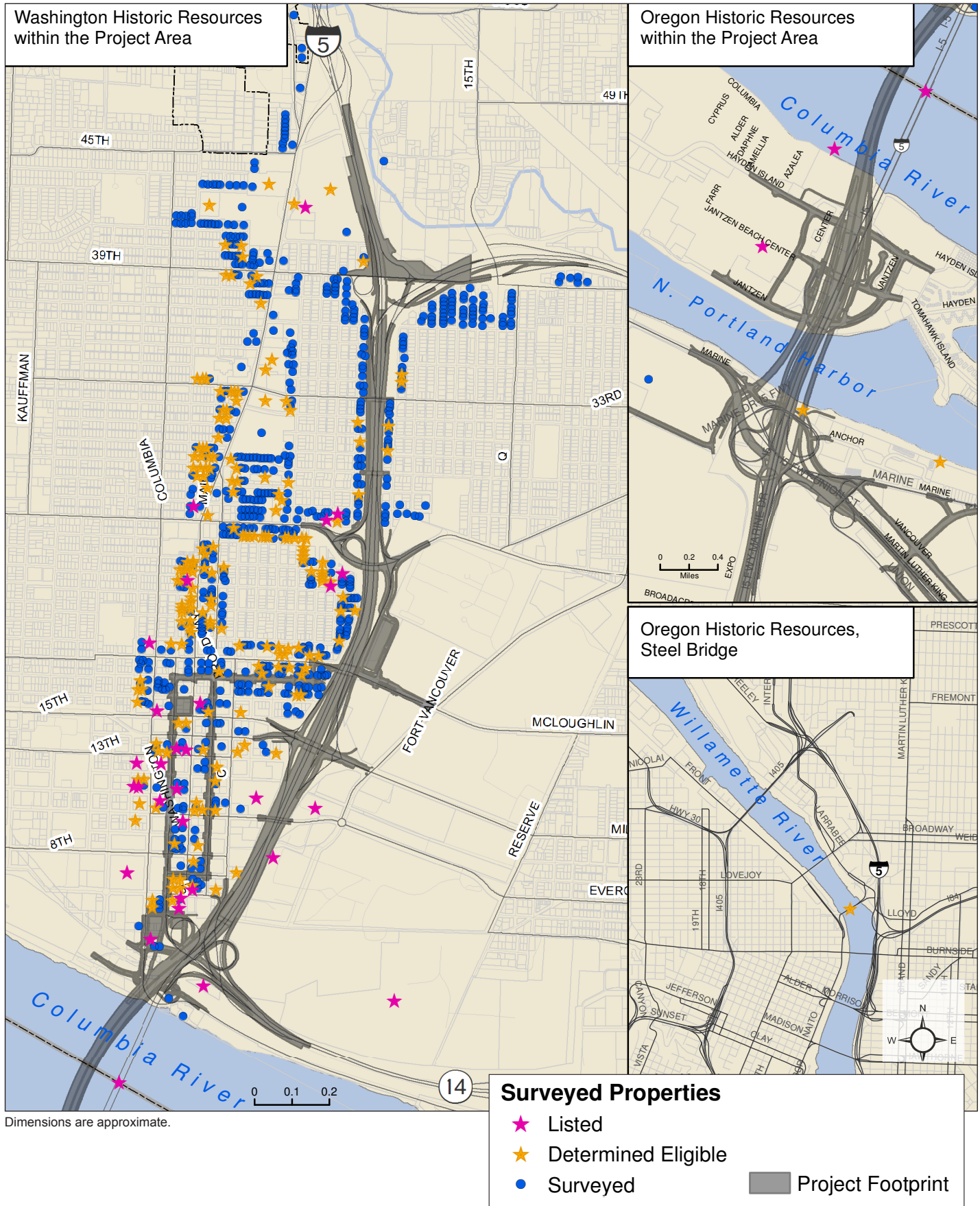
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Dimensions are approximate.

Exhibit 3.8-4

Historic Buildings and Sites



Dimensions are approximate.

Historic Buildings and Sites

The CRC project team surveyed 877 resources constructed prior to 1967. Of these, 201 were identified as NRHP-listed or were considered as eligible for listing by the FHWA, FTA, SHPO, and/or DAHP (Exhibit 3.8-4). Detailed maps of these resources can be found in the CRC Historic Built Environment Technical Report, included as an electronic appendix to this FEIS.

Within the APE in Oregon, there are very few previously inventoried historic resources. Only four resources have been previously identified as NRHP-listed or eligible or as a Portland Historic Landmark (which are also NRHP-eligible):

- The NRHP-listed Carousel located at Jantzen Beach.
- Waddles Restaurant (now Hooters), which is no longer considered to be NRHP-eligible because of recent alterations.
- The Columbia Slough and Levee System, as contributing elements of the Columbia Slough Drainage Districts Historic District (CSDDHD).
- The 1917 I-5 bridge (northbound structure), which crosses the Columbia River between Portland, Oregon and Vancouver, Washington. It was listed on the NRHP in 1982. It is now part of two bridges located side by side and joined by a common foundation; this foundation was added in 1958, when the southbound structure was constructed (Exhibit 3.8-5).
- The World War II-era, amphibious landing vehicle, LCI-713 temporarily moored at the Thunderbird Hotel site on Hayden Island.

Exhibit 3.8-5

The 1917 Bridge and Ferry



The Pier 99 building had not been previously surveyed. The project team surveyed the structure, conducted background research, and determined it to be NRHP-eligible. The 1960 Pier 99 commercial building is NRHP-eligible under two criteria: b, for its association with the lives of John Storrs and James Pierson, two significant proponents and practitioners of the Northwest Region

Style of the past; and c, for its embodiment of distinctive characteristics of the Mid-Century Modern Northwest Regional Style and for the rare wooden hyperbolic paraboloid roof.

In the Washington portion of the APE, 871 cultural resources were evaluated for their eligibility for the NRHP. Historic site records, from DAHP, Clark County, and the City of Vancouver were reviewed for previously inventoried historic resources in the direct impact area. All of these sites were occupied during the historic period (more than 50 years ago) or were related to activities taking place during the historic period, and some of these sites have historical archaeological components. One of these, the Fort Vancouver Historic Site, has been combined with other major elements of the VNHR to form the Fort Vancouver National Register District.

The VNHR, located east of downtown Vancouver on the east side of I-5, is cooperatively managed by the NPS, City of Vancouver, U.S. Army, and the Fort Vancouver National Trust (FVNT). Initial settlement in the project area by European-descended people began with the establishment of Fort Vancouver by the Hudson's Bay Company (HBC) in 1824-1825. In 1829 the fort was moved 1 mile southwest of its original location to a site on the floodplain 400 yards from the Columbia River. In this location, the fort served as the administrative headquarters for the HBC's Columbia Department, which administered an area from the Rocky Mountains to the Pacific Ocean, until the HBC withdrew from the region in 1860.

US Army troops were detailed to the Pacific Northwest in 1849, in response to conflicts resulting from encroachment by American miners and settlers on Native American lands. With the permission of the Hudson's Bay Company's, a military base was established to the north of the stockade at Fort Vancouver. Known as Columbia Barracks or Vancouver Barracks, this post became the headquarters and base of supply for the military offensive mounted by the US Army against Native Americans, especially during the conflicts of 1855 and 1856. This post later played a significant role in the mobilization of troops during the Civil War, the Spanish-American War, and World War I. Approximately two dozen historic buildings still stand at Vancouver Barracks; these buildings were constructed during the late 19th and early 20th centuries, when the post was the most important military installation in the Pacific Northwest (Freed et al. 1999).

In 1948, an Act of Congress authorized the creation of the Fort Vancouver National Historic Monument. It was re-designated as a National Historic Site (NHS) in 1961. In 1966, the NHS was listed in the NRHP. In recognition of the significance of the historic and archaeological resources in this area, the "Omnibus Parks and Public Lands Management Act of 1996" (Public Law 104-333) created the Vancouver National Historic Reserve (VNHR). This resource encompasses 366 acres and contains the following cultural and historic resources:

- VNHR Historic District (Exhibit 3.8-6) was designated in 2007 for the NRHP, and includes 252 acres; this westernmost portion of the VNHR contains both contributing and non-contributing resources.

Exhibit 3.8-6

VNHR Historic District



Dimensions are approximate.
Source: National Park Service, National Register Nomination

- Fort Vancouver National Historic Site, including the reconstructed fort (Exhibit 3.8-7), adjacent Fort Vancouver Village (formerly “Kanaka” Village), and the Parade Ground.
- Officers Row and the Vancouver Barracks, including the Barracks Post Hospital.
- Pearson Air Field (the oldest operating airfield in the United States) and Pearson Air Museum (home of the second oldest wooden hangar in the United States).
- Columbia River Waterfront Park.

Exhibit 3.8-7

Fort Vancouver Bastion

The VNHR also has four cultural landscapes: the Great Meadow area of the HBC, the Reconstructed Fort and associated Village, the Army Parade Grounds and Barracks, and the Mission 66 Headquarters buildings and Visitor Center. The use and occupation of this area by Native Americans, the Hudson’s Bay Company, the U.S. Army, and the NPS have both influenced and reflected the history of the Pacific Northwest region. Over one million visitors come to the Reserve each year to explore this physical link to the past.

Archaeological Sites and Resources

Previous archaeological research has demonstrated the presence of Native American settlements along the Columbia River spanning at least the last 3,500 years. This includes research completed separately from the CRC project but for areas within or adjacent to the APE. There has been extensive discovery, testing, and recovery conducted in the APE, including areas in the VNHR and on the west side of I-5 in downtown Vancouver. The breadth of available data from these past activities exceeds the level of such data typically available during this phase in the NEPA process, and has helped inform the identification and screening of project alternatives as well as the conceptual design of the LPA. These studies have also helped establish a context and framework for how the project archaeological specialists, through consultation with Section 106 consulting parties, have and will continue to conduct archaeological research, including field methodologies, and for what resources might be encountered in different locations.

Within the highway rights-of-way, project archaeologists conducted a pedestrian survey to identify archaeological resources that might be evident on the ground surface, and to aid in characterizing the potential for areas to contain archaeological resources. This informed choices regarding the need and methods for subsurface excavations to discover archaeological resources. In parts of the APE, access was restricted due to denials to right-of-entry requests, as well as safety and mobility issues. The actively and intensively used urban landscapes, including roadways, sidewalks, and parking lots present numerous safety and access challenges. Because access to certain parcels was restricted, the reconnaissance of portions of the APE was limited to observance from public roadways.

Based on the background information and reconnaissance, project archaeologists conducted subsurface archaeological excavations to determine the presence/absence of archaeological resources, their classification as an archaeological site, their ability to provide information about past lifeways, and/or their boundaries. Project archaeologists also monitored and observed soils that were exposed during geotechnical investigations.

Pre-contact Background and Archaeology

At the time of Euro-American contact, the shores of the lower Columbia River were occupied by Chinookan peoples, whose territory extended from the Pacific Coast more than 200 miles up the Columbia River to what is now The Dalles. On the south (Oregon) shore of the Columbia River, the closest identified village upstream from the CRC project area is *Neerchokioo*, just below the last island in the Government Island chain. The closest identified village downstream from the CRC project area is *Waksin*, at the mouth of the Willamette River.

The primary ethnographic sources indicate the existence of a long gap in the distribution of villages on the north (Washington) shore of the Columbia River in the vicinity of the CRC project area (Hajda 1984; Silverstein 1990). The closest identified village upstream from the CRC project area is *Washuhwal*, at present-day Washougal. The closest identified village downstream from the CRC project area is *Wakanasisi*, nearly opposite the mouth of the Willamette River west of Vancouver. Geographic evidence also indicates that winter encampments on Hayden Island were frequented by Cascade Indians drawn to the Fort for trading and other activities (Boyd 2010).

Previous archaeologists and project archaeologists have identified only sparse evidence of an exclusively pre-contact archaeological components within the CRC project APE. Stone artifacts characteristic of the prehistoric period have been found, but in most cases they have been recovered alongside historic Euro-American artifacts. It thus remains unclear if these stone artifacts reflect pre-contact use of the area or were associated with Native Americans inhabiting or visiting the village at Hudson's Bay Company Fort Vancouver.

Historic Period Background and Archaeology

In 1825, executives administering the Hudson's Bay Company concluded that they needed a site better suited to their economic objectives than Fort George (formerly Fort Astoria), which was located at the mouth of the Columbia River. Under the leadership of Dr. John McLoughlin, Chief Factor, the company initiated construction of Fort Vancouver on a bluff above the river. However, by 1829 the fort had been moved to a plain closer to the river.

The fort soon became a commercial depot at the crossroads of the Pacific Northwest and the site of diverse enterprises. The setting on the north bank of the Columbia, in the midst of a Native American population, underwent rapid transformation, and a village quickly formed around the fort (Rich 1959).

At its peak, Fort Vancouver Village (Village) was one of the largest settlements in the American West. Housing the workers and their families, and the fur brigades when they returned from their expeditions, the population of the

Historic and Pre-historic Archaeology

In the Pacific Northwest, **pre-historic or pre-contact archaeology** is associated with Native American peoples, culture, and settlements.

Historical archaeology dates from after the beginning of Euro-American settlement of the area.

Village exceeded 600 people. The Village was the cultural home to area natives, Cree people, people with a French Canadian and Iroquois background, native Hawaiians, Scots, and others.

During the late 1840s and early 1850s, there was a shift away from the fur trade, toward a more diversified mercantile exchange. Though still home to a diverse group of peoples, the area drew increasing numbers of Hawaiian employees. As a result, the Village became known as “Kanaka Town” or “Kanaka Village,” referring to the Hawaiian word for “person.” During the last 50 years, archaeologists employed by the NPS and Washington Department of Transportation (WSDOT) have conducted archaeological excavations to identify the location of the houses and other archaeological features located in the Fort Vancouver Village.

Beginning in the 1850s, the City of Vancouver started developing west of the Fort. The earliest settlement and development occurred adjacent to the U.S. Army base, in the area immediately west of modern-day I-5. In the latter half of the 19th century, the town’s waterfront grew to include a wharf boat, ferry landing, and wharves. The waterfront was later altered by construction of the railroad levee, highways, streets, and commercial buildings. Immediately to the north, residents of Vancouver constructed both commercial and residential structures, with a variety of outbuildings such as privies, sheds, chicken houses, and stables. This setting was bisected by construction of the Spokane, Portland, and Seattle Railroad levee in 1907-1908, by Pacific Highway 99 in 1917, and by I-5 in 1952. Recent historical archaeological investigations in the oldest portions of the city have shed light on the early development of Vancouver. See the CRC Archaeology Technical Report, included as an electronic appendix to this FEIS, for more information regarding these investigations.

No evidence of pre-contact cemeteries has been identified in the APE. However, human remains were exposed near the Old Post Cemetery in Vancouver during the 1952 to 1955 construction of I-5 (Thomas and Friedenborg 1988).

A review of records on file at DAHP at the beginning of the CRC Project identified 11 recorded archaeological sites within the CRC APE. Of these, three sites in the VNHR could be affected by the project. Archaeological investigations for the CRC project identified and recorded 32 archaeological resources, many of which have boundaries that intersect with the three previously recorded VNHR sites. Overall, CRC contractors evaluated 23 of the 32 resources as significant. However, after consultation with DAHP, CRC has agreed to consider all 32 archaeological resources significant. This number of significant resources is likely to increase somewhat as archaeological investigations are conducted in areas of the CRC APE not previously examined due to access and safety constraints. Specific locations of archaeological sites are not provided due to their sensitive nature.

No archaeological sites have been identified in the CRC APE in Oregon. Project archaeologists examined deep geospatial rotary-sonic cores, and observed several geotechnical rotary-sonic probes. However, large areas have not been investigated because of the unique and challenging site conditions, including a complex mix of deep excavations associated with features such

as pier foundations, cuts associated with other roadway excavations, fills associated with roadway and building locations, and various levels of grading ranging from parklands to parking lots.

3.8.3 Long-term Effects

This section describes the effects of the project components and various alternatives. The operational components (tolling scenarios, transit operations, and transportation demand and system management measures) would not affect cultural resources and are therefore not discussed in detail below. The primary types of impacts are shown in Exhibit 3.8-8, and are described in the following sections.

Exhibit 3.8-8

Comparison of Long-term Effects to Cultural Resources

Environmental Metric	Locally Preferred Alternative ^a		No-Build	Alt 2: Repl Crossing with BRT	Alt 3: Repl Crossing with LRT	Alt 4: Suppl Crossing with BRT	Alt 5: Suppl Crossing with LRT
	LPA Option A	LPA Option B					
Number of NRHP-listed or eligible historic resources impacted ^a	25	Same as Option A	0	13 to 26	13 to 25	13 to 26	13 to 24
Number of adverse direct effects to NRHP-listed or eligible historic resources	3	Same as Option A	0	5 to 8	5 to 8	5 to 8	5 to 8
Number of significant archaeological sites affected	32	Same as Option A	0	32	32	26 to 32	26 to 32

Note: The impacts for the LPA are relative to No-Build and existing conditions.

a This table is meant to show all historic properties where some change may occur. For many of these properties, there has been a determination that there will be “no effect.”

Historic Buildings and Sites

Property acquisitions and physical changes are the primary source of long-term, direct effects to known historic properties. Construction impacts within the APE may result in the loss, destruction, or other important alteration of the historic character or integrity of significant cultural or historical resources. Effects can also result from ancillary changes, including but not restricted to changes in setting, traffic, noise, and air quality. The effects of traffic levels on historic properties pertain to impacts of traffic on noise levels and air quality. The effects of the project to the visual environment and overall settings associated with historic resources are based in large part on the visual resources impact analysis, as well as from public input. The thresholds used for determining substantial impacts in these other disciplines are the same as those used for the Section 106 assessments.

In 2009, SHPO concurred with the FHWA’s and FTA’s determination that any of the Build Alternatives addressed in the DEIS would constitute an adverse effect to the northbound I-5 bridge. In 2011, DAHP concurred with the finding. Consequently, the CRC project would have an adverse effect to historic properties protected by the National Historic Preservation Act. The

level of effect from the alternatives considered in this FEIS to individual historic properties within the APE is addressed below.

Removing or otherwise substantially altering the northbound I-5 bridge constitutes an adverse impact to the resource. This bridge structure has been a critical part of the transportation system and historic landscape for both Oregon and Washington since 1917.

The location and design of the new LPA facilities would also cause an adverse effect to the VNHR. Much like the removal of the 1917 bridge, this would be an adverse effect to a significant resource. Most of the VNHR is a designated National Historic Site (NHS) and an NRHP District.

Exhibit 3.8-9 summarizes the project's effects to historic properties. The LPA would have an impact on 25 historic properties. Of these, three have been determined to be adversely affected. In addition to the impacts to the northbound 1917 bridge and the VNHR, the LPA would require the displacement of the Pier 99 building. For the adversely affected properties, the following section provides the criteria under which those properties have been found NRHP-eligible. The eligibility of historic resources is based on the criteria set forth in 36 CFR Part 800 (Section 106) and detailed in National Register Bulletin 15 – How to Apply the National Register Criteria for Evaluation. The criteria for evaluation require that properties possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- a) Are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) Are associated with the lives of persons significant in our past; or
- c) Embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d) Have yielded, or may be likely to yield, information important in prehistory or history.

Exhibit 3.8-9

Long-term Effects on Historic Resources^a

State ID	Parcel ID#/Address	Resource Name	Permanent Acquisition	Permanent Easement	Access/Parking	Noise/Vibration	Visual	Findings of Effect
OR 3	Bridge No. 02733	Willamette River (Steel) Bridge	-	-	Minor modification to recently added component			Not Adverse
OR 1	R951340820/ 1415 Marine Drive	Pier 99	1.25 ac.	-	N/A, Resource Displaced			Adverse
OR 2		Oregon Slough Levee	330 linear feet	-	-	-	-	Not Adverse
OR 9	Moored at Thunderbird Hotel site, Hayden Island	LCI-713	Acquisition of the Ship's temporary location		-	-	-	Not Adverse
381		I-5 Bridge	Displacement	-	N/A, Resource Displaced			Adverse
368, 369, 918, 109	38279906, 38279927, 38279911, 38279935	VNHR (including Officers Row)	1.67 ac.	0.16 ac.	Loss of access to west side of Barracks Post Hospital	Highway noise effects	Visual Impacts At Hospital and Village	Adverse
10	47870000 515 Washington Street	Smith Tower	-	-	Access changed. Loss of parking	-	-	Not Adverse
149	38820000 318 E 7th Street	Normandy Apartments	0.01 ac.	under 0.1 ac.	-	Highway noise effects	-	Not Adverse
11	47940000 114 W 6th Street	Schofield Building	-	-	Adjacent parking changed to RI/RO	-	-	No Effect
21	47890000 500 Main Street	Evergreen Inn	-	-	-	Highway noise effects	-	Not Adverse
13	47930000 111 W 7th Street	Vacant Commercial	-	-	Adjacent parking changed to RI/RO	-	-	No Effect
35	47101000 110 W 13th Street	W Foster Hidden House	-	-	Access changed to RI/RO	-	-	Not Adverse

State ID	Parcel ID#/ Address	Resource Name	Permanent Acquisition	Permanent Easement	Access/ Parking	Noise/ Vibration	Visual	Findings of Effect
38	51830000 112 W 11th Street	Vancouver Telephone Exchange	-	-	Access changed to RI/RO	-	-	Not Adverse
73	47281000 1300 Washington Street	Luepke Florist	-	-	Adjacent parking changed to RI/RO	-	-	No Effect
1043	39630000 210 E 13th Street	Vancouver City Hall	-	-	Access changed to RI/RO	-	-	Not adverse
1045	39490000 1205 Broadway Street	Washington Mutual/ Chase Bank	-	-	Access changed to RI/RO	-	-	Not Adverse
113	40290000 1500 Broadway Street		-	-	Access and use of large bay door changed.	-	-	Not Adverse
116	40890000 307 E 17th Street		-	-	-	Requires residential sound insulation	-	Not Adverse
129	41255000 404-406 E 17th Street		-	-	-	Requires residential sound insulation	-	Not Adverse
133	41380000 604 E 17th Street		-	-	-	Requires residential sound insulation	-	Not Adverse
168	39810000 500 E 13th Street	Fort Apartments	-	-	-	Highway noise effects	-	Not Adverse
59	13460000 3110 K Street		-	0.04 ac.	-	-	-	Not Adverse
61	13725000 3000 K Street		Under 0.01 ac.	0.05 ac.	-	-	-	Not Adverse
62	13670000 903 E 31st Street		-	0.07 ac.	-	-	-	Not Adverse
993	12454005 Main Street	Kiggins Bowl	0.04 ac.	0.27 ac.	Access modified	-	-	Not Adverse

Notes: RI/RO = Right-in/right-out only. The absence of a particular impact is indicated with a "-".

a Impacts for the LPA Options A and B are the same.

LONG-TERM EFFECTS IN OREGON

Pier 99 Building (1415 Marine Drive, OR 1, parcel ID R951340820)

The Pier 99 Building (Exhibit 3.8-10) would be displaced due to the construction of a ramp on I-5 between Marine Drive and Hayden Island. This would be an adverse effect. Although the historic building would be displaced, associated but not NRHP-eligible structures on the east side of the parcel would remain. Approximately 1.25 acres of the property would need to be permanently acquired for I-5 right-of-way.

The Pier 99 building is a unique example of a mid-century modern thin-shell roof building featuring a wooden hyperbolic paraboloid roof. It was constructed in the spirit of the Northwest Regional Style, combining modern technology and design using wood. It is significant, under criteria c, as the only known extant wooden hyperbolic paraboloid roof building in Portland and perhaps Oregon. It is also significant, under criteria b, for its association with architect John Storrs and engineer James G. Pierson. Storrs was one of Oregon's leading mid-century architects and Pierson was one of Oregon's leading structural engineers.

Oregon Slough Levee (North Portland Harbor, OR 2)

The project has an effect on the NRHP-eligible Columbia Slough Drainage Districts Historic District, but that effect is "not adverse." The Oregon Slough Levee (Exhibit 3.8-11) is part of an extensive, historic system of engineered improvements to the area's drainage. A small portion of the levee, approximately 330 linear feet extending east of I-5, would need to be demolished and rebuilt in order to accommodate the ground improvements needed to stabilize soils below the I-5 ramps and bridges. Construction crews would either remove the levee prior to conducting the stabilization and rebuild it, or perform ground improvements through the levee and reconstruct it afterward. There would also be modest modifications to portions of two additional contributing properties: the North Denver Avenue Cross Levee and Union Avenue/Martin Luther King Fill/Cross Levee. Although localized alterations to contributing elements would occur, the integrity of each of the levees, as well as the overall system would be maintained.

Steel Bridge

Built in 1912, the Steel Bridge (Exhibit 3.8-12) is a through truss, double lift bridge across the Willamette River in Portland. The bridge's lower deck carries railroad and bicycle/pedestrian traffic, while the upper deck carries road traffic and light rail (MAX). It is the only double-deck bridge with independent lifts in the world and the second oldest vertical lift bridge in North America,

Exhibit 3.8-10
Pier 99 Building



Exhibit 3.8-11
Oregon Slough Levee



after the nearby Hawthorne Bridge. The Steel Bridge currently carries all of Portland's MAX lines across the Willamette River in downtown Portland.

The project would modify lift joints to decrease bridge vibrations; this would allow an increase in the travel speed over the bridge, thus improving the speed of the regional light rail transit system. The proposed work would consist of the following: grind the guideway rails, install a vibration pad under the signal case, stiffen the light rail overhead contact system brackets, and adjust light rail and traffic signal timing. None of these improvements would modify original components of the Steel Bridge; there would be no effect to any of the bridge's character-defining features or its integrity. Only more recent components introduced as part of the light rail system would be affected. There would be no adverse effect to the historic property.

Exhibit 3.8-12

Steel Bridge



LCI-713

The USS LCI-713 is a World War II landing craft infantry (LCI) 351-class amphibious assault vessel (Exhibit 3.8-13). The vessel was capable of landing men and material directly onto a beach without the use of docks and wharfage. Commissioned and built in 1944, the USS LCI-713 is significant at the national level under NRHP criterion a, in the areas of maritime history and military history for its direct association with combat operations in the southwestern Pacific Ocean during World War II. It is also significant under criterion c in the area of engineering as the only known remaining example of an LCI in its original configuration, and only three comparable LCI (1) ships of the same class as LCI-713 are known to exist. The vessel no longer has integrity of location and setting, since it has been moved to its current temporary mooring at the vacant Thunderbird Hotel site.

The vacant Thunderbird Hotel site is proposed as a staging area for the project. The owners of the ship, in consultation with SHPO staff, have plans to move

the ship to a temporary location for repairs, and later to a new permanent location that will allow greater visitor access. It is not likely that the ship will still be in its current location when the project needs use of the property. Although the LCI-713 will have to be moved to a new location, the move would not change any character-defining features of the ship. Only the ship's location and setting would change, although the integrity of these would not be diminished as long as the ship is docked along a river with access to the Pacific Ocean. If the ship is still docked at the Thunderbird Hotel when the project needs use of the property, then the project will revisit the issue, coordinate with SHPO, and provide assistance moving the ship to a new location. There would be no adverse effect to the historic property.

Exhibit 3.8-13
LCI-713



Ruby Junction Maintenance Facility, Gresham, Oregon

The proposed Ruby Junction Maintenance Facility expansion would require the acquisition of 15 tax lots and would close NW Eleven Mile Avenue between 2227 NW Eleven Mile Avenue and 1709 NW Eleven Mile Avenue. None of the buildings in the project area met the criteria for NRHP eligibility because they are not old enough or have been altered and have lost integrity of materials, design or setting.

BRIDGE EFFECTS

I-5 Bridge (DAHP ID 381)

The LPA would require the removal of the National Register of Historic Places-listed northbound I-5 bridge (Exhibit 3.8-14). The bridge was found eligible for the NRHP and listed under criteria a, for its association with bridge building in Washington and its contribution to development of early 20th Century Vancouver. The bridge is also eligible under criterion c for its unique type and method of construction. This would be an adverse effect.

Exhibit 3.8-14

I-5 Bridge



LONG-TERM EFFECTS IN WASHINGTON

Vancouver National Historic Reserve (VNHR)

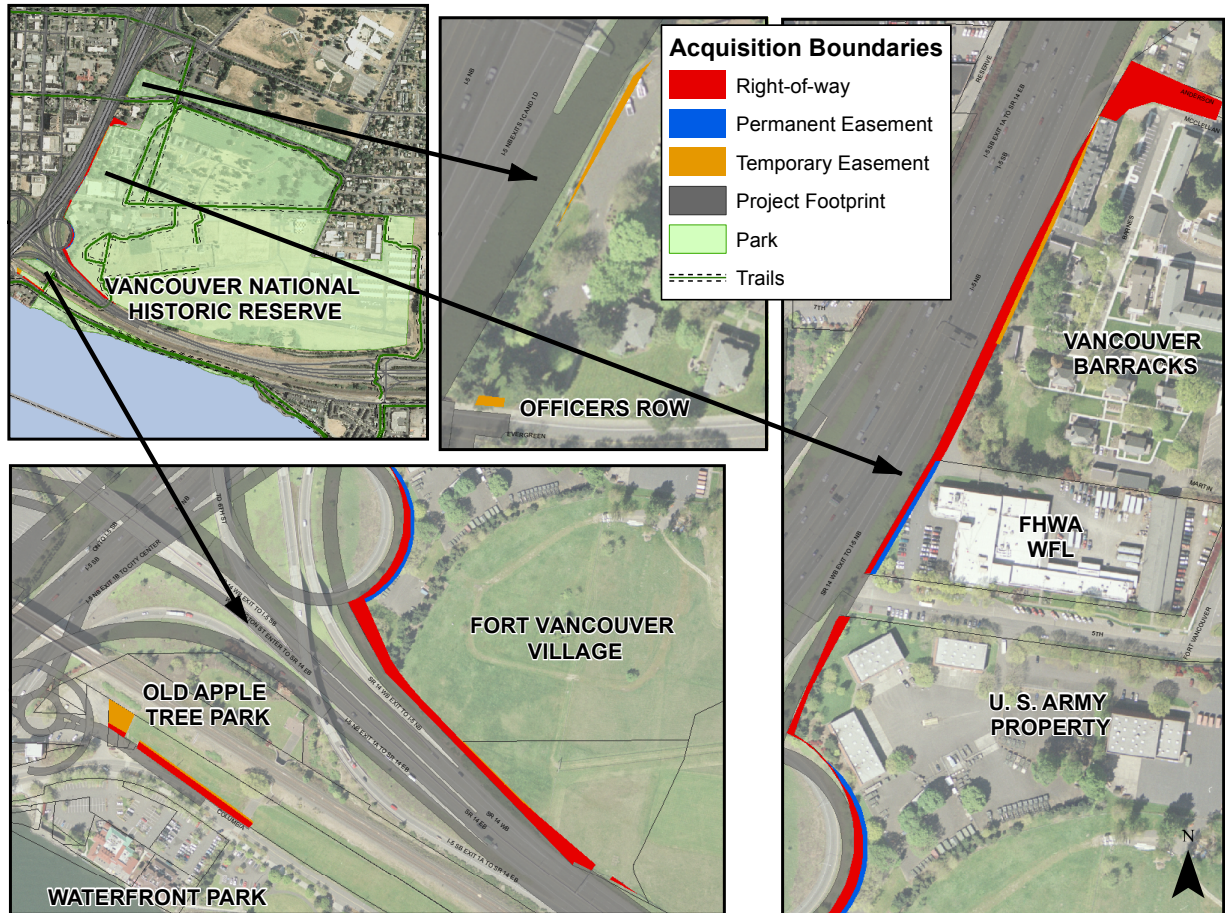
The VNHR Historic District consists of the westernmost 252 acres of the larger VNHR. The VNHR Historic District was listed on the NRHP in 2007 and encompasses the many historic resources found in the reserve. Cultural and historic resources found inside the Historic District include Fort Vancouver National Historic Site, Officers Row, the Vancouver Barracks (including the Barracks Post Hospital), and Pearson Airfield. The VNHR Historic District is listed on the NRHP under criterion a for associations with agriculture, commerce, education, exploration, settlement and other major trends in Pacific Northwest history, criterion c for unique architecture, and criterion d for the information yielded through the study of archaeological resources. The project team has assessed impacts to the VNHR as a whole, the VNHR Historic District, and to each of the individual resources within the VNHR.

Within the VNHR Historic District, the project would permanently acquire 1.67 acres of right-of-way and 0.16 acre for permanent easements. Impacts from these acquisitions are spread along a strip of land on the southwest and western boundary of the district (Exhibit 3.8-15). These areas were within the heart of the historic Fort Vancouver “Kanaka” Village area, but are now bordering the outer edge of NPS property. Still, the VNHR Historic District as a whole would be adversely affected by the LPA.

A visual impact contributing to the determination of an adverse effect would result from the ramp structures adjacent to the Fort Vancouver Village. The reconstructed Village is a key component of the reserve and the NPS has plans to increase school group and general visitor use of this area. The SR 14 westbound ramp which connects to the I-5 northbound facility would rise as it progresses northward, and be roughly 20 feet higher than the existing ramp where it merges with I-5. The existing City Center exit loop is currently below- and at-grade, underneath the aforementioned ramp, and largely not visible from the Village. With the LPA, this loop ramp would move from underneath to overtop of the SR 14 to I-5 ramp, greatly increasing its prominence in the area. The loop ramp would be roughly 20 feet above the SR 14 to I-5 ramp.

The CRC project’s noise analysis indicates that the western and southwestern perimeter portions of the VNHR along I-5 and SR 14 would experience a noise impact. This would constitute an adverse effect to the historic resources by negatively affecting their setting and use. Constructing new sound walls, as recommended in the noise report and as discussed later in the mitigation section, would decrease noise levels compared to noise levels of the No-Build Alternative, providing a benefit to these historic resources. These noise walls would contribute to the adverse impact determination, as they would introduce new visual features which are not part of the historic context of the surrounding park. Preliminary design treatments for these walls include vegetated cover, iconography and, potentially, interpretive exhibits. With the use of such design treatments, the walls would help to provide a more appropriate setting than is currently experienced in the Village, with highway facilities on the south and west boundaries.

Exhibit 3.8-15
VNHR Right-of-way Impacts



Dimensions are approximate.

The following provides more detail on effects to historic resources within the VNHR Historic District. These resources include the Barracks Post Hospital (DAHP ID 368), Officers Row (DAHP ID 918), and Heritage Apple Tree Park (DAHP ID 109).

The Barracks Post Hospital, 610 E 5th Street (DAHP ID 368, Parcel ID 38279906)

The project would include permanent and temporary acquisitions along the western property edge of the Barracks Post Hospital (Exhibit 3.8-16). A temporary easement would be required along the west side of the property for construction easement. Permanent acquisitions in the same area along the I-5 corridor would also be required to construct the I-5 retaining wall. This acquisition would extend to within 16 feet of the southwest corner of the hospital and to within 3 feet of the northwest corner. This acquisition requires the removal of Anderson Street, which provides access to the rear of the hospital. See impacts to the VNHR, above, for

Exhibit 3.8-16
The Barracks Post Hospital



Cultural landscapes are distinct areas which represent the combined work of nature and of people. These areas can become significant as a whole and not just for their collective resources. The National Park Service (NPS) manages four distinct cultural landscapes on the Reserve. The NPS has identified the significant landscape features, patterns, and relationships that define and comprise the cultural landscapes at Fort Vancouver.

Exhibit 3.8-17

654 Officers Row



Exhibit 3.8-18

The Heritage Apple Tree Park



Exhibit 3.8-19

Normandy Apartments



additional information on the acquisitions. The building would not be displaced.

While the building would not be directly displaced, the setting associated with the building would be adversely affected by placing highway facilities and, potentially, sound walls much closer to the building than they are currently. These modifications would constitute an adverse effect to the VNHR Historic District and the Army Parade Grounds and Barracks cultural landscape.

Officers Row, 654 Officers Row (DAHP ID 918, Parcel ID 38279911)

A very small area on the western edge of the parcel, totaling less than 0.01 acre, would need to be permanently acquired for the construction of a retaining wall along I-5. No buildings would be displaced. There would be no effect to the historic property (Exhibit 3.8-17).

The Heritage Apple Tree Park (DAHP ID 109, Parcel ID 38279935)

A shading analysis has been completed which shows no adverse effect resulting from the new location of the highway ramps nearer to the tree itself (Exhibit 3.8-18). Apple Tree Park is currently accessed only through a tunnel under the railroad berm or from the VNHR Confluence Land Bridge. With the LPA, the park will be connected to Main Street and would be much more easily accessed from the downtown area. This would also improve access to the Land Bridge from Main Street.

Normandy Apartments, 318 E 7th Street (DAHP ID 149, parcel ID 38820000)

The Normandy Apartments (Exhibit 3.8-19) are located immediately west of I-5, north of the I-5/SR 14 interchange. A narrow strip of property along the eastern edge of the parcel, totaling less than 0.01 acre, would need to be permanently acquired for the construction of a retaining wall along I-5. Some landscaping would be impacted by this acquisition. Specific uses would be allowed to remain or occur on the surface, but activities such as excavating below a certain depth would be prohibited by the easement. No structures on the parcel would be displaced.

The LPA slightly elevates highway noise levels for this historic property. Six units of the Normandy Apartments currently experience noise levels that

exceed FHWA's criteria. Proposed noise walls would greatly reduce noise levels for the lower three units (even from existing levels), while the impacts to the upper three units cannot be mitigated. The increase for these three units will only be 2 dBA over existing conditions and 1 dBA over the No-Build Alternative. Generally, increases of three or fewer dBA are not considered audible. There would be no adverse effect to this historic property.

**Smith Tower, 515 Washington Street
(DAHP ID 10, Parcel ID 47840000)**

The Smith Tower (Exhibit 3.8-20) multi-family senior housing complex is located in lower downtown Vancouver, and would be adjacent to the proposed light rail alignment. Smith Tower has two accesses on Washington Street; the use of these would be disallowed after construction, and the underground parking that used these accesses would no longer function as parking. While the use of the underground parking would be discontinued, the physical design of the structure would go unaltered. There would be no adverse effect to the historic property.

**Schofield Building, 114 W 6th Street
(DAHP ID 11, Parcel ID 47940000)**

Following construction of the light rail alignment along Washington Street, access from Washington to the parking lot used by the Schofield Building (Exhibit 3.8-21) would be changed to right-in/right-out only for vehicles. There would be no effect to the historic property.

**Evergreen Inn, 500 Main Street
(DAHP ID 21, Parcel ID 47890000)**

The LPA slightly elevates highway noise levels for 24 units at this historic property (Exhibit 3.8-22). The increase for these units will be 3 dBA over existing conditions and 2 dBA over the No-Build Alternative. Generally, increases of three or fewer dBA are not considered audible. Though a wall was evaluated, it would not provide any noticeable noise reduction for the elevated apartment homes and therefore is not recommended. There would be no adverse effect to this historic property.

**Commercial, 111 W 7th Street
(DAHP ID 13, Parcel ID 47930000)**

Following construction of the light rail alignment along Washington Street, access from Washington to the parking lot used by the adjacent historic commercial building (Exhibit 3.8-23) would be changed to right-in/right-out only for vehicles. There would be no effect to the historic property.

Exhibit 3.8-20

Smith Tower

Exhibit 3.8-21

Schofield Building

Exhibit 3.8-22

Evergreen Inn

Exhibit 3.8-23

111 W 7th Street

Exhibit 3.8-24

W. Foster Hidden House

Exhibit 3.8-25

Vancouver Telephone Exchange

Exhibit 3.8-26

Luepke Florist

Exhibit 3.8-27

Vancouver City Hall**W. Foster Hidden House, 110 W 13th Street
(DAHP ID 35, Parcel ID 47101000)**

Following construction of the light rail alignment along Washington Street, access from Washington to garages used by historic W. Foster Hidden House (Exhibit 3.8-24) would change to right-in/right-out only for vehicles. There would be no adverse effect to this historic property.

**Vancouver Telephone Exchange, 112 W 11th Street
(DAHP ID 38, Parcel ID 51830000)**

Following construction of the light rail alignment, access from Washington Street to a driveway used by the occupants of the historic Vancouver Telephone Exchange (Exhibit 3.8-25) building would be changed to right-in/right-out only for vehicles. There would be no adverse effect to this historic property.

**Luepke Florist, 1300 Washington Street
(DAHP ID 73, Parcel ID 47281000)**

Following construction of the light rail alignment, access from Washington Street to a parking lot adjacent to and used by Luepke Florist (Exhibit 3.8-26) would be changed to right-in/right-out only for vehicles. There would be no effect to the historic property.

**Vancouver City Hall, 210 E 13th Street
(DAHP ID 1043, Parcel ID 39630000)**

Following construction of the light rail alignment on Broadway Street, access from Broadway Street to the parking structure underneath the Vancouver City Hall (Exhibit 3.8-27) would be changed to right-in/right-out only for vehicles. There would be no adverse effect to this historic property.

**Washington Mutual/Chase Bank, 1205 Broadway Street
(DAHP ID 1045, Parcel ID 39490000)**

Following construction of the light rail alignment on Broadway Street, access from Broadway Street to a parking lot used by the historic Washington Mutual/Chase Bank (Exhibit 3.8-28) would be changed to right-in/right-out only for vehicles. There would be no adverse effect to this historic property.

**1500 Broadway
(DAHP ID 113, Parcel ID 40290000)**

Following construction of the light rail alignment on Broadway Street, access from Broadway Street to the building would be eliminated for vehicles. The building has a large garage bay door which has been used to provide access to the interior of the building. The door itself and the building would be unchanged as a result of this modification. It would still be possible to open

the door, but vehicular access would no longer be permitted. There would be no adverse effect to this historic property (Exhibit 3.8-29).

Residences along 17th Street

Along 17th Street, project noise levels are predicted to meet or exceed the FTA criteria at 20 single-family residences between C Street and G Street. Of those, three have been identified as NRHP eligible (Exhibits 3.8-30 through 3.8-32). East of G Street the existing ambient noise levels are sufficiently high enough that there is no noise impact due to light rail operations. Light rail noise levels ranged from 0 to 2 dBA over the FTA criteria, with future light rail noise levels ranging from 57 to 63 dBA L_{dn} . See the Noise and Vibration section for details.

Light rail noise impacts are minimized by track lubrication at curves, and other features designed into the guideway itself. Along 17th Street, residential sound insulation and/or ventilation systems would also be part of the project mitigation. Sound insulation for each structure would be determined on a case-by-case basis during the final design stage. Given that these measures would be taken for NRHP-eligible houses, the rehabilitations would be reviewed for consistency with the Secretary of the Interior Standards.

For example, storm windows would have to be compatible with the original window designs and not introduce new, architectural impacts. There would be no adverse effect to these historic properties.

Exhibit 3.8-28
Washington Mutual/Chase Bank



Exhibit 3.8-29
1500 Broadway Street



Exhibit 3.8-30
307 E 17th Street



Exhibit 3.8-31
404-406 E 17th Street



Exhibit 3.8-32
604 E 17th Street



Exhibit 3.8-33

Fort Apartments**Fort Apartments, 500 E 13th Street
(DAHP ID 168, Parcel ID 3981000)**

The LPA slightly elevates highway noise levels for 12 units at this historic property (Exhibit 3.8-33). The increase for these units will be 2 dBA over existing conditions the No-Build Alternative. Generally, increases of three or fewer dBA are not considered audible. There would be no adverse effect to this historic property.

Exhibit 3.8-34

3110 K Street**Residence, 3110 K Street (DAHP ID 59, Parcel ID 13460000)**

A permanent easement would be acquired for the residence at 3110 K Street (Exhibit 3.8-34); this would be required in order to install long rods underneath the house to anchor the proposed retaining walls along I-5. There would be no adverse effect to this historic property.

Exhibit 3.8-35

3000 K Street**Residence, 3000 K Street (DAHP ID 61, Parcel ID 13725000)**

A small permanent acquisition (148 square feet) and a permanent easement (2156 square feet) would be required for the residence at 3000 K Street (Exhibit 3.8-35); this would be required in order to install long rods underneath the house to anchor the proposed retaining walls along I-5. A temporary easement of 1154 square feet would also be required for highway construction. There would be no adverse effect to this historic property.

Exhibit 3.8-36

903 E 31st Street**Residence, 903 E 31st Street
(DAHP ID 62, Parcel ID 13670000)**

A permanent easement would be acquired for the residence at 903 E 31st Street (Exhibit 3.8-36); this would be required in order to install long rods underneath the house to anchor the proposed retaining walls along I-5. There would be no adverse effect to this historic property.

**Kiggins Bowl, Behind Discovery Middle School
(DAHP ID 993, Parcel ID 12454005)**

The Kiggins Bowl Sports Fields and Stadium (Exhibit 3.8-37) includes athletic fields, an outdoor stadium, and a small park-like area with walking paths. One of the two access points to Kiggins Bowl would be impacted by the construction of a retaining wall along I-5, although the fields and stadium would not be physically impacted. Slightly less than 0.04 acre of property near the southern access along the east side of Discovery Middle School would be acquired for the placement of the retaining wall. A permanent subsurface easement, totaling approximately 0.27 acre, would extend from the wall and under the access road for the installation of long ties that would anchor the wall into the soil. Exhibit 3.8-8 does not show the acquisition-related impact since this impact is near the access beside Discovery Middle School, and not part of the historic site. Use of this road to access the stadium and sports fields, as

Exhibit 3.8-37

Kiggins Bowl

well as the Discovery Trail, would not be permanently affected by the retaining wall. There would be no adverse effect to this historic property.

Archaeological Sites and Resources

ARCHAEOLOGICAL EFFECTS IN OREGON

In Oregon, the proposed transit alignments extend within or close by the existing I-5 corridor across the Columbia River south shore floodplain and Hayden Island. Review of records on file at SHPO indicates that no prehistoric archaeological sites have been recorded within the vicinity of the proposed transit alignments. An archaeological pedestrian survey within the I-5 corridor found no evidence of prehistoric or historical archaeological sites. The project area in Oregon has been subject to substantial alteration, primarily from deposition of fill material, but the geological history suggests there is some potential for the discovery of prehistoric archaeological sites. Little development activity has occurred along the I-5 corridor until relatively recently, which means there is a low potential for encountering significant historic archaeological sites within the project area on the Oregon shore.

Previous archaeological surveys have not discovered and recorded any archaeological resources in the CRC APE on the Oregon shore. Several reasons for this situation can be suggested:

- The CRC APE represents a very narrow transect across the Columbia River flood plain, and it may not include any areas in which Native American or historic period Euro-American sites are preserved.
- Evidence of Native American occupation and activity may be present, but over time it has been buried by natural flood deposits and/or introduced fill deposits associated with development in the historic period (mainly during the 20th century), most notably construction of I-5 and associated interchanges and modern landscape modifications for massive commercial developments (which limit the potential for historic period archaeological resources to be preserved).
- Previous surveys have for the most part been limited to inspection of the existing ground surface and/or shallow probing. These efforts have not been conducted in a manner sufficient to locate Native American sites

buried under historic fill or within alluvium deposited over the last 12,000 years, nor have they revealed significant archaeological resources dating to the historic period.

- Deep geological sampling efforts in this area have focused on geotechnical issues and have not been conducted to specifically address archaeological questions.

The project employed a rotary-sonic core to drill 14 boreholes for archaeological purposes in the CRC APE on the Oregon shore. Records maintained during the drilling provide a general outline of the preliminary results (see the Archaeological Technical Report, included as an electronic appendix to this FEIS). The depth of introduced fill observed in the holes ranged from 9 to 17 feet. The depth to the Pleistocene gravels ranged from 199 feet in the north near Oregon Slough to 114 feet in the south closer to Victory Boulevard. Volcanic material confirmed as originating from the climactic eruption of Mount Mazama at present-day Crater Lake around 7,700 years ago was encountered at eight boreholes, at depths ranging from 53 to 60 feet in one borehole and from 62.5 to 75 feet in another. Based on the widespread presence of the Mazama deposits across the landscape, the south shore of the Columbia River has likely been fairly stable for the past 7,700 years.

Examination of the rotary-sonic cores has enabled the development of a model of paleoenvironmental reconstruction for part of the Oregon shore. Although the sample size of these cores is small compared to the breadth and depth of the soils within the APE, archaeologists observed these cores for any evidence of archaeological resources, and collected radiocarbon and tephra (volcanic debris released into the air by an eruption) samples to aid in geochronology for the paleoenvironmental reconstruction.

Acquisition of information about the paleoenvironment on the Oregon shore would aid predictions about the location of past Native American activity in areas that would be subject to deep impacts during construction of the CRC project. Additional archaeological investigations would be conducted prior to construction under methods described in a treatment plan. The treatment plan would be developed in consultation with the Section 106 consulting parties, and guide the actions of professional archaeologists for further archaeological investigations.

ARCHAEOLOGICAL EFFECTS IN WASHINGTON

In Washington, the APE begins west of the I-5 corridor and extends across a gradually ascending floodplain that appears to have offered little inducement for settlement by prehistoric Native Americans. While the area may have been used by Native Americans for sources of food and/or other material resources, and while such use may have resulted in temporary occupation of some sites, few prehistoric sites have been discovered in the area; however, this may be due to limited sampling. Review of records on file at DAHP indicates that no prehistoric archaeological sites have been recorded within or in close vicinity of the proposed transit alignments. An archaeological survey along the proposed transit alignment found no evidence of prehistoric activity or occupation. Based on current information, there appears to be little potential for encountering prehistoric sites within the transit alignments on the Washington shore.

All areas where transit alignments are proposed in Vancouver have been occupied for more than 50 years. Therefore, there is some potential for historical archaeological remains to be found in these areas. Construction activities within city streets, where the proposed transit alignments are located, generally have not been monitored by archaeologists. Consequently, the extent to which prehistoric and historical artifacts may be found during excavations in the streets has not been established. Based on recent investigations by archaeologists at historic buildings sites in Vancouver, however, the potential exists for encountering historical archaeological remains during construction along the proposed transit alignments.

The proposed transit alignments extend along some of the same streets (e.g., Washington, Broadway) where the earlier railway systems were constructed. Although the rails from the earlier systems were reportedly removed (Freece 1985), it is possible that some remains of these historic railway systems may be encountered during construction along the proposed transit alignments. Additionally, the first modern street pavement in Vancouver consisted of Belgian blocks, rectangular stone blocks having several square feet of top surface, laid lengthwise to the street (Freece 1985). Intact segments of Belgian blocks underlying modern pavement may be considered historically significant and require recording as an historical archaeological resource.

For ease of identification during the archaeological investigations on the Washington shore, properties that might be affected by construction during the CRC project were numbered W1 through W24 (Exhibit 3.8-38). The bulk of these properties are WSDOT lands adjacent to I-5 and SR 14. A number of additional non-WSDOT properties were also identified, including lands within the VNHR owned by the U.S. Army, City of Vancouver, and NPS. Three privately owned parcels west of I-5 were also included in this numbered list.

Later, the numbers initially assigned to properties in the VNHR were renumbered as VNHR areas 1 through 5. Other areas included in the initial numbering system were not subjected to archaeological investigations, either because they were no longer identified as affected properties or because the landowners declined access to their properties. An area-by-area summary of the archaeological investigations conducted to date for the CRC project is presented in Exhibit 3.8-39. A total of 32 significant archaeological resources were identified within the area of concern. Fifteen of these resources are located within the VNHR, and 17 of them are located on WSDOT property.

Exhibit 3.8-38

Areas Subjected to Archaeological Discovery

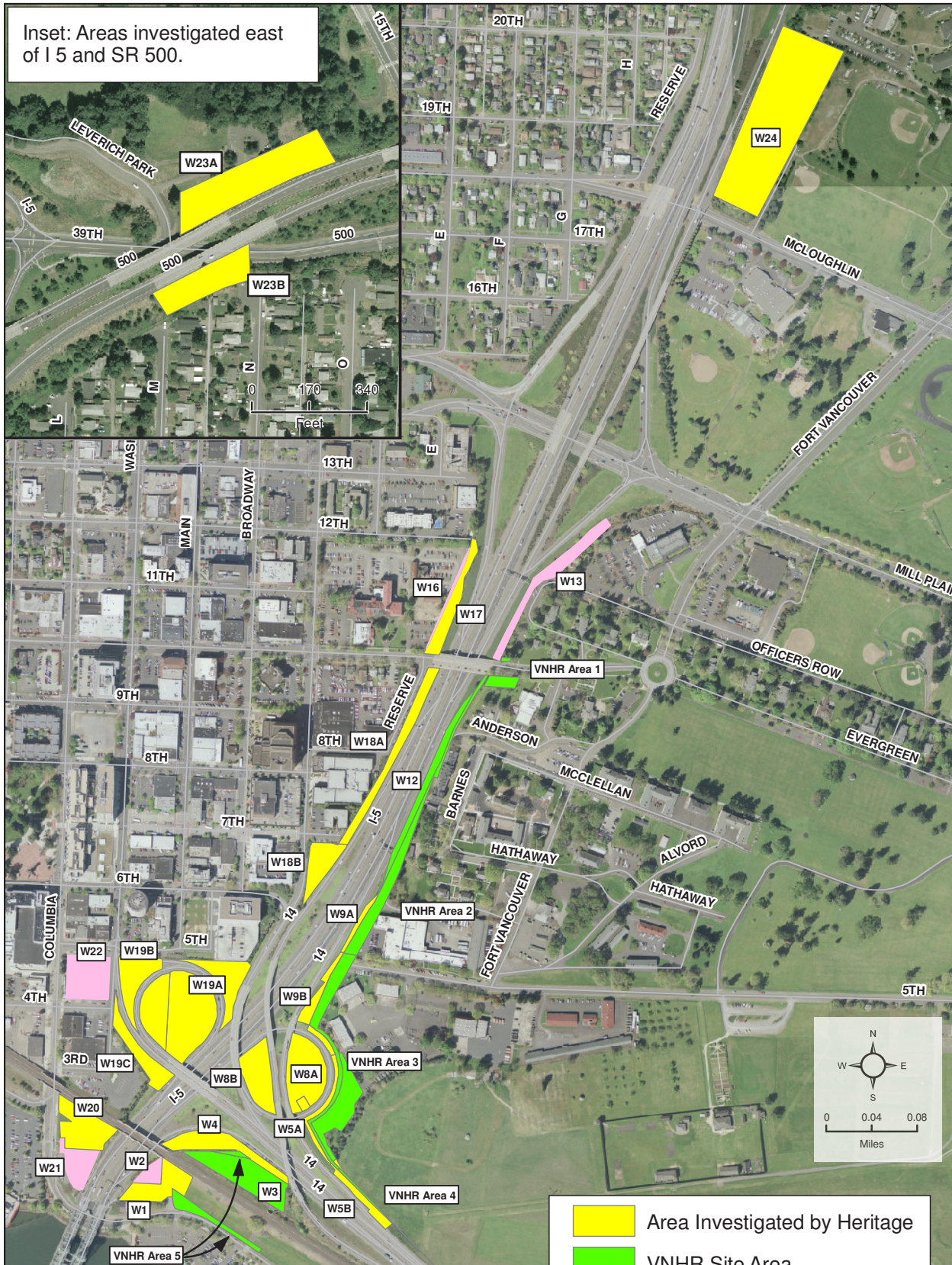


Exhibit 3.8-39

Summary of Archaeological Investigations by Area on the Washington Shore

Area Designation	Site Number	Archaeological Investigations	Significant Archaeology and Criteria	Site Warrants Preservation in Place	Comments
W1	45CL910	HERITAGE Appendix 1-C	Yes (a,d)	No	Only eastern portion tested; western portion not accessible
W2		None	Undetermined	No	No access – BNSF/City of Vancouver property
VNHR 5	1859 US Army Building	NPS Appendix 1-D	Yes (d)	No	
	1874 Vancouver House Hotel	NPS Appendix 1-D	Yes (a,d)	No	
	1826 Old Apple Tree	NPS Appendix 1-D	Yes (a,d)	No	
W4	45CL911	HERITAGE Appendix 1-C	Yes (a,d)	No	
W5A	45CL912	HERITAGE Appendix 1-C	Yes (a,d)	No	
W5B	45CL913	HERITAGE Appendix 1-C	Yes (a,d)	No	
VNHR 4	1840s House 4	NPS Appendix 1-D	Yes (a,c,d)	Yes	
	Fort Vancouver Village Pond	NPS Appendix 1-D	Yes (d)	No	
VNHR 3	1892 US Army Stable	NPS Appendix 1-D	Yes (d)	No	
	1859 Quartermaster Stable	NPS Appendix 1-D	Yes (d)	No	
	1850 McLoughlin Road	NPS Appendix 1-D	Yes (a,d)	No	
	1880s Tree Allée	NPS Appendix 1-D	Yes (a,d)	No	
	1840s Kanaka House	NPS Appendix 1-D	Yes (a,c,d)	Yes	
	1840s Tayentas House	NPS Appendix 1-D	Yes (a,b,c,d)	Yes	
W8A	45CL914	HERITAGE Appendix 1-C	Yes (a,d)	No	
W8B	45CL915	HERITAGE Appendix 1-C	Undetermined	No	Covered by deep fill for SR 14 on- and off-ramps
W9A	45CL916	HERITAGE Appendix 1-C	Yes (a,d)	No	
W9B	45CL917	HERITAGE Appendix 1-C	Yes (a,d)	No	

Area Designation	Site Number	Archaeological Investigations	Significant Archaeology and Criteria	Site Warrants Preservation in Place	Comments
	1851 Blacksmith Shop	NPS Appendix 1-D	Yes (d)	No	
VNHR 2	1859 Workshops	NPS Appendix 1-D	Yes (d)	No	
	1879 Line Officer Quarters	NPS Appendix 1-D	Yes (a,d)	No	Extends into Area VNHR 1
W13		None	Undetermined	No	Fieldwork pending; within former Post Cemetery
VNHR 1	Old Post Cemetery	NPS Appendix 1-D	Yes (a,b,d)	No	
W15		None	Undetermined	No	Outside APE – CPU property
W16		None	Undetermined	No	Outside APE – Academy property
W17	45CL918	HERITAGE Appendix 1-C	Yes (a,d)	No	
W18A	45CL919	HERITAGE Appendix 1-C	Yes (a,d)	No	
W18B	45CL920	HERITAGE Appendix 1-C	Yes (a,d)	No	
W19A	45CL921	HERITAGE Appendix 1-C	Yes (a,d)	No	
W19B	45CL922	HERITAGE Appendix 1-C	Yes (a,d)	No	
W19C	45CL923	HERITAGE Appendix 1-C	Yes (a,d)	No	
W20	45CL924	HERITAGE Appendix 1-C	Yes (a,d)	No	
W21		None	Undetermined	No	No access – Red Lion property
W22		None	Undetermined	No	No access – private property
W23A	45CL925	HERITAGE Appendix 1-C	Yes (a,d)	No	
W23B	45CL926	HERITAGE Appendix 1-C	Yes (a,d)	No	Not impacted with phased highway options
W24		HERITAGE Appendix 1-C	No	No	

Although 17 archaeological sites were recorded within the investigated WSDOT properties, disturbances in several of the work areas are a reflection of the destruction or removal of the native soils in those areas as a result of substantial earth-moving activity during construction of I-5 and SR 14.

Archaeological remains were identified in the W8B vicinity during previous investigations. W8B is currently covered by deep fill deposits that support travel ramps providing access to and from SR 14 to I-5 and the City of Vancouver. During the site identification phase, a backhoe could not reach deep enough to determine if any intact artifact-bearing deposits or cultural features are present beneath the fill deposits. Because of the hazards of further excavation in this location, the survey of this parcel would be conducted in coordination with construction.

At first glance, the I-5 corridor along the CRC project area appears an unlikely setting in which archaeological remains might be found. Construction of this section of I-5 and associated interchanges required earth-moving on a relatively massive scale. Much of this earth-moving involved the cutting and removal of native soils in which archaeological evidence of occupation and activity in the prehistoric and historic past may once have been present. The discovery of multiple sites during archaeological investigations for the CRC project underscores once again the potential preservation of significant archaeological remains beneath the ground surface, even in construction zones where massive earth-moving has occurred.

Although 32 archaeological resources are considered eligible for listing on the National Register of Historic Places (NRHP), only the three village house sites in the VNHR are considered Section 4(f) resources for archaeological purposes (see Section 4(f) Evaluation in Chapter 5 of this FEIS). While seven other archaeological resources within the VNHR are considered eligible for the NRHP under multiple criteria, their primary archaeological value is based on the information they may reveal during data recovery. Several of these sites have been excavated in the past as part of NPS's public archaeological field schools and other projects, and all parties have agreed that data recovery excavations would be conducted at these sites as Section 106 mitigation.

Native Americans clearly were present in the CRC APE on the Washington shore over a long span of time, as indicated by the temporally-diagnostic projectile points recovered. To date, however, stone artifacts that very well may date to the prehistoric period have almost all been found along with items of Euro-American manufacture introduced after historic contact. The stone artifacts recovered during the investigations for the CRC project follow the previously established pattern of concentration in the area of the former "Kanaka" Village and vicinity. Although no prehistoric sites have been formally recorded, the evidence clearly indicates the potential for prehistoric archaeological remains, on land and in the river, during construction of the CRC project.

In an effort to expand upon information contained in written documents, inquiries were made by the DOTs with consulting tribes as to their interest in conducting oral history studies about past Native American use of lands within the CRC project area. Reports were subsequently prepared by the

Confederated Tribes of the Umatilla Indian Reservation (Engum 2009) and the Confederated Tribes of the Warm Springs Reservation of Oregon (Whipple 2009). The information presented in these studies was general in nature. The reports did not identify any specific cultural sites within the APE that would need to be addressed during the archaeological investigations for the CRC project.

Portions of the project APE have not been subjected to archaeological field investigations due to inaccessibility. Several areas, such as the main alignment of I-5 in Vancouver, have been excavated deeply into Pleistocene soils. Further archaeological work in these areas would not be warranted.

Archaeological field investigations would need to be conducted in areas within the APE that have not been previously surveyed. Programmatic stipulations in the Section 106 Memorandum of Agreement (MOA) document the agreed-to methods and procedures for ongoing monitoring, investigations, evaluations, and determinations of adverse effects. An archeological treatment plan, as called for in the MOA, would guide the actions of cultural resources professionals during later design and construction phases. WSDOT and ODOT shall develop the plan in consultation with DAHP and SHPO, interested and affected tribes, and other consulting parties.

3.8.4 Temporary Effects

Temporary effects have a potential to be significant because the project would require many years to complete. The disruption to downtown Vancouver has the potential to cause an effect on the short-term economic viability of the historic commercial buildings. Frequent users of the bridges would experience delays, but it is expected that these delays would be actively and positively managed with transportation management measures such as detours, public information, and other mechanisms. It is not anticipated the temporary effects would have adverse effects on historic buildings. However, during construction the economic viability of the businesses in the downtown historic buildings would likely diminish because of access and parking issues.

Other temporary effects could include:

- Noise impacts due to construction
- Effects to air quality due to construction equipment
- Traffic spillover during construction
- Traffic detours and delays during construction

No temporary effects would result in adverse effects to historic properties. The only potential for temporary impacts (mostly sidewalk reconstructions) to cause adverse effects is in cases with historic properties occupied by retail and service businesses whose daily accessibility is important for the business's survival. The project has committed to completing short segments of the light rail project as quickly as possible rather than completing long segments over a longer period of time. Other mitigations will be employed to ensure small business viability during construction. After consultation with SHPOs and others, it was agreed that the temporary impacts would not cause adverse impacts.

On-site Construction

Owners of two historic structures have expressed concern about construction-related vibration on the Barracks Post Hospital (DAHP ID 368) and Clark County Museum (Carnegie Library, DAHP ID 42). The Noise and Vibration analysis does not indicate a potential for vibration related impacts at these locations. Both structures are constructed with unreinforced masonry walls and both structures are important, NRHP-registered historic resources. Despite the lack of technical data to support the finding of a potential impact, the project would actively measure and monitor construction-related vibrations. The Cultural Resources Memorandum of Agreement (MOA) includes standard tolerances for vibration impacts and recommended management practices intended to measure, monitor, and mitigate vibration impacts.

Construction of the LPA would result in increased noise levels near and on the VNHR. Increased noise levels, as well as bright night-work lighting, could also disrupt visitor programs. The Section 106 MOA addresses the potential for such disruptions. The DOTs would require construction teams to minimize disruptions during planned events that are either very near to these construction areas or that are particularly context-sensitive (such as the annual Campfires and Candlelight event).

The LPA also requires temporary construction easements for construction throughout the project area (Exhibit 3.8-40). Project designers have conceptually identified narrow strips of land for such easements along the roadway and transit alignments; these are identified below. The project anticipates that the construction specifications would require that properties be restored to landowners in the same condition after construction is complete. Additionally, the project would require large staging sites or casting yards as described below.

Exhibit 3.8-40

Temporary Construction Easements

DAHP ID#	Parcel ID# /Address	Resource Name	Temporary Property Acquisition (acres)	Reason for Temporary Impact
368 369 109	38279906 38279914 38279935	VNHR	0.17 ac.	Construction of retaining wall along I-5
918	38279911 654 Officers Row	Officers Row	0.03 ac.	Construction of retaining wall along I-5
35	47101000 110 W 13th Street	W Foster Hidden House	0.01 ac.	Reconstruction of sidewalks
38	51830000 112 W 11th Street	Vancouver Telephone Exchange	0.01 ac.	Reconstruction of sidewalks
1043	39630000 210 E 13th Street	Vancouver City Hall	0.01 ac.	Reconstruction of sidewalks
1045	39490000 1205 Broadway Street	Washington Mutual/Chase Bank	0.03 ac.	Reconstruction of sidewalks

DAHP ID#	Parcel ID# /Address	Resource Name	Temporary Property Acquisition (acres)	Reason for Temporary Impact
74	51580000 218 W 12th Street	St. James Catholic Church	0.05 ac.	Reconstruction of sidewalks
116	40890000 307 E 17th Street	Single-family home	0.01 ac.	Reconstruction of sidewalks
129	41255000 404-406 E 17th Street	Multi-family homes (Duplex)	0.01 ac.	Reconstruction of sidewalks
119	40790000 415 E 17th Street	Commercial	0.01 ac.	Reconstruction of sidewalks
133	41380000 604 E 17th Street	Single-family home	0.01 ac.	Reconstruction of sidewalks
61	13725000 3000 K Street	Single-family home	0.03 ac.	Construction of retaining wall
59	13460000 3110 K Street	Single-family home	0.02 ac.	Construction of retaining wall
130	41520000 700 E McLoughlin Boulevard	Single-family home	0.01 ac.	Reconstruction of sidewalks
132	41607000/041605000 612 E McLoughlin Boulevard	Carpenters Union Building	0.01 ac.	Reconstruction of sidewalks
993	12454005 Main Street	Kiggins Bowl	0.07 ac.	Construction of retaining wall

Off-site Staging and Casting

Five sites have been identified as major staging and casting areas; the likely effects from the use of these areas are described below. These possible staging and casting sites have had a preliminary evaluation based on potential use of each site. After a contractor determines the exact activities that will occur on any of these sites, or any other site to be used for staging or casting, the contractor will need to ensure compliance with NEPA, Section 106 of the NHPA, and any other applicable federal, state and local regulations.

Background research was conducted to assess the likelihood of each potential staging and casting area to contain significant archaeological resources. Each of these areas has a high potential to contain archaeological resources, however the areas are mostly covered by deep fill material. Staging and casting areas would primarily be used for construction offices, to stage the larger equipment such as cranes, and to store materials such as rebar and aggregate, activities that are unlikely to have deep subsurface impacts. None of the staging and casting areas has been investigated for archaeological resources, as right of entry was not granted. Archaeological investigations will be conducted at each site once right of entry is obtained, or property is acquired. The investigations will occur prior to any ground disturbing activities within the staging or casting areas. The MOA includes stipulations ensuring that any parcels used for staging or casting would be investigated with respect to the NHPA and other applicable

cultural resource protection laws and regulations. Language will be inserted into the Contractor's contract ensuring that they adhere to these stipulations. If the contractor intends to use a staging site other than those identified here, prior to active use of that site, the contractor will seek and obtain permission from the state departments of transportation or project owner. The project owner will obtain concurrence from the Federal NEPA lead agencies prior to giving concurrence to the contractor.

- **Port of Vancouver Parcel 1A site:** This 52-acre site is located along SR 501, near the Port of Vancouver's Terminal 3 North facility. A windshield survey of the area did not find any buildings, structures or objects on the site; thus, the use of the site would result in no direct or indirect effects to historic properties. Archaeologically, the location rests in an archaeological National Register District, although background research indicates that no archaeological historic properties are recorded within the parcel. Despite previous, substantial modification to the site, the likelihood of encountering deeply buried archaeological deposits in the area is high because of its proximity to the archaeological district and to the Columbia River.
- **Red Lion at the Quay hotel site:** This 2.6-acre site would be partially acquired as a result of this project, and most of the building(s) on the site would be demolished. No built environment historic resources have been found at this site; consequently, use of the site would likely result in no direct or indirect effects to known historic properties. This area has been covered by fill material and is outside the Vancouver Lakes Archaeological District. Background research indicates that the area contains no recorded archaeological sites. However, because of its location in old Vancouver and on the Columbia River shoreline, the likelihood of encountering deeply buried archaeological resources in this parcel is high.
- **Old Thunderbird hotel site:** This 5.6-acre site is much like the Red Lion hotel site in that a large portion of the parcel would be required for new right-of-way under the LPA. No historic resources have been found at this site. However, the property has the potential to contain significant archaeological resources, and archaeological investigations are recommended prior to any subsurface impacts. This site has also been covered by fill material. Background research indicates the tract contains no recorded archaeological site. However, because of its location on the Columbia River shoreline, the likelihood of encountering deeply buried archaeological resources in this parcel is high.
- **Port of Vancouver Alcoa/Evergreen site:** This 95-acre site was previously used as an aluminum factory and is currently undergoing environmental remediation, which should be completed before construction of the CRC project begins. A windshield survey of the area did not find any buildings 45 years old or older that met the NRHP listing criteria; thus, there would be no expected direct or indirect effects to cultural resources caused by the use of this site. However, the property has the potential to contain significant archaeological resources, and archaeological investigations are recommended prior to any subsurface impacts. Though this area is located within the Vancouver Lakes Archaeological District, background

research indicates this site contains no recorded archaeological sites. In view of its location in the archaeological district and its proximity to the Columbia River shoreline, the likelihood of encountering deeply buried archaeological resources in this tract is high.

- **Sundial site:** This 50-acre site is located between Fairview and Troutdale, just north of the Troutdale Airport, and has direct access to the Columbia River. A windshield survey of the area did not find any buildings 45 years old or older that met the NRHP listing criteria; thus, there would be no direct or indirect effects to historic resources. Background research indicates this site contains no recorded archaeological sites. However, it is located near the confluence of the Sandy and Columbia rivers, an area considered to have a high probability of containing prehistoric archaeological resources. Because of its setting, the likelihood of encountering buried archaeological resources in this area is high.

3.8.5 Mitigation or Compensation

Avoidance and Minimization

WSDOT, ODOT, FHWA, FTA, TriMet, and C-TRAN will continue to take reasonable measures to identify ways to minimize adverse effects on historic resources. Measures would include, but not necessarily be limited to:

- Minimizing the acquisition area by narrowing the width of facility structural elements; such as bike lanes, shoulder widths, travel lane widths; or structure heights, provided such changes at least meet minimum standards (including allowed variances and deviations) for the facility type.
- Minimizing adverse effects to aesthetics/setting by planting trees and shrubs to enhance the view from historic properties and shield the properties from a visual effect resulting from the project's introduction of facilities that would compromise the historic setting.
- Minimizing impacts to three archaeological sites that have been determined to be Section 4(f) resources. CRC project construction would occur in the vicinity of significant archaeological resources near NPS's planned Village reconstruction, including three village house sites that have been determined to be Section 4(f) archaeological resources. Impacts to these sites would be avoided where feasible and minimized where they could not be avoided, and any parts of the sites that would be impacted by project construction would be subject to data recovery excavations. In addition, funding for construction of a curation/museum facility is, in part, mitigation for impacts to archaeological resources (see below). The NPS operates a public archaeology field school that has conducted, and is continuing to conduct, excavations at similar house sites in the Village area in order to demonstrate their significance.

Historic Buildings, Sites, and Resources

For unavoidable adverse effects to historic properties, mitigation plans have been designed and drafted in consultation with SHPO, DAHP, and other consulting parties as appropriate. Mitigation would include the following:

- Taking measures to promote moving a historic resource that would otherwise be destroyed by the project, provided any significant

original historic context associated with the historic property is first documented.

- Preparing Historic American Building Survey/Historic American Engineering Record (HABS/HAER) documentation on historic buildings/structures to be removed.
- Developing interpretive materials for impacts to historic resources, including a Web site, interpretive panels, Multiple Property Documentation forms, and education materials.
- Provide funding for the design and renovation of Building 405 into a fully operational curation facility which would meet federal standards for curation as defined in 36 CFR Part 79 and as promulgated by National Park Service policy for a NPS museum/curatorial facility. This also mitigates impacts to archaeological resources.
- Requiring that if any landscaping elements that contribute to the NRHP listing or eligibility of a historic property would be adversely affected by construction, those landscaping elements be returned to their original condition when the project is completed.

Such mitigation measures were approved in the MOA. The MOA describes which effects are mitigated, who would implement which measures, how they implement them (e.g., funding mechanisms or provision of staff or documents), timeframes for mitigation phasing and completion, and where mitigation measures would occur. The MOA (Appendix M) was signed by SHPO, DAHP, and other consulting parties in September 2011. As a continuing element of the Section 106 consultation process, FHWA and FTA would continue consultation with the NPS, other VNHR partners, and other stakeholders with respect to the VNHR.

Archaeological Sites and Resources

Plans for the long-term curation of artifacts or samples recovered during archaeological investigations or during construction have been developed in consultation with agencies, property owners, and appropriate tribes, with consideration given to feedback from other interested parties. Long-term curation of recovered materials is an essential element of archaeological investigations and is required as part of federal and state permitting processes. The MOA states that the all artifacts recovered in Washington would be curated at the Fort Vancouver National Historic Site, in a new curation/museum facility that will be funded as mitigation. All artifacts recovered in Oregon would be curated at the Oregon State Museum of Anthropology. The disposition of any artifacts or samples would occur in accordance with the process outlined in the CRC Archaeology Research Design Report.

Mitigation measures regarding archaeological historic properties that would be adversely affected by the project would include data recovery excavations. Such excavations would be guided by an archaeological treatment plan that identifies research questions applicable to the sites, field excavation methodologies, laboratory analyses, reporting requirements/reviews/approvals, and curation, among other things. As stipulated in the MOA, the treatment plan and an inadvertent discovery plan, will be developed in consultation with FHWA, FTA, DAHP, SHPO, and other Section 106 consulting parties.

Memorandum of Agreement

As previously stated, FHWA and FTA have determined that construction and operation of this project would result in adverse effects to historic properties and have consulted with SHPO, DAHP, and the Advisory Council on Historic Preservation (Council) pursuant to 36 CFR Part 800.6 and 800.14, regulations implementing Section 106 of the National Historic Preservation Act (16 USC Section 470f). Oregon SHPO concurred with the FOE on May 1, 2009, and DAHP concurred on January 24, 2011 (Appendix M). FHWA and FTA have also consulted with the NPS, certified local governments, and 11 consulting tribes. The technical assessment of project effects, the stipulations governing additional assessment of effects, and the development of mitigation options are guided by the MOA, which was signed on September 8th, 2011. The MOA (Appendix M) and related treatment plan dictate the mitigation of effects to historic properties. These mitigation measures are summarized below.

1917 I-5 COLUMBIA RIVER BRIDGE

The northbound I-5 bridge crossing the Columbia River is on the NRHP and would be adversely affected if it is removed by the project. WSDOT and ODOT would ensure that all reasonable efforts would be attempted to find an alternative use through a bridge marketing plan. If relocation of the bridge in its entirety is not feasible, then the project would allow separating and relocating individual spans. HABS and HAER documentation, including applicable photography and drawings, would be updated. Dismantling the bridge for potential reconstruction in an alternative location would also be examined. If appropriate, decorative or interpretive structural elements would be offered to local historical societies/museums or other interested parties. As the bridge is a critical component of the regional historic landscape, a Web site would be created to communicate the structure's history and meaning to the general public. A Multiple Property Documentation (MPD) would be developed for the remaining bridges along the Old Pacific Highway in Oregon, and an MPD for National Register-eligible bridges in Washington.

PIER 99

Pier 99 has been determined to be NRHP-eligible and would be adversely affected by construction of the LPA. WSDOT and ODOT would attempt to find an alternative use through a historic structure marketing Plan. Given the structural design and condition of the building, there is little likelihood that the structure could be relocated. HABS/HAER documentation, including applicable photography and drawings, would be sought. If appropriate, decorative or interpretive building elements would be offered to local historical societies and museums. Interpretive material would be developed to communicate the structure's history and meaning to the general public. An MPD would be developed for postwar boat and automobile dealership showroom buildings in the greater Portland area.

VNHR CULTURAL LANDSCAPE AND VISUAL EFFECTS

The VNHR and related National Register Historic District include four distinct cultural landscapes. As is provided for in the MOA, the DOTs would continue to coordinate with appropriate parties at NPS and the City of Vancouver to develop a visual management plan, or would work with the visual

elements of existing VNHR plans¹⁰ that address visual impacts, to ensure that all project design elements are consistent and compatible with VNHR goals. WSDOT would consult and coordinate with NPS, the City of Vancouver, and interested tribes to design an aesthetically appropriate noise wall structure. To reduce noise impacts, the wall would stretch along select portions of the VNHR boundary (see Section 3.11 Noise and Vibration). As mitigation for impacts to cultural resources, WSDOT would provide funding for the design and the renovation of Building 405 into a fully operational curation facility which would meet federal standards for curation as defined in 36 CFR Part 79 and as promulgated by National Park Service policy for NPS museum/curatorial facility.

The Post Hospital is part of the West Barracks area of the VNHR and is a contributing structure within the National Register Historic District. The proximity of the proposed retaining wall, roadways, and noise walls constitute an adverse impact to this resource. Landscaping elements of the Evergreen Community Connector, which would be constructed as part of the project, would reduce impacts from the increased proximity of the proposed retaining wall and highway. The Connector would also serve to replace the noise wall along this section of the VNHR. WSDOT would continue to consult and coordinate design with appropriate parties at DAHP, NPS, and the City of Vancouver. To ensure protection of the hospital building's structural and material integrity, WSDOT, in consultation with the NPS and the City of Vancouver, would develop a construction vibration and settlement management and monitoring plan that would 1) define a preconstruction analysis of vibration and settlement analysis to determine effect thresholds and appropriate measures that might be needed to minimize vibration and settlement risks during construction, and 2) define vibration and settlement monitoring and analysis methods to be used during construction and protective response procedures if adverse effects to structural and/or material integrity occur and/or appear imminent. See below for further details regarding the proposed community connector.

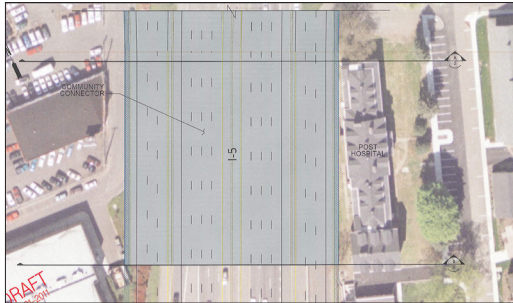
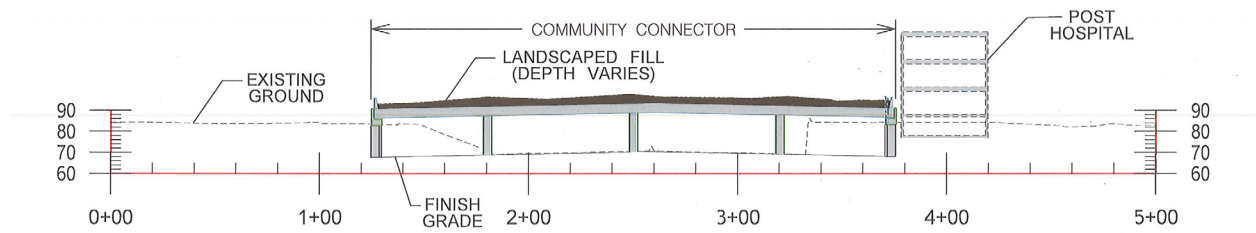
TREATMENTS ON THE COMMUNITY CONNECTOR

The Evergreen Community Connector (a lid over I-5) has been conceptually developed as part of the CRC project. CRC project staff have collaborated with the City of Vancouver, NPS, and FVNT to refine the design of the structure, while still achieving the primary purposes of the lid to reconnect downtown Vancouver and the Vancouver National Historic Reserve. The finish treatments of this new design are as yet unresolved. The City would partner with the project, and coordinate with other consulting parties as appropriate, including DAHP and NPS, to design treatments that fulfill mitigation requirements, such as interpretive panels, and meet the community's needs. However, the general shape, position, and location of the structure have been agreed to. The overall structure would be rectangular in shape and cross the interstate between the Riverwest development and the hospital, providing east-west pedestrian connectivity north of the hospital building, as well as access to Evergreen Boulevard (Exhibit 3.8-41).

¹⁰ Existing VNHR plans include the Cooperative Management Plan, 2000; Long Range Plan, 2006; Cultural Landscape Report, 2005; and others

Exhibit 3.8-41

Evergreen Community Connector



5-RC-NB STA 214+87
SCALE: 1" = 40'

A
1

Plan view and cross section of conceptual design for Evergreen Community Connector.