3.15 Wetlands and Other Waters

Wetlands and other waters perform valuable functions for fish, wildlife, environmental quality, and surrounding human communities. The federal Clean Water Act (CWA) gives environmental oversight for waters and wetlands to the U.S. Army Corps of Engineers (USACE). The CWA also gives the U.S. Environmental Protection Agency (EPA) and USACE jurisdictional oversight for "traditional navigable waters" of the U. S. State governments generally share the regulatory control with the USACE.

Wetlands and other waters regulated by the CWA are called jurisdictional wetlands and other waters. Federal and state laws require projects that could impact wetlands and other waters to first avoid and minimize impacts where possible. Impacts to jurisdictional waters, such as adding or removing bridge piers or other structures in a river, or filling, excavating, or building in a wetland, require joint federal, state, and local permitting. If impacts are unavoidable, the project must compensate for these impacts by restoring or creating new wetlands or other waters to ensure that the overall environmental functions they provide are not diminished. Some jurisdictions also restrict activities in areas within a certain distance of wetlands, known as buffer zones.

The information presented in this section is based on the Wetlands and Other Waters Technical Report. In addition, Section 3.14, Water Quality and Hydrology, and Section 3.16, Ecosystems, provide more information about the relationship between wetlands, fish and wildlife habitat, and water quality.

Are all wetlands, rivers, and streams "jurisdictional"?

Complex regulations determine which wetlands and other waters are jurisdictional. All wetlands and other waters that are potentially jurisdictional were considered in this analysis, and this section refers to them all as simply wetlands or other waterways. Final determinations of the boundaries and legal status of each would be made by the appropriate agencies during the permit process after the NEPA process is complete.

3.15.1 Changes or New Information Since 2013

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

- Updated determination of waters of the U.S. based on recent decisions from the U.S. Supreme Court and the subsequent updated conforming rule issued by EPA and USACE.
- Updates to methodology for wetland evaluations and updated plant species lists developed by EPA and USACE.
- Updates to existing conditions based on fieldwork to identify and confirm wetland boundaries within the study area.
- Changes in the project footprint necessitated by changed conditions. Updates to proposed mitigation or compensation for wetland and wetland buffer effects to reflect current guidance.

Table 3.15-1 compares the impacts and benefits of the CRC LPA to the Modified LPA as a result of the changes listed above. Based on the analysis in this section, the effects of the Modified LPA, including design options, would be similar to those of the CRC LPA.

Table 3.15-1. Comparison of CRC LPA Effects and IBR Modified LPA Effects

Technical Considerations	CRC LPA Effects as Identified in the 2011 Final EIS	Modified LPA [a] Effects as Identified in This Section	Explanation of Differences
Wetland Fill	0 acres	0.58 acres	• Additional wetlands were identified on mainland Oregon between N Martin Luther King Jr. Boulevard and N Union Court. The design change that altered local access to N Union Court would alter additional wetland impacts.
Wetland Buffer Fill	0.41 acres	7.39 acres	• Additional wetlands were identified on mainland Oregon between N Martin Luther King Jr. Boulevard and N Union Court. The design change that altered local access to N Union Court would result in additional wetland impacts. • The City of Portland expanded Environmental Overlay Zone areas, and the regulations that accompany them increased the acreage of wetland buffer impacts.
Other Waters (Fill/Restoration)	0.76 acres (net fill)	- 0.13 acres (net restoration)	• New techniques in pile cap installation would reduce the amount of benthic habitat impacts, coupled with the removal of the existing bridge footings, would result in a net restoration of fill in other waters.

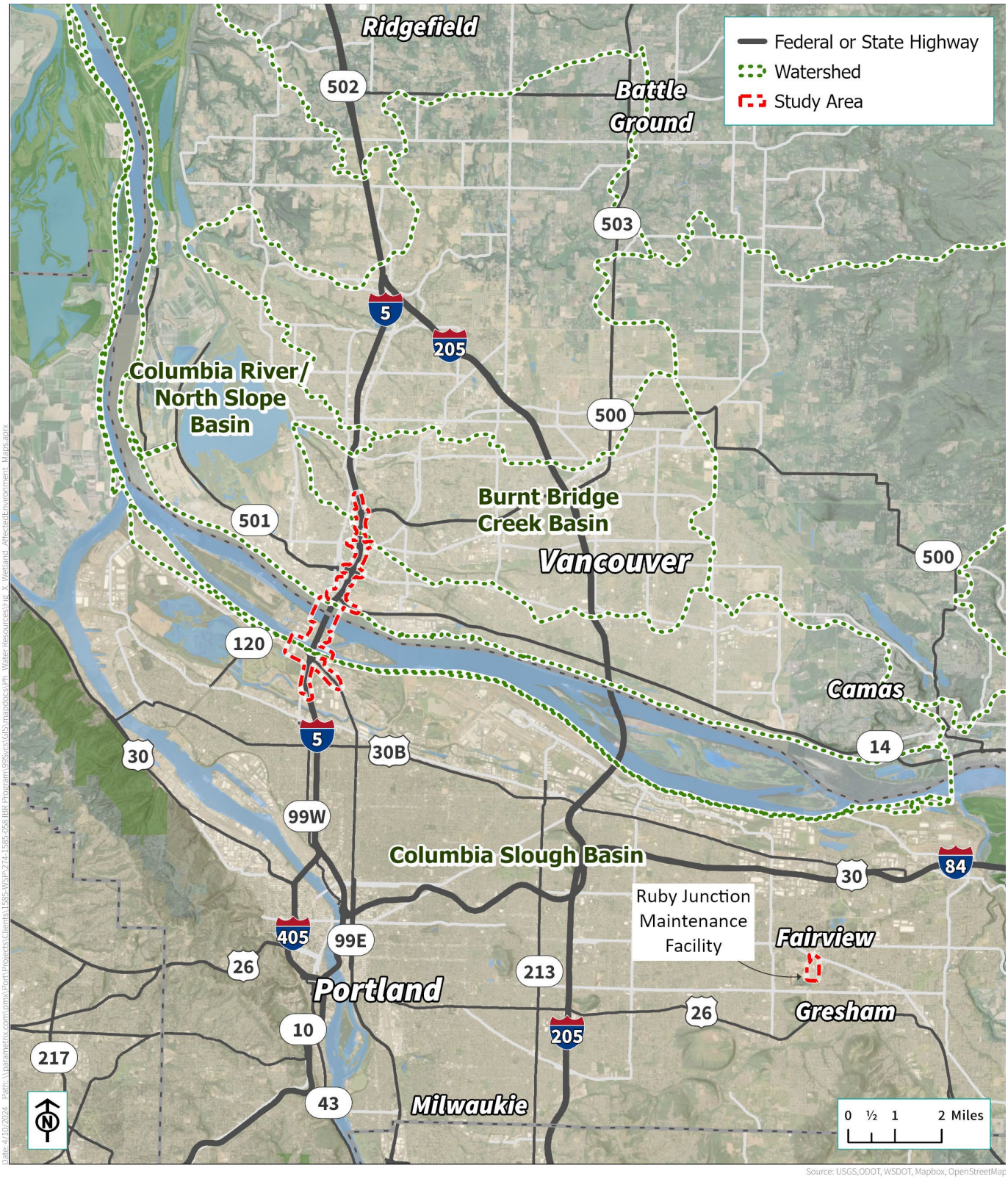
Note: Data are approximate and have been rounded.
a The Modified LPA effects are based on the double-deck-fixed-span configuration with one auxiliary lane.

3.15.2 Existing Conditions

The existing conditions for wetlands and other waters includes information on resources that were initially delineated in 2008 as part of the CRC project, updated with new information from the City of Portland's Wetland Inventory Project and field-identified wetland boundaries in 2022 and 2023. A preliminary wetland and other waters delineation report will be published once field delineations have been completed. Field delineations should be completed in 2024 and results from the field delineations will be included in the final environmental impact statement.

The study area for the wetlands and other waters analysis is shown in Figure 3.15-1. The study area is the area that could experience direct impacts from the construction and operation of the Modified LPA, including the expansion of the Ruby Junction Maintenance Facility in Gresham, Oregon.

Figure 3.15-1. Wetlands and Other Waters Study Area



Wetlands in Oregon

There are large wetland systems to the east and west of the study area in Oregon that are remnants of the extensive wetland system that existed on the floodplain of the Columbia River before development. These

wetland systems were changed by the construction of dikes and levees, which drained land and added fill material to low spots, first for agricultural purposes and then for urban development. In addition, constructed wetlands were established to manage stormwater runoff near the roadway in the study area. Despite the reduction in area, the remaining wetlands in the study area perform important functions and have high value due to their rarity and wildlife value.

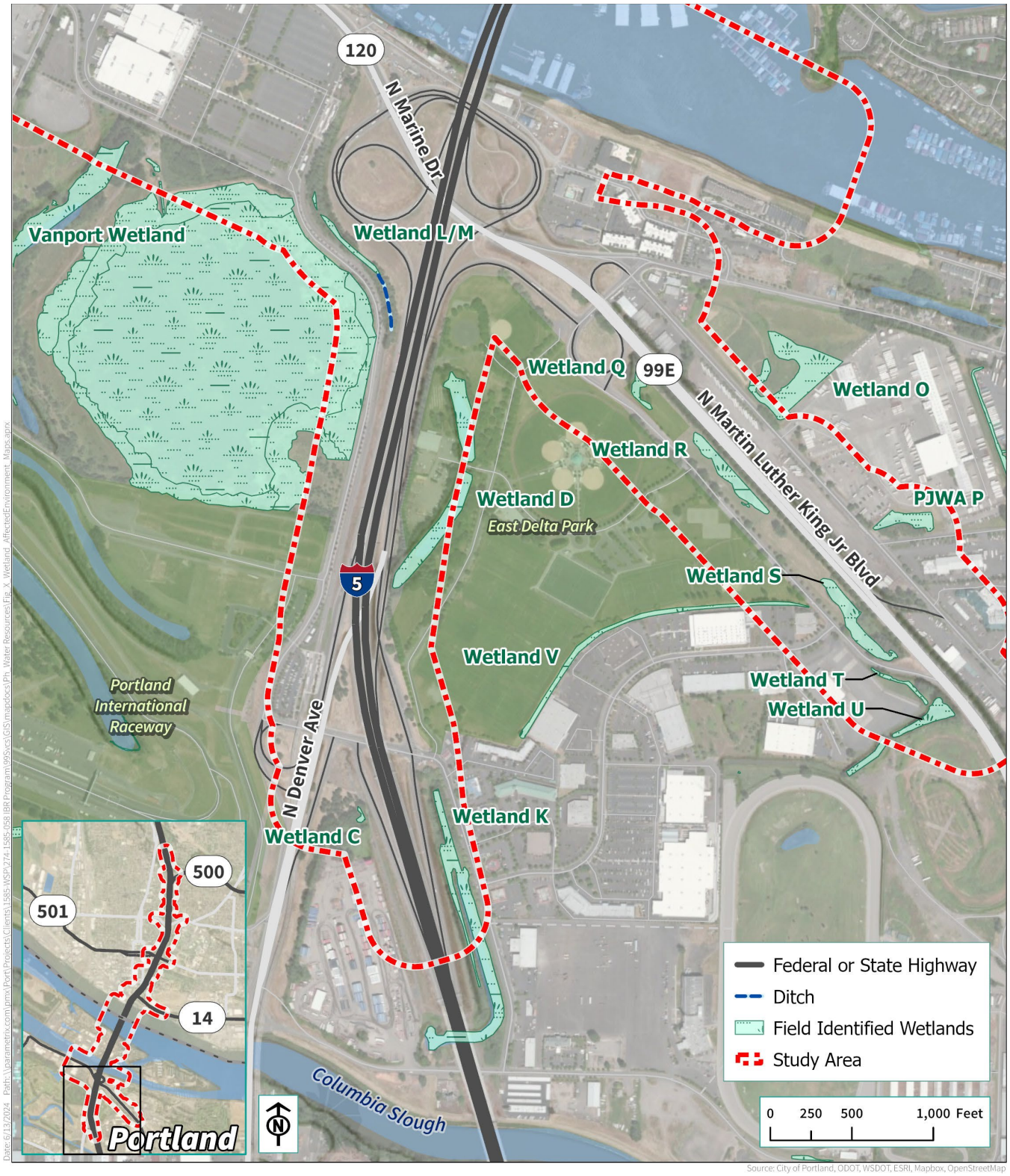
The study area in Oregon includes a complex of small wetland systems, some of which are connected by culverts, near the I-5 roadway. These wetlands are remnants of the former slough system that have been modified to increase drainage and convey stormwater from the surrounding area to the Columbia Slough. Within the Columbia Slough watershed, there are 13 identified wetlands and, potentially, a jurisdictional ditch that intersects the study area, shown in Figure 3.15-2. The wetlands are identified alphabetically, in the order they were identified in the field or by off-site databases, in Table 3.15-2. No wetlands were identified in the Ruby Junction Maintenance Facility area.

Table 3.15-2. Wetlands Identified within the Study Area in Oregon

Wetland ID	Wetland Type	Size (acres)
Wetland C	PEM	0.07
Wetland D	PFO/SS/EMHx	2.67
Wetland K	PUBHh	3.0
Wetlands L/M	PFOC	0.34
Wetland O	PEM	2.63
Potentially Jurisdictional Wetland/Water Area P (PJWA P)	PEM	0.61
Wetland Q	PEM	0.30
Wetland R	PEM	0.97
Wetland S	PEM	1.10
Wetland T	PEM	0.18
Wetland U	PEM	0.55
Wetland V	PEM	1.18
Vanport Wetland	PFO/SS/EMHx	66.6

Note: No wetlands were identified at the Ruby Junction Maintenance Facility.
Key: PEM = palustrine emergent; PFOC = palustrine, forested, seasonally flooded; PFO/SS/EM = palustrine forested/scrub-shrub/emergent; PFO/SS/EMHx= palustrine, forested/scrub-shrub/emergent, permanently flooded, excavated; PUBHh = palustrine, unconsolidated bottom, permanently flooded, excavated.

Figure 3.15-2. Field-Identified Wetlands and Other Waters - Oregon



Source: CRC Wetland Data (2011); City of Portland (2023)

Wetlands in Washington

Within the study area in Washington, there are two delineated wetland systems within the Burnt Bridge Creek watershed, shown in Figure 3.15-3 and listed in Table 3.15-3. No wetlands were identified in the Columbia River/Columbia Slope watershed. Figure 3.15-3 also shows Wetland B and the WSDOT Burnt Bridge wetland complex, which were identified during the CRC project analysis. These wetland systems are shown for additional context; however, they are outside of the current study area.

Table 3.15-3. Wetlands Identified within the Study Area in Washington

Wetland ID	Wetland Type	Size (acres)
Wetland H	PEMA	0.12
PJWA I (Kiggins Bowl wetlands)	PFO	1.00

N/A= Not available; PEMA= palustrine emergent, temporarily flooded; PJWA = Potential Jurisdictional Water/Wetland Area; PFO = palustrine forested

Other Waters

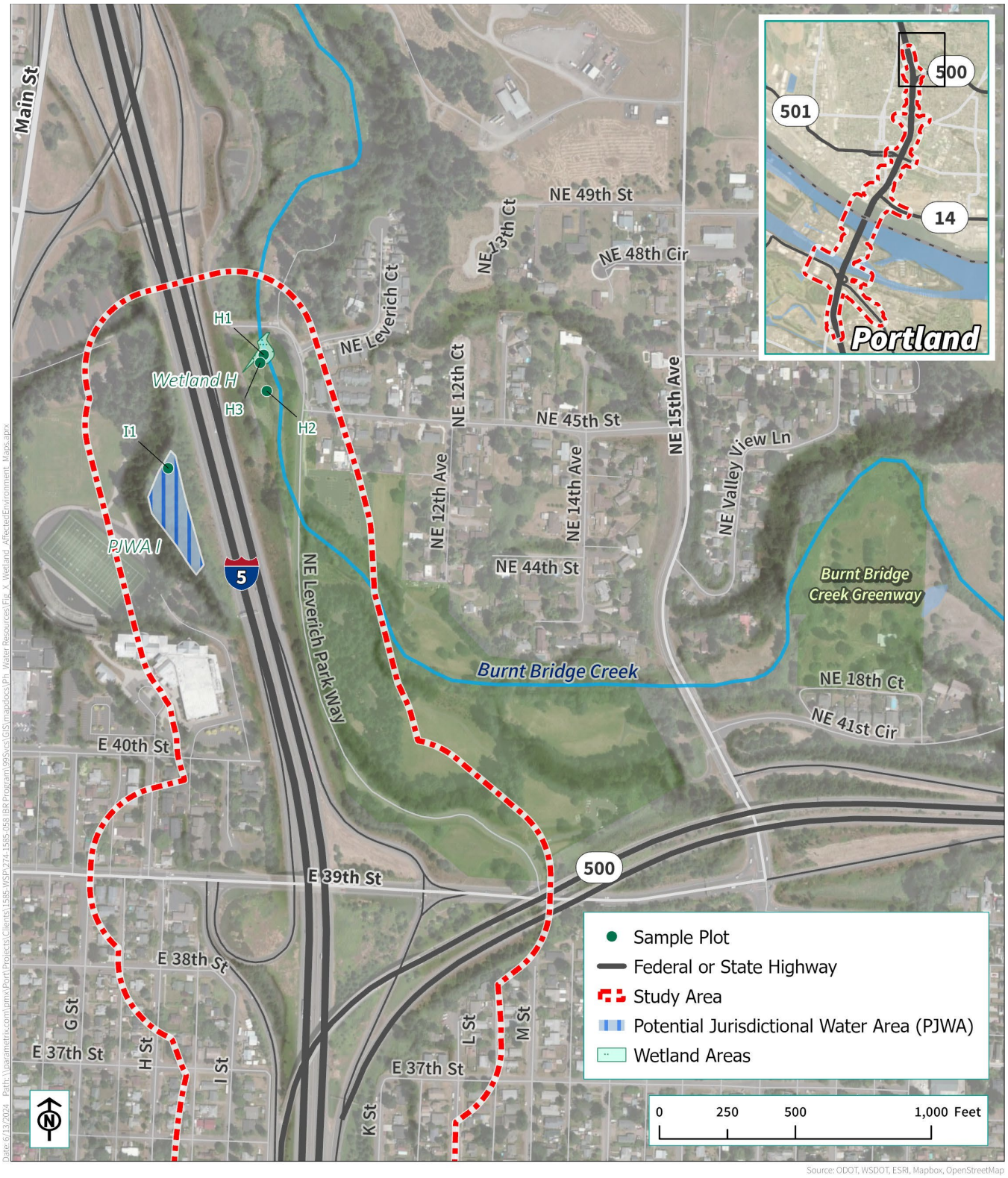
The study area contains two regulated waters of the state and U.S.—the Columbia River and Burnt Bridge Creek—and one potentially regulated water (ditch) of the state and U.S. The Columbia River (including North Portland Harbor, which is also known as the Oregon Slough) between the Oregon mainland and Hayden Island) is also classified as a "traditional navigable water" of the U.S. EPA and USACE have jurisdictional oversight for "[a]ll waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to ebb and flow of the tide" (33 CFR Section 328.3(a)(1); 40 CFR Section 120.2(a)(1)). "Traditional navigable water" includes all the navigable waters of the U.S., as defined in 33 CFR Part 329. Table 3.15-4 provides a description of jurisdictional waters in the study area.

Modified LPA

The subsections below describe the long-term impacts that would occur with the Modified LPA. Anticipated filling or reduction of wetlands and other waters, and their buffers, as a result of the Modified LPA are mapped in Figure 3.15-4 and Figure 3.15-5. The acreage of fill or reduction to individual wetlands and their buffers is shown in Table 3.15-5.

As described in Chapter 2, activities associated with the Modified LPA would likely require both temporary and permanent modifications to portions of the Portland Metro Levee System, which is a system of federal flood control levees along the south bank of the Columbia River/North Portland Harbor. Modifications may include activities to restore temporarily disturbed portions of the levees, permanent modifications where proposed infrastructure would intersect with the existing levees, or where access to the levees would change as a result of reconfigured roadways. Modifications may also include improvements to existing levee function, if such improvements are requested or required. Modifications or improvements would be coordinated with USACE and Urban Flood Safety and Water Quality District for consistency with the planned future condition of the levees. The assessment of long-term effects to wetlands and other waters presented below includes those associated with potential modifications to the federal levee system.

Figure 3.15-3. Field-Identified Wetlands and Other Waters - Washington



Source: CRC Wetland Data (2011)

Table 3.15-4. Other Jurisdictional and Potential Jurisdictional Waters within the Study Area

Waters	Description	Designation Type
Potential Jurisdictional Ditch (No name/ID given) (Oregon)	A stormwater ditch, adjacent to Wetland System L/M, within the city of Portland. The ditch enters the wetland system and flows to the Vanport wetland through two culverts. The ditch is located at the toe of a roadway prism and receives stormwater runoff from the roadway prism slope and TriMet light-rail tracks. This ditch was not considered a jurisdictional resource by DSL in 2008.	• Jurisdictional waterway status will be evaluated during permitting process.
Columbia River/North Portland Harbor (Oregon Slough) (Oregon and Washington)	At RM 106, this traditional navigable waterway is highly managed and confined by levees. It is relatively free flowing compared to upstream reaches. Stream flow and stage height are affected by: • Bonneville Dam management and other upstream dams. • Tidal shifts in the Pacific Ocean. • Heavy barge traffic. Shorelines within the cities of Portland and Vancouver.	• Traditional navigable waters of the U.S. regulated by USACE. • Regulated waterway of the state and U.S. • Local designations: - City of Portland Environmental Overlay Zone. - Critical Area and Shoreline of the state designations by the City of Vancouver/State of Washington.
Burnt Bridge Creek (Washington)	Perennial stream located in Burnt Bridge Creek watershed within the city of Vancouver.	• Regulated waterway of the state and U.S. • Critical Area and Shoreline of the state designations by the City of Vancouver/State of Washington.

DSL = Oregon Department of State Lands; RM = river mile; TriMet = Tri-County Metropolitan Transportation District of Oregon; USACE = U.S. Army Corps of Engineers

Table 3.15-5. Long-Term Impacts to Wetlands and Other Waters from the Modified LPA

Wetlands or Other Waters	Affected Resources	Modified LPA (with the Double-Deck Fixed-Span Configuration) Wetland Fill and Other Water Fill/Restoration (acres)
Wetlands	C	0
	D	0
	H	0
	K	0
	L/M (Expo Road wetlands)	0.002
	O	0
	PJWA P	0
	Q	0.3
	R	0.21
	S	0.02

Wetlands or Other Waters	Affected Resources	Modified LPA (with the Double-Deck Fixed-Span Configuration) Wetland Fill and Other Water Fill/Restoration (acres)
	T	0
	U	0
	V	0
	PJWA I (Kiggins Bowl wetlands)	0
	Vanport wetland	0.05
	Total Wetland Impact	**0.58**
Wetland Buffers	C	0
	D	0.36
	H	0.06
	K	0
	L/M	0.56
	O	0
	PJWA P	0
	Q	0.95
	R	0.91
	S	0.7
	T	0.24
	U	0.11
	V	0
	PJWA I (Kiggins Bowl wetland buffer)	0
	Vanport wetland buffer	3.5
	Total Wetland Buffer Impact	**7.39**
Other Waters	Columbia River/North Portland Harbor fill	0.91
	Columbia River/North Portland Harbor removal	-1.04
	Total Other Waters	**-0.13 (net restoration)**

LPA = Locally Preferred Alternative; PJWA = Potentially Jurisdictional Water Area

3.15.3 Long-Term Benefits and Effects

Long-term impacts occur when an alternative results in removal or fill within jurisdictional wetlands, regulated wetland buffers, or other waters of the state or U.S. The following process has been used to determine long-term impacts on wetlands and other waters:

- Map project components relative to wetlands and other waters, and their buffers, identified in Section 3.15.2.
- Evaluate impacts to the functions of wetlands and other waters.
- Quantify the area of wetlands, other waters, and designated buffers affected.

No-Build Alternative

No filling or reduction of wetlands or wetland buffers would result from the No-Build Alternative. Untreated stormwater would continue to be discharged into wetlands and other waters in the study area. Development would continue to occur along roadways in the study area, which would increase impervious surfaces that would discharge into wetlands and other waters.

Wetlands and Buffers

The Modified LPA, including each of the design options, would permanently excavate or fill approximately 0.58 acres of wetlands, all of which would be in Oregon. The wetlands that would experience the largest impacts are Wetland Q, with 0.3 acres of fill, and Wetland R, with 0.21 acres of fill. This fill and reduction in wetland size would result in a loss of wetland functions.

The Modified LPA, including each of the design options, would also permanently excavate or fill a total of approximately 7.39 acres of wetland buffer. Almost all of this impact would be in Oregon, with the buffers of the Vanport wetland, Wetland Q, and Wetland R experiencing the largest impacts. In Washington, 0.06 acres of wetland buffer would be impacted at Wetland H, which is associated with Burnt Bridge Creek.

Other Waters

The Modified LPA would construct new in-water permanent bridge piers in the Columbia River and North Portland Harbor for the Columbia River bridges and the bridges over North Portland Harbor. The Modified LPA with the double-deck fixed-span configuration would result in 0.91 acres of filled river bottom. Demolition of the foundations for the existing Interstate Bridge in the Columbia River and North Portland Harbor would restore 1.04 acres of river bottom. Therefore, construction of the Modified LPA with the double-deck fixed-span configuration would result in a net restoration of approximately 0.13 acres of waterway.

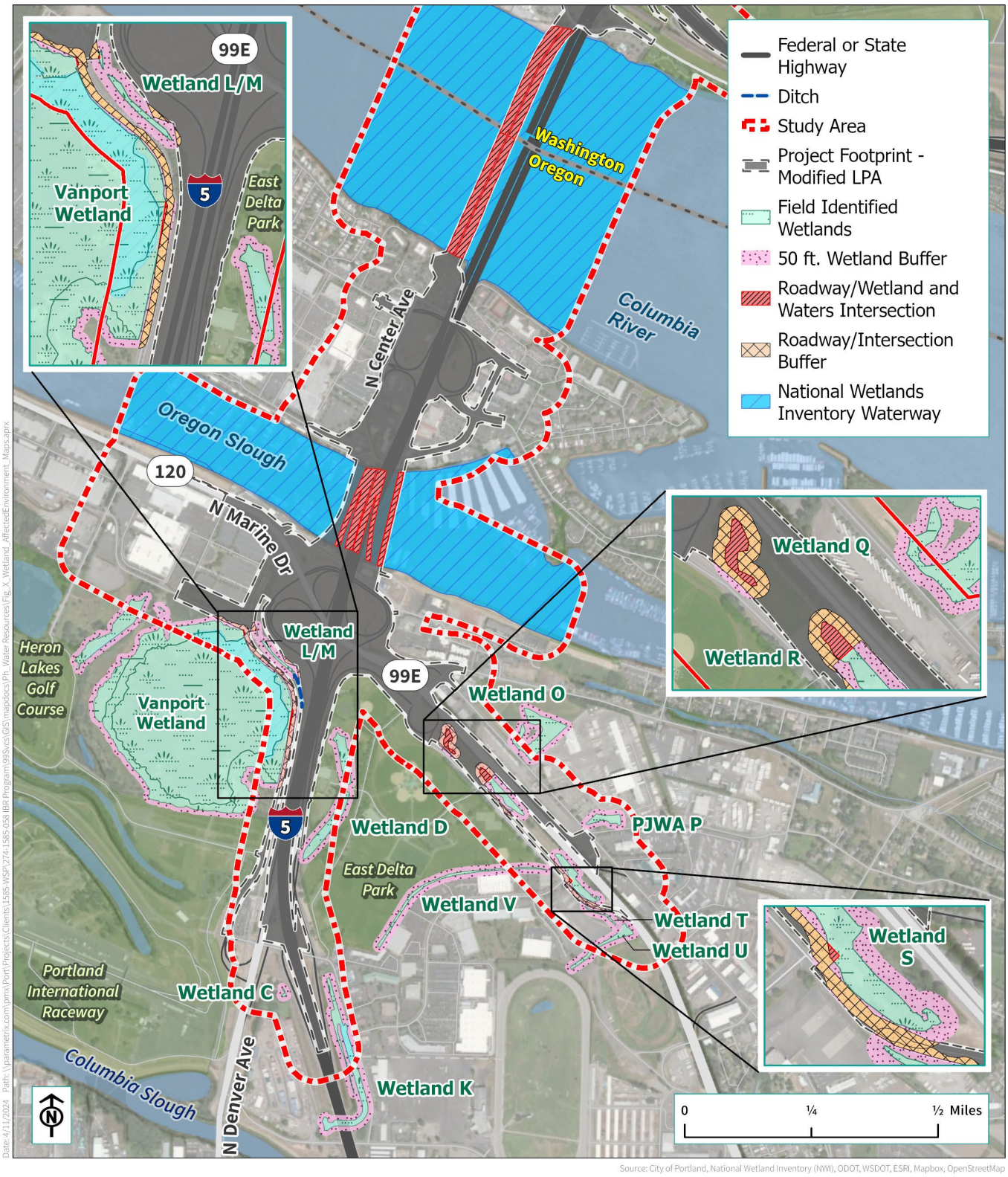
The Modified LPA with single-level fixed-span configuration would have a slightly larger permanent width than the double-deck fixed-span configuration. The Modified LPA with single-level fixed-span configuration would fill approximately 1.07 acres of waterway for new bridge foundations and would restore approximately 1.04 acres by removing the existing bridge foundations, resulting in a net loss of approximately 0.03 acres of in-water area.

The Modified LPA with single-level movable-span configuration would have a slightly larger in-water footprint than the fixed-span configurations. The Modified LPA with the single-level movable-span configuration would fill approximately 1.11 acres of waterway and would restore approximately 1.04 acres by removing the existing bridge foundations. This would result in a net loss of approximately 0.07 acres of in-water area. The Modified LPA with the single-level movable-span configuration would also have the potential for minor water quality impacts associated with the maintenance and operation of the lift span, including the potential accidental discharge of cleaning, painting, and maintenance chemicals.

Comparison of Bridge Configurations and Design Options

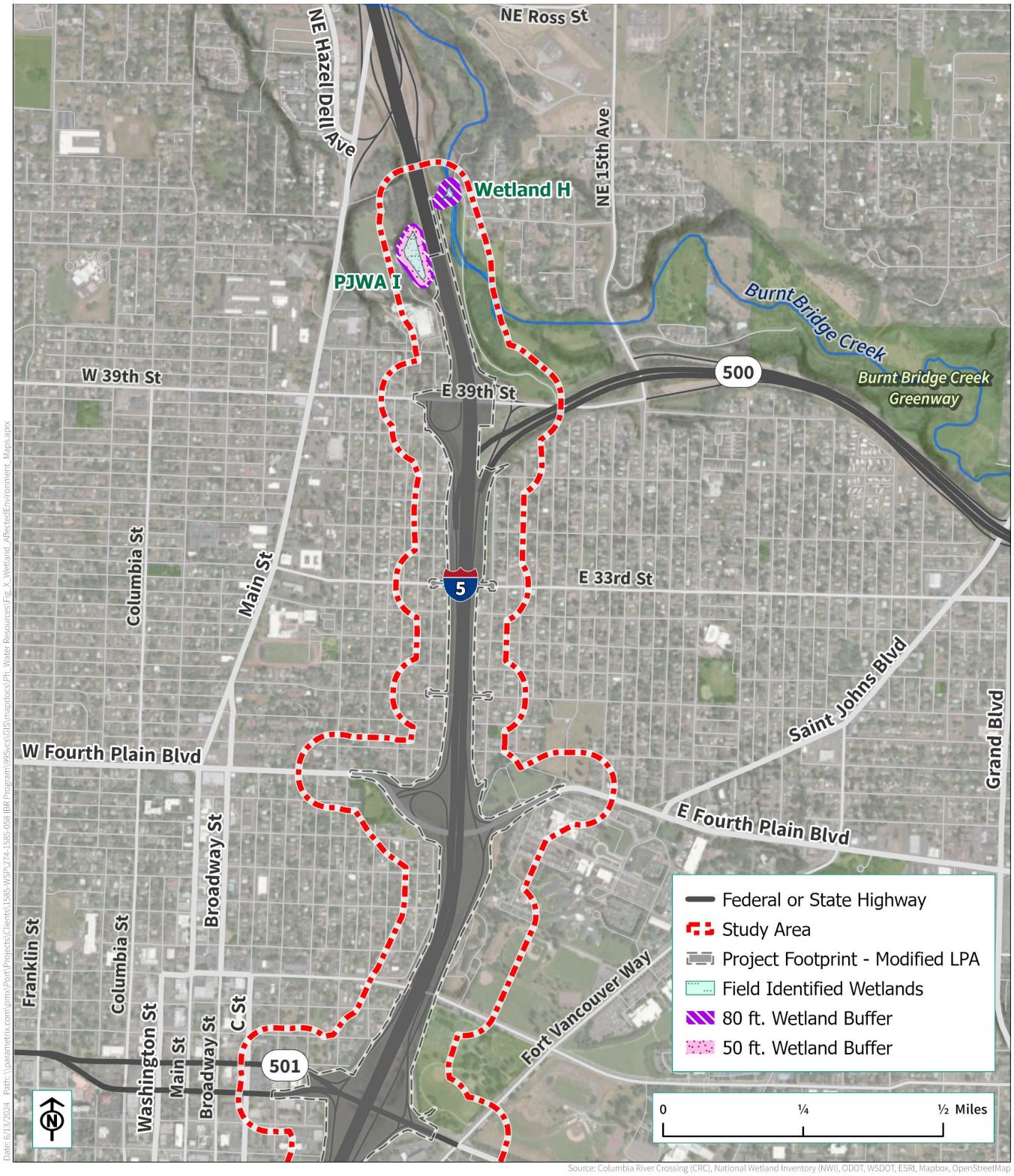
When comparing the No-Build Alternative and the Modified LPA with the double-deck fixed-span configuration, the Modified LPA has more wetland and wetland buffer impacts but less net fill within other waters (Table 3.15-6). The design options of a centered I-5 mainline or westward shift, with or without the SR 14 C Street ramps, and the park-and-ride site options would not result in different effects to wetlands and other waters. All of the Modified LPA bridge configurations would have the same amounts of direct, temporary, or indirect wetland and wetland buffer impacts. However, the bridge configurations would have differing amounts of fill to other waters, as discussed above and shown in Table 3.15-6.

Figure 3.15-4. Modified LPA Filling or Reduction of Wetlands and Other Waters – Oregon



Source: CRC Wetland Data (2011); City of Portland (2023)

Figure 3.15-5. Modified LPA Filling or Reduction of Wetlands and Other Waters – Washington



Source: CRC Wetland Data (2011)

Table 3.15-6. Long-Term Effects Comparison of Alternatives and Bridge Configurations

Alternative and Bridge Configuration	Wetlands (acres)	Wetland Buffers (acres)	Other Waters (acres)	Other Waters - Net Change (acres)
No-Build Alternative	0	0	0	0
Modified LPA with Double-Deck Fixed-Span Configuration [a]	0.58	7.39	0.91 (fill) - 1.04 (removal)	-0.13 (restoration)
Modified LPA with Single-level Fixed-Span Configuration [a, b]	0.58	7.39	1.07 (fill) -1.04 (removal)	0.03 (loss)
Modified LPA with Single-level Movable-Span Configuration [a]	0.58	7.39	1.11 (fill) -1.04 (removal)	0.07 (loss)

Data are approximate and have been rounded.

a Effects would be the same with one or two auxiliary lanes.

b Effects would be the same for all single-level fixed-span bridge type options

3.15.4 Temporary Effects

Construction of the Modified LPA would include construction of the new bridges and removal of the existing Interstate Bridge. The temporary effects analysis includes areas where construction activities would occur outside of the permanent project footprint. Temporarily affected areas were assumed to be restored following construction, with functions returning to pre-construction performance after a period of time. The time to be considered at pre-construction performance varies by agency and can be as long as two years or as short as six months depending on the individual agency's guidance.

No-Build Alternative

The No-Build Alternative would not result in temporary effects on wetlands or other waters.

Modified LPA

Wetlands

In Oregon, approximately 2.56 acres of wetlands (Wetland L/M, Wetland R, Wetland S, Wetland T, and Wetland U) and 7.11 acres of wetland buffer would have a temporary disturbance to wetland vegetation due to construction activities.

In Washington's Burnt Bridge Creek watershed, approximately 1.19 acres of wetland buffer at Wetland H and PJWA I would have a temporary disturbance to wetland vegetation due to construction activities.

Other Waters

Temporary effects on the North Portland Harbor and the Columbia River would vary depending on the specific in-water construction methods used to construct the new bridge structures and deconstruct the existing bridge structures. Temporary effects could include fill for temporary piles to support construction platforms and work trestles. For further discussion, refer to Section 3.14, Water Quality and Hydrology.

In the Columbia River, the Modified LPA with the double-deck fixed-span configuration would temporarily displace approximately 1.52 acres of in-water area, with about 86% of these effects resulting from the use of cofferdams during construction and demolition. Construction of either the single-level fixed-span (all bridge type options) or the single-level movable-span configuration would have similar temporary effects, with the

exception of slightly more in-water area temporarily displaced within cofferdams (an increase of approximately 0.42 acre compared to the double-deck fixed-span configuration).

In North Portland Harbor, approximately 0.40 acres of benthic habitat would be temporarily displaced, with approximately 60% of these effects resulting from drilled shaft isolation casings.

The Burnt Bridge Creek waterway may be temporarily affected from increased turbidity and loss of canopy cover related to construction of the Modified LPA, depending on the specific construction methods employed.

3.15.5 Indirect Effects

Indirect effects from the Modified LPA on wetlands and other waters of the state and U.S. could be caused by the following:

- As described in Section 3.4.4, the Modified LPA is likely to facilitate denser urban development in accordance with local and regional land use plans, particularly in areas with new light rail transit service. Such development could result in the loss of wetland buffers, along with increased public access to wetland areas resulting from increased multimodal access points to these areas. These indirect effects may introduce nuisance plant species and disrupt wildlife activity and other functions performed by existing wetlands.
- Changes could occur in runoff entering wetlands as a result of increases in impervious surfaces and requirements to capture and treat the resulting stormwater runoff. These changes may result in alterations in hydrologic inputs; however, stormwater treatment would have positive indirect effects on water quality in wetlands and other waters.

In addition, the No-Build Alternative would continue to discharge untreated stormwater within the study area into wetlands and other waters.

For further discussion of indirect effects on hydrologic, wildlife, or plant effects from the Modified LPA, refer to Section 3.14, Water Quality and Hydrology, and Section 3.16, Ecosystems.

3.15.6 Potential Avoidance, Minimization, and Compensatory Mitigation Measures

Long-Term Effects

Regulatory Requirements

- Develop the Modified LPA consistent with the applicable federal, state, and local agency regulatory mitigation related to filling or removing material in wetlands and other waters of the U.S. and state.
- Prepare a compensatory mitigation plan that satisfies applicable federal, state, and local regulatory requirements, and that demonstrates no net loss of function and values of wetland resources.

Program-Specific Mitigation

- Continue to evaluate mitigation to offset losses of wetland and waters functions and values, including wetland buffers, as the Modified LPA design progresses.
- In cooperation with federal, state, and local agencies, tribes, and conservation groups, identify agency-approved compensatory mitigation banks and potential permittee responsible mitigation (PRM) sites in both Oregon and Washington to fulfill the compensatory requirements for permanent, temporary, and indirect impacts.

- For unavoidable impacts to Vanport wetlands, increased mitigation ratios would be required because it is an existing wetland mitigation site.

Temporary Effects

Regulatory Requirements

- Implement appropriate high visibility/exclusionary fencing around avoided wetlands and other waters prior to the start of construction.
- Implement appropriate sediment and erosion control procedures during construction activities.
- Replace vegetation temporarily cleared for construction activity in accordance with local regulatory guidance.
- Avoid working outside of the in-water work window without first seeking an exception.
- Offset unavoidable temporary impacts that cannot be minimized through best management practices through the purchase of credits from a mitigation bank or PRM, similar to the mitigation used for certain long-term effects.

Program-Specific Mitigation

- Avoid and minimize short-term impacts to wetland resources in final design to the extent practicable.
- Restore temporarily disturbed wetland and wetland buffer habitats consistent with applicable regulatory requirements.