

**Appendix P**

**I-205 Toll Project Wetlands and  
Water Resources Technical  
Memorandum**

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# Wetlands and Water Resources Technical Memorandum

<b>Date</b>	February 2023
<b>To</b>	Carol Snead (ODOT)
<b>From</b>	HDR and WSP
<b>CC</b>	Mandy Putney (ODOT), Heather Wills (WSP), Nicole McDermott (WSP)
<b>Subject</b>	Wetlands and Water Resources Technical Memorandum

## 1 Introduction

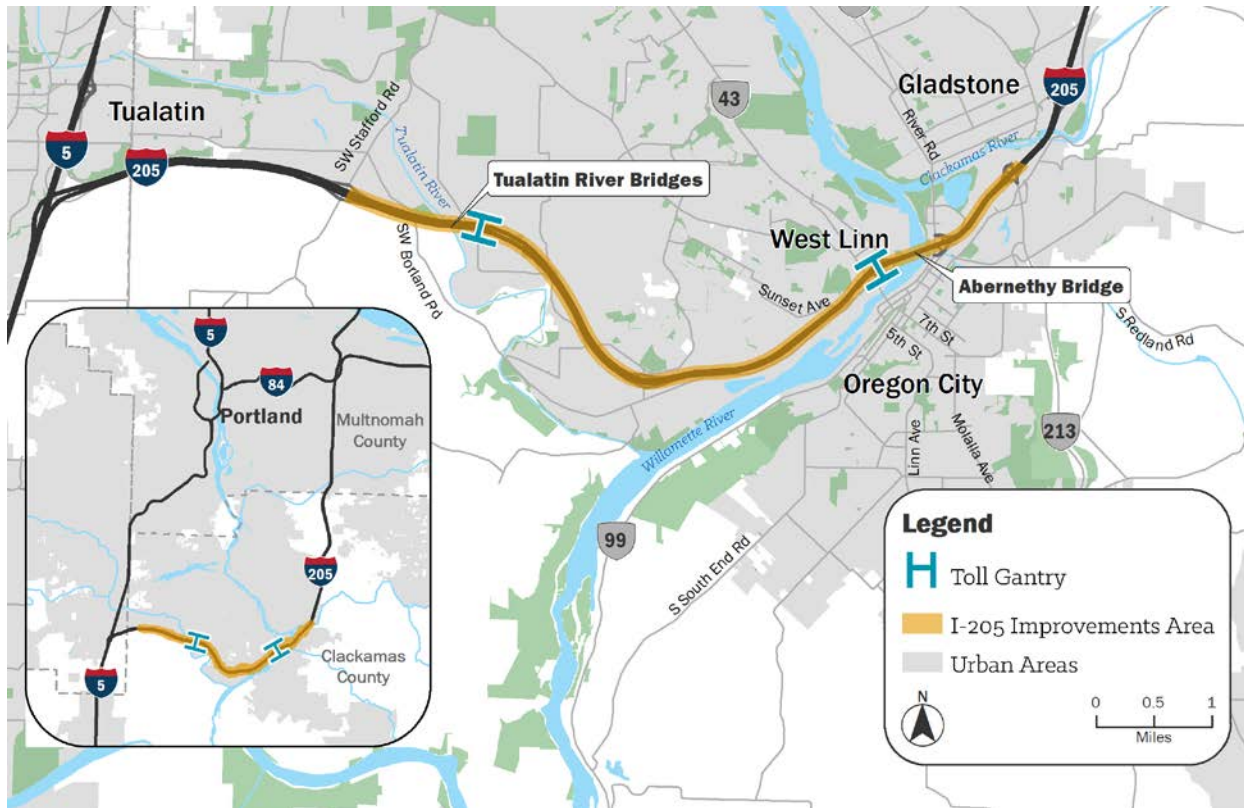
This technical memorandum supports the I-205 Toll Project Environmental Assessment developed by the Oregon Department of Transportation (ODOT) in partnership with the Federal Highway Administration (FHWA). ODOT proposes to use variable-rate tolls<sup>1</sup> on the Interstate 205 (I-205) Abernethy Bridge and Tualatin River Bridges to raise revenue for construction of planned improvements to I-205 from Stafford Road to Oregon Route (OR) 213, including seismic upgrades and widening, and to manage congestion. The environmental assessment evaluates the effects of variable-rate tolls and the toll-funded I-205 improvements (together, the “Project”) on the human and natural environment in accordance with the National Environmental Policy Act (NEPA). The Project area is illustrated in Figure 1-1.

This technical memorandum describes the existing conditions for wetlands and water resources, discusses the impacts and benefits the Project would have on those conditions, and identifies measures to avoid, minimize, and/or mitigate adverse effects.

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<sup>1</sup> Variable-rate tolls are fees charged to use a road or bridge that vary based on time of day and that can be used as a strategy to shift demand to less congested times of day.

Figure 1-1. I-205 Toll Project Area



## 2 Project Alternatives

ODOT evaluated two alternatives in the I-205 Toll Project Environmental Assessment and this technical memorandum:

- No Build Alternative
- Build Alternative

Figure 2-1 depicts the existing condition and the proposed lane configuration of I-205 through the Project area for the No Build Alternative and Build Alternative.

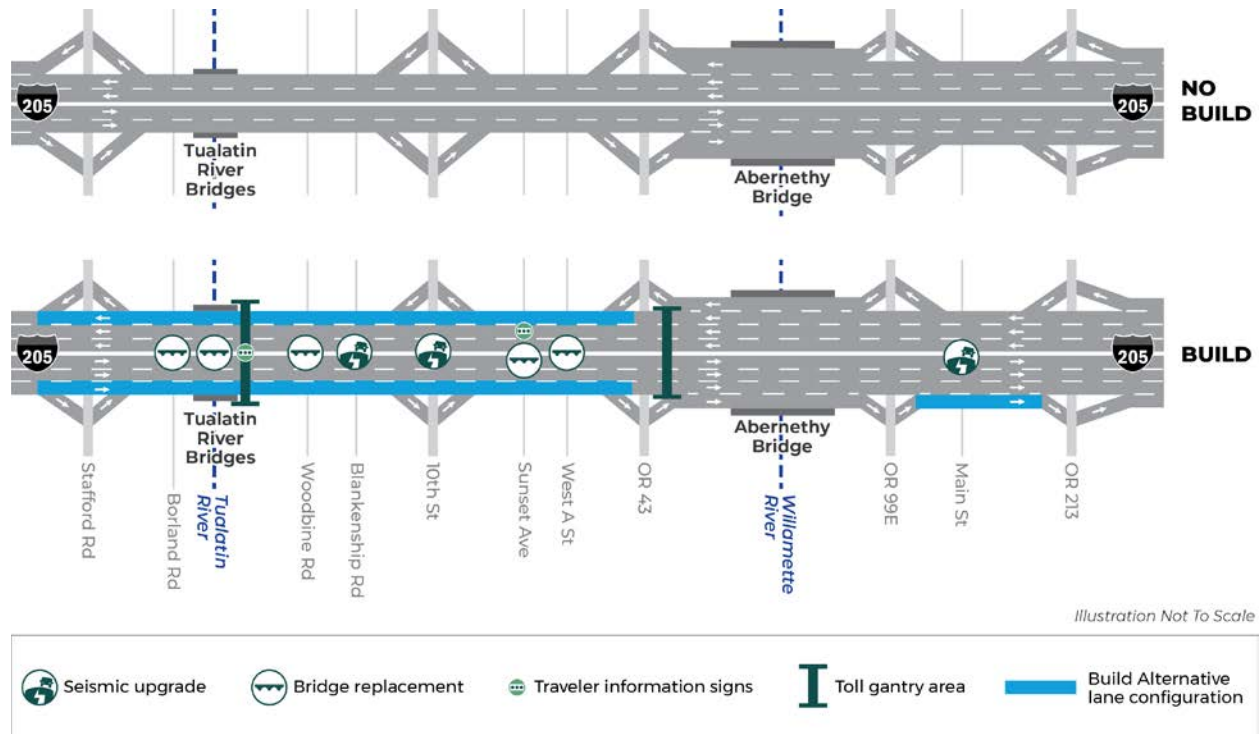
### 2.1 No Build Alternative

NEPA regulations require an evaluation of a No Build Alternative to provide a baseline to compare with the potential effects of a Build Alternative. The No Build Alternative consists of existing transportation infrastructure and any planned improvements that would occur regardless of the Project. The No Build Alternative includes the I-205: Phase 1A Project (reconstruction of the Abernethy Bridge with added auxiliary lanes and improvements to the adjacent interchanges at OR 43 and OR 99E) as a previously approved project that would be constructed by 2025. Under the No Build Alternative, tolling would not be implemented and the toll-funded widening and seismic improvements on I-205 between Stafford Road and OR 213 would not be constructed.

## 2.2 Build Alternative

Under the Build Alternative, drivers of vehicles on I-205 would be assessed a toll for crossing the Abernethy Bridge (between OR 43 and OR 99E) and for crossing the Tualatin River Bridges (between Stafford Road and 10th Street). The Build Alternative includes construction of a third through lane in each direction of I-205 between the Stafford Road interchange and the OR 43 interchange, a northbound auxiliary lane between OR 99E and OR 213, toll gantries and supporting infrastructure, as well as replacement of or seismic upgrades to multiple bridges along I-205 (shown schematically in Figure 2-1).

Figure 2-1. Schematic Diagrams of No Build and Build Alternatives



The following sections provide a more detailed description of the Build Alternative.

### 2.2.1 Bridge Tolls: Abernethy and Tualatin River Bridges

Under the Build Alternative, ODOT could begin tolling as early as December 2024, before the completion of construction of Project improvements to I-205. Two areas have been identified for placement of the toll gantries and supporting infrastructure. The toll gantries and supporting infrastructure would be located entirely within the existing I-205 right-of-way. Tolling would consist of an all-electronic system that would automatically collect tolls from vehicles traveling on the highway. Toll gantries would consist of vertical columns on the outside of the travel lanes and a horizontal structure that spans the travel lanes; electronic tolling equipment would be attached to the horizontal structure.

### 2.2.2 Improvements to I-205

Under the Build Alternative, a 7-mile portion of I-205 would be widened between Stafford Road and OR 213, with added through lanes between Stafford Road and OR 43, and a northbound auxiliary lane

from OR 99E to OR 213. Eight bridges between Stafford Road and OR 213 would be replaced or reconstructed to withstand a major seismic event. New drainage facilities would be installed in both directions of I-205.

### **Bridge Reconstructions and Replacements**

The following bridges would be reconstructed with foundation improvements and substructure upgrades for seismic resiliency but would not be replaced:

- Northbound I-205 bridge over Blankenship Road – Mile Post (MP) 5.84
- Southbound I-205 bridge over Blankenship Road – MP 5.90
- Northbound I-205 bridge over 10th Street (West Linn) – MP 6.40
- Southbound I-205 bridge over 10th Street (West Linn) – MP 6.42
- I-205 bridge over Main Street (Oregon City) – MP 9.51

The following bridges would be replaced to meet seismic design standards and to facilitate the widening of I-205:

- Northbound I-205 bridge over SW Borland Road – MP 3.82
- Southbound I-205 bridge over SW Borland Road – MP 3.81
- Northbound I-205 bridge over the Tualatin River – MP 4.1
- Southbound I-205 bridge over the Tualatin River – MP 4.08
- Northbound I-205 bridge over Woodbine Road – MP 5.14
- Southbound I-205 bridge over Woodbine Road – MP 5.19
- Sunset Avenue (West Linn) bridge over I-205 – MP 8.28
- West A Street (West Linn) bridge over I-205 – MP 8.64

The I-205 bridges over 10th Street and Blankenship Road would be widened and raised to meet the proposed new highway grade. The I-205 bridges over the Tualatin River and SW Borland Road would be replaced on a new alignment between the existing northbound and southbound directions to accommodate construction. The I-205 bridges over Woodbine Road would be replaced on the existing alignment and raised to meet the proposed new highway grade. The Broadway Street Bridge over I-205 would be removed to enhance the function of the OR 43 interchange.

### **2.2.3 Construction**

Construction of the Build Alternative is expected to last approximately 4 years, beginning in late 2023 with construction of toll gantries and toll-related infrastructure and continuing from 2024 through 2027 with construction of I-205 widening and seismic improvements. Most toll-related construction would be conducted alongside I-205 within the existing right-of-way. For highway widening, it is anticipated that construction would be sequenced to widen one direction of I-205 at a time, enabling traffic to be moved to a temporary alignment while the remaining widening work is completed. Construction activities would include adding temporary crossover lanes to enable access to the temporary traffic configurations during roadway widening. Staging areas for construction equipment and supplies for the Build Alternative would be located primarily in the median of I-205 in ODOT right-of-way.

## 3 Regulatory Framework

The following federal, state, and local laws, regulations, plans, policies, and guidance documents informed the assessment of wetlands and water resources:

- Federal
  - National Environmental Policy Act of 1969
  - Federal Highway Administration NEPA-implementing regulations, Environmental Impact and Related Procedures (23 Code of Federal Regulation [C.F.R.] Part 771)
  - Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 C.F.R. Part 332)
  - Clean Water Act (Water Pollution Control Act of 1972 and Amendments; 33 United States Code [U.S.C.] Section 1251 et seq.), and associated regulations codified at 40 C.F.R. and 33 C.F.R
  - Rivers and Harbors Act of 1899 (33 U.S.C. Section 407)
  - Executive Order 11990 – Protection of Wetlands, 1977
  - Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 C.F.R. Part 332)
  - Council on Environmental Quality regulations (40 C.F.R. Parts 1500–1508)
- State
  - Oregon’s Statewide Planning Goals and Guidelines (Oregon Administrative Rule [OAR] 660-015-0000)
  - Oregon Highway Plan, 1999
  - ODOT Environmental Impact Statement Annotated Template, 2010
- Regional and Local
  - Metro plans and reports including, but not limited to, the Metro Region 2040 Concept Plan, Metro Urban Growth Management and Functional Plan, and the Metro 2018 Urban Growth Report
  - Clackamas County Zoning and Development Ordinance
  - City of West Linn Comprehensive Plan, Community Development Code, and applicable neighborhood plans
  - Oregon City Comprehensive Plan and Municipal Code

## 4 Methodology

### 4.1 General Approach

The Project team evaluated the affected environment (existing conditions), potential effects under the No Build and Build Alternatives, and mitigation measures for wetlands and water resources.

## **4.2 Area of Potential Impact**

The Area of Potential Impact (API) for wetlands and water resources is within 100 feet of the edge of existing I-205 right-of-way between the Stafford Road and OR 213 interchanges, as shown in Figure 5-1.

## **4.3 Describing the Affected Environment**

The following data sources were consulted to determine and describe the existing conditions of wetlands and water resources within the API, which were previously documented for the I-205 Improvements Project:

- National Wetland Inventory data from U.S. Fish and Wildlife Service (USFWS)
- National Hydrography Dataset from U.S. Geological Survey (USGS)
- Soil Survey Geographic Database from the National Resource Conservation Service
- Local climate data from National Resource Conservation Service and National Oceanic and Atmospheric Administration's National Marine Fisheries Service
- Willamette River Ordinary High Water Mark (OHWM)<sup>2</sup> data from the U.S. Army Corps of Engineers (USACE)
- Aerial imagery from Google Earth and the U.S. Department of Agriculture
- Goal 5 wetland inventory mapping and documentation from the Cities of Oregon City and West Linn, Clackamas County, and Metro
- Wetlands and Waterbodies Delineation Report and Oregon Department of State Lands (DSL) concurrence letter (WD#2018-0209) for I-205 Improvements Stafford Road to OR 213 Project (HDR 2018)

Analysts conducted a desktop assessment to document the presence, approximate extent, and condition of wetlands and water resources within the API. The desktop assessment was based primarily upon existing USFWS National Wetlands Inventory and USGS National Hydrography Dataset data but was cross referenced against existing soil survey data, USACE OHWM data, and recent aerial imagery.

Additional information on wetlands and water resources located within the API was obtained by contacting state and federal agencies with jurisdiction over these resources, including USACE and Oregon DSL. The Project Team also consulted these agencies for input concerning potential project effects on wetlands and water resources (if any) to identify and develop appropriate mitigation if necessary.

Local jurisdictions including the Cities of Oregon City and West Linn, Clackamas County, and Metro were also contacted to identify local wetland or water resource inventory data that these agencies may maintain, including Goal 5 wetland inventory mapping and documentation.

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<sup>2</sup> The OHWM is the highest water level that a water body has reached and maintained long enough to leave visible evidence on the landscape.



A wetlands and waters delineation was completed in 2017 and 2018 to identify the boundaries of each wetland and waterway in the API, including each waterway's OHWM (HDR 2019). On February 21, 2019, Oregon DSL issued a wetland delineation concurrence (WD#2018-0209) for the I-205 Improvements Project, which covers most of the API. When the design is advanced, it may be necessary to conduct field investigations in the locations of any proposed ground-disturbing activities if these areas are not within the limits of the area covered by the existing Oregon DSL delineation concurrence.

## **4.4 Effect Assessment Methods**

The impacts analysis evaluates short-term (construction) direct effects, long-term direct effects, and cumulative effects for wetlands and water resources for the No Build Alternative and Build Alternative, as described in the following sections.

### **4.4.1 Direct Effects Assessment Methods**

The analysis of potential direct short-term wetlands and water resources effects that would occur during Project construction considered the following:

- Temporary construction-related effects on water quality and on wetlands and surface waters
- Temporary construction-related effects on vegetation and ground-disturbance effects on wetlands and surface waters.

The analysis of direct long-term effects on wetlands and water resources resulting from the Project considered the following:

- Direct loss of wetlands or water resources due to fill placement
- The potential for effects of hydrologic and geomorphic factors, such as flow conveyance, sedimentation, and erosion, in wetlands and surface waters
- The potential for effects on water quality such as increased delivery of suspended solids and contaminants, and limiting nutrients (phosphorus and nitrogen)
- The potential for changes in stormwater runoff from an increase in contributing impervious area and the addition of stormwater facilities.

### **4.4.2 Cumulative Effects Assessment Methods**

The *I-205 Toll Project Cumulative Impacts Technical Report* includes an analysis of the Project's potential to contribute to cumulative impacts on wetlands and water resources. Therefore, cumulative impacts are not discussed in this technical memorandum.

## **4.5 Mitigation Approach**

The Project would avoid and/or mitigate most anticipated direct and impacts. Mitigation measures, if required, were developed using applicable agency-based regulations and guidance for those agencies with jurisdiction. For impacts on wetlands and water resources, the approach to mitigation common to federal, state, and local agency guidance is a requirement for a mitigation sequencing process that begins with avoidance and minimization of impacts to the extent practicable, followed by compensatory mitigation for any unavoidable impacts.

## 5 Affected Environment

Water resources in the API include the Tualatin River, Willamette River, McLean Creek, Abernethy Creek, Athey Creek, Tanner Creek, Wilson Creek, wetlands, and several unnamed streams and ditches, as shown in Figure 5-1. Within the API, 33 wetlands, 16 waterways, and 4 ditches were determined to be under the jurisdiction of the USACE and/or Oregon DSL (HDR 2019). Wetlands, rivers, creeks, and streams in the API may also include regulatory buffers to protect the functions of the water resource. Buffer widths would vary based on the quality of the resource and surrounding conditions and would be determined during development permitting.

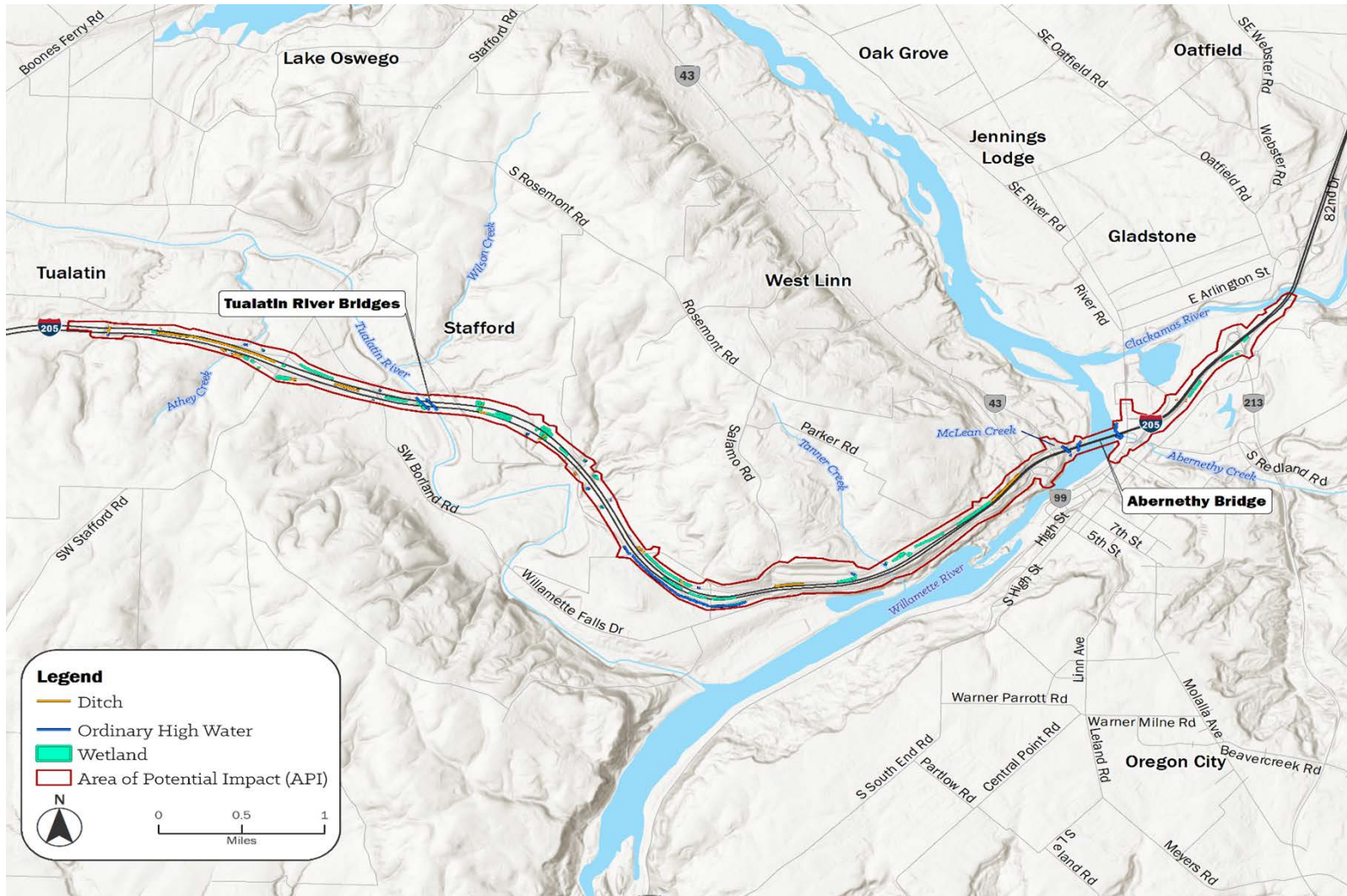
Portions of the existing Tualatin River Bridges are located within the active river channel, including two piers supporting the northbound bridge and two piers supporting the southbound bridge. The total area occupied by the existing bridge structures is approximately 1,350 square feet (0.03 acre) and the volume is approximately 1,900 cubic yards

There are approximately 45 acres of contributing impervious area<sup>3</sup> in the wetlands and water resources API. Many of the wetlands in the API receive stormwater runoff from existing roadways. Stormwater runoff from I-205 is collected through conveyance systems that outfall to the Willamette and Tualatin Rivers and their tributaries. There are three existing stormwater facilities in the API that treat runoff from a total of 1.49 acres of impervious area. This leaves runoff from approximately 43.5 acres of impervious area in the API that goes untreated.

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<sup>3</sup> *Contributing impervious area* consists of all impervious surfaces within a project's limits, plus impervious surface owned or operated by ODOT outside the project limits that drain to the project via direct flow or discrete conveyance (ODOT n.d.).

Figure 5-1. Wetlands and Waters in the Wetlands and Water Resources Area of Potential Impact



Source: 2019 Wetland and Waters Delineation Report (HDR 2019)

## 6 Environmental Consequences

### 6.1 No Build Alternative

Under the No Build Alternative, the existing bridge structure within the Tualatin River would remain as is. No short-term or long-term impacts on wetlands or water resources would occur. No water quality facilities would be constructed to capture or treat additional stormwater runoff, and runoff from the existing approximately 43.5 acres of impervious area would continue to be untreated.

### 6.2 Build Alternative

#### 6.2.1 Short-Term Effects

Under the Build Alternative, in-water work would be required below the OHWM of the Tualatin River to replace the existing bridges. Work within the actively flowing channel would be limited. Turbidity control measures such as floating turbidity curtains may be used during construction to address temporary increases in turbidity and potential sediment transport, thereby minimizing effects on water quality. The total area occupied by temporary pile below the OHWM would be approximately 700 square feet (0.02 acre), which would be removed after bridge work is completed. The volume of temporary pile would be approximately 3,000 cubic yards below the OHWM. Widening I-205 under the Build Alternative could also encroach upon up to seven streams and associated stream buffers that I-205 crosses or is adjacent to in the API. Most of these streams flow under I-205 in culverts and therefore would not be affected by the widening. If ODOT identifies stream and stream buffer impacts as the Project design progresses, ODOT would obtain appropriate approvals and permits with regulatory agencies.

Approximately 38,000 square feet (0.9 acre) of temporary wetland fill is anticipated during construction to accommodate construction vehicle access and traffic control. The total volume would be approximately 1,500 cubic yards of fill. This fill could temporarily reduce functions provided by wetlands, including water storage, sediment retention, and wildlife habitat. After construction is complete, temporarily affected wetlands, streams, and buffers would be restored or enhanced in accordance with agency permits and approvals (see Section 7).

Vegetation removal and soil compaction from construction machinery, excavation, and demolition could result in temporary sediment increases in stormwater runoff. However, the following construction best management practices would be implemented during construction to avoid these actions or minimize negative effects on water quality in receiving waterbodies: creating no-work zones and installing protective measures around wetlands and other waters, turbidity curtains or cofferdams, and treating construction discharge water.

#### 6.2.2 Long-Term Effects

Approximately 51,000 square feet (1.2 acres) of wetlands would be permanently filled under the Build Alternative to allow for I-205 widening. The total impact volume would be approximately 5,000 cubic yards of fill. Permanent loss of wetlands can result in a decrease in water quality functions such as sediment retention and a decrease in hydrologic functions such as water storage. Other effects from permanent wetland loss include loss of fish and wildlife habitat and decreased function in water temperature regulation.

The existing bridge piers occupy an area of approximately 1,350 square feet (0.03 acre), which would be removed and replaced with new permanent structures that would occupy the same area below the OHWM of the Tualatin River. However, the two existing piers are located closer to the banks of the river, while the new piers would be placed between the existing pier locations, closer to the middle of the river, which would change the location of available habitat area. The total volume of permanent effects below the OHWM would include 2,150 cubic yards of fill and 1,900 cubic yards of removal, resulting in a net fill of approximately 250 cubic yards. Permanent impacts on wetlands, streams, and buffers would be mitigated in accordance with federal, state, and local permits and approvals (see Section 7).

The total amount of impervious area contributing to stormwater runoff under the Build Alternative would be approximately 100 acres, leading to more stormwater runoff than there would be under the No Build Alternative. Any new or reconstructed impervious surfaces, as well as any ODOT-controlled impervious surface areas that drain onto the reconstructed surfaces, would require stormwater treatment. Stormwater facilities would be constructed as part of the Build Alternative to address stormwater management requirements for water quality and quantity in accordance with the FAHP Programmatic (NMFS 2021) and associated design standards (ODOT and FHWA 2016). These design standards require stormwater facilities, including biofiltration swales and detention ponds, which would treat stormwater runoff from approximately 80 acres of impervious areas in the API, leaving approximately 20 acres of impervious area without stormwater treatment. Therefore, the Build Alternative would provide a net benefit to water quality in receiving water bodies over the No Build Alternative.

### 6.3 Summary of Effects

Table 6-1 provides a comparison of anticipated effects on wetlands and water resources by alternative.

**Table 6-1. Summary of Wetlands and Water Resources Effects by Alternative**

Effects	No Build Alternative	Build Alternative
Short-Term	<ul style="list-style-type: none"> <li>None</li> </ul>	<ul style="list-style-type: none"> <li>Potential temporary increases in turbidity and potential sediment transport in the Tualatin River during in-water work</li> <li>0.02 acre/3,000 cubic yards temporary fill in the Tualatin River from work bridge piling</li> <li>0.9 acre/1,500 cubic yards temporary wetland fill for construction access and traffic control</li> </ul>
Long-Term	<ul style="list-style-type: none"> <li>Continued untreated stormwater runoff from approximately 43.5 acres of impervious area</li> </ul>	<ul style="list-style-type: none"> <li>0.03 acre/250 cubic yards of net fill below the Tualatin River OHWM</li> <li>1.2 acre/5,000 cubic yards permanent wetland fill due to roadway widening</li> <li>Untreated stormwater runoff from approximately 20 acres of impervious area</li> </ul>

OHWM = ordinary high water mark

## 7 Avoidance, Minimization, and/or Mitigation Commitments

Construction contractors would be required to meet *Oregon Standard Specifications for Construction* as well as federal, state, and local permit requirements, all of which would require the implementation of BMPs during construction to avoid and minimize impacts on wetlands and water resources (ODOT 2021). Impacts on wetlands and waters would require permits and approvals from U.S. Army Corps of Engineers (Section 404 Permit), Oregon Department of State Lands (Removal-Fill Permit), DEQ (401 Water Quality Certification), City of West Linn, and Clackamas County. Appropriate mitigation would be specified in these permit and approval processes. Compensatory mitigation for permanent, unavoidable impacts could include the purchase of mitigation bank credits,<sup>4</sup> on-site restoration, or other methods as determined in the permitting process.

## 8 References

- HDR. 2018. Wetlands and Waterbodies Delineation Report and DSL concurrence letter (WD#2018-0209) for I-205 Improvements Stafford Road to OR 213 Project.
- HDR. 2019. *WD # 2018-0209 Wetland Delineation Report for K19786 I-205 Corridor Widening*; Clackamas County; T2S R1W Sec. 25; T2S R1E Sec. 27, 28, 29, 30, 34, 35, and 36; T2S R2E Sec. 16, 20, 29, 30, and 31, in ROW and Many Tax Lots.
- National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2021. Reinitiation of the Endangered Species Act Programmatic Biological Opinion and Magnuson-Stevens Act Essential Fish Habitat Response for the Federal-Aid Highway Program in the State of Oregon (FAHP). [https://www.oregon.gov/odot/GeoEnvironmental/Documents/FAHP\\_NMFS-Bio-Opinion.pdf](https://www.oregon.gov/odot/GeoEnvironmental/Documents/FAHP_NMFS-Bio-Opinion.pdf). Accessed October 12, 2022.
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- Oregon Department of Transportation (ODOT) and Federal Highway Administration (FHWA). 2016. *FAHP Programmatic User's Guide*. <https://www.oregon.gov/odot/GeoEnvironmental/Documents/FAHP-Users-Guide-Update.pdf>. Accessed October 18, 2022.
- Washington State Department of Ecology. No date (n.d.). *Wetland Mitigation Banking*. <https://ecology.wa.gov/Water-Shorelines/Wetlands/Mitigation/Wetland-mitigation-banking>. Accessed October 7, 2022.

<sup>4</sup> A wetland mitigation bank is a site where wetlands are restored, created, enhanced, or preserved for the specific purpose of providing compensatory mitigation in advance of unavoidable impacts on wetlands from a development project. Mitigation banks provide the option of purchasing credits to offset the unavoidable impacts of a project (Washington State Department of Ecology n.d.).