

Bridge Location Selection Summary



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Prepared for the City of Wilsonville



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TABLE OF CONTENTS

Introduction.....	3
Alignment W1	3
Connectivity and Safety	4
Emergency Access.....	5
Environmental Impacts	5
Compatibility with Recreational Goals.....	6
Compatibility with Built Environment.....	7
Cost and Economic Impact	7
Alignment W2	8
Connectivity and Safety	9
Emergency Access.....	9
Environmental Impacts	10
Compatibility with Recreational Goals.....	10
Compatibility with Built Environment.....	11
Cost and Economic Impact.....	12
Alignment W3	13
Connectivity and Safety.....	13
Emergency Access	14
Environmental Impacts	14
Compatibility with Recreational Goals.....	15
Compatibility with Built Environment.....	15
Cost and Economic Impact.....	16
Scoring of Alignments	17
TAC Scoring.....	17
Task Force Scoring	18
Conclusion	19

List of Figures

Figure 1. Alignment Alternatives21

APPENDICES

Appendix A Evaluation Criteria Scoring

Appendix B Opportunity and Constraint Figures

Introduction

The City of Wilsonville is undertaking a project to develop preliminary designs for the French Prairie Bridge, a proposed bicycle/pedestrian/emergency vehicle crossing of the Willamette River between Interstate 5 (I-5) and the Portland and Western Railroad bridge. The project addresses bridge location, bridge type selection, 30% design, and preliminary environmental documentation.

Three locations have been conceptually developed for analysis. Following selection of a preferred location, the project team will analyze and select a preferred bridge type, and then proceed to complete preliminary environmental documentation in preparation for a future Environmental Assessment.

Prior to preparation of this report, the project team performed preliminary investigations of the project site and compiled the resulting information into reports. These reports were prepared using the project team's best judgement, and were supplemented with guidance offered by the Technical Advisory Committee (TAC). This information is summarized in the Opportunities and Constraints Report.

Following development of the Opportunities and Constraints Report, the project team, with input from the TAC, Task Force, an open house, Wilsonville City Council, and Clackamas County Board of Commissioners, prepared a list of criteria to evaluate the relative merits of each location. These criteria are based on the needs and values of the community, including City and County goals. The Task Force assigned relative weighting to the criteria to provide for a quantitative comparison of the locations. This work is summarized in the Evaluation Criteria Memo.

This Location Selection Summary is a capstone document for determining the preferred bridge location using the information prepared in the technical reports, Opportunities and Constraints Memo, and Evaluation Criteria Memo. This qualitative discussion has been prepared considering the Evaluation Criteria Memo and its quantitative scoring guidance to determine which location, as a whole, best meets the varied needs and values of the City of Wilsonville and the region.

The discussion below is grouped by location and then by evaluation criteria with an explanation of how the quantitative score for that portion of the evaluation was reached.

The quantitative evaluation criteria and resulting alignment evaluation scores from both the TAC and the Task Force are included in Appendix A. The figures depicting the project's opportunities and constraints are included in Appendix B.

Alignment W1

Alignment W1 is located at the far west edge of the project area, adjacent to the Portland and Western Railroad facility. The north end of the path connects to the west shoulder of SW Boones Ferry Road in Boones Ferry Park. The south end of the path connects to NE Butteville Road, opposite the Boones Ferry Boat Launch parking lot.

The alignment starts closely following the grade and alignment of SW Boones Ferry Road. Near the entrance to the Boones Ferry Park parking lot, the alignment begins to climb to the elevation required to clear the assumed United States Coast Guard (USCG) navigational clearance (assumed to be the same as the railroad bridge) at a maximum grade of 5%. After crossing over the navigational channel, the alignment descends at approximately a 2% grade. The alignment crosses over the westernmost boat slips of the Boones Ferry Marina and the main parking lot of the Boones Ferry Boat Launch before crossing over NE Butteville Road. After crossing NE Butteville Road, the alignment makes a big sweeping loop at a maximum grade of 5% down to connect to NE Butteville Road.

The path through the W1 alignment corridor is approximately 2,000 feet long. The main span crossing of the Willamette River is approximately 750 feet in length. The total bridge length, including approach spans, is anticipated to be approximately 1,200 feet long. Retaining walls are anticipated to minimize property impacts at both ends of the alignment.

See Figure 1 for a conceptual plan of Alignment W1.

Connectivity and Safety

This criterion is related to the alignment's effectiveness of safely connecting existing and planned pedestrian routes on the two sides of the river.

North Terminal Connection

The alignment connects directly to the existing southbound bike lane on the west shoulder of SW Boones Ferry Road. This bike path connects directly to the planned extension of the Ice Age Tonquin Trail, which extends to Sherwood and Tualatin and connects to trails extending farther north. There are currently no pedestrian accommodations in this area.

The alignment connects to existing local trails to the east by way of SW Tauchman Street. The east end of SW Tauchman Street connects to the Wilsonville Waterfront Trail, which crosses under I-5 and connects to Memorial Park. SW Tauchman Street has no current accommodations for bicycles or pedestrians.

South Terminal Connection

There are no existing bicycle or pedestrian accommodations on the south side of the Willamette River.

The alignment's connection to NE Butteville Road provides opportunity to connect to a planned bicycle and pedestrian path located along the south bank of the Willamette River. This path will cross under I-5 and connect NE Butteville Road to the Charbonneau District. Users will need to pass through the busy area at the Boones Ferry Marina, Boones Ferry Boat Launch, and NE River Vista Lane to connect to this planned path.

The alignment's relatively direct connection to NE Butteville Road provides excellent access to a planned widening of NE Butteville Road to Champoeg State Park and connections to the Willamette Valley Scenic Bikeway, which extends southward to Eugene.

Emergency Access

This criterion is related to the alignment's effectiveness at conveying emergency vehicles across the Willamette River and assessing the impacts of such use on existing land uses.

North Terminal Connection

Alignment W1 offers the most direct route possible from Wilsonville Road to the south side of the Willamette River, connecting to the south end of SW Boones Ferry Road and extending directly south over the river.

South Terminal Connection

Alignment W1 uses a loop to connect to NE Butteville Road. Additionally, the alignment connects at the west end of the project corridor, while most emergency vehicle trips are expected to be headed east towards I-5, Miley Road, and the Charbonneau District.

Impacts to Existing Uses

Alignment W1 is generally routed away from homes. The alignment has limited impacts to Boones Ferry Park users, as it is located in an undeveloped portion of the park. The alignment does not directly affect marina and boat launch users on the south side of the Willamette River, as it crosses overhead, but some noise impacts to marina and boat launch users are expected.

Environmental Impacts

This criterion is related to the anticipated impacts to terrestrial and aquatic habitat, animals and plants, and cultural and historic resources.

Impacts to Terrestrial Habitat and Wildlife

Alignment W1 has some impacts to wooded areas and wildlife habitat. The alignment will impact trees and habitat on the river banks and along the railroad property south of Butteville Road. Beyond these areas, the alignment is located within developed areas and grassy fields.

Impacts to Waters, Wetlands, and Aquatic Wildlife

Alignment W1 minimizes impacts to wetlands, waters, and aquatic wildlife. The impacts to the Willamette River will be minimized. There is the potential to impact some wetland areas within the grassy fields on the south side, but these impacts are anticipated to be minimal.

Impacts to Cultural and Historic Resources

This assessment is based on potential for impacts as identified in the Opportunities and Constraints Report dated April 5, 2017.

Alignment W1 is located in relatively close proximity to the historic location of Boones Ferry and a historic orchard located within Boones Ferry Park. As a result, it is possible that the alignment could impact these known historic resources, though

these resources likely have already been disturbed. There is a moderate to high possibility of encountering pre-contact resources.

Compatibility with Recreational Goals

This criterion is related to how well recreational objectives are achieved. It includes the influence of the bridge on existing and future park uses on both sides of the river.

User Experience

Alignment W1's location at the west edge of the project corridor is as far as practical from the busy I-5 Boone Bridge, minimizing the volume of highway noise heard by bridge users. However, this location is in close proximity to the railroad bridge, and the periodic noise due to railroad traffic will be loud. The alignment will provide good views downstream, but upstream views may be partially obstructed by the railroad bridge.

The alignment is out in the open for the majority of the path. A portion of the loop may feel secluded because of the proximity of the railroad embankment, but it is a safe and visible alignment.

Alignment W1 accommodates several features that meet or exceed the minimum design standards for the facility. In general, this alignment will provide a very good user experience.

Compatibility with North Bank Recreational Uses

On the north bank of the Willamette River, Alignment W1 is located west of SW Boones Ferry Road. This location places the alignment outside of the developed portion of Boones Ferry Park. The path can be located at either the west or east edge of the portion of the park west of SW Boones Ferry Road, maximizing the possible future uses of that portion of the park.

Compatibility with South Bank Recreational Uses

On the south bank of the Willamette River, Alignment W1 crosses over some of the Boones Ferry Marina boat slips, potentially limiting future flexibility with slip arrangement. The alignment is also elevated above the primary parking lot for the Boones Ferry Boat Launch, possibly affecting the number and arrangement of parking spaces within the lot. In addition to the potential loss of parking spaces, the County is concerned with parking impacts of new path and bridge users. It is expected this project's preliminary and final design will include explicit accommodation of the increased parking demand by providing a designated lot.

River Access

Alignment W1 has no direct influence on river access. The alignment is located near the existing river access at the end of SW Boones Ferry Road on the north bank of the river, creating the best opportunity to bring additional users to the north bank. The alignment is located near the existing Boones Ferry Boat Launch, potentially bringing additional users to the south bank of the river, though river access needs to be coordinated with Boones Ferry Marina operations.

Compatibility with Built Environment

This criterion is related to the potential impacts to the existing built environment and compatibility with future improvements in the immediate vicinity of the bridge alignment. Specific areas of consideration are residences, parks, and the Boones Ferry Marina.

North Terminal Connection

The north terminal connection of Alignment W1 is located on the west side of SW Boones Ferry Road. It is anticipated that the end of the path would connect to SW Boones Ferry Road at or south of SW Tauchman Street. The nearest residences are located east of SW Boones Ferry Road and north of SW Tauchman Street. These residences include underrepresented populations. Users would access the path via SW Boones Ferry Road, which already has some accommodations for bicycle users.

South Terminal Connection

The south terminal connection of Alignment W1 is located over a parking lot and lands in undeveloped or agricultural property south of NE Butteville Road. There is only one residence in proximity to the alignment and it is located approximately 50 feet from the closest approach of the alignment.

Marina Facilities

Alignment W1 crosses over boat slips for the Boones Ferry Marina. The bridge can be configured to be compatible with the existing boat slips and marina usage.

Future Infrastructure Improvements

Alignment W1 is located adjacent to the existing railroad bridge. The alignment requires use of a portion of the existing railroad right of way (ROW). Based on a meeting with the railroad, this alignment will not limit future expansion of railroad facilities. The railroad's primary concern focuses on trespassing and safety. Should this alignment be selected, further coordination would be necessary to determine what, if any, positive barriers between the path and rail line would be required.

Cost and Economic Impact

This criterion is related to the construction cost, anticipated property acquisition and displacements of residences and businesses, required utility relocations, and anticipated economic benefits generated by the bridge crossing.

Estimated Project Cost

A comparative cost analysis was performed for Alignments W1, W2, and W3. All alignments are fairly comparable in relative cost. Though there are other costs, this analysis only compared the relative quantities of bridge, retaining walls, and path required by each alignment along with a qualitative assessment of environmental mitigation. For Alignment W1, the quantities used for this comparison were: 1,200 feet of bridge (800 feet of main span, and 400 feet of approach span); 5,100 square feet of retaining walls; and 850 feet of on-grade path. Environmental mitigation costs are expected to be minor to moderate and are qualitatively considered in this criterion.

At the conclusion of this analysis, Alignment W1 was scored 9 points out of a possible 10.

Anticipated Property Acquisitions and Displacements

Alignment W1 will primarily require transfer of public properties. The portion of the alignment located on the north bank of the river is wholly owned by the City of Wilsonville. On the south bank of the river, easements would be required from Clackamas County and the Oregon Department of Transportation (ODOT). Property acquisition from one private party is anticipated on the south bank.

No residential or business relocations are anticipated for alignment W1.

Impacts to Utilities

Alignment W1 will require the relocation of existing overhead power distribution lines located along NE Butteville Road. The placement of a path and bridge along Alignment W1 will require coordination with an adjacent underground gas line, overhead power transmission lines, and existing water and sewer lines on the north bank.

Economic Benefits

Alignment W1 provides significant potential benefit to the local and regional economies as a result of the good connections to regional trails and parks, and a direct connection to Boones Ferry Road. Some impact from railroad noise is expected.

Alignment W2

Alignment W2 is located roughly in the middle of the project area. The north end of the path connects to the south shoulder of SW Tauchman Street east of SW Magnolia Avenue. The south end of the path connects to NE Butteville Road south of NE River Vista Lane.

The alignment crosses a relatively open portion of Boones Ferry Park. From SW Tauchman Street, the path becomes elevated as it falls at a maximum grade of 5%, while the existing ground underneath falls at close to 10%. The path then begins to climb to the elevation required to clear the assumed USCG navigational clearance at a maximum grade of about 3.5%. After crossing over the navigational channel, the alignment descends at approximately a 2.5% grade. The alignment crosses over the easternmost boat slips of the Boones Ferry Marina. On the south bank of the Willamette River, the path crosses over a portion of the Boones Ferry Marina boat storage and a residential parcel before crossing over NE River Vista Lane. After crossing over NE River Vista Lane, the path turns towards the west and crosses over NE Butteville Road. The path then makes a loop and descends at a maximum grade of 5%, connecting to NE Butteville Road south of NE River Vista Lane.

The path through the W2 alignment corridor is approximately 1,900 feet long. The main span crossing of the Willamette River is approximately 700 feet in length. The total bridge length, including approach spans, is anticipated to be approximately 1,200 feet long. Retaining walls are anticipated to minimize property impacts at both ends of the alignment.

See Figure 1 for a conceptual plan of Alignment W2.

Connectivity and Safety

This criterion is related to the alignment's effectiveness of safely connecting existing and planned pedestrian routes on the two sides of the river.

North Terminal Connection

The alignment connects to SW Tauchman Street, which does not have existing bicycle or pedestrian accommodations. Currently, traffic on SW Tauchman Street at the point of connection is very light, as the only traffic generator is a relatively small number of residences and the wastewater treatment plant.

Path users can follow SW Tauchman Street west to SW Boones Ferry Road. SW Boones Ferry Road connects directly to the planned extension of the Ice Age Tonquin Trail, which extends to Sherwood and Tualatin and connects to trails extending farther north. Path users can follow SW Tauchman Street east to the Wilsonville Waterfront Trail, which crosses under I-5 and connects to Memorial Park.

South Terminal Connection

There are no existing bicycle or pedestrian accommodations on the south side of the Willamette River.

The alignment's connection to NE Butteville Road provides opportunity to connect to a planned bicycle and pedestrian path located along the south bank of the Willamette River. This path will cross under I-5 and connect NE Butteville Road to the Charbonneau District.

The alignment's connection to NE Butteville Road provides access to a planned widening of NE Butteville Road to Champoeg State Park and connections to the Willamette Valley Scenic Bikeway, which extends southward to Eugene. Users will need to pass through the busy area at the Boones Ferry Marina, Boones Ferry Boat Launch, and NE River Vista Lane to make this connection.

Emergency Access

This criterion is related to the alignment's effectiveness at conveying emergency vehicles across the Willamette River and assessing the impacts of such use on existing land uses.

North Terminal Connection

Alignment W2 connects emergency responders from Wilsonville Road across the Willamette River by way of SW Boones Ferry Road and SW Tauchman Street. After turning off of SW Tauchman Street, the path proceeds directly across the Willamette River.

South Terminal Connection

Alignment W2 uses a loop to connect to NE Butteville Road. This loop runs roughly parallel to NE Butteville Road, bringing responders towards I-5. The path is reasonably direct for the majority of emergency vehicle trips, which are anticipated to be headed east towards I-5, Miley Road, and the Charbonneau District.

Impacts to Existing Users

Alignment W2 requires emergency responders to travel down SW Tauchman Street, which has residences located on the north side of the street. The alignment bisects the main portion of Boones Ferry Park, skirting to the east of the main improvements. The alignment does not directly affect residents, marina uses, and boat launch uses on the south side of the Willamette River as it crosses overhead. It is anticipated that noise impacts will be experienced by residents, as well as park and river users along the path alignment.

Environmental Impacts

This criterion is related to the anticipated impacts to terrestrial and aquatic habitat, animals and plants, and cultural and historic resources.

Impacts to Terrestrial Habitat and Wildlife

Alignment W2 avoids most impacts to wooded areas and wildlife habitat. The alignment will impact trees and habitat on the river banks. Beyond the river banks, the alignment is located within developed areas and grassy fields.

Impacts to Waters, Wetlands, and Aquatic Wildlife

Alignment W2 has the practical minimum impacts to wetlands, waters, and aquatic wildlife. The impacts to the Willamette River will be minimized. There is the potential to impact some wetland areas within the grassy fields on the south side, but these impacts are anticipated to be minimal.

Impacts to Cultural and Historic Resources

This assessment is based on potential for impacts as identified in the Opportunities and Constraints Report dated April 5, 2017.

Alignment W2 is located east of the Tauchman House and crosses the Willamette River adjacent to, but east of, the historic location of Boones Ferry. As a result, it is possible that the alignment could impact historic era resources, though these resources likely have already been disturbed. There is a moderate possibility of encountering pre-contact resources, though most areas have been disturbed by historic era activities.

Compatibility with Recreational Goals

This criterion is related to how well recreational objectives are achieved. It includes the influence of the bridge on existing and future park uses on both sides of the river.

User Experience

Alignment W2's location in the middle of the project corridor means that it is not particularly close to either the I-5 Boone Bridge or the railroad bridge. The alignment will provide good views both upstream and downstream.

The alignment is out in the open for the entirety of the path length. This alignment is safe and visible.

Alignment W2 accommodates several features that meet or exceed the minimum design standards for the facility. In general, this alignment will provide a great user experience.

Compatibility with North Bank Recreational Uses

On the north bank of the Willamette River, Alignment W2 bisects Boones Ferry Park. This location places the alignment east of the main developed portion of Boones Ferry Park. The location of the path can be adjusted today to accommodate current uses, but possible future uses of the park will be restricted by the presence of the path.

Compatibility with South Bank Recreational Uses

On the south bank of the Willamette River, Alignment W2 crosses over some of the Boones Ferry Marina boat slips, potentially limiting future flexibility of slip arrangement. The alignment is also elevated above dry boat storage for the Boones Ferry Marina, possibly affecting the number and arrangement of storage spaces within the lot.

River Access

Alignment W2 has no direct influence on river access. It will provide the best view of the river from the bridge. There are limited opportunities to enhance river access on this alignment.

Compatibility with Built Environment

This criterion is related to the potential impacts to the existing built environment and compatibility with future improvements in the immediate vicinity of the bridge alignment. Specific areas of consideration are residences, parks, and the Boones Ferry Marina.

North Terminal Connection

The north terminal connection of Alignment W2 is located in Boones Ferry Park on SW Tauchman Street. Residences are located across SW Tauchman Street from the end of the path. These residences include underrepresented populations. Users would access the path via SW Tauchman Street, which has no accommodations for bicycle or pedestrian use.

South Terminal Connection

The south terminal connection of Alignment W2 is located over a storage yard for the Boones Ferry Marina, two residential properties, and agricultural property. One residence is located immediately adjacent to the alignment, and two other residences are located in proximity to the alignment.

Marina Facilities

Alignment W2 crosses over boat slips for the Boones Ferry Marina. The bridge can be configured to be compatible with the existing boat slips and parking. Impacts are anticipated to marina operations and/or existing marina buildings.

Future Infrastructure Improvements

Alignment W2 does not have an appreciable impact on future expansion of existing infrastructure.

Cost and Economic Impact

This criterion is related to the construction cost, anticipated property acquisition and displacements of residences and businesses, required utility relocations, and anticipated economic benefits generated by the bridge crossing.

Estimated Project Cost

A comparative cost analysis was performed for Alignments W1, W2, and W3. All alignments are fairly comparable in relative cost. Though there are other costs, this analysis only compared the relative quantities of bridge, retaining walls, and path required by each alignment along with a qualitative assessment of environmental mitigation. For Alignment W2, the quantities used for this comparison were: 1,160 feet of bridge (720 feet of main span and 440 of approach span); 11,400 square feet of retaining walls; and 740 feet of on-grade path. Environmental mitigation costs are expected to be minor to moderate and are qualitatively considered in this criterion.

At the conclusion of this analysis, Alignment W2 was scored 9 points out of a possible 10.

Anticipated Property Acquisitions and Displacements

Alignment W2 will primarily require transfer of public properties. The portion of the alignment located on the north bank of the river is wholly owned by the City of Wilsonville. On the south bank of the river, easements would be required from Clackamas County. Property acquisition from three private parties is anticipated on the south bank of the river.

One potential residential displacement is possible for Alignment W2. One business displacement is possible for Alignment W2.

Impacts to Utilities

Alignment W2 will require the relocation of existing overhead power transmission and distribution lines located along NE Butteville Road. The placement of a path and bridge along Alignment W2 will require coordination with underground gas lines located along NE Butteville Road and existing water and sewer lines located within Boones Ferry Park and along SW Tauchman Street.

Economic Benefits

Alignment W2 provides the greatest potential benefit to the local and regional economies as a result of the good connections to regional trails and parks, inviting river views, and limited impact from I-5 and the railroad.

Alignment W3

Alignment W3 is located at the east edge of the project area. The north end of the path connects to the south shoulder of SW Tauchman Street at the entrance to the wastewater treatment plant. The south end of the path connects to NE Butteville Road, well south of NE River Vista Lane.

The alignment begins at the east end of SW Tauchman Street and heads east through a wooded area within a parcel acquired by the City of Wilsonville for expansion of Boones Ferry Park. The path turns south at the bank of a drainage and crosses the Willamette River. The path more or less follows existing ground in this area, descending at a maximum 5% grade before beginning to climb at 4% to clear the assumed USCG navigational channel. After crossing over the navigational channel, the alignment descends at approximately a 4.5% grade. The alignment lands on the south bank of the river east of an existing drainage. After landing on the south bank of the river, the path follows existing ground through wooded terrain along the east bank of the channel before turning to the west and crossing over the channel on a single-span bridge. Once across the channel, the path follows an existing driveway to NE Butteville Road, with a maximum grade of about 3.1%.

The path through the W3 alignment corridor is approximately 2,550 feet long. The main span crossing of the Willamette River is approximately 800 feet in length. The total bridge length, including approach spans, is anticipated to be approximately 1,000 feet long. The second bridge is approximately 140 feet long. Retaining walls are anticipated to minimize property impacts at the north end of the alignment.

See Figure 1 for a conceptual plan of Alignment W3.

Connectivity and Safety

This criterion is related to the alignment's effectiveness of safely connecting existing and planned pedestrian routes on the two sides of the river.

North Terminal Connection

The alignment connects to the end of SW Tauchman Street, which does not have existing bicycle or pedestrian accommodations. Currently, traffic on SW Tauchman Street at the point of connection is very light, as the only traffic generator is a relatively small number of residences and the wastewater treatment plant.

Path users can follow SW Tauchman Street west to SW Boones Ferry Road. SW Boones Ferry Road connects directly to the planned extension of the Ice Age Tonquin Trail, which extends to Sherwood and Tualatin and connects to trails extending farther north. Path users can directly connect to the Wilsonville Waterfront Trail, which crosses under I-5 and connects to Memorial Park.

South Terminal Connection

There are no existing bicycle or pedestrian accommodations on the south side of the Willamette River.

The alignment's eastern location provides the opportunity to directly connect to a planned bicycle and pedestrian path located along the south bank of the Willamette

River. This path will cross under I-5 and connect NE Butteville Road to the Charbonneau District.

The alignment's connection to NE Butteville Road provides access to a planned widening of NE Butteville Road to Champoeg State Park and connections to the Willamette Valley Scenic Bikeway, which extends southward to Eugene. Bridge users wanting to travel west do not have to cross the NE Butteville Road at the alignment connection point. Users will need to pass through the busy area at the Boones Ferry Marina, Boones Ferry Boat Launch, and NE River Vista Lane to make this connection.

Emergency Access

This criterion is related to the alignment's effectiveness at conveying emergency vehicles across the Willamette River and assessing the impacts of such use on existing land uses.

North Terminal Connection

Alignment W3 connects emergency responders from Wilsonville Road across the Willamette River by way of SW Boones Ferry Road and SW Tauchman Street. At the end of SW Tauchman Street, the path proceeds east through Boones Ferry Park before turning south to cross the Willamette River.

South Terminal Connection

Alignment W3 connects to NE Butteville Road by way of a long path. The route is fairly direct for responders headed towards I-5, Miley Road, and the Charbonneau District, but emergency vehicles would need to proceed carefully and slowly due to the shared use nature of the facility.

Impacts to Existing Users

Alignment W3 requires emergency responders to travel down SW Tauchman Street, which has residences located on the north side of the street. The alignment travels along the east edge of an undeveloped portion of Boones Ferry Park. The alignment does not affect marina uses or the boat launch on the south side of the Willamette River. The alignment is in proximity to residences as it nears NE Butteville Road. It is anticipated that noise impacts will be experienced by residents, as well as park and river users along the path alignment.

Environmental Impacts

This criterion is related to the anticipated impacts to terrestrial and aquatic habitat, animals and plants, and cultural and historic resources.

Impacts to Terrestrial Habitat and Wildlife

Alignment W3 impacts wooded areas and wildlife habitat for the majority of its length on both sides of the river.

Impacts to Waters, Wetlands, and Aquatic Wildlife

Alignment W3 minimizes impacts to wetlands, waters, and aquatic wildlife. The impacts to the Willamette River will be minimized. There are additional impacts due

to wetlands and tributary crossings. In particular, there is a second bridge required to cross the drainage south of the Willamette River.

Impacts to Cultural and Historic Resources

This assessment is based on potential for impacts as identified in the Opportunities and Constraints Report dated April 5, 2017.

Alignment W3 is located well east of the historic location of Boones Ferry. Impacts to historic era resources are not considered likely. There is a moderate possibility of encountering pre-contact resources, particularly because much of the area is undisturbed.

Compatibility with Recreational Goals

This criterion is related to how well recreational objectives are achieved. It includes the influence of the bridge on existing park uses on both sides of the river.

User Experience

Alignment W3 is located relatively close to the I-5 Boone Bridge. Freeway noise is anticipated to be noticeable on the bridge. The alignment will provide good views upstream, but the I-5 Boone Bridge will limit views in the downstream direction.

The alignment is largely secluded. The wooded nature of the path would make it a unique experience; however, it may also make the alignment feel unsafe due to lack of visibility.

Alignment W3 accommodates several features that meet or exceed the minimum design standards for the facility. In general, this alignment will provide a poor user experience.

Compatibility with North Bank Recreational Uses

On the north bank of the Willamette River, Alignment W3 skirts the east edge of Boones Ferry Park. This location places the alignment outside of currently developed park areas and maximizes flexibility for future uses of the undeveloped portion of the park. However, this location may limit local trail flexibility.

Compatibility with South Bank Recreational Uses

On the south bank of the Willamette River, Alignment W3 is well east of the Boones Ferry Marina and Boones Ferry Boat Launch. Existing recreational uses will not be impacted by this alignment.

River Access

Alignment W3 brings users to portions of the river bank not currently accessed. However, there is little opportunity to create river bank access due to the I-5 Bridge, the Wastewater Treatment Plant outfall, and the drainage channels on both sides of the river.

Compatibility with Built Environment

This criterion is related to the potential impacts to the existing built environment and compatibility with future improvements in the immediate vicinity of the bridge

alignment. Specific areas of consideration are residences, parks, and the Boones Ferry Marina.

North Terminal Connection

The north terminal connection of Alignment W3 is located at the end of SW Tauchman Street. Residences are located along the north side of SW Tauchman Street. These residences include underrepresented populations. Users would access the path via SW Tauchman Street, which has no accommodations for bicycle or pedestrian use.

South Terminal Connection

The south terminal connection of Alignment W3 is located in undeveloped forest and through three residential parcels. It is anticipated that the path will share an existing driveway for access to NE Butteville Road. All three residences are in proximity to the path.

Marina Facilities

Alignment W3 will avoid all marina facilities.

Future Infrastructure Improvements

Alignment W3 is located adjacent to the I-5. The alignment requires use of a portion of ODOT property. If selected, further coordination with ODOT would be required to determine the feasibility of accommodating the future expansion of I-5 and this project.

Based upon discussions and coordination with ODOT to-date, there is a very low likelihood of ODOT agreeing to allow the new bridge and path to be sited on their property west of I-5. It is their perspective that all ODOT property in this area must be reserved for the widening of the I-5 Boone Bridge and Southbound I-5.

Cost and Economic Impact

This criterion is related to the construction cost, anticipated property acquisition and displacements of residences and businesses, required utility relocations, and anticipated economic benefits generated by the bridge crossing.

Estimated Project Cost

A comparative cost analysis was performed for Alignments W1, W2, and W3. All alignments are fairly comparable in relative cost. Though there are other costs, this analysis only compared the relative quantities of bridge, retaining walls, and path required by each alignment along with a qualitative assessment of environmental mitigation. For Alignment W3, the quantities used for this comparison were: 1,180 feet of bridge (800 feet of main span, and 380 feet of approach span); 2,400 square feet of retaining walls; and 1,400 feet of on-grade path. Environmental mitigation costs are expected to be moderate and are qualitatively considered in this criterion.

At the conclusion of this analysis, Alignment W3 was scored 8 points out of a possible 10.

Anticipated Property Acquisitions and Displacements

Alignment W3 will primarily require transfer of public properties. The portion of the alignment located on the north bank of the river is owned by the City of Wilsonville and ODOT. No impacts to ODOT's maintenance facilities are expected. On the south bank of the river, easements would be required from ODOT. Property acquisition from three private parties is anticipated on the south side of the river to connect the path west to NE Butteville Road.

No residential or business relocations are anticipated to be required for Alignment W3.

Impacts to Utilities

Alignment W3 will require coordination to avoid impacts to the existing City of Wilsonville sanitary sewer lines and outfall. It is expected a conflict can be avoided. However, even bridge foundations in the vicinity of the outfall (no direct impact) could result in a conflict and potential outfall relocation.

Economic Benefits

Alignment W3 provides the least potential benefit to the local and regional economies. It is the furthest away from regional trails and parks, closest to I-5 noise impacts, and requires more out of direction travel.

Scoring of Alignments

The alignments were individually scored against the criteria by members of the project team. Upon conclusion of this process, the scorers met and discussed each of the subcriteria in succession. Each subcriteria was scored and the criteria scores were tallied. A total score for each alignment was reached using the relative weighting determined by the project Task Force.

The project team's score and notes were provided to the Project Management Team (PMT) for review and revision. The PMT provided additional insight and made revisions to the subcriteria scores. Following this process, the TAC provided review comments and scoring revisions. As the final step in the scoring, the Task Force completed a similar process. The TAC scores and scores resulting from the TAC revisions are the final evaluation scores and are the basis for the recommended alignment.

TAC Scoring

The TAC met on February 28, 2018. Their recommended scoring changes are summarized below:

Criteria A – Connectivity and Safety: No recommended changes

Criteria B – Emergency Access: No recommended changes

Criteria C – Environmental Impacts: Reduce Alignments W1 and W3 for both habitat and waters/wetland impacts to reflect the regulatory importance of the affected resources. Recognize the unknown, but potential impacts to above ground and below ground cultural resources by lowering the score for all three Alignments.

Criteria D – Compatibility with Recreational Goals: Reduce most of the scores for Alignment W3 because of its disadvantageous location.

Criteria E – Compatibility with Existing Built Environment: Reduce Alignment W1 relative to impacts at the south terminus to better reflect the effects on the marina and the private residence.

Criteria F – Cost and Economic Impact: Recognize the relative environmental mitigation costs as part of the total project cost. Reduce Alignment W3 more since this alignment would require the most mitigation. Reduce the scores for Alignment W3 for property and utility impacts to better represent the challenges associated with the ODOT property and the City's wastewater outfall structure.

Table 1 –TAC Scoring Summary

Criterion	W1	W2	W3
A – Connectivity & Safety	13.5	9.0	8.5
B – Emergency Access	14.0	10.0	7.3
C – Environmental Impacts	6.9	8.1	3.8
D – Recreational Goals	14.0	12.0	11.0
E – Built Environment	10.2	9.4	10.2
F – Cost & Economic Impact	9.4	7.2	6.0
TOTAL	68	56	47

The TAC unanimously agreed with recommending Alignment W1 to the Task Force as the preferred bridge location.

Task Force Scoring

The Task Force met on April 12, 2018. Their recommended scoring changes are summarized below:

Criteria A – Connectivity and Safety: No recommended changes

Criteria B – Emergency Access: No recommended changes

Criteria C – Environmental Impacts: No recommended changes

Criteria D – Compatibility with Recreational Goals: Modify the scoring for each Alignment to reflect that alignments closer to the marina offer better recreational opportunities. Accordingly, Alignment W1 increased and Alignments W2 and W3 decreased.

Criteria E – Compatibility with Existing Built Environment: Reduce Alignment W3 to better reflect ODOT's strong concerns with this location relative to the future widening of I-5.

Criteria F – Cost and Economic Impact: Increase the scores for Alignments W1 and W2. The Task Force adjusted scores to reflect possible economic opportunities for utilities to participate in project costs if the bridge could accommodate one or more utilities.

Table 2 –Task Force Scoring Summary

Criterion	W1	W2	W3
A – Connectivity & Safety	13.5	9.0	8.5
B – Emergency Access	14.0	10.0	7.3
C – Environmental Impacts	6.9	8.1	3.8
D – Recreational Goals	15.5	11.0	10.0
E – Built Environment	10.2	9.4	8.5
F – Cost & Economic Impact	9.5	7.5	6.0
TOTAL	70	55	44

The Task Force unanimously agreed with recommending Alignment W1 as the preferred bridge location to the Board of County Commissioners and Wilsonville City Council.

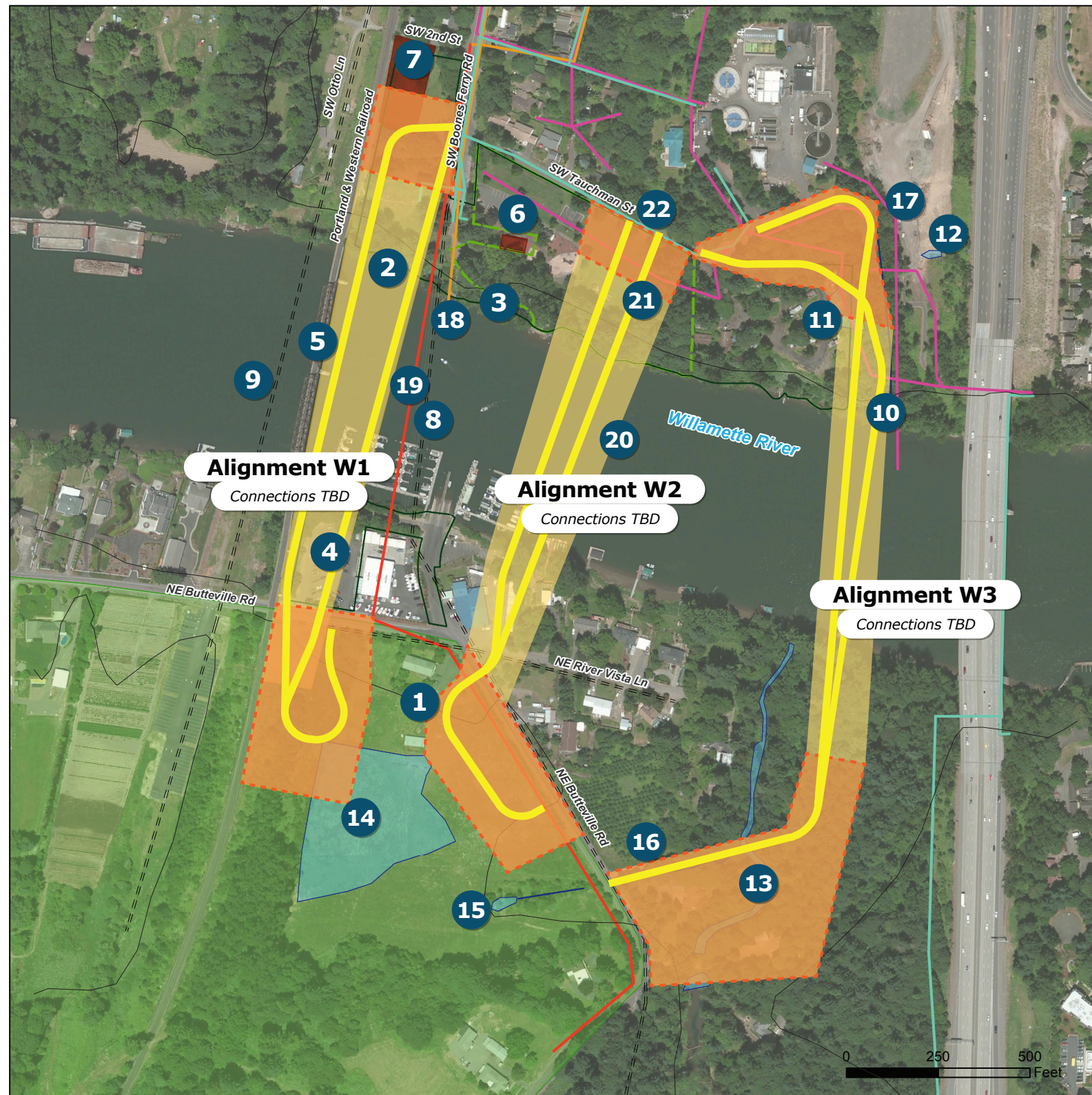
Conclusion

Over the last 18 months, the project team has implemented a comprehensive reconnaissance, analysis, and evaluation process with broad stakeholder engagement and input to evaluate three bridge locations. Key documents prepared during that time include the Opportunities and Constraints Memo and the Evaluation Criteria Memo. Using those two documents, PMT direction, TAC and Task Force input, and public outreach, the team outlined a scoring criteria matrix.

Alignment W1 scored the highest in five of the six major criteria. The exception is Criterion C – Environmental Impacts where Alignment W2 scored highest. Accordingly, Alignment W1 is the overall highest scoring location. The project team, PMT, TAC, and Task Force are in unanimous agreement that Alignment W1 is the preferred bridge location.

Figure 1. Alignment Alternatives

ALIGNMENT ALTERNATIVES



KEY

- 1 Land zoned Exclusive Farm Use
- 2 Boone's Ferry Park subject to Section 4(f)
- 3 Boone's Ferry Park subject to Section 6(f)
- 4 Boone's Ferry Boat Launch subject to Section 4(f)
- 5 Portland & Western Railroad
- 6 Tauchman House
- 7 Apple orchard in Boone's Ferry Park
- 8 PGE overhead power lines
- 9 BPA overhead transmission lines
- 10 Ephemeral drainage channel
- 11 Depression left by former mobile homes
- 12 Construction stormwater pond
- 13 Stream channel and associated wetlands
- 14 Possible wetland
- 15 Stock pond
- 16 Agricultural drainage ditch
- 17 Wastewater treatment plant discharge pipe
- 18 Main Old Town storm sewer outfall
- 19 Underground gas transmission lines
- 20 USGS navigational channel
- 21 Sanitary sewer lines
- 22 Domestic water mains

LEGEND

- === Overhead power line
- Underground water line
- Underground storm sewer
- Underground sanitary sewer
- Underground gas line
- Stream
- Water (in addition to Willamette River) and potential wetland observable from streets and public land
- Section 4(f) resource
- Section 6(f) resource
- Historic resource
- Exclusive Farm Use zone

APPENDIX A
Evaluation Criteria Scoring



French Prairie Bridge Project

Technical Advisory Committee Scoring

A		Connectivity and Safety			W1	W2	W3	Notes
A-1	Connects to existing bike/pedestrian routes directly or using streets with sidewalks and bike lanes on north side of the bridge	7	3	4	Assume Boones Ferry Road connection slightly higher priority than I-5 undercrossing trail. W1: No pedestrian facilities. Direct connection to SB bike lane on Boones Ferry Rd. W2: Connects east & west via Tauchman St, with no pedestrian or bicycle facilities. W3: Non-direct connection along Tauchman St. to a path towards Memorial Park.			
A-2	Connects to existing bike/pedestrian routes directly or using streets with sidewalks and bike lanes on south side of the bridge	2	2	3	No bike/ped routes exist on the south side. All connect directly to Butteville Road. W3: Connects to north side Butteville Road. No need to cross road to travel west or access marina.			
A-3	Connects to planned bike/pedestrian routes on north side of the bridge	10	6	5	W1: Directly connects w/ regional Ice Age Tonquin Trail (IATT). Connects to EB local trail. W2: Non-direct connection to both IATT and EB local trail. W3: About the same as W2. Further from regional IATT.			
A-4	Connects to planned bike/pedestrian routes on south side of the bridge	8	7	5	W1: Direct regional bike connection west and local ped/bike trail connection east. No planned ped. connection west. W2: Same as W1, but located further from regional connection. W3: Non-direct regional bike connection west and local ped/bike connection east. No planned ped. connection west.			
20.0% Criteria A Weighting		13.5	9.0	8.5				



French Prairie Bridge Project

Technical Advisory Committee Scoring

B		Emergency Access			W1	W2	W3	Notes
B-1	Connect to emergency routes directly, minimizing out of direction travel and response time at and near the north terminus	10	6	2	W1: Direct route from Wilsonville Road to Boones Ferry Rd. W2: Some out of direction travel through the park onto Tauchman St. W3: Significant out of direction travel through the park onto Tauchman St.			
B-2	Connect to emergency routes directly, minimizing out of direction travel and response time at and near the south terminus	5	7	6	W1: Longest distant from I-5/Miley Rd. Slow access loop. W2: Fairly direct connection to I-5/Miley Rd. via Butteville Rd. with a less constrained access loop. W3: Closest access to I-5/Miley Rd., but requires out of direction travel.			
B-3	Minimize emergency response impacts on residents, park activities, and marina operations	6	2	3	W1: Furthest from and least impact to residents, minor impact to marina access, minimal impact to parking. W2: Closer to residents on both sides of river, minimal impact to marina operations, major impact to middle of park. W3: Closest and most impacts to residents, no impact to marina, potential for impact to east edge of park facilities.			
20.0% Criteria B Weighting		14.0	10.0	7.3				



French Prairie Bridge Project

Technical Advisory Committee Scoring

C		Environmental Impacts	W1	W2	W3	Notes
C-1	Avoid or minimize adverse impacts on wildlife habitat and trees	7	8	2	W1: Some tree and vegetation impacts on south side. W2: Mostly avoids wildlife & trees impact. W3: Moderate impacts to wildlife & trees on both sides of river.	
C-2	Avoid or minimize adverse impacts on waters and wetlands	6	7	2	W1: Minimal impacts to river with potential wetland impacts. W2: Minimal impacts to river with potential wetland impacts. W3: Minimal impacts to river with likely impacts to wetlands and tributary crossings.	
C-3	Avoid or minimize adverse impacts on cultural and historic resources	5	6	6	W1: Known resources are present (orchard and ferry crossing). Moderate to high potential for impacts. W2: Moderate potential for impacts, but most areas are previously disturbed. W3: Avoids known resources. Moderate potential for impacts. Area is undisturbed, so unidentified resources are possible. <i>*Each assessment based on potential for impacts as identified in the Opportunities and Constraints Report dated April 5, 2017.</i>	
11.5% Criteria C Weighting		6.9	8.1	3.8		



French Prairie Bridge Project

Technical Advisory Committee Scoring

D Compatibility with Recreational Goals		W1	W2	W3	Notes
D-1	Provide a positive user experience (e.g. noise, aesthetics, view, security, compatible with other travel modes, exceeds design standards for turns and slopes)	8	9	3	W1: Secure/visible, view of RR bridge & river, some noise impact from train. Very good user experience. W2: Secure/visible, located away from existing bridges, least noise impact. Great user experience. W3: Natural setting, but less secure/visible. I-5 noise, least favorable views, wastewater plant nearby. Poor user experience.
D-2	Maximize compatibility with and flexibility for recreational uses including parks and the river on the north side.	9	4	8	W1: Compatible with existing park being located on edge of existing undeveloped park land. Easily integrate into future uses. W2: Minor displacement of existing open lawn and picnic area. Splits open lawn in half, limiting flexibility for future uses. W3: Compatible with existing park being located on edge of existing undeveloped park land. May limit incorporating local trail and existing drainage channel into future uses.
D-3	Maximize compatibility with and flexibility for recreational uses, including parks, the marina and the river on the south side.	3	5	8	W1: Compatible with existing use, but limits flexibility for marina parking, ramps, and slips. Limits use of land beneath bridge. W2: Similar to W1 with less parking impact, but potential building impacts. Parking impacts are more concerning to the County. W3: Avoids all related impacts.
D-4	Maintain or improve river access	8	6	3	W1: Provides new river view from bridge. Provides best opportunity to improve river bank access via old ferry landing. W2: Provides best new views of river from the bridge. Limited opportunity to improve public access to the river bank. W3: Provides view of river to the west from the bridge. Little opportunity to improve river bank access due to I-5 Bridge, Wasterwater Treatment Plant outfall, and drainage channel.
20.0% Criteria D Weighting		14.0	12.0	11.0	



French Prairie Bridge Project

Technical Advisory Committee Scoring

E Compatibility with Existing Built Environment		W1	W2	W3	Notes
E-1	Minimize bridge location and access impacts on residences in Old Town	6	5	6	W1: Close to residents on Boones Ferry Rd. W2: Close to residents on Tauchman St and requires travel through the neighborhood, which includes underrepresented populations. W3: Not close to residents, but requires the most travel through the neighborhood, which includes underrepresented populations.
E-2	Minimize bridge location and access impacts on residences at south terminus in Clackamas County	6	2	3	No underrepresented populations identified south of the river. W1: In close proximity to one residence. W2: Directly impacts two small lot, waterfront residences. W3: Directly impacts two large lot rural residences.
E-3	Minimize bridge location and access impacts on marina facilities	6	5	10	W1: Potential impact to parking that can be mitigated. Impact to marina slips and operations not anticipated. W2: Impact to marina operations or building is anticipated, but can be mitigated. Impact to marina slips and parking not anticipated. W3: Avoids all marina impacts.
E-4	Minimize bridge location and access impacts to possible future infrastructure improvements (e.g. Railroad, ODOT)	6	10	5	W1: Located on railroad property, but can accommodate future improvements. Meeting w/RR provided confidence moving forward. W2: No impact to future infrastructure improvements. W3: Located on ODOT property, but can likely accommodate future infrastructure improvements, such as widening of I-5.
17.0% Criteria E Weighting		10.2	9.4	10.2	



French Prairie Bridge Project

Technical Advisory Committee Scoring

F		Cost and Economic Impact			W1	W2	W3	W2
F-1	Minimize total project cost (e.g. bridge, retaining wall, on grade path, environmental mitigation). This project cost does not consider architectural features or amenities.	9	9	8	Design Team initial calculation based on relative cost as determined by the proportion of bridge (most expensive), wall, and on-grade path (least expensive) for each alignment. Then potential environmental mitigation qualitatively considered. W1: 1200-ft bridge; 5100-sq ft wall; 850-ft on-grade path. W2: 1160-ft bridge; 11400-sq ft wall; 740-ft on-grade path. W3: 1180-ft bridge; 2400-sq ft wall; 1400-ft on-grade path. Most significant mitigation.			
F-2	Minimize property acquisition (e.g. right-of-way, easements) and avoid displacement of residences and businesses	9	3	6	W1: Minor impacts to two properties with no displacements anticipated. W2: Major/moderate impact to three properties with potential displacement of a residence and business. W3: Moderate/minor impact to three properties with no displacements anticipated. ODOT property impacted, but maintenance facility avoided.			
F-3	Minimize the displacement of utilities	5	4	1	W1: Adjacent to underground gas line. Overhead power lines that can be easily relocated. W2: Crosses underground gas line. Overhead power lines on Butteville Road/River Vista intersection that can be easily relocated, but intersection presents more challenges. W3: Potential impact to wastewater treatment plant outfall pipe that cannot be easily relocated. Might conflict with bridge foundation even if in proximity rather than directly.			
F-4	Maximizes economic benefit through tourism and access to commercial and regional destinations and trail system connections	9	9	6	W1: Provides significant benefit to local and regional economies. Closest to regional trails and parks, directly connects to Boones Ferry Rd, some noise impact from railroad. Also see D-1. W2: Provides significant benefit to local and regional economies. Good connection to regional trails and parks, good views, limited impact from I-5 and railroad. Also see D-1. W3: Provides some benefit to local and regional economies. Furthest from regional trails and parks, close to I-5, noise impacts, some out of direction travel. Also see D-1.			
11.5%	Criteria F Weighting	9.2	7.2	6.0				
100%	Total, Weighted Score	68	56	47				



French Prairie Bridge Project

Task Force Scoring

A		Connectivity and Safety			W1	W2	W3	Notes
A-1	Connects to existing bike/pedestrian routes directly or using streets with sidewalks and bike lanes on north side of the bridge	7	3	4	Assume Boones Ferry Road connection slightly higher priority than I-5 undercrossing trail. W1: No pedestrian facilities. Direct connection to SB bike lane on Boones Ferry Rd. W2: Connects east & west via Tauchman St, with no pedestrian or bicycle facilities. W3: Non-direct connection along Tauchman St. to a path towards Memorial Park.			
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20.0% Criteria A Weighting		13.5	9.0	8.5				



French Prairie Bridge Project

Task Force Scoring

B		Emergency Access			W1	W2	W3	Notes
B-1	Connect to emergency routes directly, minimizing out of direction travel and response time at and near the north terminus	10	6	2	W1: Direct route from Wilsonville Road to Boones Ferry Rd. W2: Some out of direction travel through the park onto Tauchman St. W3: Significant out of direction travel through the park onto Tauchman St.			
B-2	Connect to emergency routes directly, minimizing out of direction travel and response time at and near the south terminus	5	7	6	W1: Longest distant from I-5/Miley Rd. Slow access loop. W2: Fairly direct connection to I-5/Miley Rd. via Butteville Rd. with a less constrained access loop. W3: Closest access to I-5/Miley Rd., but requires out of direction travel.			
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20.0% Criteria B Weighting		14.0	10.0	7.3				



French Prairie Bridge Project

Task Force Scoring

C		Environmental Impacts	W1	W2	W3	Notes
C-1	Avoid or minimize adverse impacts on wildlife habitat and trees	7	8	2	W1: Some tree and vegetation impacts on south side. W2: Mostly avoids wildlife & trees impact. W3: Moderate impacts to wildlife & trees on both sides of river.	
C-2	Avoid or minimize adverse impacts on waters and wetlands	6	7	2	W1: Minimal impacts to river with potential wetland impacts. W2: Minimal impacts to river with potential wetland impacts. W3: Minimal impacts to river with likely impacts to wetlands and tributary crossings.	
C-3	Avoid or minimize adverse impacts on cultural and historic resources	5	6	6	W1: Known resources are present (orchard and ferry crossing). Moderate to high potential for impacts. W2: Moderate potential for impacts, but most areas are previously disturbed. W3: Avoids known resources. Moderate potential for impacts. Area is undisturbed, so unidentified resources are possible. <i>*Each assessment based on potential for impacts as identified in the Opportunities and Constraints Report dated April 5, 2017.</i>	
11.5% Criteria C Weighting		6.9	8.1	3.8		



French Prairie Bridge Project

Task Force Scoring

D Compatibility with Recreational Goals		W1	W2	W3	Notes
D-1	Provide a positive user experience (e.g. noise, aesthetics, view, security, compatible with other travel modes, exceeds design standards for turns and slopes)	8	9	3	W1: Secure/visible, view of RR bridge & river, some noise impact from train. Very good user experience. W2: Secure/visible, located away from existing bridges, least noise impact. Great user experience. W3: Natural setting, but less secure/visible. I-5 noise, least favorable views, wastewater plant nearby. Poor user experience.
D-2	Maximize compatibility with and flexibility for recreational uses including parks and the river on the north side.	9	4	8	W1: Compatible with existing park being located on edge of existing undeveloped park land. Easily integrate into future uses. W2: Minor displacement of existing open lawn and picnic area. Splits open lawn in half, limiting flexibility for future uses. W3: Compatible with existing park being located on edge of existing undeveloped park land. May limit incorporating local trail and existing drainage channel into future uses.
D-3	Maximize compatibility with and flexibility for recreational uses, including parks, the marina and the river on the south side.	6	3	6	W1: Compatible with existing use, but limits flexibility for marina parking, ramps, and slips. Limits use of land beneath bridge. W2: Similar to W1 with less parking impact, but potential building impacts. Parking impacts are more concerning to the County. W3: Avoids all related impacts. <i>The Task force adjusted scores to reflect alignments closer to the Marina offer better recreational opportunities.</i>
D-4	Maintain or improve river access	8	6	3	W1: Provides new river view from bridge. Provides best opportunity to improve river bank access via old ferry landing. W2: Provides best new views of river from the bridge. Limited opportunity to improve public access to the river bank. W3: Provides view of river to the west from the bridge. Little opportunity to improve river bank access due to I-5 Bridge, Wasterwater Treatment Plant outfall, and drainage channel.
20.0% Criteria D Weighting		15.5	11.0	10.0	



French Prairie Bridge Project

Task Force Scoring

E Compatibility with Existing Built Environment		W1	W2	W3	Notes
E-1	Minimize bridge location and access impacts on residences in Old Town	6	5	6	W1: Close to residents on Boones Ferry Rd. W2: Close to residents on Tauchman St and requires travel through the neighborhood, which includes underrepresented populations. W3: Not close to residents, but requires the most travel through the neighborhood, which includes underrepresented populations.
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E-3	Minimize bridge location and access impacts on marina facilities	6	5	10	W1: Potential impact to parking that can be mitigated. Impact to marina slips and operations not anticipated. W2: Impact to marina operations or building is anticipated, but can be mitigated. Impact to marina slips and parking not anticipated. W3: Avoids all marina impacts.
E-4	Minimize bridge location and access impacts to possible future infrastructure improvements (e.g. Railroad, ODOT)	6	10	1	W1: Located on railroad property, but can accommodate future improvements. Meeting w/RR provided confidence moving forward. W2: No impact to future infrastructure improvements. W3: Located on ODOT property, but can likely accommodate future infrastructure improvements, such as widening of I-5. <i>The Task Force wanted to more strongly reflect ODOT's concern with this alignment.</i>
17.0% Criteria E Weighting		10.2	9.4	8.5	



French Prairie Bridge Project

Task Force Scoring

F Cost and Economic Impact		W1	W2	W3	Notes
F-1	Minimize total project cost (e.g. bridge, retaining wall, on grade path, environmental mitigation). This project cost does not consider architectural features or amenities.	9	9	8	Design Team initial calculation based on relative cost as determined by the proportion of bridge (most expensive), wall, and on-grade path (least expensive) for each alignment. Then potential environmental mitigation qualitatively considered. W1: 1200-ft bridge; 5100-sq ft wall; 850-ft on-grade path. W2: 1160-ft bridge; 11400-sq ft wall; 740-ft on-grade path. W3: 1180-ft bridge; 2400-sq ft wall; 1400-ft on-grade path. Most significant mitigation.
F-2	Minimize property acquisition (e.g. right-of-way, easements) and avoid displacement of residences and businesses	9	3	6	W1: Minor impacts to two properties with no displacements anticipated. W2: Major/moderate impact to three properties with potential displacement of a residence and business. W3: Moderate/minor impact to three properties with no displacements anticipated. ODOT property impacted, but maintenance facility avoided.
F-3	Minimize the displacement of utilities	6	5	1	W1: Adjacent to underground gas line. Overhead power lines that can be easily relocated. W2: Crosses underground gas line. Overhead power lines on Butteville Road/River Vista intersection that can be easily relocated, but intersection presents more challenges. W3: Potential impact to wastewater treatment plant outfall pipe that cannot be easily relocated. Might conflict with bridge foundation even if in proximity rather than directly. <i>The Task force adjusted scores to reflect possible economic opportunities for utilities to participate in project costs if the bridge could accommodate one or more utilities.</i>
F-4	Maximizes economic benefit through tourism and access to commercial and regional destinations and trail system connections	9	9	6	W1: Provides significant benefit to local and regional economies. Closest to regional trails and parks, directly connects to Boones Ferry Rd, some noise impact from railroad. Also see D-1. W2: Provides significant benefit to local and regional economies. Good connection to regional trails and parks, good views, limited impact from I-5 and railroad. Also see D-1. W3: Provides some benefit to local and regional economies. Furthest from regional trails and parks, close to I-5, noise impacts, some out of direction travel. Also see D-1.
11.5%	Criteria F Weighting	9.5	7.5	6.0	
100%	Total, Weighted Score	70	55	44	

APPENDIX B
Opportunity and Constraints Figures

FIGURE 1: VICINITY MAP

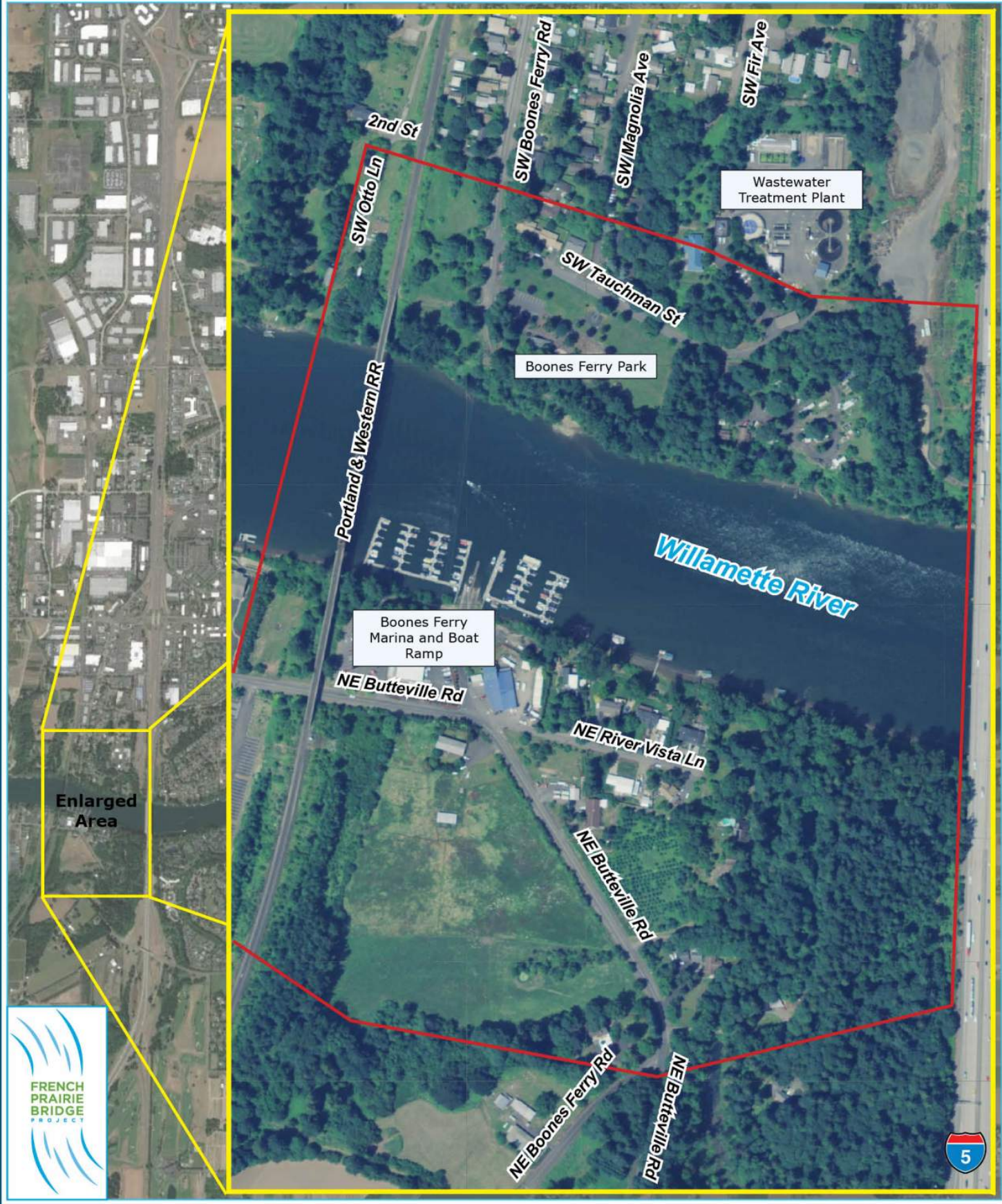


FIGURE 2: TOPOGRAPHY, RIVER, AND UTILITIES

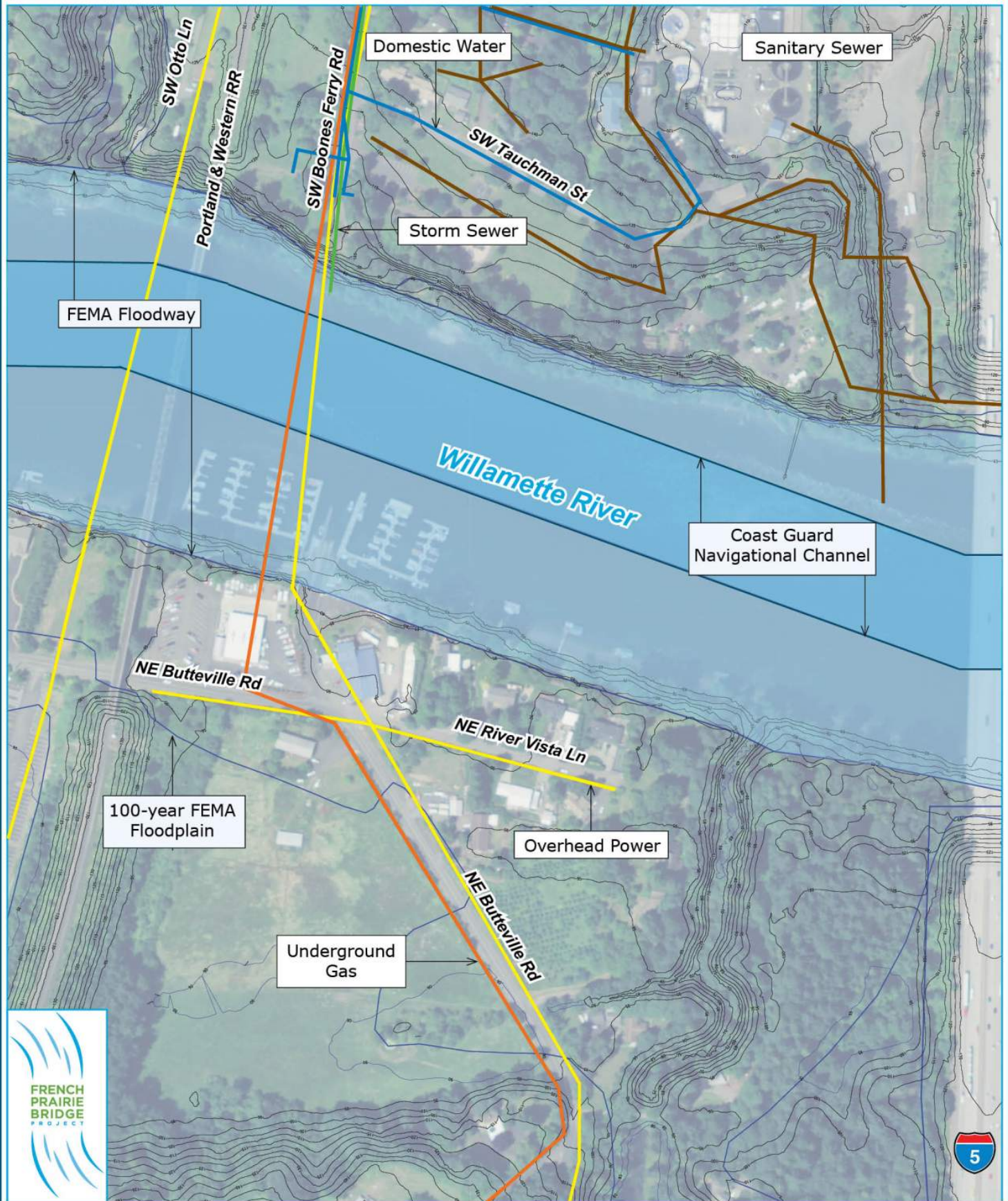
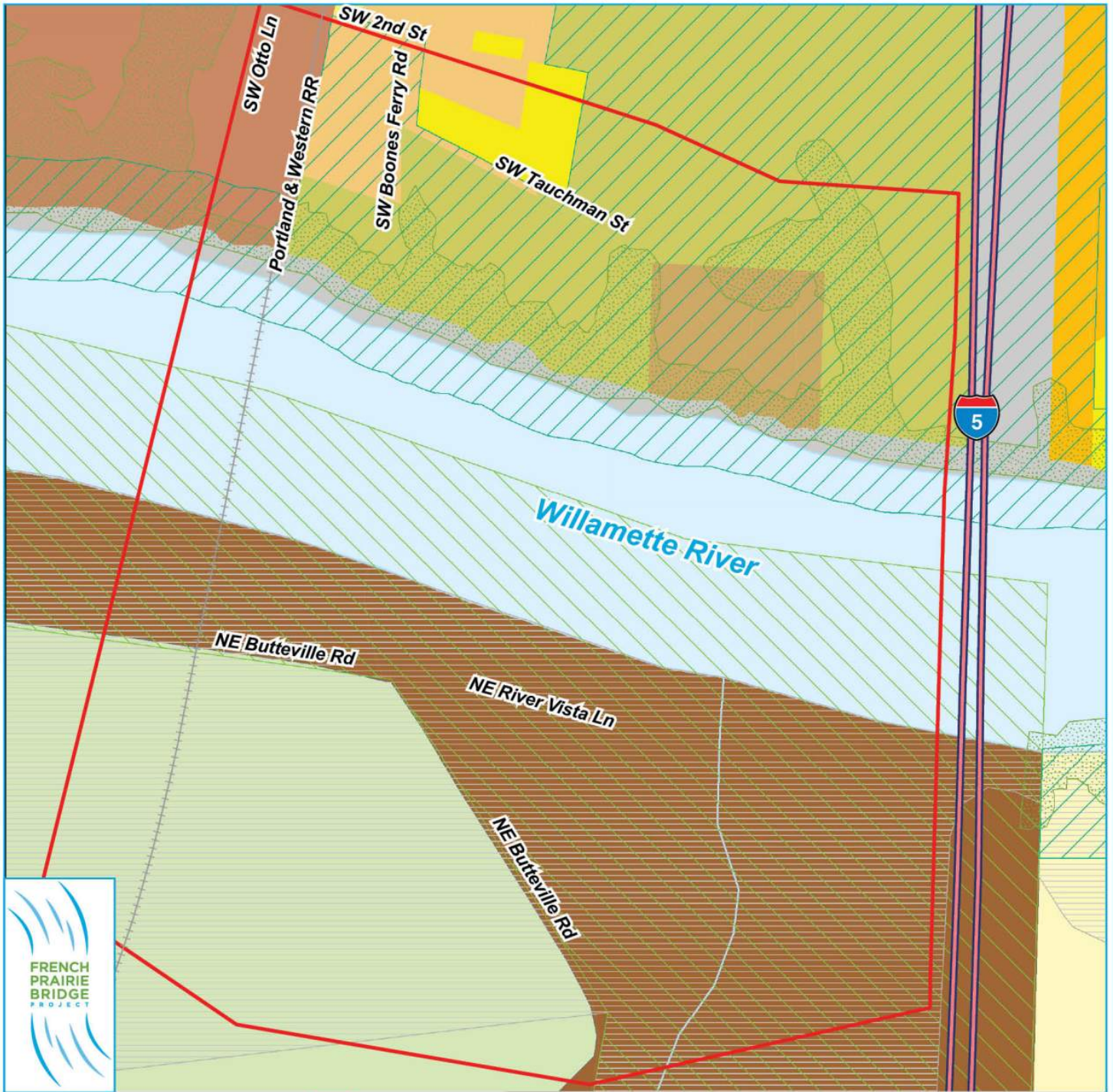


FIGURE 3: ZONING



French Prairie Bridge Area of Potential Impact

Wilsonville Zones

- PDR3: Planned Development Residential - 3
- PDR4: Planned Development Residential - 4
- PDR5: Planned Development Residential - 5
- R: Residential
- Significant Resource Overlay Zone (SROZ)
- Willamette River Greenway

- RAH: Residential Agricultural Holding
- RAHI: Residential Agricultural Holding - Industrial
- RAHP: Residential Agricultural Holding - Public
- RAHR: Residential Agricultural Holding - Residential

Clackamas County Zones

- RRF5: Rural Residential Farm Forest - 5 Acre
- EFU: Exclusive Farm Use
- Willamette River Greenway
- Floodplain Management District
- Undesignated

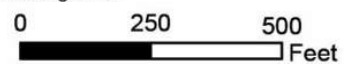


FIGURE 4: SECTION 4(f) LAND - BOONES FERRY PARK



LEGEND






-  SECTION 4(f) RESOURCE
-  BOONES FERRY PARK
-  PLANNED ADDITIONS TO BOONES FERRY PARK



FIGURE 5: SECTION 4(f) LAND - BOONES FERRY BOAT LAUNCH



LEGEND

-  SECTION 4(f) RESOURCE (BOONES FERRY BOAT LAUNCH)
-  RIVER CITY BOAT SALES AND MARINA SERVICES

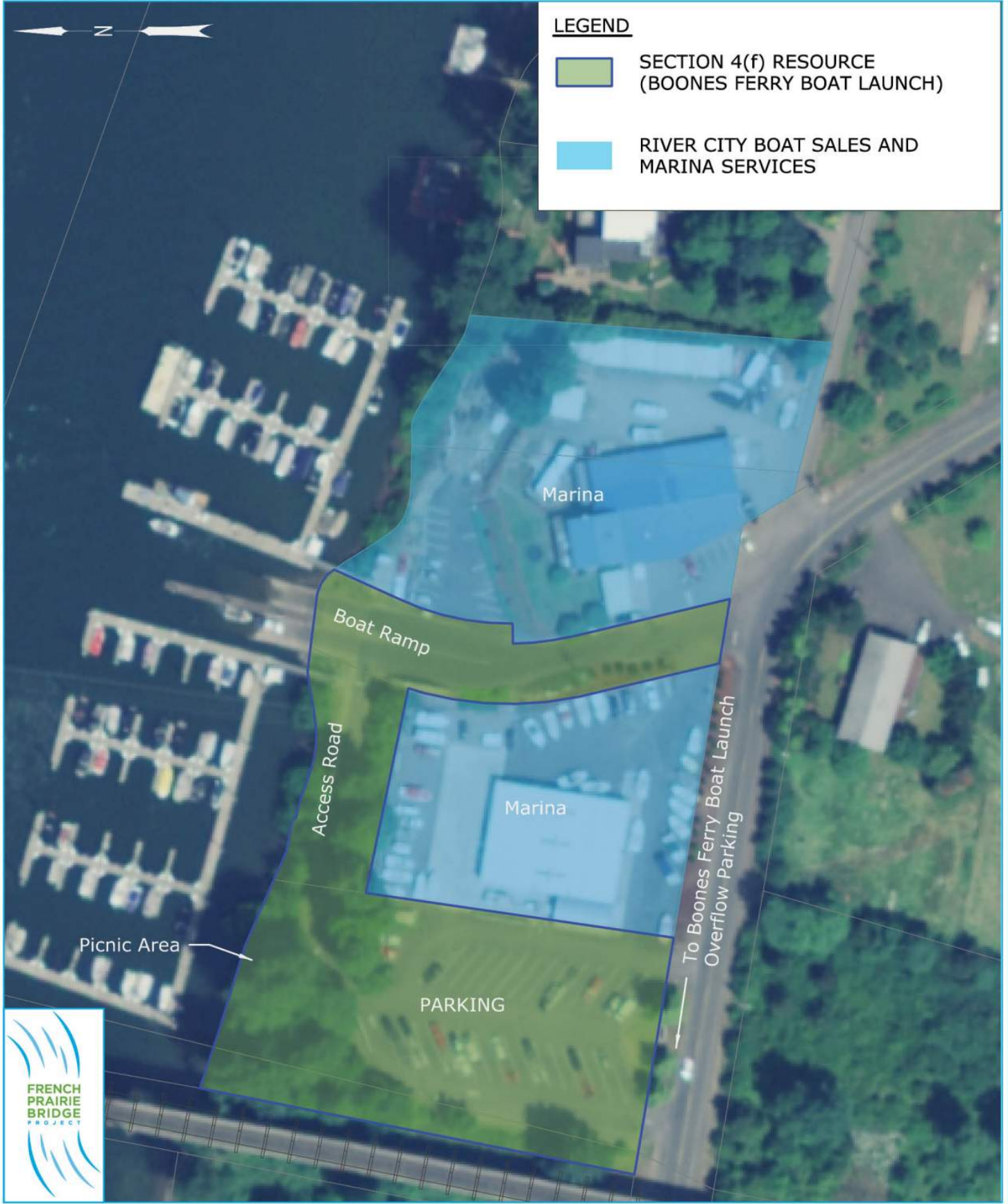


FIGURE 6: LAND SUBJECT TO SECTION 6(f)



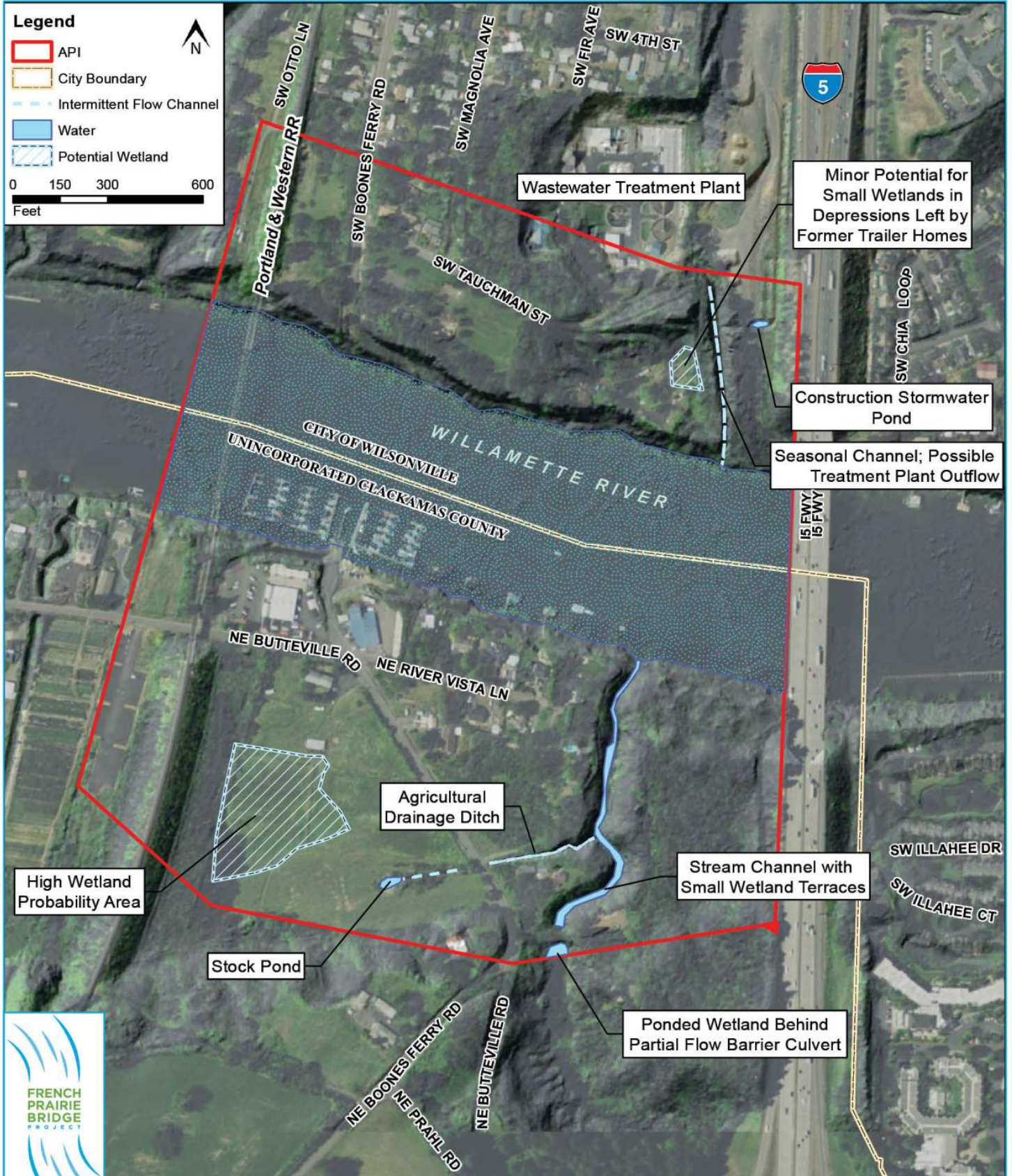
FIGURE 7: WATERS AND POTENTIAL WETLANDS



Legend

- API
- City Boundary
- Intermittent Flow Channel
- Water
- Potential Wetland

0 150 300 600
Feet



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Metro RLIS 2016

FIGURE 8: HISTORIC RESOURCES SURVEY LOCATIONS

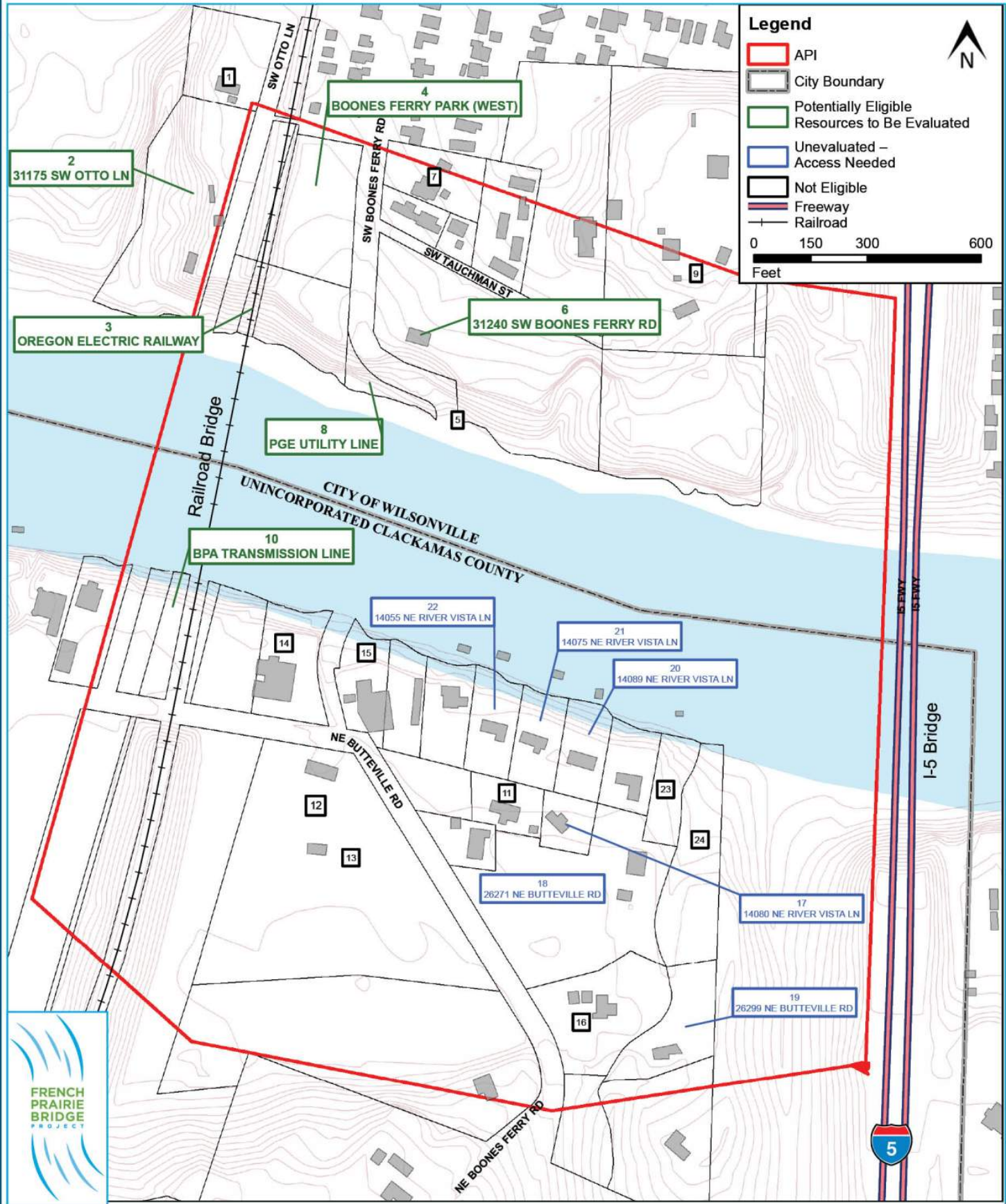


FIGURE 9: BICYCLE AND PEDESTRIAN TRANSPORTATION NETWORK

BICYCLE AND PEDESTRIAN ACCESS

FRENCH PRAIRIE BRIDGE

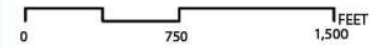
Legend

- Existing Regional Trail
- Existing Local Trail
- Existing Private Trail
- - - Planned Trail
- + Railroad
- Existing Bike Lane
- - - Planned Bike Lane/Shoulder
- Existing Full Sidewalk
- - - Existing Partial Sidewalk
- Area of Potential Impact
- Park/Open Space
- Outside of UGB
- Golf Course
- School
- Rivers/Streams

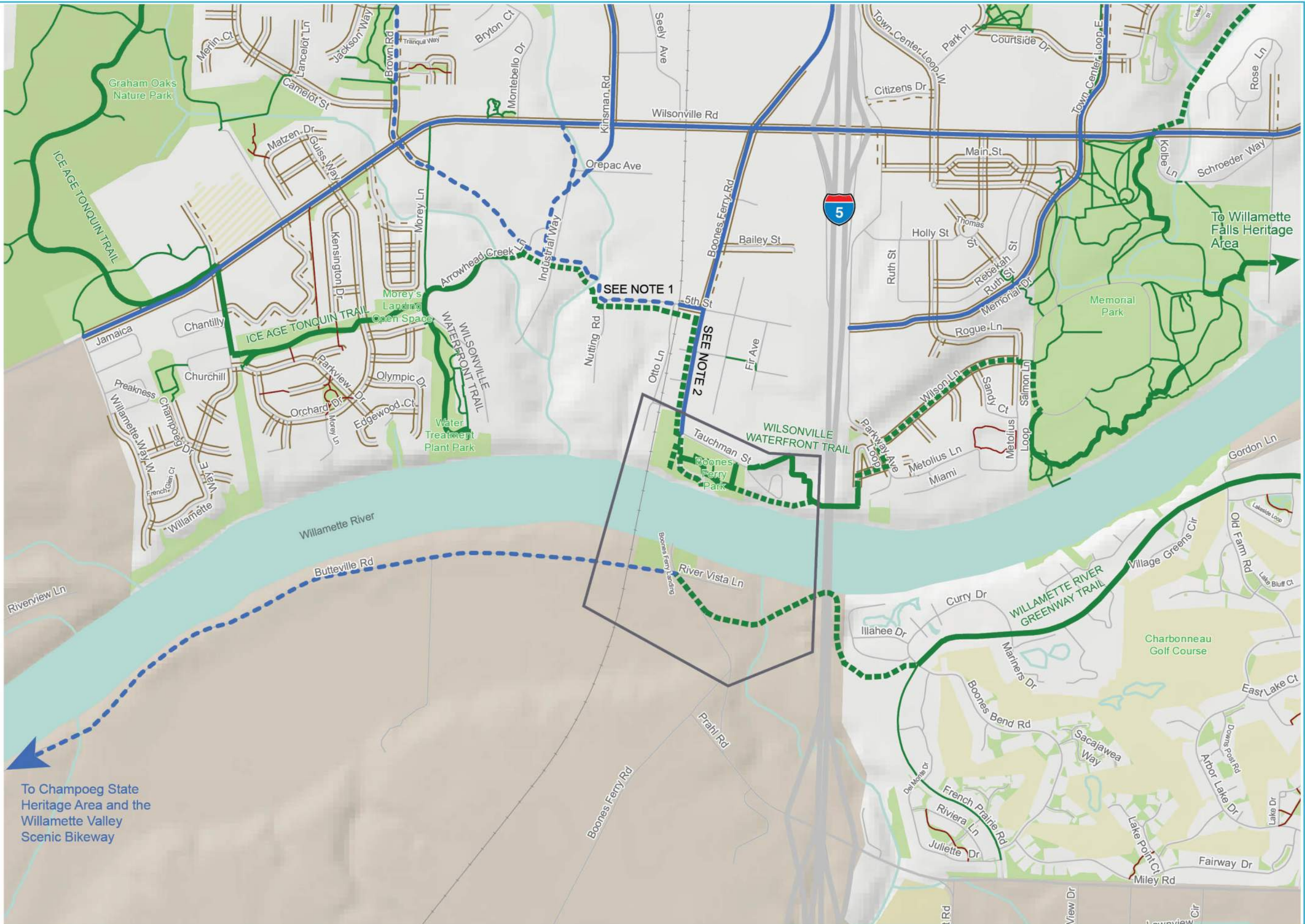
Notes:

1) The Boones Ferry Road to Brown Road Connector will connect to 5th St.

2) Boones Ferry Rd only has bike lanes on the west side of the street south of Bailey St.



Data provided by RLIS.
Map produced October 2016.



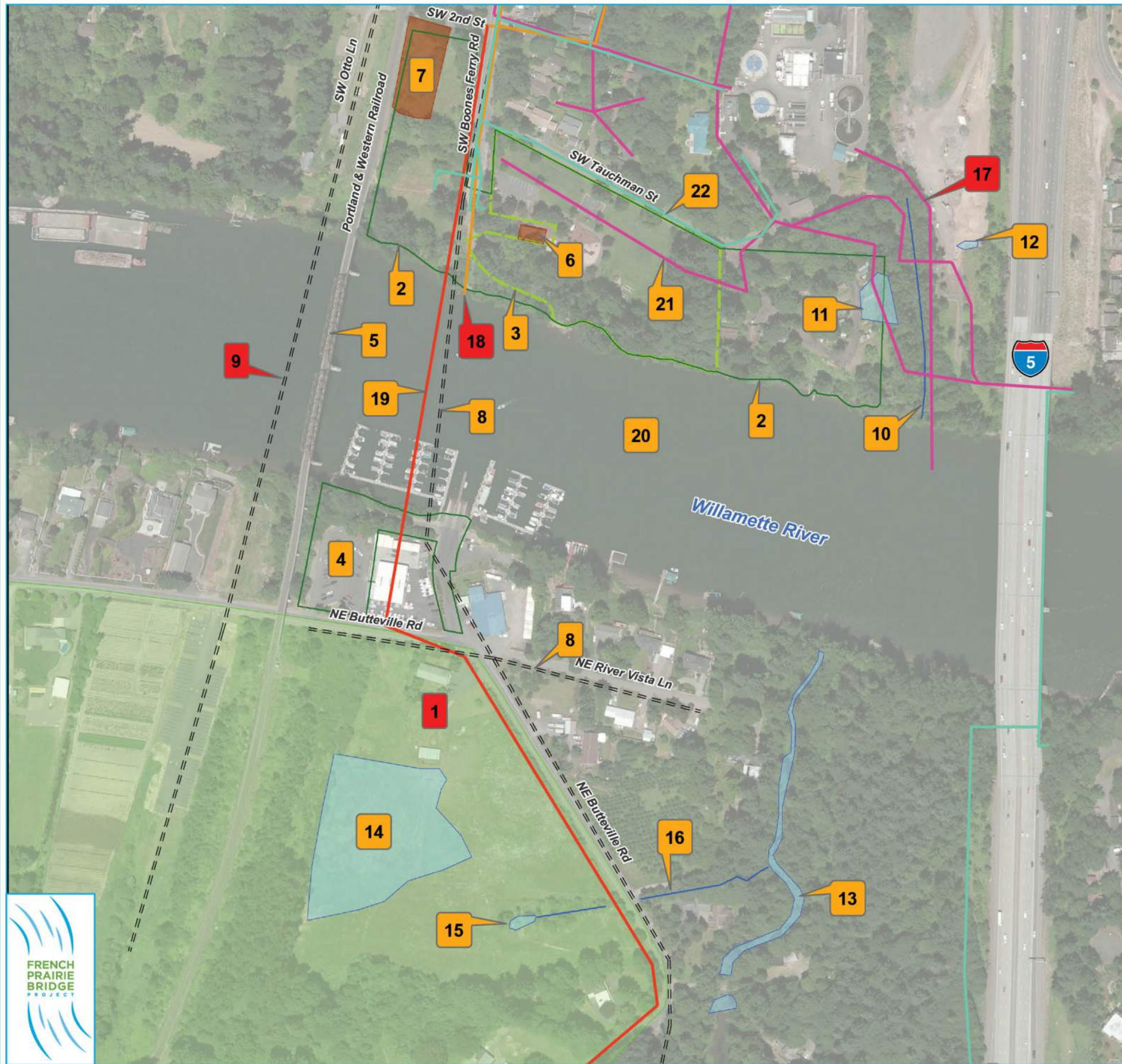
To Champoeg State Heritage Area and the Willamette Valley Scenic Bikeway

To Willamette Falls Heritage Area

SEE NOTE 1

SEE NOTE 2

FIGURE 10: CONSTRAINTS



Legend

- # Moderate risk constraint
- # High risk constraint
- === Overhead power line
- Underground water line
- Underground storm sewer
- Underground sanitary sewer
- Underground gas line

- Stream
- Water (in addition to Willamette River) and potential wetland observable from streets and public land
- Section 4(f) resource
- Section 6(f) resource
- Historic resource
- Exclusive Farm Use zone

Key

- | | |
|--|--|
| <ul style="list-style-type: none"> 1. Land zoned Exclusive Farm Use 2. Boone's Ferry Park subject to Section 4(f) 3. Boone's Ferry Park subject to Section 6(f) 4. Boone's Ferry Boat Launch subject to Section 4(f) 5. Portland & Western Railroad 6. Tauchman House 7. Apple orchard in Boone's Ferry Park 8. PGE overhead power lines 9. BPA overhead transmission lines 10. Ephemeral drainage channel 11. Depression left by former mobile homes 12. Construction stormwater pond | <ul style="list-style-type: none"> 13. Stream channel and associated wetlands 14. Possible wetland 15. Stock pond 16. Agricultural drainage ditch 17. Wastewater treatment plant discharge pipe 18. Main Old Town storm sewer outfall 19. Underground gas transmission lines 20. USGS Navigational Channel 21. Sanitary sewer lines 22. Domestic water mains |
|--|--|

Constraints

- 1. State farmland protection laws could exclude bridge, depending on amount of emergency vehicle use.
- 2 and 4. The Federal Highway Administration will have to agree that any use is de minimis pursuant to Section 4(f).
- 3. The National Park Service and Oregon Parks and Recreation Department will have to approve the improvements as recreational enhancements, pursuant to Section 6(f).
- 5 through 7. Impact will require evaluation for eligibility for the NRHP and compliance with Section 106.
- 8. Impact will require evaluation for eligibility for the NRHP and compliance with Section 106 and relocation. PGE will bear relocation cost.
- 9. Impact will require evaluation for eligibility for the NRHP and compliance with Section 106 and relocation. Relocation cost will be high and project will have to pay it.
- 10 through 12, 14 through 16. Impact may require approval of the USACE and/or DSL.
- 13. Impact will require approval of the USACE and DSL.
- 17. Impacts will require replacement of main outfall of City sanitary sewer system.
- 18. Impacts will require replacement. Cost will be high and project will have to pay it.
- 19. Impacts will require relocation of line under river.
- 20. Impacts will require analysis and USACE approval.
- 21 and 22. Impacts will require relocation. Project will bear cost.

Abbreviations

- | | |
|-------|--------------------------------------|
| BPA | Bonneville Power Administration |
| DSL | Oregon Division of State Lands |
| NRHP | National Register of Historic Places |
| PGE | Portland General Electric |
| USACE | U.S. Army Corps of Engineers |
| USGS | U.S. Coast Guard |

