

MEMORANDUM

Date: June 22, 2021 Project #: 23021.19
To: Project Management Team

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Project: Oregon City-West Linn Pedestrian and Bicycle Bridge Concept Plan
Subject: TM #6: Preferred Crossing Corridor Locations and Implementation Plan

PURPOSE

This memorandum identifies the preferred upstream and downstream corridors for the Oregon City-West Linn Pedestrian and Bicycle Bridge Concept Plan. Risks, constructability concerns, project and maintenance costs, and 5% conceptual design layouts for each corridor are presented. The final section of this memorandum outlines the framework for implementation.

PREFERRED BRIDGE CORRIDORS

Comments and input received from stakeholder groups, focus groups, Oregon Department of Transportation (ODOT) staff, the Project Advisory Committee (PAC), and the Project Leadership Team (PLT) were compiled to inform the selection of the five most promising bridge alignments, evaluated in *TM #5: Executive Summary and Recommendations* (TM #5).

Based on the analysis performed in TM #5, public and stakeholder feedback to date; the complex and integrated benefits, burdens, and unknowns associated with each alignment; and the data limitations at this time in the planning process, the Project Management Team (PMT) decided to advance general corridors compared to specific alignments. Two corridors recommended for adoption into the local Oregon City and West Linn transportation system plans (TSPs) are illustrated in Figure 1.

For conceptual purposes in identifying risks, cost, and overall feasibility, a preliminary engineering and planning evaluation was conducted on an alignment in each of the two corridor windows. The following sections discuss additional considerations and the implementation approach for the two following corridors:

- Upstream Corridor: Includes Alignment 1c
- Downstream Corridor: Includes Alignment 7b

Figure 1: Preferred Bridge Upstream and Downstream Alignment Corridors

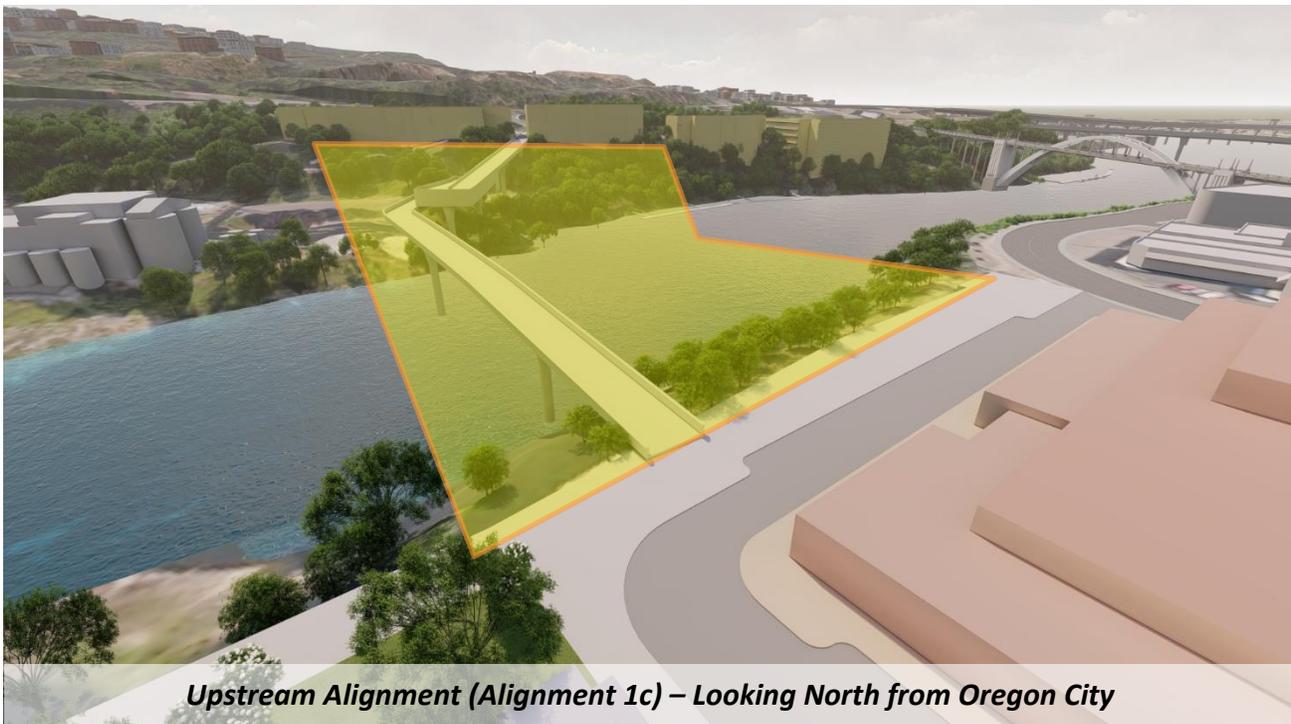


Upstream Corridor: Includes Alignment 1c

Alignment 1c, a potential alignment in the upstream corridor, connects 4th Street from the Willamette Falls Downtown District in Oregon City to the future Sunset/West A Street intersection in West Linn via Moores Island. As a part of this alignment, a ramp structure system on Moores Island would be constructed to provide necessary elevation changes that would avoid navigational conflicts with the Willamette Falls Locks canal. The connection to Moores Island also has the opportunity to provide future access to the island.

As shown in Figure 2, an alignment in the Upstream Corridor (Alignment 1c) could connect directly to redevelopment of the Blue Heron Site, Moores Island, and the Historic Mill properties along with future investments in Metro’s Riverwalk and envisioned Oregon City Esplanade.

Figure 2: Visualization of an Alignment in the Upstream Corridor (Alignment 1c)



Upstream Alignment (Alignment 1c) – Looking North from Oregon City

Appendix A includes a concept plan sheet illustrating plan, elevation, and section for the Upstream Alignment (1c).

Concept Plan

Identified Risks

An alignment in the Upstream Corridor (Alignment 1c) has the following risks that could affect the future project development and design for a pedestrian and bicycle bridge structure in this location:

- **Integration with riverwalk structure** – A riverwalk structure is planned that would run parallel to the Willamette River at the proposed Oregon City bridgehead. There are risks associated with the timing of the design development of each structure and coordination of the design details to ensure compatibility between the structures.
- **Navigation clearance requirement** – The planned vertical profile on this alignment between Oregon City and Moores Island provides less vertical clearance compared to the existing adjacent Historic Arch Bridge (i.e., 47 feet vs. 74 feet). Additionally, some bridge types may not be able to practically provide the same horizontal navigation clearance as the adjacent Historic Arch Bridge, which provides 181 feet. Vertical clearance in excess of the Historic Arch Bridge can be provided over the locks. The portion of the river that would have lower vertical clearance as the Historic Arch Bridge is directly downstream of Willamette Falls. Given the clearances at the locks and the proximity of the Falls, a Navigational Impact Report will be required to determine if a vertical clearance lower than that of the Historic Arch Bridge is acceptable. The navigational report and additional coordination with the United States Coast Guard (USCG) will be required in the future to confirm the required clearances for the bridge. As a result, the navigation clearance requirement presents a design feasibility risk.
- **Ramping structure on Moores Island** – To maintain a grade of 5% or less on each portion of the bridge, a ramping structure that accommodates an elevation change on the order of 35–40 feet would be required. The ramping in this structure can be laid out in a number of configurations including switchbacks or helical ramping, but approximately 700–800 feet of ramping would be required. If an alignment lands on Moores Island, there are existing structures that would likely require demolition to construct the ramping. Given this length of ramping, a large footprint on Moores Island may be required, which presents design feasibility and permitting risks.
- **Proximity of Willamette Falls lock structures** – Foundations for the bridge spans and the ramping structure would be required on Moores Island and given the tight space on the island, the bridge span foundations would likely be in close proximity to the lock structures. The details of the lock structures and potential conflicts and/or interaction with the foundations are unknown and present a risk in future design development.
- **Integration with planned developments near the West Linn bridgehead** – A mixed-use development and realignment of streets is planned at the north end of this bridge alignment in West Linn. There are risks associated with the timing of the development and need to coordinate the design details to ensure compatibility between the bridge and other improvements.
- **Floodplain cut and fill balance** – Given the size of the ramping structure on Moores Island along with required bridge foundations, the ability to balance cut and fill below the floodplain presents a risk during design. A balance of cut and fill is required by both the City of Oregon City and City of West Linn for land use approval. Both riverbanks are developed and there may be limited ability to create an offset for the fill below the floodplain from the bridge and ramping structure.
- **Right-of-way (ROW)** – This concept alignment crosses private properties at the Oregon City bridgehead, on Moores Island, and in West Linn that would require permanent ROW dedications and/or acquisition. There are risks presented by the costs and timelines associated with the ROW acquisition process.

- **OR 99E/Main Street Crossing** – As an interim condition, prior to the Blue Heron site redevelopment and associated elevator construction, people traveling to/from an Upstream Corridor Alignment bridgehead on the Oregon City side would be required to cross OR 99E at-grade at the signalized intersection of OR 99E/Main Street. While the signal provides a protected phase for people crossing OR 99E, crossing the highway is described as an uncomfortable experience by stakeholders and members of the public.
- **High potential of archeological impacts (Section 106)** – Given the proximity to recognized culturally sensitive sites along the Willamette River and proximity to Willamette Falls, upstream alignments could have a significant impact on these resources, which may require evaluation in an Environmental Impact Statement (EIS). Preliminary comments from the Tribes have asserted that Willamette Falls and the vicinity are very significant for both historic and contemporary use by Tribal members. Based on a preliminary Section 106 cultural resource assessment, the following cultural impacts were identified:
 - Likely Section 106 Adverse Effect on the Historic Arch Bridge.
 - Likely Section 106 Adverse Effect on Traditional Cultural Property/Historic Property of Religious and Cultural Significance to Indian Tribes (TCP/HPRCSIT).
 - High probability of impacts to archaeological resources.
 - Likely Section 106 No Adverse Effect on Willamette Falls Locks.
 - This increases risk and likely results in a Section 106 Adverse Effect on TCP/HPRCSIT.
 - No Section 4(f) use of the Historic Arch Bridge.
 - May have Section 4(f) constructive use of TCP/HPRCSIT.
- **Environmental resources** – Based on the general vicinity of an alignment in the Upstream Corridor, the following potential environmental impacts are identified as risks that could affect project design and future environmental review:
 - Ramp structure on Moores Island is likely to produce more impacts below ordinary high water than other alignments.
 - Ramp structure on Moores Island has the potential to disturb hazardous materials due to previous industrial use in the area.
 - Ramp structure on Moores Island is likely to produce more fill in the floodplain than other alignments that must be balanced by cut elsewhere.
- **Hazardous material** – Due to the historic industrial uses in the area (e.g., Blue Heron Paper Mills), the Upstream Corridor will likely have extensive hazardous material concerns. Further data gathering around hazardous material must be conducted.¹ Identified contamination issues may increase risk and project cost.

¹ The riverwalk project is anticipated to address a majority of hazardous material concerns near the riverwalk structure approach and landing in Oregon City.

Constructability Concerns

While the type, size, and location of the bridge structure will not be determined as a part of this project, the following constructability concerns related to an alignment in this corridor have been identified at this time:

- **Oregon City bridgehead access and staging area** – Due to the planned development at the Oregon City end of the bridge, including the riverwalk structure, access to the construction of bridgeheads adjacent to the riverwalk structure would likely be limited to access from the river. Additionally, this would limit or preclude access to a temporary work bridge from the Oregon City side of the river. Staging locations for contractor laydown needs at this end of the alignment may not be available.
- **Depth of river** – A detailed bathymetric survey is not available as part of this project, but soundings as deep as 71 feet are shown on the National Oceanic and Atmospheric Administration river chart for this stretch of river. This water depth would make the construction of foundations in this stretch of river challenging and would likely lead to a bridge-type selection that allows for longer spans and foundations closer to the river's edge. Additionally, the depth of the river likely precludes the use of a work bridge and would require barges for construction access and material delivery to be completed.
- **Island construction** – Construction access and materials delivery to Moores Island for the bridge and ramping structure may be challenging. Given the existing structures on the island and the apparent lack of overland access for heavy equipment to be delivered to the island, it appears that the use of barges or perhaps a temporary work bridge over the locks would be required. Additionally, the size of the ramping structure required may limit the available space on the island for construction equipment.
- **West Linn bridgehead access** – The existing conditions appear to provide relatively favorable access to this end of the bridge. Planned developments and realignment of roadways may complicate construction access and material delivery to this end of the bridge.

Estimated Project Cost

The development of the estimated planning-level project cost starts with a conceptual structural construction cost (SCC) for the bridge and ramping structures as described in *TM #3A: Preliminary Bridge Concept Plans*. Additional project costs are then based on factors applied to the SCC as described below. These factors are similar to those used on previous planning-level projects completed with ODOT.²

- Erosion Control (EC) = 1% × SCC
- Temporary Protection and Direction of Traffic (TP&DT) = 2% × (SCC + EC)

² OR22: Center Street Bridge (Salem) – Advanced Investigation: Bridge Seismic Retrofit and I-205: Stafford to OR99 (Abernethy Bridge) Bicycle and Pedestrian Assessment.

- Mobilization = 10% × (SCC + EC + TP&DT)
- Total Construction Items (TCI) = SCC + EC + TP&DT + Mobilization
- Preliminary Engineering (PE) = 15% × TCI
 - PE includes design through bid plans, design oversight, environmental permitting, public involvement, etc.
- Construction Engineering (CE) = 13.5% × TCI
- Utilities and ROW = 7.5% × TCI

The breakdown of these costs and resulting project cost range can be seen in Table 1. Note that a range of structural construction costs is provided because the structure type, size, and location have not been selected. Additionally, these structural construction costs have been updated from those provided in previous technical memoranda to reflect refinements to the bridge alignments and lengths. The estimated project costs provided are not upper or lower bounds and are based on the limited design development completed to date. Project cost estimates should be reevaluated and refined in future project phases as the design development progresses.

Table 1: Alignment 1c Estimated Project Costs

	Lower	Higher
Structural Construction Cost	\$24 M	\$35 M
Erosion Control	\$0.3 M	\$0.4 M
Temporary Protection and Direction of Traffic	\$0.5 M	\$0.7 M
Mobilization	\$2.5 M	\$ 3.6 M
Total Construction Items	\$27.2 M	\$39.7 M
Preliminary Engineering	\$4.1 M	\$6.0 M
Construction Engineering	\$3.7 M	\$5.4 M
Utilities and ROW	\$2.0 M	\$3.0 M
Project Cost (2021 cost without consideration of inflation)	\$37 M	\$54 M

The current planning level estimate for the structure without inflation is approximately \$37 million to \$54 million. The horizon cost based on an annual inflation rate of 6% would be approximately \$111 million to \$162 million in 2040.

Maintenance Cost

Aside from the initial capital cost of constructing a bridge, there are maintenance costs associated with structures throughout their intended 75-year service life. The following items are included in the estimated maintenance cost provided below:

- Routine and in-depth inspections

- Routine operational maintenance
- Superstructure and substructure concrete repairs
- Expansion joint and bearing rehabilitation or replacement
- Deck surface rehabilitation
- Cable supported structures only
 - Specialized inspection of stay cables and anchorages
 - Repair and replacement of stay cables

It is assumed weathering or galvanized steel would be used to eliminate maintenance painting costs.

The ramping structure on Moores Island would have similar maintenance items to the bridge described above, with the elimination of cable-supported structure maintenance costs but the addition of potential elevator maintenance costs.

These maintenance costs occur throughout the 75-year service life of the project and are affected by inflation. Accordingly, maintenance funds can be set aside early in a structure's service life to gain interest and offset the inflation of maintenance costs. Because it is unknown when the structure would be constructed and how maintenance funding for the structure would be managed, this study will consider the estimated total maintenance cost of the structure if all maintenance was imagined to occur in 2021 and if maintenance costs are calculated for their expected timing in the service life of the structure considering inflation. The estimated total maintenance cost over the 75-year service life of the bridge and ramping structure for Alignment 1c is \$6.4 million if all maintenance were to occur in 2021. If the cost of maintenance is determined considering 3% inflation at the anticipated time during the structure's 75-year service life, the estimated total cost would be \$23.3 million.

Downstream Corridor: Includes Alignment 7b

Alignment 7b, a potential alignment in the downstream corridor, connects from the signalized intersection at 10th Street in Oregon City to the planned shared-use path along OR 43 in West Linn. No ramping is required as part of this alignment. As shown in Figure 3, an alignment in the Downstream Corridor (Alignment 7b) could provide immediate access to the shared-use path along McLoughlin Boulevard.

Figure 3: Visualization of an Alignment in the Downstream Corridor (Alignment 7b)



Downstream Alignment (7b) – Looking Northwest from Oregon City

Appendix A includes a concept plan sheet illustrating plan, elevation, and section for the Downstream Alignment (7b).

Concept Plan

Identified Risks

An alignment in the Downstream Corridor (Alignment 7b) has the following risks that could affect the future project development and design for a pedestrian and bicycle bridge structure in this location:

- **Integration with shared-use path connection structure and existing OR 99E structures** – A shared-use path is planned that would run parallel to the Willamette River at the Oregon City end of this bridge alignment. There are risks associated with the timing of the design development of each structure and the coordination of the design details to ensure compatibility between the structures. Even without this planned additional structure, this end of the bridge alignment appears to connect at the interface of an existing retaining and

partial viaduct structure that supports OR 99E and the existing sidewalk. There is risk associated with designing a new structure that connects to an existing structure and the potential impacts to, or design modifications needed for, the existing OR 99E structures.

- **Utility impacts** – There appears to be a large diameter pipeline that runs parallel to the river adjacent to and underneath the existing OR 99E structures at the Oregon City end of the bridge alignment. There is risk of design complications associated with avoiding impacts to this utility or making modifications to the utility.
- **Navigation clearance requirements** – The concept vertical profile on this alignment is able to meet the anticipated navigational clearance requirements based on the existing adjacent Historic Arch Bridge and Abernethy Bridge. Dependent on the exact requirements provided by the USCG during further consultation beyond this project, some bridge types may be unable to practically achieve the clearances. As an example, a typical girder type bridge could more easily provide clearances matching the Historic Arch Bridge (74 feet vertical, 181 feet horizontal) and would not be able to provide clearances matching the Abernethy Bridge (76 feet vertical, 265 feet horizontal) without raising the concept vertical profile. A long-span cable-supported structure could likely provide clearances matching both the Historic Arch Bridge and the Abernethy Bridge. This required coordination with the USCG presents some risk and may drive the selection of the bridge type or lead to ramping at one or both ends of the bridge.
- **ROWs** – This concept alignment crosses private properties along Territorial Drive that would require permanent ROW acquisition and potential aerial easements. There are risks presented by the costs and timelines associated with the ROW acquisition process. Potential impacts to docks may also require ROW takes that have an impact on the public.
- **OR 99E/10th Street crossing** – People traveling to/from the Alignment 7b bridgehead on the Oregon City side would be required to cross OR 99E at-grade at the signalized intersection of OR 99E/10th Street. While the signal provides a protected phase for people crossing OR 99E, crossing the highway is described as an uncomfortable experience by stakeholders and members of the public.
- **Singer Hill grade** – Singer Hill presents a strong network connectivity opportunity for Alignment 7b; however, the grade of Singer Hill rises as approximately 6% with a section of the roadway exceeding 8%. This grade is limiting to people walking, biking, and rolling and would likely require people to travel along Main Street to access the Oregon City municipal elevator.
- **Environmental resources** – Based on the general vicinity of the alignment in the Downstream Corridor, the following potential environmental impacts are identified as risks that could affect project design and future environmental review:
 - Potential impacts to West Bridge Park (Section 4[f])
 - Appears to have a higher impact on riparian zones compared to Alignments 1c
- **Potential of archeological impacts (Section 106)** – Given the proximity to recognized culturally sensitive sites along the Willamette River, downstream alignments could have significant impacts on these resources, which may require evaluation in an in an EIS.

Constructability Concerns

While the type, size, and location of the bridge structure would not be determined as a part of this project, the following constructability concerns related to a downstream alignment (Alignment 7b) have been identified at this time:

- **Oregon City bridgehead access and staging area** – Due to the proximity of OR 99E and the existing structures that support the highway, access to the construction of a bridgehead adjacent to the OR 99E structures may be limited to access from the river. Additionally, this may limit or preclude access to a temporary work bridge from the Oregon City side of the river. Staging locations for contractor laydown needs at this end of the alignment may not be available.
- **West Linn bridgehead access and staging area** – Access from and staging adjacent to OR 43 appears very challenging. Depending on the amount of ROW acquisition of the private properties on Territorial Drive, staging and access from Territorial Drive toward the river to a work bridge and to the area between Territorial Drive and OR 43 may be an option, but Territorial Drive is not a roadway that would easily accommodate construction equipment access. Significant barge use may be required for construction access, staging, and material delivery.
- **Proximity to railroad** – Due to the proximity of the railroad paralleling in Oregon City and the railroad crossings at the 10th Street/Main Street and 11th Street/Main Street, railroad coordination may be required with the railroad company for the Downstream alignment.

Estimated Project Cost

The development of the estimated planning-level project cost is similar to that described for Alignment 1c, with the exception of TP&DT, and utilities and ROW. Since Alignment 7b appears to impact roadway facilities more and impact less private property by area, the TP&DT and utilities and ROW cost will be calculated as follows:

- Temporary Protection and Direction of Traffic (TP&DT) = $4\% \times (\text{SCC} + \text{EC})$
- Utilities and ROW = $5\% \times \text{TCI}$

The breakdown of these costs and resulting project cost range can be seen in Table 2. Note that a range of structural construction costs is provided because the structure type, size, and location have not been selected. Additionally, these structural construction costs have been updated from previous technical memoranda to reflect refinements to the bridge alignments and lengths. The estimated project costs provided are not upper or lower bounds and are based on the limited design development completed to date. Project cost estimates should be reevaluated and refined in future project phases as the design development progresses.

Table 2: Alignment 7b Estimated Project Costs

	Lower	Higher
Structural Construction Cost	\$21.2 M	\$31.9 M
Erosion Control	\$0.2 M	\$0.3 M
Temporary Protection and Direction of Traffic	\$0.9 M	\$1.3 M
Mobilization	\$2.2 M	\$ 3.3 M
Total Construction Items	\$24.5 M	\$36.8 M
Preliminary Engineering	\$3.7 M	\$5.5 M
Construction Engineering	\$3.3 M	\$5.0 M
Utilities and ROW	\$1.2 M	\$1.8 M
Project Cost (2021 cost without consideration of inflation)	\$33 M	\$49 M

The current planning level estimate for the structure without inflation is approximately \$33 million to \$49 million. The horizon cost based on an annual inflation rate of 6% would be approximately \$98 million to \$147 million in 2040.

Maintenance Cost

As with Alignment 1c, there are maintenance costs associated with a bridge on Alignment 7b that would occur throughout its intended 75-year service life. The estimated maintenance cost below includes the same types of items with the exception of elevator maintenance and is presented in the same manner. The estimated total maintenance cost over the 75-year service life for a bridge on Alignment 7b is \$2.4 million if all that maintenance were imagined to occur in 2021 without factoring in inflation. If the cost of maintenance is determined considering 3% inflation at the anticipated time during the structure’s 75-year service life, the estimated total cost would be \$8.7 million.

Preliminary Scope for Future NEPA Work

The National Environmental Policy Act (NEPA) ensures agencies consider the environmental consequences of their proposed actions and inform the public about their decision making. While this study has made some preliminary assessments with respect to elements covered by NEPA, a more robust process is necessary to achieve NEPA goals. A separate memorandum (*Preliminary Scope for NEPA Analysis*) will be prepared for ODOT as a separate deliverable to outline the potential NEPA tasks necessary for future project environmental review.

FUNDING OPPORTUNITIES

Table 3 summarizes the funding opportunities and identifies the intended uses of the funds and any applicable pedestrian and bicycle project types. Each of these funding sources is further defined following the table.

Table 3: Funding Opportunities Summary

Funding Source	Intended Use
RAISE	Projects that achieve national objectives and have significant local and regional impact
INFRA	Projects of national and regional significance that are in line with the Biden Administration’s principles for national infrastructure projects
HSIP	Projects that reduce traffic fatalities and serious injuries on all public roads
NHPP	Projects that improve conditions along NHS Routes
STBG	Projects that preserve and improve surface transportation investments
STIP	Multimodal projects on federal, state, and local facilities
SWIP	Projects that enable people to move across or around the state highway system
SRTS	Projects that improve safety for children walking or biking to school
ARTS	Projects that address hotspot and systemic safety issues and concerns
SDC	System development charges (SDC) through private development funding

Federal³

The following section summarizes the federal funding opportunities as of April 2021. Given the scope and regional significance of the project, it is anticipated that the Oregon City-West Linn Pedestrian and Bicycle Bridge would be partially funded through federal dollars.

RAISE

Rebuilding American Infrastructure with Sustainability and Equity (RAISE),⁴ formally known as BUILD and TIGER, awarded over \$8.9 billion in grants to projects in all 50 states since 2009.

Projects for RAISE funding are evaluated based on merit criteria including safety, environmental sustainability, quality of life, economic competitiveness, state of good repair, innovation, and

³ Opportunities to earmarked Federal funding programs.

⁴ Information on the RAISE Program is available at: <https://www.transportation.gov/RAISEgrants>

partnership. The U.S. Department of Transportation plans to prioritize projects that can demonstrate improvements to racial equity, reduce impacts of climate change, and create good-paying jobs.

For the current fiscal year (FY) 2021 discretionary grant funding, the maximum grant award is \$25 million, and no more than \$100 million can be awarded to a single state.

INFRA

The Infrastructure for Rebuilding America (INFRA)⁵ discretionary grant program funds transportation projects of national and regional significance that align with the Biden Administration's principles for national infrastructure projects. The projects should result in good-paying jobs, improve safety, apply transformative technology, and explicitly address climate change and racial equity. Grant funding for the current FY totals \$889 million.

HSIP

The Highway Safety Improvement Program (HSIP)⁶ is a core federal-aid program with the purpose of achieving a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. Applications must focus on a strategy, activity, or project consistent with a state strategic highway safety plan. Projects must correct or improve a hazardous road location or feature, or address a highway safety problem, including automated enforcement in school zones. Infrastructure and non-infrastructure projects are eligible. Projects require a small local match (10%) and are administered through the Statewide Transportation Improvement Program (STIP; see below).

NHPP

The National Highway Performance Program (NHPP)⁷ provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that federal investments in highway construction support progress toward the achievement of performance targets established in a state's asset management plan for the NHS. States may transfer up to 50% of the funds to the Surface Transportation Block Program (STBG), Transportation

⁵ Information on the INFRA Program is available at: <https://www.transportation.gov/buildamerica/financing/infra-grants/infrastructure-rebuilding-america>

⁶ Information on the HSIP Program is available at: <https://safety.fhwa.dot.gov/hsip/>

⁷ More information on the NHPP Program is available at: <https://www.fhwa.dot.gov/fastact/factsheets/nhppfs.cfm>

Alternatives, HSIP, or the Congestion Mitigation and Air Quality programs. NHPP funds can be used for a variety of biking and walking improvements, from bike lanes to curb cuts to bike/pedestrian overpasses.

STBG

The Surface Transportation Block Grant Program (STBG)⁸ provides flexible funding that may be used by states and localities for projects to preserve and improve the conditions and performance on any federal-aid highway, bridge and tunnel projects on any public road; walking and biking infrastructure; and transit capital projects, including intercity bus terminals. Projects must be identified in the STIP or Transportation Improvement Program and be consistent with the long-range statewide transportation plan and the metropolitan transportation plan(s).

State⁹

STIP

The Statewide Transportation Improvement Program (STIP)¹⁰ is ODOT's 4-year capital improvement program for state and federally funded projects. It includes projects in federal, state, city, and county transportation systems; multimodal projects (highway, passenger rail, freight, public transit, bicycle, and pedestrian); and projects in the National Parks and National Forests, and on Indian tribal lands. STIP project lists are developed through the coordinated efforts of ODOT, federal and local governments, area commissions on transportation, tribal governments, and the public.

STIP is divided into five major categories: The **Fix-It** program funds projects that fix or preserve the state's transportation system, including bridges, pavement, culverts, traffic signals, and others. The **Enhance** program funds projects that enhance or expand the transportation system—area commissions on transportation recommend high-priority investments from state and local transportation plans in many Enhance programs. **Safety** programs reduce deaths and injuries on Oregon's roads. This includes the All Roads Transportation Safety (ARTS) program (discussed later in this technical memorandum), which selects projects through a data-driven process to ensure resources have maximum impact on improving the safety of Oregon's state highways and local roads. **Non-highway** programs fund bicycle and pedestrian projects and public transportation. **Local government** programs direct funding to local governments for priority projects.

⁸ Information on STBG is available at: <https://www.fhwa.dot.gov/specialfunding/stp/160307.cfm#>

⁹ Opportunities to earmark State funding programs.

¹⁰ More information on STIP is available at: <http://www.oregon.gov/ODOT/TD/STIP/Pages/default.aspx>

Project proposals for STIP can be made to the state via regional offices; however, projects must be in a locally adopted TSP.

SWIP

The Sidewalk Improvement Program (SWIP)¹¹ builds pedestrian and bicycle facilities on state and local roads that help people moving across or around the state system. Projects should address needs identified in the region’s Active Transportation Needs Inventory or other Oregon Bicycle and Pedestrian Plan priorities. All project phases are eligible for SWIP funding, but the emphasis is on construction activities, per ORS 366.514. Funds may be used for stand-alone projects or as an add-on to another project if all region Active Transportation Leverage funds have already been allocated.

SRTS

ODOT’s Safe Routes to School Program (SRTS)¹² program provides grants to make it safer for children to walk and bike to school, providing opportunity through investments in infrastructure and other programs. ODOT’s grant funding for infrastructure programs helps create and improve safe walking and biking routes to school, while its grant funding for non-infrastructure programs helps raise awareness by focusing on education and outreach. Non-motorized transportation projects related to getting children to school safely, including closing gaps in sidewalk and bicycle networks, are eligible for infrastructure program funding.

ARTS

ODOT’s All Roads Transportation Safety (ARTS)¹³ program (formerly known as the Jurisdictionally Blind Safety Program) is intended to address safety needs on all public roads in Oregon. By working collaboratively with local jurisdictions, ODOT expects to increase safety awareness on all roads, promote best practices for infrastructure safety, complement behavioral safety efforts, and focus limited resources to reduce fatal and serious injury crashes in Oregon. The program is data driven to achieve the greatest benefits in crash reduction, including addressing “hotspot” locations where a high concentration of crashes occurs. A portion is dedicated to a few proven low-cost measures for wide implementation that are demonstrated to be most useful. Local agencies can submit applications for bicycle and pedestrian projects.

¹¹ More information on SWIP funds is available at: <https://www.oregon.gov/odot/programs/pages/bikeped.aspx>

¹² More information on ODOT’s SRTS program is available at:
<https://www.oregon.gov/ODOT/Programs/Pages/SRTS.aspx>

¹³ More information on the ARTS program is available at: <https://www.oregon.gov/ODOT/Engineering/Pages/ARTS.aspx>

Other

SDC

System development charges present an opportunity to leverage funding opportunities through private investment to fund portions of the project. This one-time fee can be applied to future private development in Oregon City and West Linn; particularly to those developments that are in the vicinity of the Up- and Downstream Corridors and who may benefit from the investment of a pedestrian and bicycle bridge. SDCs should be further explored as likely funding mechanisms following the guidance outlined in Oregon State Law (ORS 223.297 – 223.314).

IMPLEMENTATION PLAN

The following outline provides the draft proposed implementation plan from adoption of the concept plan to the ultimate opening a new pedestrian-bicycle bridge crossing between Oregon City and West Linn.

- 1) Transportation System Plan Adoption
 - a. Adopt the recommended upstream and downstream pedestrian-bicycle bridge alignment corridors in proximity of 4th Street (future Sunset/Wes A) and 10th Street (I-205 northbound terminal), respectively, and conduct a crossing alignment refinement study into the Oregon City and West Linn Transportation System Plans (TSPs).
 - b. Through this action, the communities would:
 - i. Confirm the need for a new pedestrian-bicycle crossing within the study area.
 - ii. Recognize the complex and integrated benefits, burdens, and unknowns at this time
 - iii. Preserve the alignment corridors
 - iv. Demonstrate the public support necessary to seek and secure funding to conduct the environmental review, select a preferred alternative, and construct a new pedestrian-bicycle bridge crossing
 - c. Acknowledgement, Adoption, and TSP Amendments
 - i. The Project Management Team will submit a final draft Concept Plan to cities of Oregon City and West Linn to consider for adoption into their respective TSPs. Each jurisdiction will consider moving the Concept Plan through an adoption process. The partner agencies may make modifications to reconcile any potential differences in the adopted Concept Plan.
 - d. Regional/State Agency Acknowledgement, Adoption, and TSP Amendments
 - i. A final draft concept plan will be submitted to Clackamas County and Metro to consider for adoption in the Regional Transportation Plan. ODOT will also consider adoption of the concept plan into the Oregon Highway Plan.
- 2) Partner Agency Coordination and Interim Actions
 - a. Prior to identifying funding, the partner agencies should:

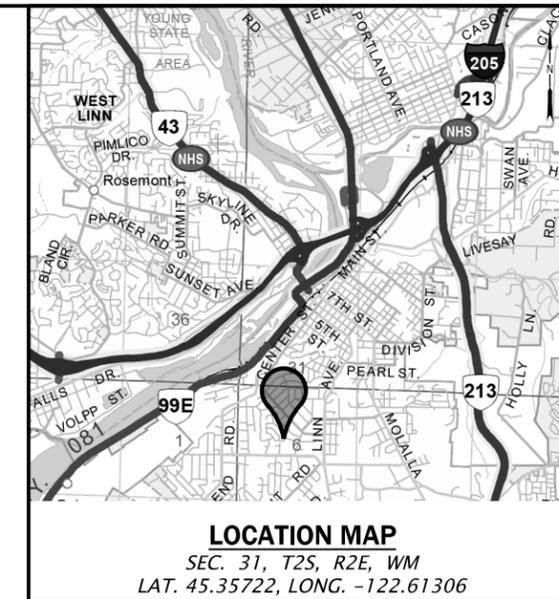
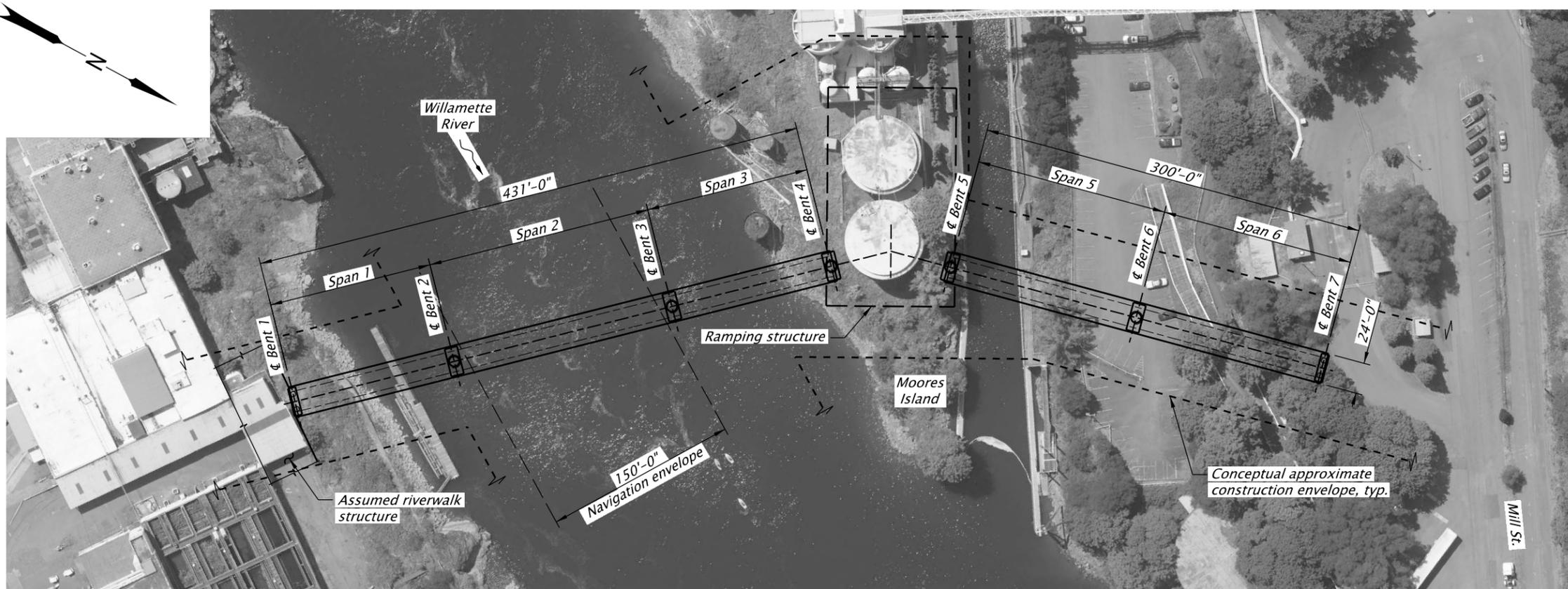
- i. Identify any specific upfront agency commitments.
 - ii. Seek funding for the environmental review and permitting process, design, and construction phases of the project.
 - iii. Preserve alignment corridors as part of future private and/or capital projects within the study area.
 - iv. Emphasize ongoing coordination with associated government entities.
 - v. Determine ultimate bridge ownership, capital funding responsibilities, and maintenance responsibilities.
 - b. Identify funding mechanism and respective Environmental Review process
- 3) Environmental Review and Planning Environmental Linkage (PEL)
 - a. The federal lead agency for environmental review (e.g., Federal Highway Administration, U.S. Army Corps of Engineers, U.S. Coast Guard, National Parks) will be determined by the project funding source or permitting authority. Once a lead agency is identified:
 - i. Initiate environmental review process
 - ii. Review identified benefits, burdens, and unknowns in the Concept Plan to determine what has potential changed since the adoption of the plan.
 - iii. Conduct the environmental review process.
 - iv. Obtain all federal and state permits and land use approvals from City of Oregon City and City of West Linn.
- 4) Identify and Select a Preferred Alignment
 - a. Based on additional analysis of the benefits, burdens, and unknowns and the completion of the respective Environmental Review, the project team will select the preferred alignment for a pedestrian-bicycle bridge crossing between Oregon City and West Linn.
- 5) Design and Construction
 - a. Following Steps 1 – 4, the project team will prepare plans, specifications, and cost estimates so that construction contract can be advertised for competitive bids.
 - b. Once the contracting mechanism is determined (e.g., traditional design, bid, and build or an alternative delivery method), the project will be advertised for construction bidding and constructed.

NEXT STEPS

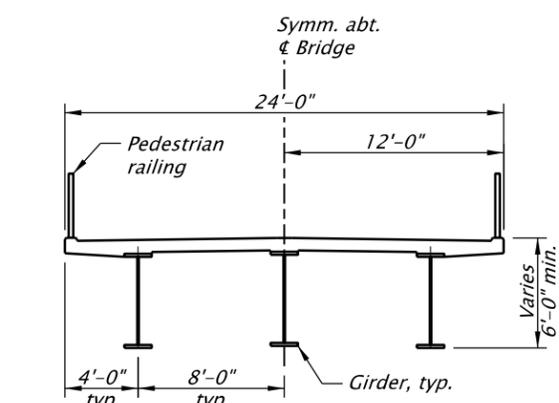
TM #6: Preferred Crossing Corridor Locations and Implementation Plan has been reviewed by the PMT and updated based on the comments received.

The *Concept Plan* has been developed to document the upstream and downstream pedestrian/bicycle bridge alignment corridors in proximity of 4th Street (future Sunset/West A) and 10th Street (I-205 northbound terminal) for adoption into the Oregon City and West Linn TSP's.

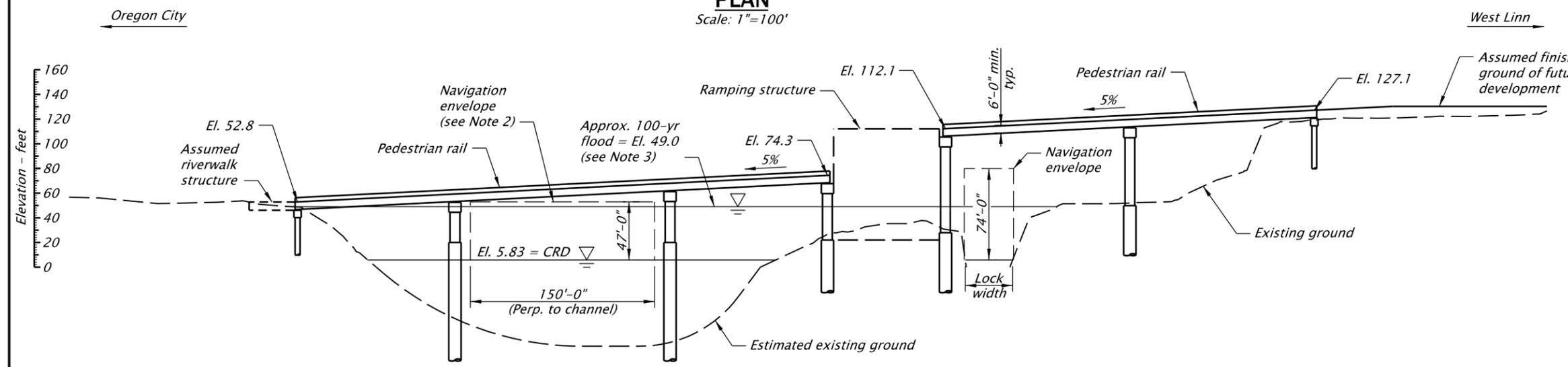
Appendix A
Upstream and Downstream
Alignment Concept Plan Sheets



PLAN
Scale: 1"=100'



TYPICAL SECTION
Scale: 1"=10'



DEVELOPED ELEVATION
Scale: 1"=100'

- Notes:**
1. A bridge span arrangement and structure depth is shown for a typical steel girder bridge type in order to support an assessment of potential impacts and constructibility of a bridge on this alignment. This does not reflect the results of a type, size, and location study for this bridge alignment which is beyond the scope of this study and will be performed in future project phases.
 2. The navigation envelope shown between Moores Island and Oregon City shows what can be reasonably achieved by a typical girder type structure. Coordination with the United States Coast Guard (USCG) is necessary in

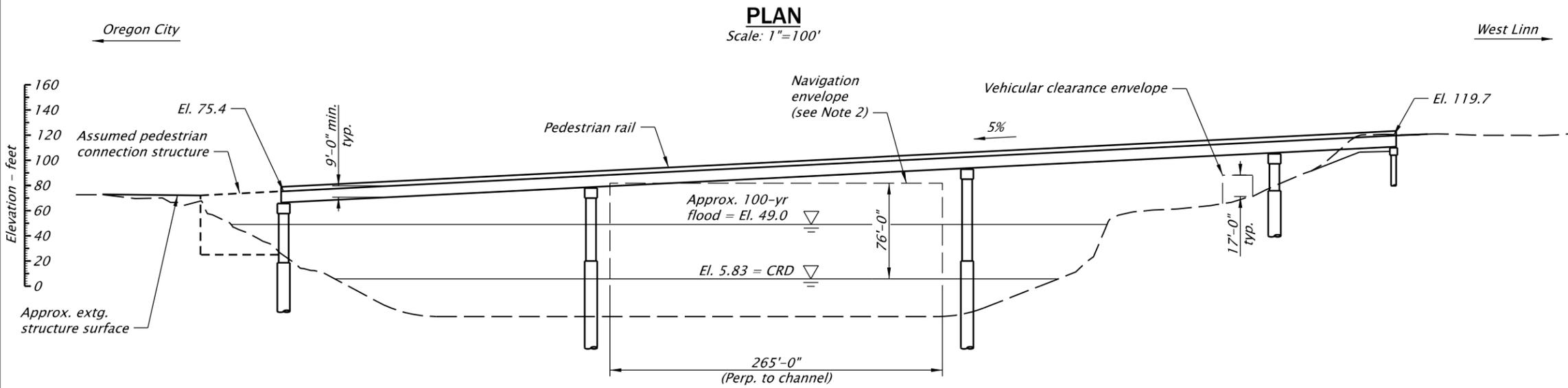
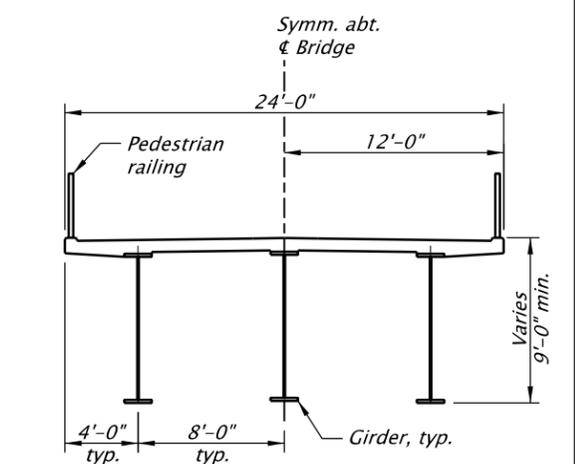
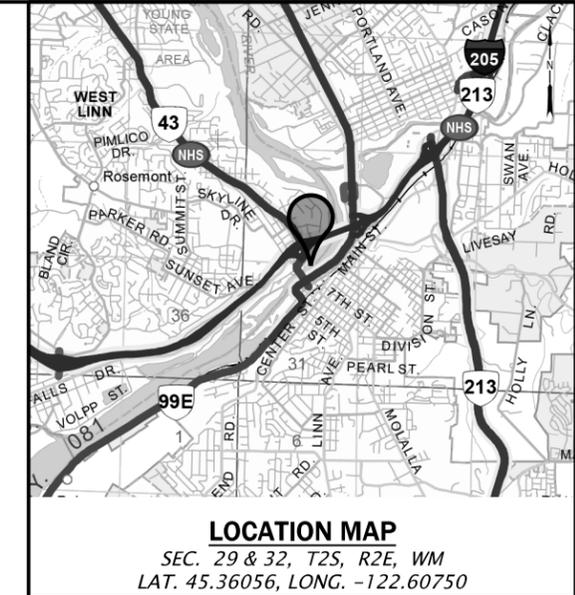
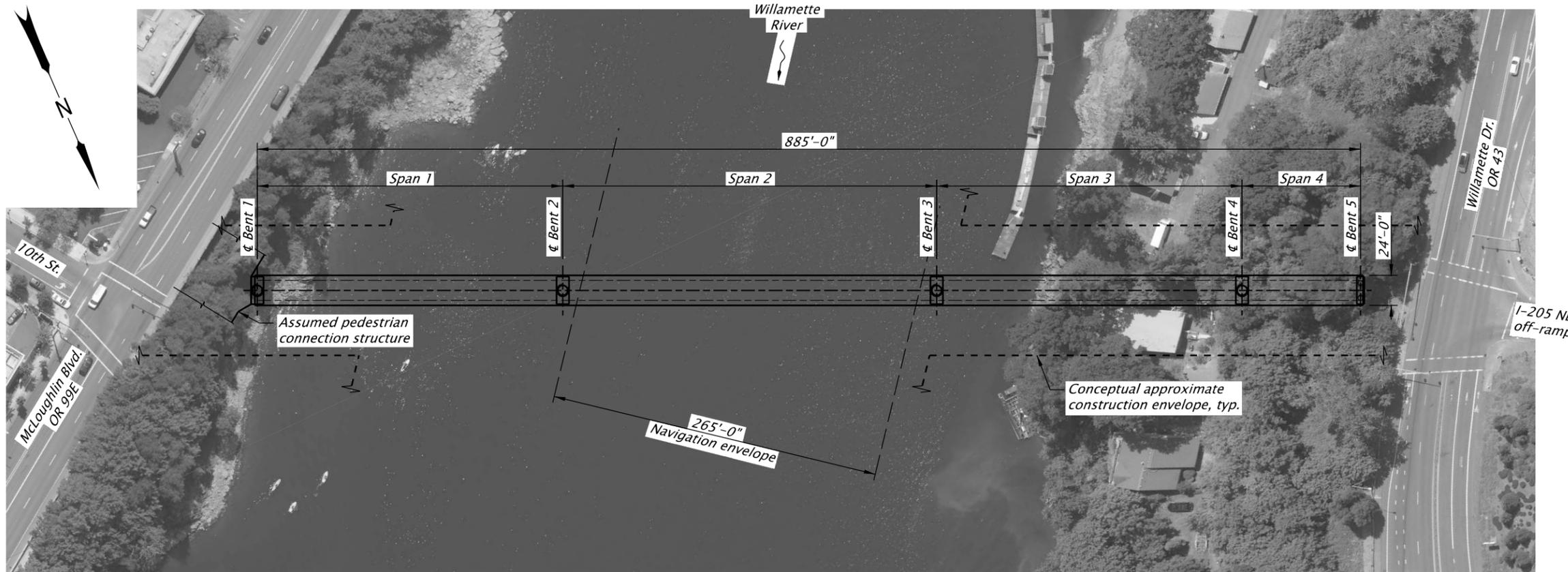
3. A typical girder type superstructure appears to extend below the approximate 100-year flood near the Oregon City river bank. Refinement of the design criteria and flood elevation is necessary in a future type, size, and location study to determine the appropriate structure type and geometry.

SCALE WARNING
IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.
BDS DWG NO.
CALC. BOOK
HWY: 000
M.P.: 000.00-000.00
COUNTY
Clackamas
DATE
05/21

**CONCEPT PLANS
SUBJECT TO CHANGE**

	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	STRUCTURE NAME OREGON CITY-WEST LINN PEDESTRIAN AND BICYCLE BRIDGE CONCEPT PLAN HIGHWAY CLACKAMAS COUNTY	
Designer: M. Mitchell Drafter: H. Gonsior		Reviewer: J. Bingle Checker: -
PLAN, ELEVATION & SECTION OPTION 1c		SHEET NO. 1



Notes:

1. A bridge span arrangement and structure depth is shown for a typical steel girder bridge type in order to support an assessment of potential impacts and constructibility of a bridge on this alignment. This does not reflect the results of a type, size, and location study for this bridge alignment which is beyond the scope of this study and will be performed in future project phases.
2. The navigation envelope shown reflects clearances at the adjacent Abernethy Bridge. The navigation envelope at the adjacent Historic Arch Bridge is smaller (74 feet vertical and 181 feet horizontal). Coordination

with the United States Coast Guard (USCG) is necessary in a future type, size, and location study to determine the required navigation clearances for this portion of the river. As shown, a typical girder type bridge on this alignment may not be able to provide the same clearances as Abernethy Bridge without an increase in profile grade and some ramping at the end of the structure. Alternatively, a smaller navigation clearance similar to the Historic Arch Bridge might be coordinated with the USCG or a different structure type and layout selected during a future type, size, and location study.

SCALE WARNING
 IF THIS SCALE LINE DOES NOT MEASURE ONE INCH, THEN DRAWING IS NOT TO SCALE

STRUCTURE NO.
BDS DWG NO.
CALC. BOOK
HWY: 000
M.P.: 000.00-000.00
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Clackamas
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**CONCEPT PLANS
 SUBJECT TO CHANGE**

	HDR ENGINEERING, INC 1050 SW 6TH AVENUE, SUITE 1800 PORTLAND, OR 97204-1134 503.423.3700	
	STRUCTURE NAME OREGON CITY-WEST LINN PEDESTRIAN AND BICYCLE BRIDGE CONCEPT PLAN HIGHWAY CLACKAMAS COUNTY	
Designer: M. Mitchell Drafter: H. Gonsior		Reviewer: J. Bingle Checker: -
PLAN, ELEVATION & SECTION OPTION 7b		SHEET NO. 2