Land Use Supplemental Memorandum

Multnomah County | Earthquake Ready Burnside Bridge Project

Portland, OR

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Earthquake Ready Burnside Bridge
Land Use Supplemental Memorandum

Prepared for

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Acronyms, Initialisms, and Abbreviations

ADA	Americans with Disabilities Act
API	Area of Potential Impact
Draft EIS	Draft Environmental Impact Statement
EIS	environmental impact statement
EQRB	Earthquake Ready Burnside Bridge
I-5	Interstate 5
I-84	Interstate 84
ODOT	Oregon Department of Transportation
SDEIS	Supplemental Draft Environmental Impact Statement

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Executive Summary

Impacts to land use resources from the Refined Long-span Alternative are similar to those evaluated in the Draft EIS for the Long-span Alternative. The biggest difference is that the Refined Long-span Alternative does not require full and partial acquisitions. Instead, the Refined Long-span recommends permanent easements which would still result in business displacements. The Refined Long-span Alternative would require more temporary construction easements and fewer temporary construction easement accesses than the Draft EIS Long-span Alternative.

1 Introduction

In support of the Supplemental Draft Environmental Impact Statement (SDEIS) for the Earthquake Ready Burnside Bridge (EQRB) Project, this supplemental technical memorandum has been prepared to evaluate the impacts of potential refinements to the Draft EIS Preferred Alternative on land use within the Project's Area of Potential Impact (API). The intent of the design modifications is to reduce the overall cost and improve the affordability of the EQRB Project. This technical memorandum is a supplement to the Draft EIS technical reports and as such does not repeat all the information in those reports, but instead focuses on the impacts of the design modification options, how they compare to each other, and how they compare to the version of the Preferred Alternative that is evaluated in the *EQRB Draft Environmental Impact Statement* (Multnomah County 2021b).

Much of the information included in the Draft EIS and Draft EIS technical reports, including project purpose, relevant regulations, analysis methodology and affected environment, is incorporated by reference because it has not changed, except where noted in this technical memorandum.

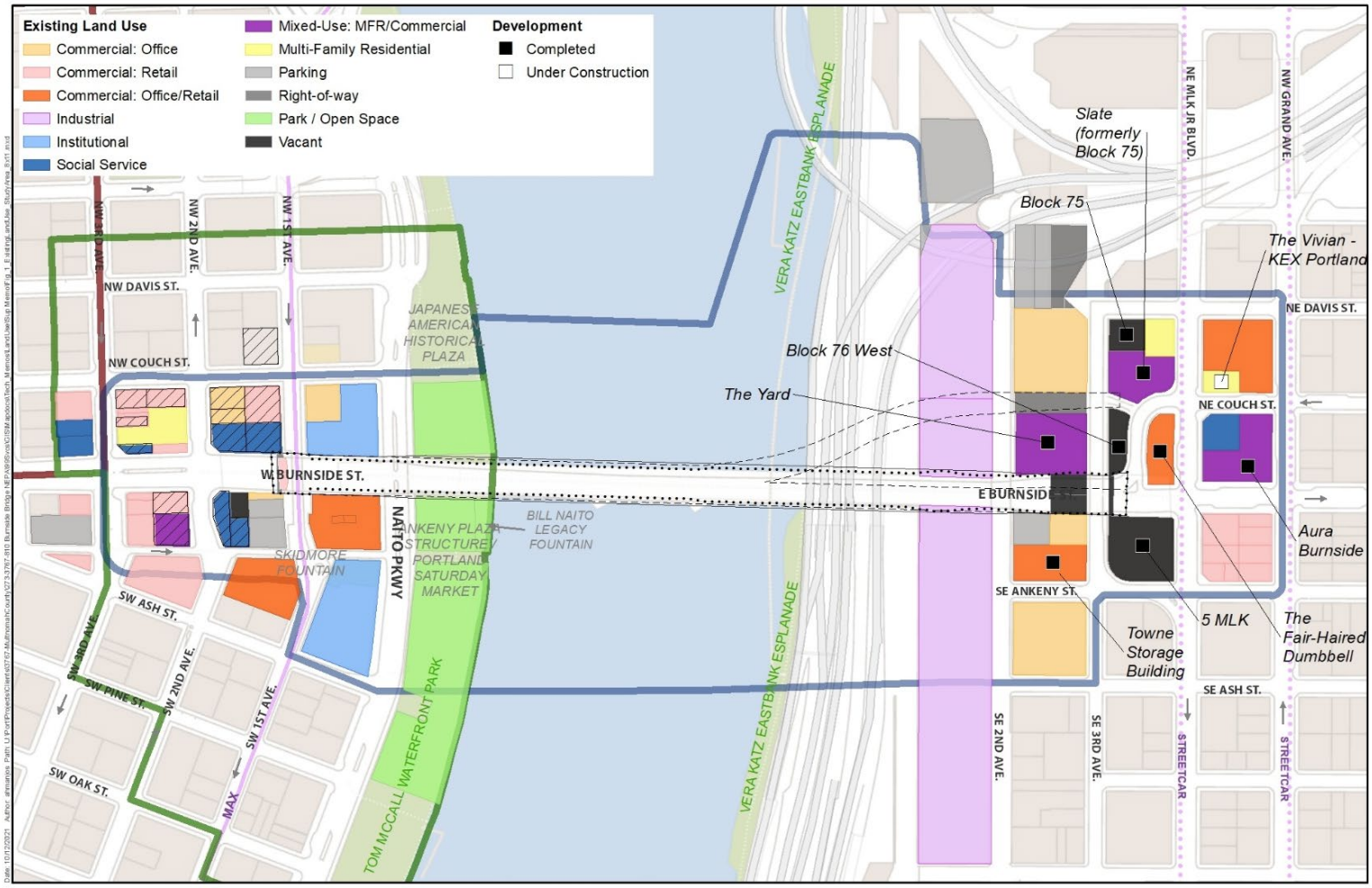
1.1 Project Location

The Project Area is located within the central city of Portland. The Burnside Bridge crosses the Willamette River connecting the west and east sides of the city. The Project Area encompasses a one-block radius around the existing Burnside Bridge and W/E Burnside Street, from NW/SW 3rd Avenue on the west side of the river and NE/SE Grand Avenue on the east side. Several neighborhoods surround the area including Old Town/Chinatown, Downtown, Kerns, and Buckman. Figure 1 shows the Project Area.

1.2 Project Purpose

The primary purpose of the Project is to build a seismically resilient Burnside Street lifeline crossing over the Willamette River that will remain fully operational and accessible for vehicles and other modes of transportation following a major Cascadia Subduction Zone (CSZ) earthquake. The Burnside Bridge will provide a reliable crossing for emergency response, evacuation, and economic recovery after an earthquake. Additionally, the bridge will provide a multimodal, long-term safe crossing with low maintenance needs. The full project purpose and need can be found in the EQRB Draft EIS, Chapter 1.

Figure 1. Project Area



2 Project Alternatives

This technical memorandum evaluates potential design refinements to the Draft EIS Preferred Alternative. All of the Project Alternatives evaluated in the Draft EIS are summarized in Chapter 2 of the Draft EIS and described in detail in the *EQRB Description of Alternatives Report* (Multnomah County 2021a). Briefly, the Draft EIS evaluated a No Build Alternative and four Build Alternatives. One of the Build Alternatives, the Long-span Alternative, was identified as the Preferred Alternative. The potential refinements evaluated in this technical memorandum are collectively referred to as the Refined Long-span Alternative (Four-lane Version) or the Refined Long-span. The Refined Long-span includes project elements that were studied in the Draft EIS but have been modified as well as new options that were not studied in the Draft EIS. These potential refinements and new options are intended to provide lower cost and, in some cases, lower impact designs and ideas that could be adopted to reduce the cost of the Draft EIS Preferred Alternative while still achieving seismic resiliency. The potential design refinements, and how they differ from the Draft EIS Long span Alternative, are described below.

- Bridge width – The total width of the bridge over the river would be approximately 82 to 93 feet (the range varies depending on the bridge type and segment). For comparison, the Draft EIS Replacement Alternatives were approximately 110 to 120 feet wide over the river. The refined bridge width would accommodate approximately 78 feet for vehicle lanes, bike lanes, and pedestrians, which is comparable to the existing bridge.
    - The refined bridge design would accommodate four vehicle lanes (rather than five as evaluated in the Draft EIS). The following lane configuration options are being evaluated:
        - Lane Option 1 (Balanced) – Two westbound lanes (general-purpose) plus two eastbound lanes (one general-purpose and one bus-only lane)
        - Lane Option 2 (Eastbound Focus) – One westbound lane (general-purpose) plus three eastbound lanes (two general purpose and one bus only)
        - Lane Option 3 (Reversible Lane) – One westbound lane (general-purpose) plus two eastbound lanes (one general-purpose and one bus-only) plus one reversible lane (westbound AM peak and eastbound PM peak)
        - Lane Option 4 (General Purpose with Bus Priority) – Two westbound general-purpose lanes plus two eastbound general-purpose lanes, plus bus priority access (e.g., queue bypass) at each end of the bridge.
    - The width of the vehicle lanes would be, at minimum, 10 feet and could vary depending on how the total bridge width is allocated between the different modes.
    - The total width of the bicycle lanes and pedestrian sidewalks would be approximately 28 to 34 feet. This is wider than the existing bridge but narrower than what was described in the Draft EIS for the Replacement Alternatives.

Physical barriers between vehicle lanes and the bicycle lanes would be in addition to the above dimensions.

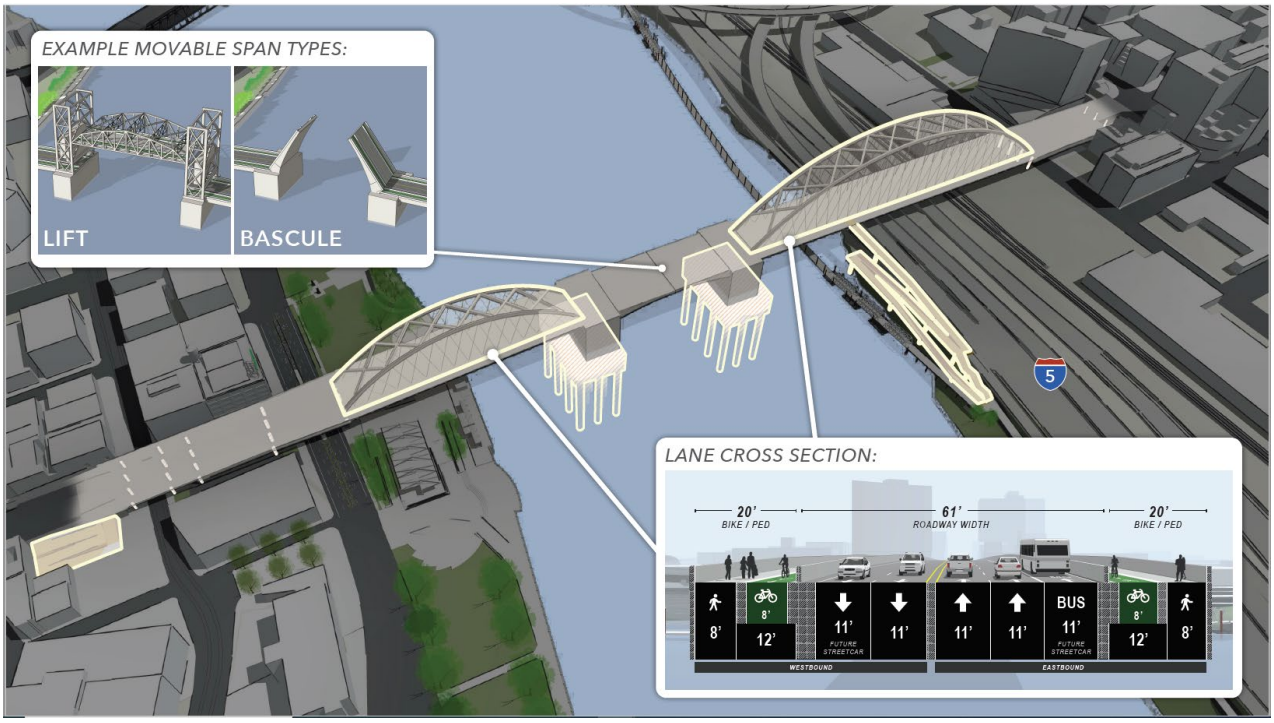
  - The refined bridge would allow narrower in-water piers, due to less weight needing to be transferred to the in-water supports.

- Other design refinements being evaluated:
  - West approach – This memo evaluates a refined girder bridge type for the approach over the west channel of the river, Waterfront Park, and Naito Parkway. Compared to the cable-stayed and tied-arch options evaluated in the Draft EIS, this option would not only reduce costs but also avoid an adverse effect to the Skidmore/Old Town National Historic Landmark District. It would have two sets of columns in Waterfront Park compared to just one with the Draft EIS tied-arch option and five with the existing bridge.
  - East approach – This memo evaluates a potential span length change for the east approach tied-arch option that would minimize the risks and reduce costs associated with placing a pier and foundation in the geologic hazard zone that extends from the river to about E 2nd Avenue. The refined tied-arch option would be about 720 to 820 feet long and approximately 150 feet tall (the Draft EIS Long-span Alternative was the same height and 740 feet long). The refined alternative would place the eastern pier of the tied-arch span either on the east side of 2nd Avenue (Option 1) or just west of 2nd Avenue (Option 2). Increasing the length of the tied-arch span would also reduce the length and depth of the subsequent girder span to the east.
  - Americans with Disabilities Act (ADA) access – This memo evaluates a refined approach for providing direct ADA access between the bridge and the Eastbank Esplanade, as well as between the bridge and W 1st Avenue and the Skidmore Fountain MAX station. The Draft EIS evaluated multiple ramp, stair, and elevator options for these locations. This SDEIS memo evaluates a refined option that would provide enhanced ADA access at both locations using both elevators and stairs. These facilities would also provide pedestrian and potentially bicycle access. For the west end, there is also the potential for replacing the existing stairs with improved sidewalk access from the west end of the bridge to 1st Avenue.

Figure 3 highlights the elements of the Draft EIS Long-span Alternative that have been modified to create the Refined Long-span Alternative, as described above. Figure 2 shows the Draft EIS Long-span Alternative and Figure 3 shows the Refined Long-span Alternative. Both figures include the tied-arch option for the east approach and the bascule option for the center movable span, but the east span could also be a cable-stayed bridge and the movable span could be a vertical lift bridge. For the west approach, the Draft EIS Long-span Alternative shows the tied-arch option while the Refined Long-span shows the refined girder bridge. The Refined Long-span Alternative image shows just one of the four possible lane configuration options being studied. All four configuration options, as well as many more graphics of the Refined Long-span Alternative, and how it compares to the Draft EIS Long-span Alternative, can be found in Chapter 2 of the *EQRB Supplemental Draft Environmental Impact Statement* (Multnomah County 2022b). Figure 3 also shows just one of the possible ways to allocate the bridge width between vehicle lanes, bicycle lanes and sidewalks; the total

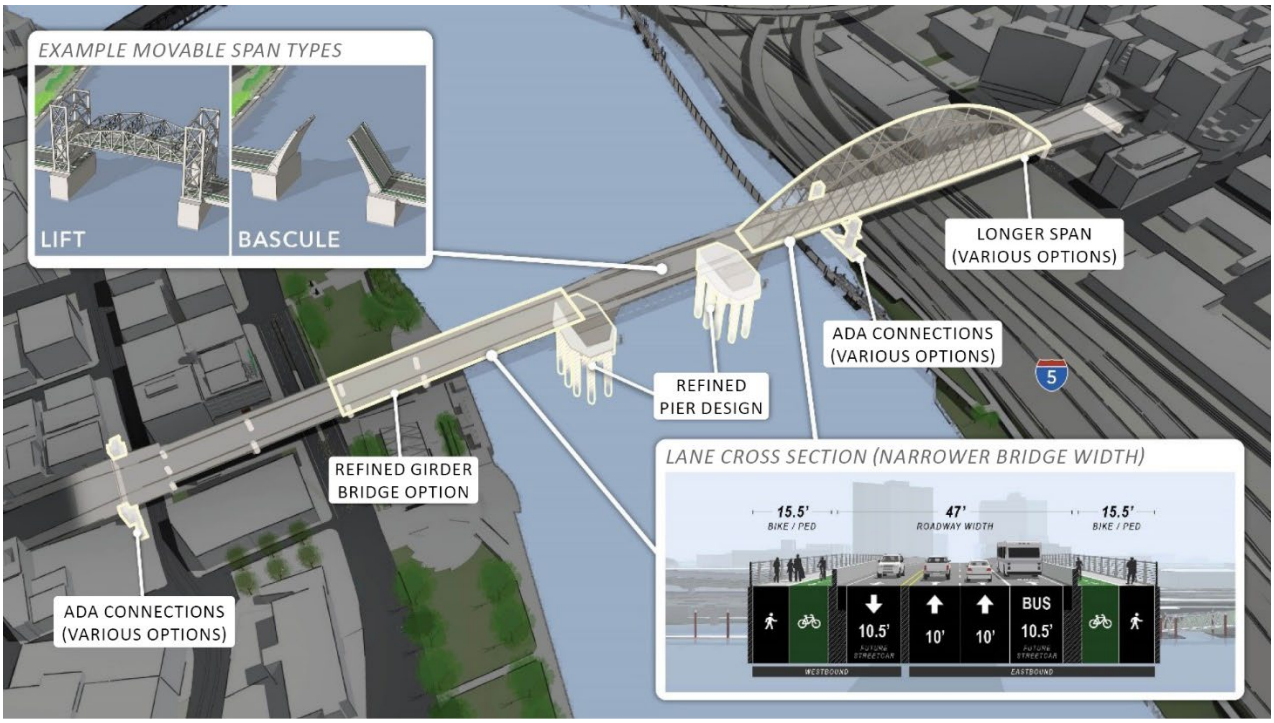
width of the bicycle and pedestrian facilities could range from approximately 28 to 34 feet.

Figure 2. Draft EIS Long-Span Alternative



Note: The Draft EIS Long-span Alternative included multiple bridge types for both the east and west approaches. This figure shows only the tied arch option.

Figure 3. Refined Long-Span Alternative



Notes: The Refined Long-span Alternative evaluated in this SDEIS includes both cable-stayed and tied-arch options for the east span. This figure shows only the tied-arch option. The Draft EIS studied, and SDEIS further studies, a bascule option and vertical lift option for the center movable span. The inset shows both options but the main figure shows the bascule option. This figure also shows just one of the lane configuration options considered in the SDEIS

- Construction assumptions:
  - Construction duration – The expected duration of project construction is 4.5 to 5.5 years, dependent upon the design option. See Table 1 for more information regarding construction impact extent and closure timeframes.
  - Construction area – compared to the Draft EIS Long-span Alternative, the main refinement is that the construction area would be smaller for the west approach south of the bridge, including a smaller area within Waterfront Park south of the bridge,
  - Construction access and staging – The construction access and staging is expected to be the same as that described in the Draft EIS.
  - Vegetation –The Refined Long-span would remove slightly fewer trees and vegetation impacts than the Draft EIS Long-span, primarily within Waterfront Park south of the bridge.
  - In-water work activity – The in-water work would be similar to that described in the Draft EIS, except that the replacement bridge in-water foundations would consist of a perched footing cap and a group of drilled shafts. Whereas the Draft EIS discusses the use of cofferdams to isolate in water work, the Refined Long-span Alternative would use a temporary caisson lowered to an elevation about mid height of the water column to construct footing caps, avoiding additional disturbance of the riverbed that would be needed for a cofferdam. Additionally, the existing Pier 4 would be fully removed, Pier 1 would be partially removed below the mudline, and Piers 2 and 3 would be removed to below the mudline. Existing in water piles would be removed, subject to the design option advanced.
  - Temporary freeway, rail, street, and trail closures – Temporary closures are expected to be the same as those described in the Draft EIS.
  - Access for pedestrians and vehicles to businesses, residences, and public services – Access is expected to be the same as that described in the Draft EIS.
  - On-street parking impacts – On-street parking impacts are expected to be the same as those described in the Draft EIS.
  - Property acquisitions and relocations – Property acquisitions and relocations are similar to those listed in the Draft EIS, except that they have been modified to reflect a narrower set of bridge design options.
  - Temporary use of Governor Tom McCall Waterfront Park – The park area that would be temporarily closed for construction has changed since the Draft EIS. On the north side of the bridge, the closure area has been reduced to avoid removing 10 cherry trees and a berm that are part of the Japanese American Historical Plaza; this change would apply to all of the build alternatives. On the south side of the bridge, the park closure area has also been reduced to include

only the area north of the Tom McCall Waterfront Park trellis; this revision applies only to the Refined Long-span Alternative.

Table 1. Construction Impacts, Closure Extents, and Timeframes by Build Alternative

Facility Impacted	Draft EIS Long-Span Alternative	Refined Long-Span Alternative
Governor Tom McCall Waterfront Park	4.5-year closure within boundary of potential construction impacts	Same; Smaller closure area south of the bridge
Willamette River Greenway Trail	Portion of trail within Waterfront Park closed for same duration as park; detours in place for construction duration	Same
Japanese American Historical Plaza	Southern portion of plaza would be closed for same duration as Waterfront Park	Same
Ankeny Plaza Structure	Closure for duration of construction but no impacts to Ankeny Plaza structure	Plaza structure would not be closed during construction or impacted
Bill Naito Legacy Fountain	No closure of fountain and associated hardscape	Same
Vera Katz Eastbank Esplanade	18 months (this could extend to 3.5 to 4.5 years if project builds ramps rather than elevators and stairs for the ADA/bicycle/pedestrian connection); detours in place for construction duration	Same
Burnside Skatepark	4-month full closure	Same
River Crossing on Burnside Street	4- to 5-year closure	Same
Saturday Market Location	4.5-year closure or use of alternative location	Same
Skidmore Fountain MAX Station	Approximately 5 weeks	Same
Navigation Channel/Willamette River Water Trail	Intermittent closures; 2 to 10 closures; each closure up to 3 weeks	Same
Overall Construction Duration	**4.5 to 5.5 years**	**Same**

3 Definitions

The following terminology is used when discussing geographic areas in the SDEIS:

- **Project Area** – The area within which improvements associated with the Project Alternatives would occur and the area needed to construct these improvements. The

Project Area includes the area needed to construct all permanent infrastructure, including adjacent parcels where modifications are required for associated work such as utility realignments or upgrades. For the EQRB Project, the Project Area includes approximately a one-block radius around the existing Burnside Bridge and W/E Burnside Street, from NW/SW 3rd Avenue on the west side of the river and NE/SE Grand Avenue on the east side.

- **Area of Potential Impact (API)** – This is the geographic boundary within which physical impacts to the environment could occur with the Project Alternatives. The API is resource-specific and differs depending on the environmental topic being addressed. For all topics, the API will encompass the Project Area, and for some topics, the geographic extent of the API will be the same as that for the Project Area; for other topics (such as for transportation effects) the API will be substantially larger to account for impacts that could occur outside of the Project Area. The API for land use is defined in Section 5.1 of the *EQRB Land Use Technical Report* (Multnomah County 2021c).
- **Project vicinity** – The environs surrounding the Project Area. The project vicinity does not have a distinct geographic boundary but is used in general discussion to denote the larger area, inclusive of the Old Town/Chinatown, Downtown, Kerns, and Buckman neighborhoods.

4 Relevant Regulations

The following relevant regulations have changed since publication of the Draft EIS and will be added to the Final EIS.

- Only PCC 33.475 (River Overlay) will be addressed
- PCC 33.480 (Scenic Overlay zone) will be added
- Updates to Design Review Standards applying to bridges adopted on August 21, 2021, including PCC 33.420.041 (c); PCC 33.420.045 (a)(9) will be added

5 Analysis Methodology

The analysis methodology has not changed since publication of the Draft EIS. Please see the *EQRB Land Use Technical Report*.

6 Affected Environment

The affected environment has changed since publication of the Draft EIS. The following sources will be added to the resource identification and evaluation methods section.

- Portland's Natural Resources Inventory
- Central City Scenic Resources Inventory

7 Impacts from the Design Modifications and Comparison to Draft EIS Alternatives

7.1 Pre-Earthquake Impacts

Impacts to land uses within the API from the Refined Long-span Alternative are summarized in Table 2.

Table 2. Refined Long-Span Alternative Impacts Summary

Refined Long-Span Alternative	How the refinement affects impacts, compared to the Draft EIS Long-span and No-Build or Existing
Bridge width – The total width of the bridge over the river would be approximately 82–93 feet (range varies with bridge type and segment); by comparison, the Draft EIS Replacement Alternatives were approximately 110–120 feet wide over the river. The refined bridge width would accommodate approximately 78 feet for vehicles lanes, bike lanes, and pedestrians, which is comparable to the existing bridge.	Narrower bridge design results in less acreage permanently converted to a transportation use. Visual impacts on the river would be less than with the Draft EIS Long-span and similar to No-Build.
Lane configuration – The refined bridge design would accommodate four vehicle lanes (rather than five as evaluated in the Draft EIS). Different lane configuration options are being evaluated, including Lane Option 4, general-purpose with bus priority. This option includes two westbound general-purpose lanes, two eastbound general-purpose lanes, and bus priority access (i.e., queue bypass) at each end of the bridge.	Removing a bus lane could impact public transit reliability which could be inconsistent with Metro's Regional Transportation Plan goal of ensuring land uses are transit-supportive. (Metro 2018, page 3-75).
Bicycle and pedestrian lanes – The total width of the bicycle lanes and pedestrian sidewalks would be approximately 31 feet. This is wider than the existing bridge but 9 feet narrower than what was described in the Draft EIS for the Replacement Alternatives. Physical barriers between vehicle lanes and the bicycle lanes would be in addition to the above dimensions.	Similar to the Draft EIS Long-span, the Refined Long-span's pedestrian and bicycle lanes are consistent with the *2035 Comprehensive Plan* (City of Portland 2020) and the City's transportation system plan goals of promoting active transportation modes (City of Portland 2018). Narrower sidewalk widths would be an improvement compared to the existing bridge.
West approach – This memo evaluates a refined girder bridge type for the approach over the west channel of the river, Waterfront Park, and Naito Parkway. Compared to the cable-stayed and tied-arch options evaluated in the Draft EIS, this option would not only reduce costs but also avoid an adverse effect on the Skidmore/Old Town National Landmark Historic District. It would have two sets of columns in Waterfront Park compared to just one with the tied-arch option and five with the existing bridge.	The Draft EIS Long-span assumed there would be one support, located along Naito Parkway. The Refined Long-span Alternative includes an additional pier, reducing open space in the park. However, the Refined Long-span Alternative provides more open space than the No-Build Alternative, which has five columns in the park.

Refined Long-Span Alternative	How the refinement affects impacts, compared to the Draft EIS Long-span and No-Build or Existing
ADA access to other facilities – This memo evaluates an optional upgraded connection (elevators and stairs) for providing direct ADA access between the bridge and the Eastbank Esplanade. It also evaluates a potential elevators/stairs option and an improved sidewalk option for improving ADA access between the bridge and W 1st Avenue including the Skidmore Fountain MAX station. The Draft EIS evaluated multiple ramp, stair, and elevator options for the Esplanade, and it evaluated ramp/stairs options for W 1st Avenue. For the Esplanade, the Project could also reconnect the existing City-owned stairway and allow any upgrades to be completed in the future as a separate City-sponsored project.	New stairs and elevators would improve access for all users. This is an improvement over the existing bridge. Stairs and elevators would require a smaller footprint compared to the ramp included in the Draft EIS Long-span Alternative. Using both elevators and stairs at two locations would provide access to both travel directions on the bridge to and from the Esplanade. The elevator and stairs on the west approach may conflict with a Central City Plan District requirement for building frontages to have active uses on the ground floor including doors, windows, lobbies, retail, etc.
The Refined Long-span construction area along the south side of the west end of the bridge within Waterfront Park has a smaller footprint than that described for the Draft EIS Long-span Alternative.	A smaller construction area on the south side of the bridge means less area would be closed during the full construction period. There would be more space available for park users as compared to the Draft EIS Long-span Alternative.
Property acquisitions and relocations – These are similar to those listed for the Draft EIS Long-span Alternative, except that they have been modified to reflect a narrower set of bridge design options for the Refined Long-span.	The Refined Long-span would require permanent easements instead of acquisitions as described for the Draft EIS Long-span. See Table 3.

7.1.1 Long-Term Impacts

Long-term impacts are similar to those for the Draft EIS Long-span Alternative except that the Refined Long-span Alternative does not require full and partial acquisitions. Instead, the Refined Long-span recommends permanent easements which still result in business displacements.

Table 3. Impacted Properties – Long-Term Impacts

Land Use Type / Map ID	Property Name	Draft EIS Long-Span Alternative	Refined Long-Span Alternative
Commercial			
3	Portland Saturday Market Storage (City of Portland) W Burnside St	Easement*(1)	Easement*(1)
5	Saturday Market Administration Offices (Skidmore Fountain Plaza, LLC) 108 W Burnside St	**Full Acquisition:** (1) Business Displacement	Easement (1)

Land Use Type / Map ID	Property Name	Draft EIS Long-Span Alternative	Refined Long-Span Alternative
Institutional			
4	University of Oregon Retail Space (City of Portland) W Burnside St	**Full Acquisition:** (1) Business Displacement of Personal Property	Easement** (1)
Social Service			
2	Portland Rescue Mission	-	Easement
11	Mercy Corps	-	Easement
Industrial			
16	Pacific Coast Fruit Company 201 NE 2nd Avenue	Business Displacement (1)	-
17	Rose City Transportation (David Nemarnik) 201 NE 2nd Avenue	**Full Acquisition:** (1) Business Displacement	Easement (1)
18	American Medical Response (Produce Row LLC) 333 SE 2nd Avenue	Partial Acquisition: (1) Business Displacement	Easement (1)
Park/Open Space – No long-term impacts			
Mixed Use			
21	The Yard (Yard Residences LLC) 33 NE 3rd Ave	-	Easement
Multifamily - No long-term impacts			
Parking			
8	Diamond Parking Services (Skidmore Fountain Plaza, LLC) 108 W Burnside St	**Full Acquisition:** (1) Business Displacement	**-**
9	Diamond Parking Services (Skidmore Fountain Plaza, LLC) 25 SW 1st Avenue	**Full Acquisition**	**-**
Right-of-Way			
20	The Yard – Pedestrian/Bike Right-of-way (Bridgehead Development LLC) 102 NE 2nd Ave	-	-
A	Willamette River (Dept of State Lands)	-	Easement
C	I-5 and I-84 (ODOT)	-	Easement

Land Use Type / Map ID	Property Name	Draft EIS Long-Span Alternative	Refined Long-Span Alternative
D	Union Pacific Railroad	-	Easement
Vacant			
7	Vacant Lot (Skidmore Fountain Plaza, LLC) 118–124 W Burnside St	**Full Acquisition**	**-**
26	Block 76 365 NE Couch St	Partial Acquisition	Easement
Summary (Totals)			
Full Acquisitions		6	0
Number of Businesses Displaced		4	0
Partial Acquisitions		2	0
Number of Businesses Displaced		1	0
Business Displacement without Acquisition		1	5
Permanent Easements		1	12

Easement = Permanent Easement

*Portland Saturday Market would be permanently displaced from its administration offices and temporarily displaced from the storage and market space under the bridge.

**The University of Oregon uses this space and this is identified as a displacement of personal property.

Direct Impacts

The Refined Long-span Alternative would result in 12 permanent easements and 5 business displacements compared with the Draft EIS Long-span Alternative impacts of 6 full acquisitions, 2 partial acquisitions, 1 permanent easement, and 6 business displacements (refer to Figure 4 through Figure 7). The business displacements for the Refined Long-span Alternative would include the Portland Saturday Market Storage, Saturday Market Administration Offices, University of Oregon Retail Space, and American Medical Response. The Portland Rescue Mission and Mercy Corps would require permanent easements under the Refined Long-span Alternative.

The Draft EIS Long-span Alternative assumed there would be one bridge support within Waterfront Park, along Naito Parkway. The Refined Long-span Alternative includes an additional pier, thus reducing open space in Waterfront Park. However, the Refined Long-span provides more open space than the No-Build Alternative which currently has five columns within the park.

The Refined Long-span Alternative provides access to both travel directions on the bridge to and from the Esplanade (unlike the Draft EIS Long-span); this would increase accessibility and could potentially attract more trail users to the Esplanade.

Visual impacts on the river would be slightly less than with the Draft EIS Long-span Alternative due to the Refined Long-span's narrower bridge width and its narrower

in-water piers. Similar to the Draft EIS Long-span Alternative, visual impacts could be more apparent with the vertical lift option as compared to the existing view.

New stairs and elevators would improve access for all users compared with the No-Build Alternative. Stairs and elevators would require a smaller footprint compared to the ramp included in the Draft EIS Long-span Alternative. However, the elevator and stairs on the west approach may conflict with a Central City Plan District requirement for building frontages to have active uses on the ground floor including doors, windows, lobbies, retail, etc. In addition, a new elevator in this location could require City Historic Resource Review and may not be consistent with City design guidelines. This could compel access to be provided via improved sidewalks only rather than elevators and stairs in this location.

The refined bridge design results in less land converted to a transportation use as shown in Table 4 as compared with the Draft EIS Long-span Alternative.

Table 4. Land Use Types Permanently Converted to Transportation Use by Alternative

Land Use Type	Draft EIS Long-Span Alternative (acres)	Refined Long-Span Alternative – Cable-Stayed (acres)	Refined Long-Span Alternative – Tied-Arch (acres)
Commercial	0.04	0.05	0.05
Industrial	1.63	0.10	0.01
Institutional	0	0	0
Mixed Use	0	0.03	0.03
Multifamily	0	0	0
Park/Open Space	0	0	0
Parking	0.3	0	0
Right-of-way	0	0.02	0.02
Social Services	0	0.002	0.002
Vacant	0.08	0.02	0.004
Totals	**2.05**	**0.22**	**0.12**

Source: Summarized from the *EQRB Acquisitions and Displacements Supplemental Memo* (Multnomah County 2022a).

Indirect Impacts

Indirect impacts are similar to those for the Draft EIS Long-span Alternative. Redevelopment opportunities would be slightly less than with the Draft EIS Long-span because the Refined Long-span impacts fewer buildings on the east side. In addition, the Refined Long-span uses more permanent easements rather than full or partial property acquisitions, so current property owners would retain ownership.

Figure 4. Property Impacts – Draft EIS Long-Span Alternative West Bridgehead

Figure 5. Property Impacts – Draft EIS Long-Span Alternative East Bridgehead

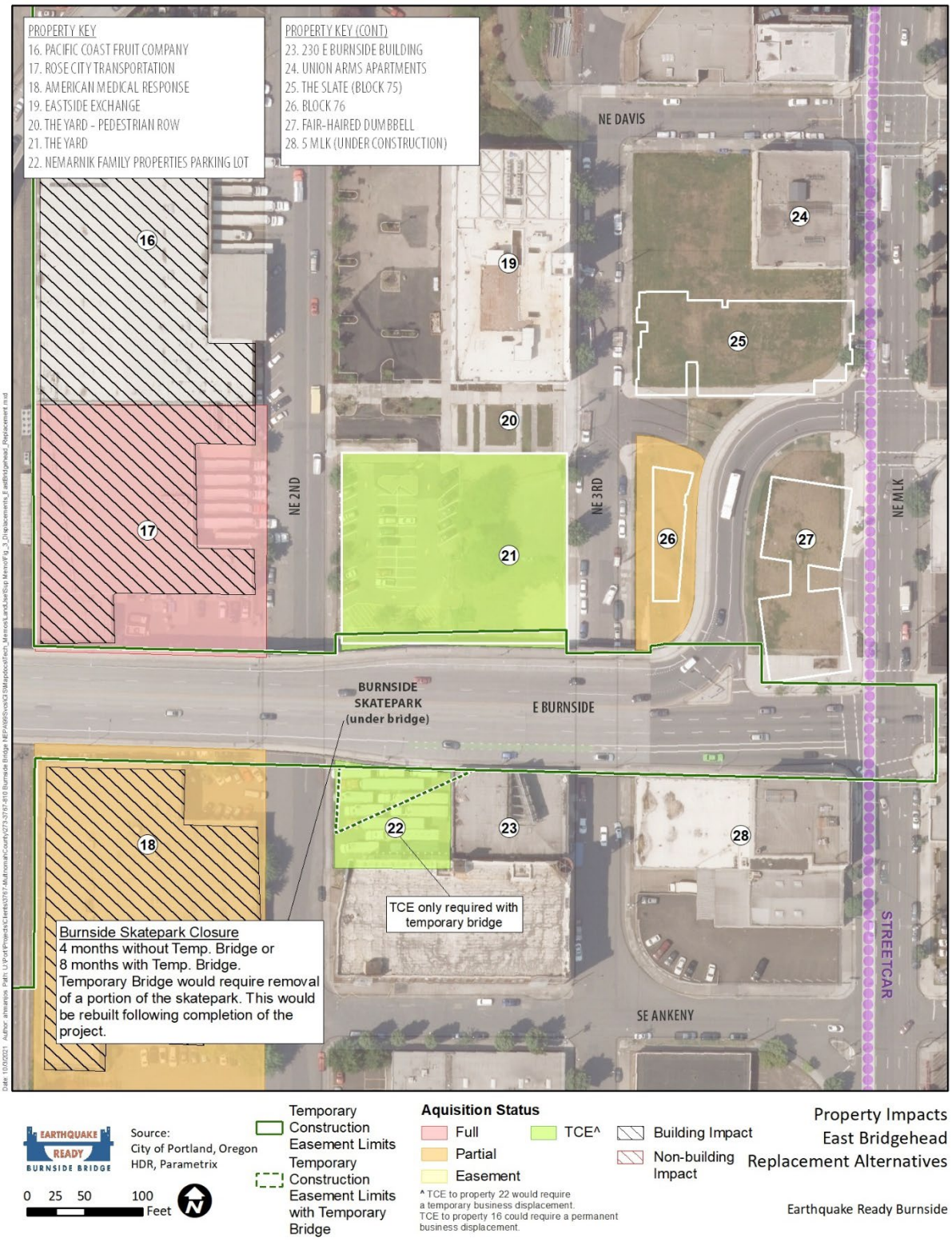
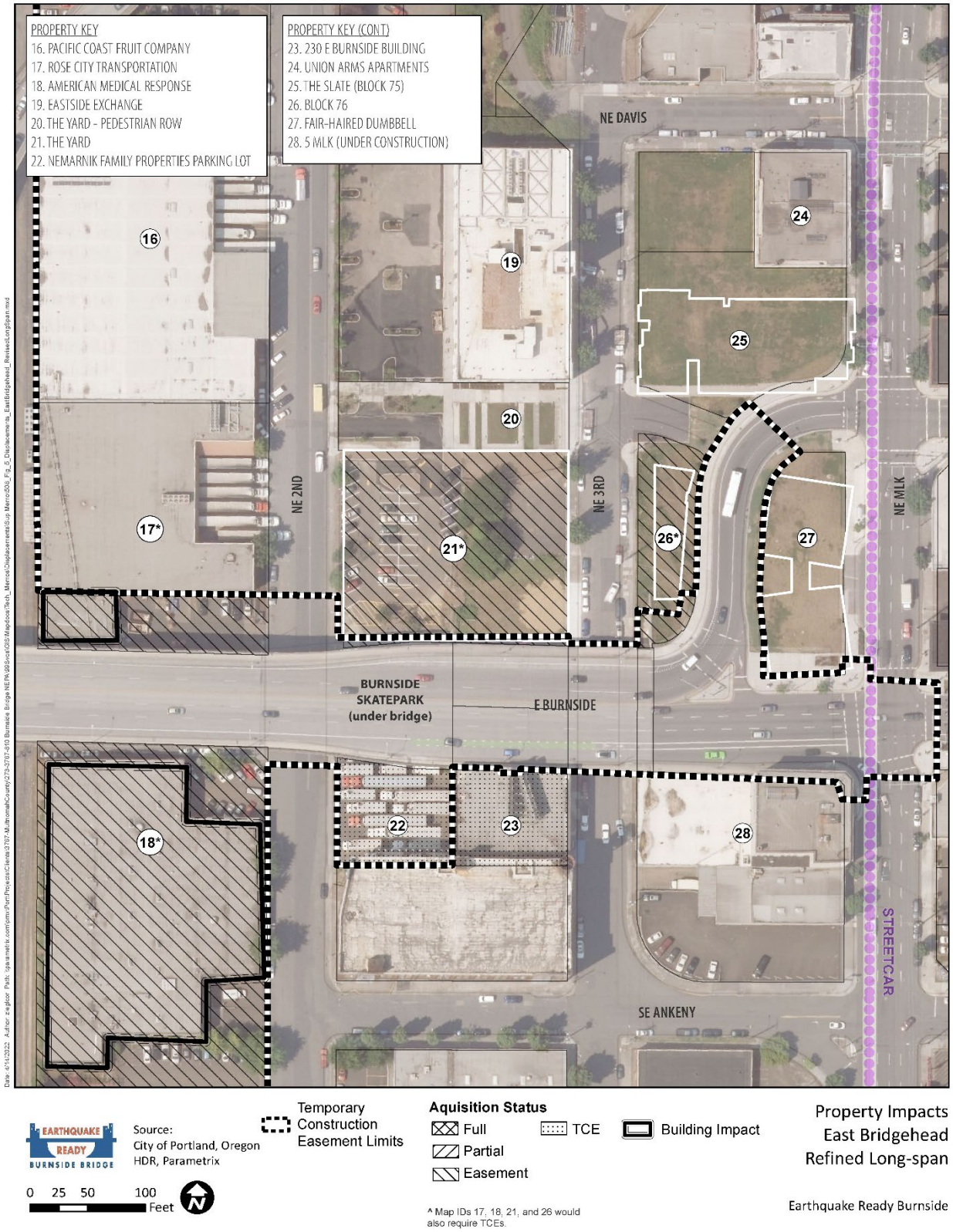


Figure 6. Property Impacts – Refined Long-Span Alternative West Bridgehead

Figure 7. Property Impacts – Refined Long-Span Alternative East Bridgehead



7.1.2 Short-Term Impacts

Table 5 compares temporary construction impacts for the Draft EIS Long-span Alternative and the Refined Long-span Alternative. See Figure 8 and Figure 9 for aerials images showing the locations of the properties.

Table 5. Temporary Construction Impacts

Land Use Type / Map ID	Property Name	Draft EIS Long-span Alternative	Refined Long-Span Alternative
Commercial			
5	Portland Saturday Market Administration Offices (Skidmore Fountain Plaza, LLC)	-	TCE*
11	Mercy Corps/Retail 45 SW Ankeny St	TCE	TCE
23	230 E Burnside Building (Templeton Office Investments LLC) 230 E Burnside St	TCE Access	TCE Access
27	Fair-Haired Dumbbell 11 NE MLK Jr. Blvd	TCE Access	-
Institutional			
10	University of Oregon (White Stag Building) 19 NW Naito Pkwy	TCE Access	TCE Access
14	BES Pump Station (City of Portland) 30 SW Naito Pkwy	TCE	TCE
18	American Medical Response (Produce Row LLC) 333 SE 2nd Avenue	-	TCE
Social Service			
1	Central City Concern (Shoreline Building) 2-12 NW 2nd Ave	TCE Access	-
2	Portland Rescue Mission 101-117 W Burnside St	TCE Access	TCE
6	Salvation Army 134 W Burnside St	TCE Access	-
11	Mercy Corps	TCE	TCE
Industrial			
17	Rose City Transportation (David Nemarnik) 201 NE 2nd Avenue	-	TCE
16	Pacific Coast Fruit Company 201 NE 2nd Avenue	TCE** (1)	-

Land Use Type / Map ID	Property Name	Draft EIS Long-span Alternative	Refined Long-Span Alternative
Park/Open Space			
12	Japanese American Plaza (City of Portland) 10 NW Naito Pkwy	TCE	TCE
13	Ankeny Plaza Structure (City of Portland) 98 SW Naito Pkwy	TCE*	TCE*
Mixed Use			
21	The Yard (Yard Residences LLC) 33 NE 3rd Ave	TCE	-
25	The Slate (Block 75) 321 NE Couch St	-	-
28	5 MLK 5 SE MLK Jr Blvd	TCE Access	-
Multifamily			
24	Union Arms Apartments 131 NE MLK Jr. Blvd	-	-
Parking			
8	Diamond Parking Services (Skidmore Fountain Plaza, LLC) 108 W Burnside St	-	TCE*** (1)
9	Diamond Parking Services (Skidmore Fountain Plaza, LLC) 25 SW 1st Avenue	-	TCE
22	Nemarnik Family Properties Parking Lot, NE 2nd Ave	-	TCE (1)
Right-of-Way			
A	Willamette River (Dept of State Lands)	TCE	TCE
B	Eastbank Esplanade (City of Portland)	TCE	-
C	I-5 and I-84 (ODOT)	TCE	TCE
D	Union Pacific Railroad	TCE	TCE
Vacant			
7	Vacant Lot (Skidmore Fountain Plaza, LLC)	-	TCE
26	Block 76 365 NE Couch St	-	TCE

Land Use Type / Map ID	Property Name	Draft EIS Long-span Alternative	Refined Long-Span Alternative
Summary (Total)			
Temporary Construction Easements		10	17
Number of Businesses Displaced		1	2
Temporary Construction Easement Access		7	2
Number of Businesses Displaced		0	0

BES = Bureau of Environmental Services | TCE = Temporary Construction Easement | TCE Access = Temporary Construction Easement for access closures only

*Portland Saturday Market would be permanently displaced from its administration offices and temporarily displaced from the storage and market space under the bridge.

**The original Long-span Alternative could potentially displace the Pacific Coast Fruit Company business due to impacts to the Rose City Transportation building next door which shares a wall.

***Diamond Parking Services would be displaced from Map IDs 8 and 9 but are only counted as one business displacement.

The Refined Long-span Alternative would require 17 temporary construction easements, and the Draft EIS Long-span Alternative would require 10. The Refined Long-span would also require 2 business displacements (Diamond Parking Services and Nemarnik Family Properties Parking Lot) whereas the Draft EIS Long-span would potentially displace only 1 business (Pacific Coast Fruit Company).

The Refined Long-span Alternative would require 2 temporary construction easement accesses, and the Draft EIS Long-span would require 7.

The Refined Long-span Alternative has a smaller Boundary of Potential Construction Impact (construction area) on the south side of the bridge. This would reduce the area closed during the full construction period as compared with the Draft EIS Long-span, providing more available space for park users during construction (see Figure 10 through Figure 12).

Access disruptions from construction closures to the Burnside Skatepark, Eastbank Esplanade, and the Portland Saturday Market would be the same for the Refined Long-span Alternative and the Draft EIS Long-span Alternative.

The refined bridge design would require slightly more land used for temporary construction use as shown in Table 6 as compared with the Draft EIS Long-span Alternative.

Table 6. Land Use Type with Temporary Construction Use by Alternative

Land Use Type	Draft EIS Long-Span Alternative (acres)	Refined Long-Span Alternative – Cable-Stayed (acres)	Refined Long-Span Alternative – Tied-Arch (acres)
Commercial	0.18	0.21	0.21
Industrial	0.06	1.40	1.50
Institutional	0.01	0.002	0.002
Mixed Use	0.06	0	0
Multifamily	0	0	0
Park/Open Space	1.62	0.9	0.9
Parking	0.00	0.5	0.5
Right-of-way	0	0	0
Social Services	0	0.005	0.005
Vacant	0.28	0.10	0.10
Total	**2.21**	**3.12**	**3.22**

Figure 8. Access Impacts – West Bridgehead

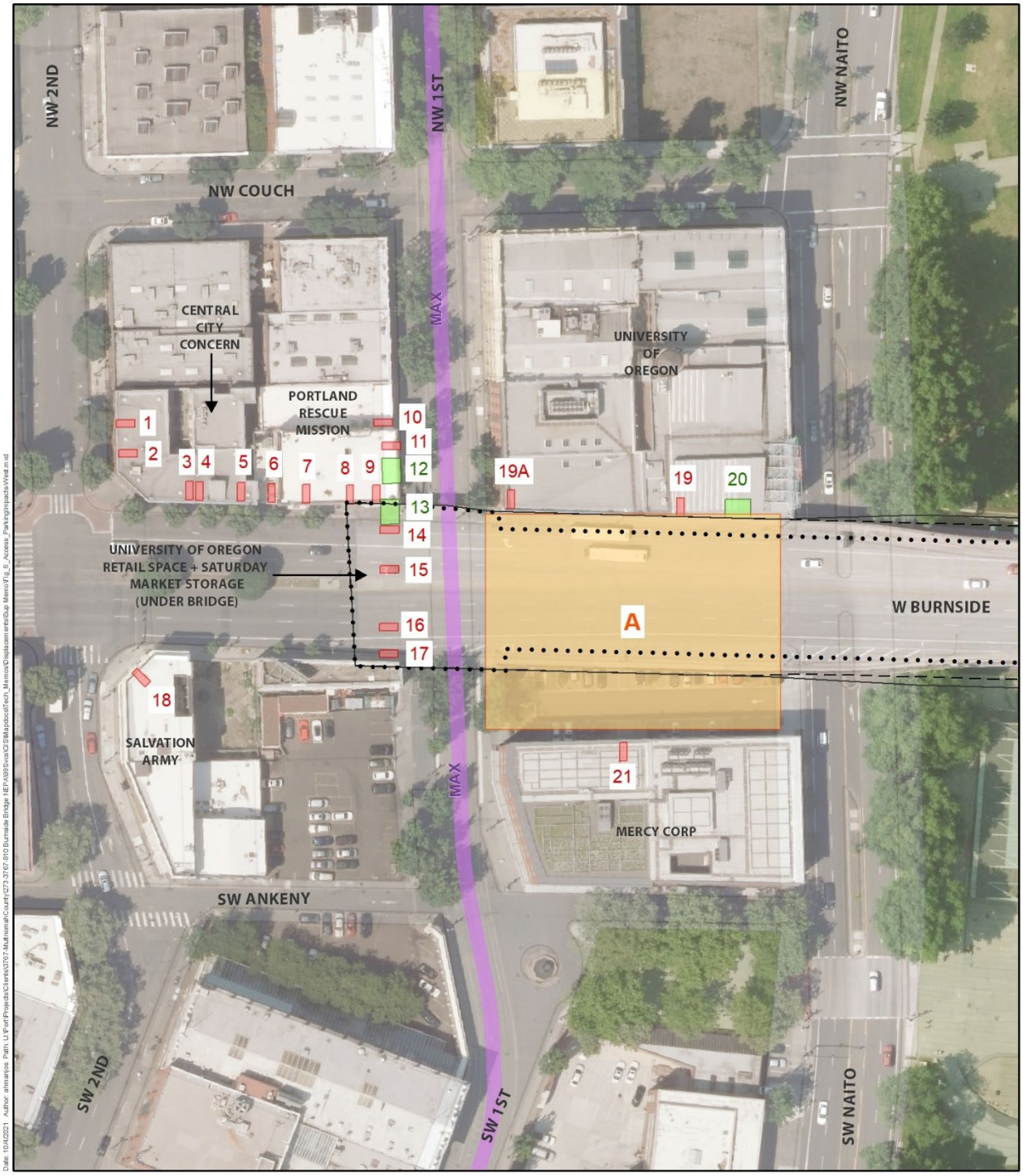


Figure 9. Access Impacts – East Bridgehead

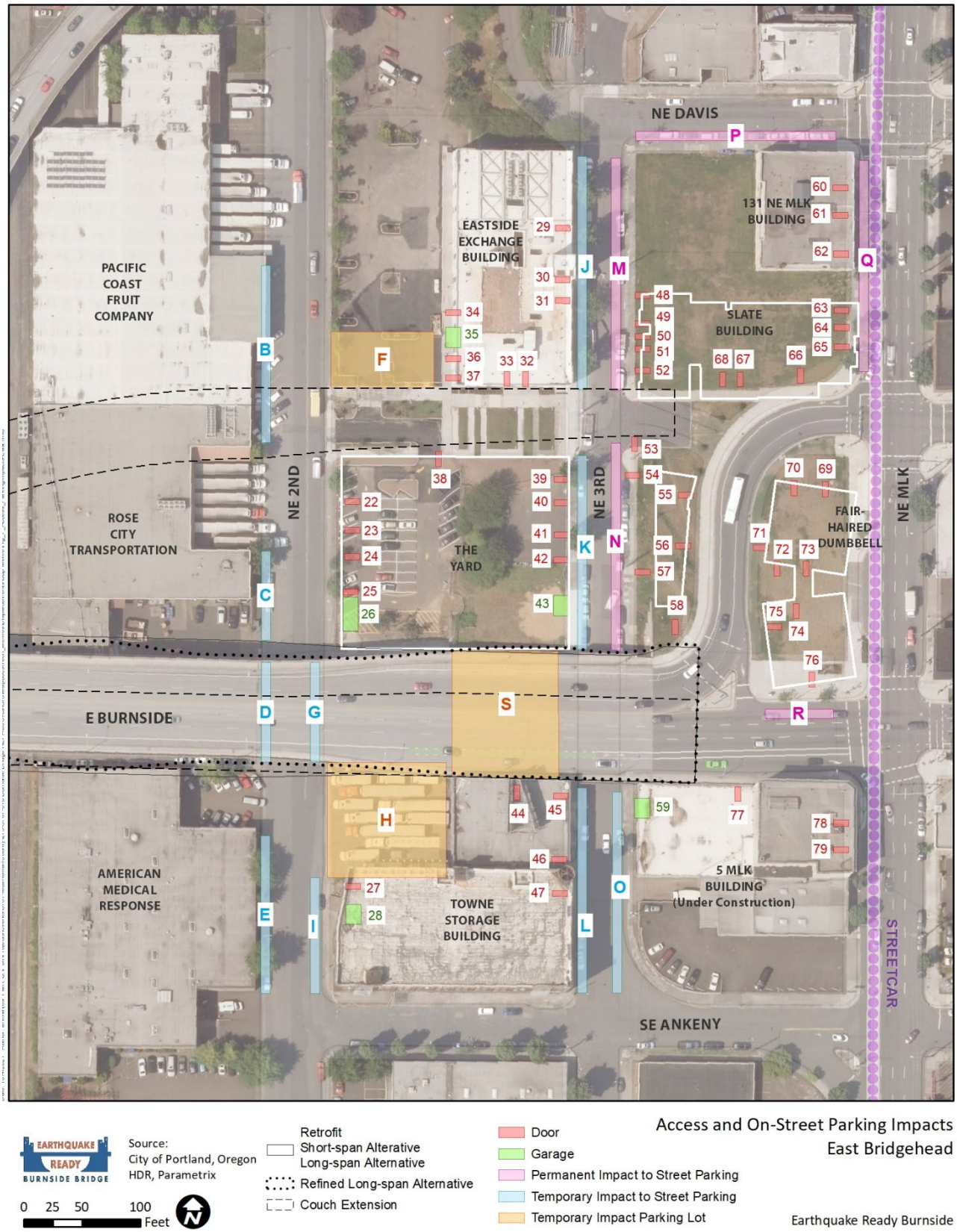
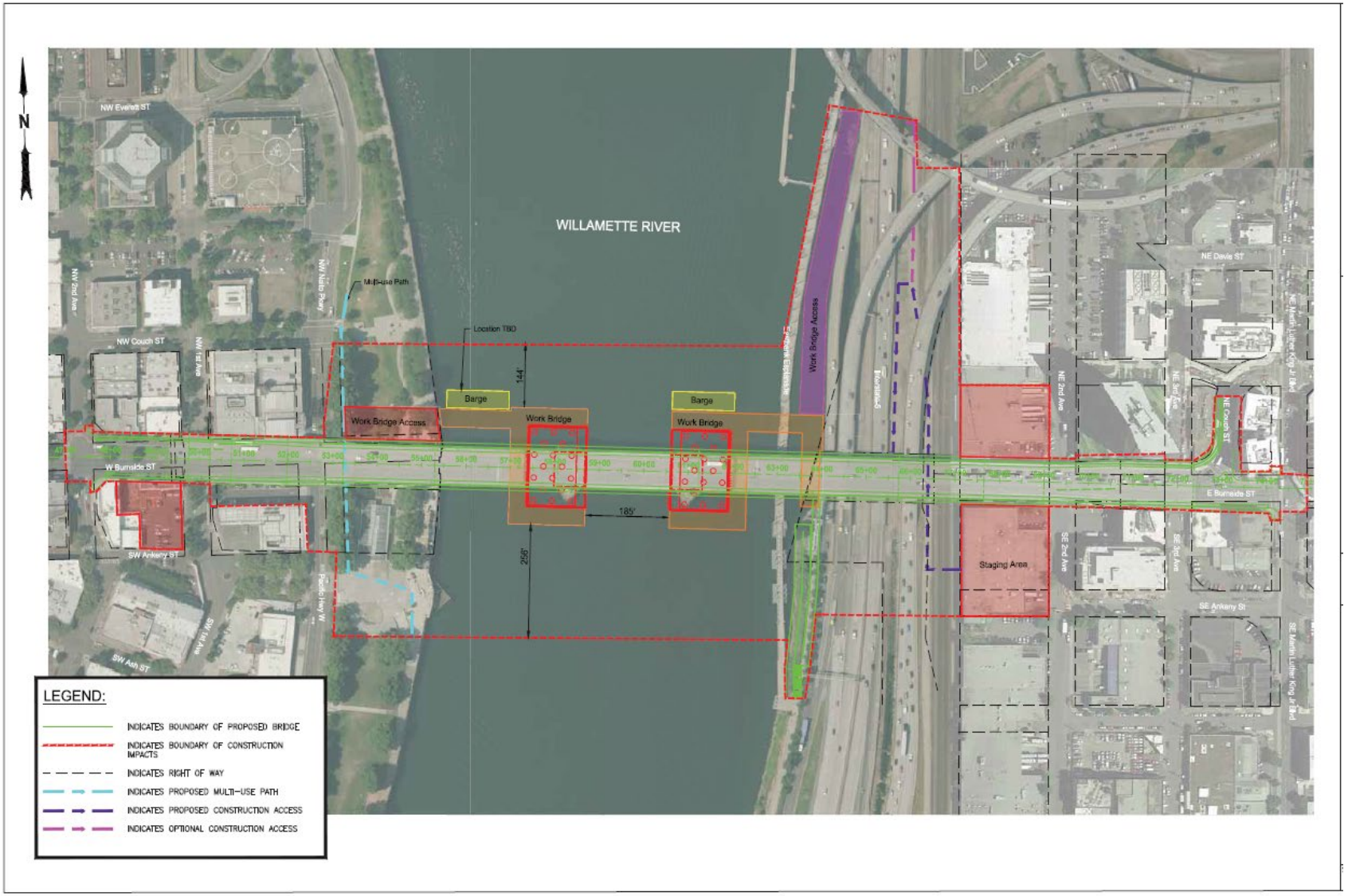
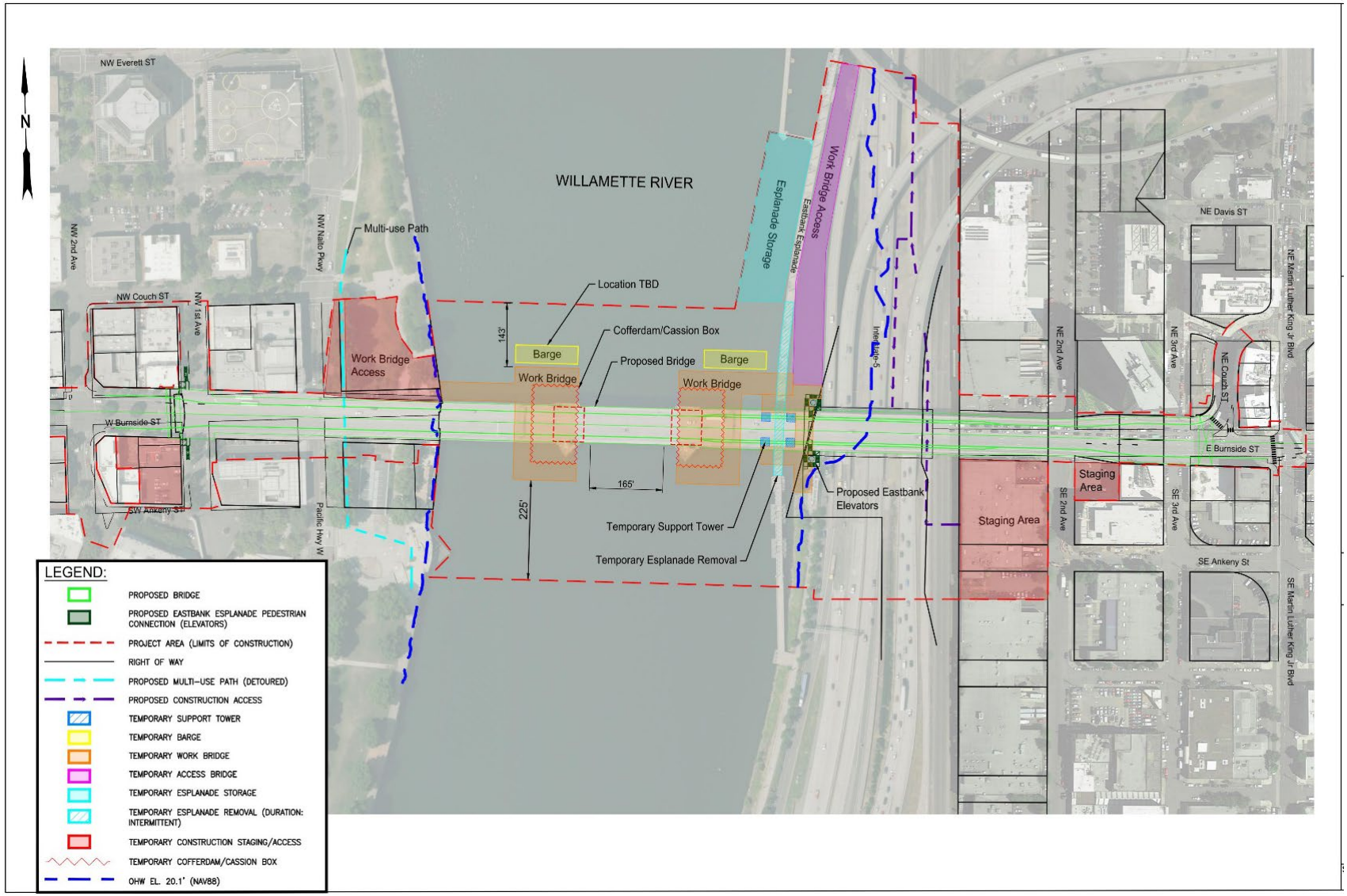


Figure 10. Temporary Construction Impacts – Draft EIS Long-Span Alternative



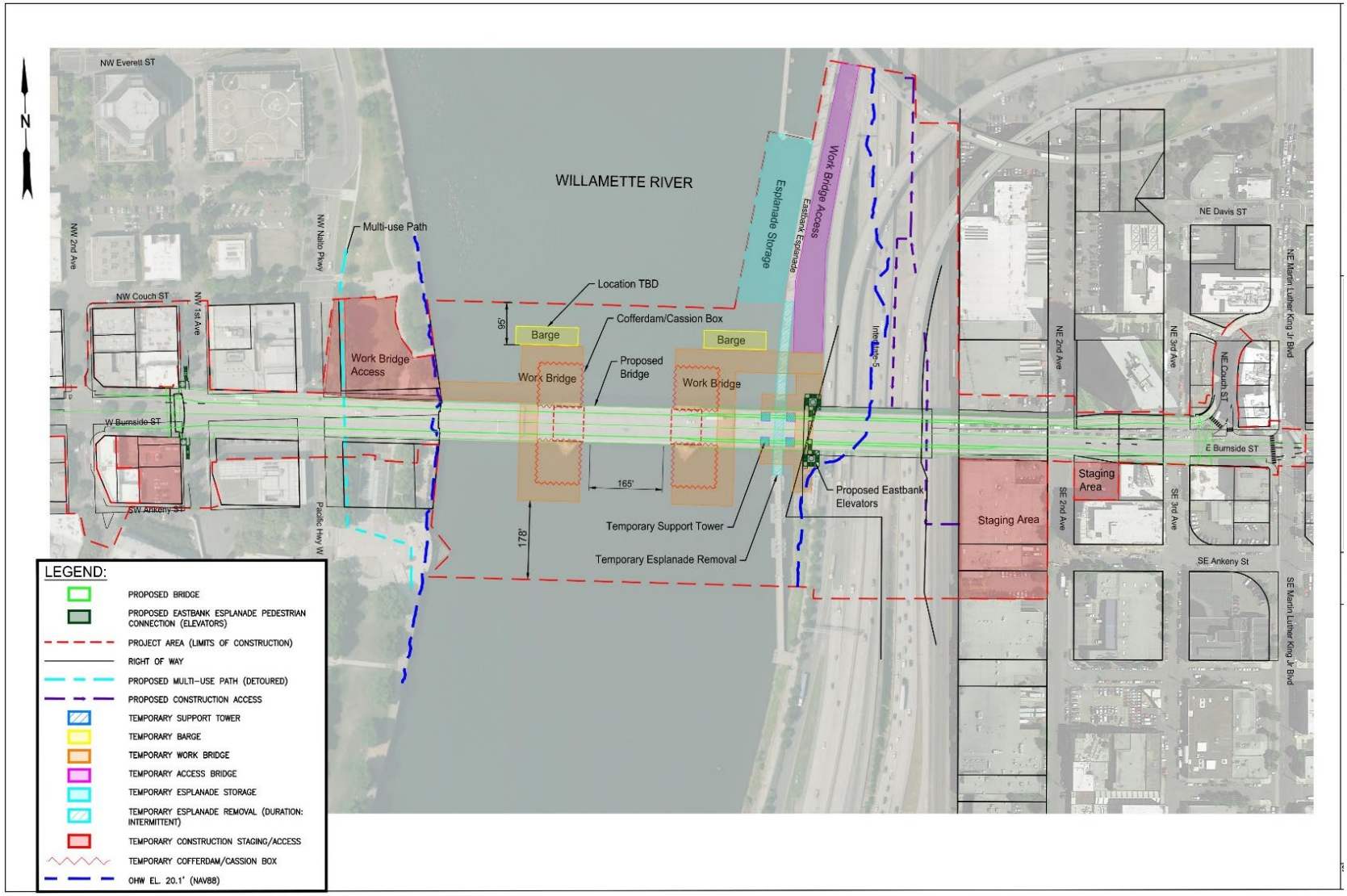
Note: This footprint includes bike and ped ramp connections between the bridge and the Eastbank Esplanade and between the bridge and W 1st Avenue.

Figure 11. Temporary Construction Impacts – Refined Long-Span Alternative (with Bascule)



Note: This includes ADA elevator and stair connections between the bridge and the Eastbank Esplanade and between the bridge and W 1st Avenue.

Figure 12. Temporary Construction Impacts – Refined Long-Span Alternative (with Vertical Lift)



Note: This includes ADA elevator and stair connections between the bridge and the Eastbank Esplanade and between the bridge and W First Avenue.

7.2 Post-Earthquake Impacts

The post-earthquake impacts from the Refined Long-span Alternative are the same as the Draft EIS Long-span Alternative.

7.3 Consistency with State and Local Planning Goals

The Refined Long-span Alternative is generally consistent with state and local planning goals as described in the *EQRB Land Use Technical Report* (Multnomah County 2021c); however, the Refined Long-span lane configuration Option 4 would remove a bus lane. Removing the bus lane could potentially impact public transit reliability which would be inconsistent with the Metro *2018 Regional Transportation Plan* (Metro 2018, page 3-75) goal of ensuring land uses are transit supportive.

Similar to the Draft EIS Long-span Alternative, the Refined Long-span Alternative's pedestrian and bicycle lanes are consistent with the *2035 Comprehensive Plan* (City of Portland 2020) and the City's transportation system plan goals of promoting active transportation modes (City of Portland 2018).

In addition, the elevator and stairs on the west approach may conflict with a Central City Plan District requirement for building frontages to have active uses on the ground floor including doors, windows, lobbies, retail, etc.

8 Potential Mitigation

Mitigation measures would be the same as described in the *EQRB Land Use Technical Report* (Multnomah County 2021c).

9 Agency Coordination

Additional agency coordination was not conducted for this supplemental memorandum.

10 Preparers

Name	Professional Affiliation	Education	Years of Experience
Jen Hughes	Parametrix	Environmental Planner	20
Sabrina Robinson	Parametrix	Planner	3

11 References

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