



30% Design Elements

Board of County Commissioners
January 25, 2011





Where We Are

- Culmination of 10-month engineering and public process to refine the design within the framework approved by the Record of Decision
- CAC made recommendations to PSC
- City commissioned an independent design study
- Project team incorporated CAC recommendations and ideas from the independent design study
- Staff from all partner agencies evaluated trade offs and endorsed the 30% design elements
- PSC made recommendation on January 18

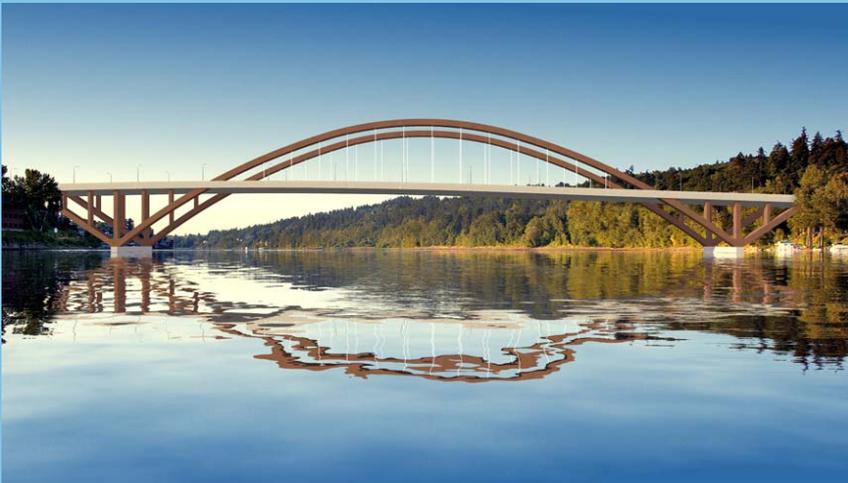
Bridge Types Considered



Box Girder



Deck Arch



Through Arch



Extradose

Evaluation Process

- Project team, multi-agency working groups, CAC, and public involved
 - 7-month process
 - 11 CAC meetings
 - Public open house with 130 participants
 - Web survey with 2,452 respondents
- Rigorous technical and aesthetic evaluation



Evaluation Criteria

- Aesthetics/user experience
- Constructability
- Construction time
- Cost
- Impacts to natural environment
- Impacts to social environment
- Maintainability
- Seismic performance
- Sustainability



Consensus CAC Recommendation for Steel Deck Arch

- Reflects community values
 - Aesthetically pleasing solution
 - Enhanced bicycle/pedestrian experience
 - Enhanced views of and from the bridge
 - Respect for historic bridge context
- Source of civic pride
- Within EIS target cost
- High technical performance

Steel Deck Arch Recommended



- CAC and public consensus for Deck Arch form is strongest differentiator
- Steel preferred - Concrete will also be studied with contractor to look at costs and local economic benefit



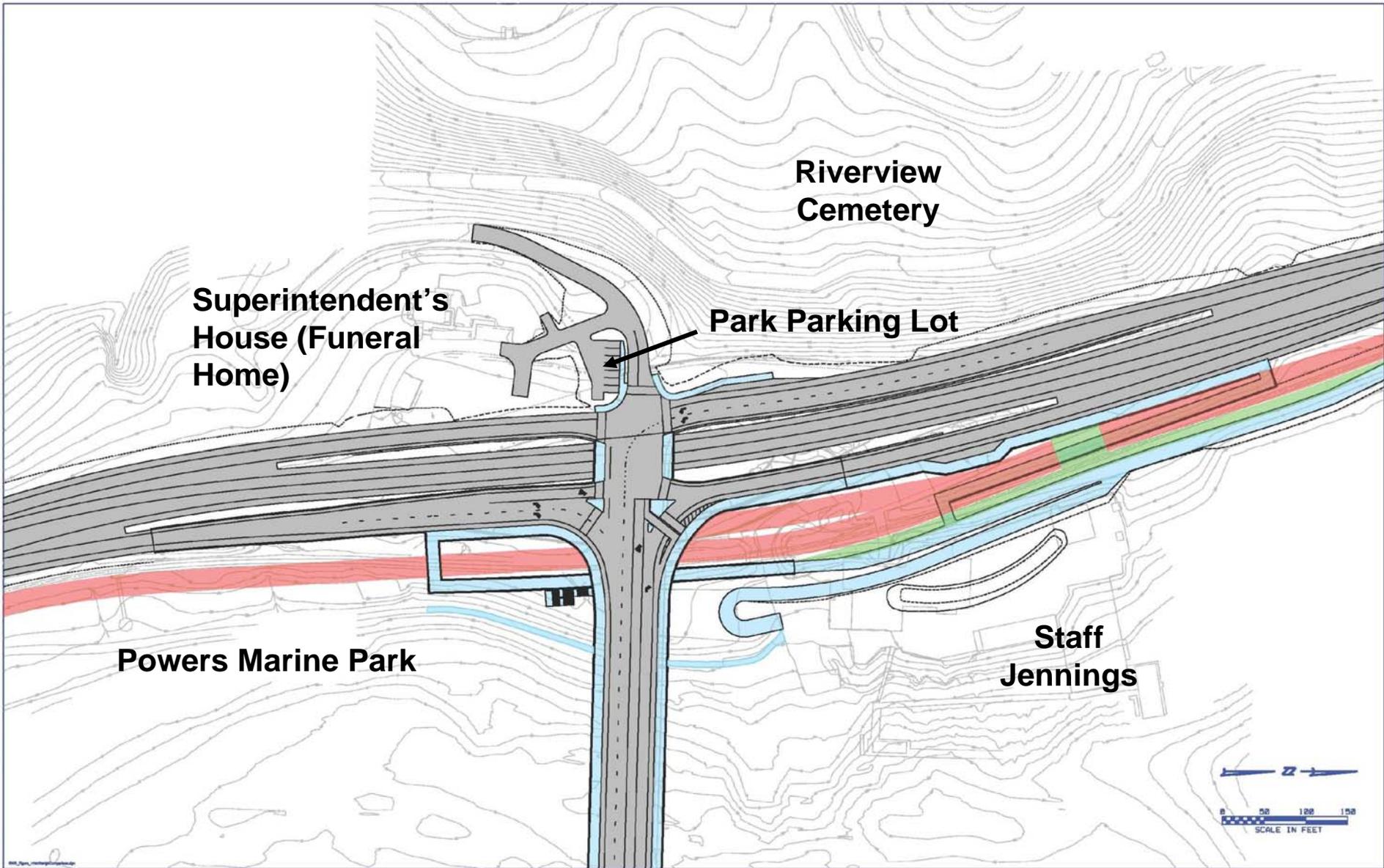
River Bridge Span Type Conclusions

- **Additional CAC recommendations should be considered in final design:**
 - Make bridge approach aesthetics consistent with main span
 - Reflect different bridge approach settings on the east and west sides
 - Reduce the size of piers in the river and on the banks
 - Coordinate bridge design with Tacoma Main Street Plan safety concepts
 - Include on-deck features suggested by the community to enhance safety and user experience

Interchange Refinement Process

- Design refinement objectives from PSC, CAC and project partners:
 - Cut cost
 - Shrink footprint
 - Reduce rock cut
 - Revise streetcar alignment to provide safer location and future connection to bridge
- Maintain multimodal functionality, safety, and traffic performance without increasing environmental impacts of Final EIS Preferred Alternative

Compressed EIS Interchange Design

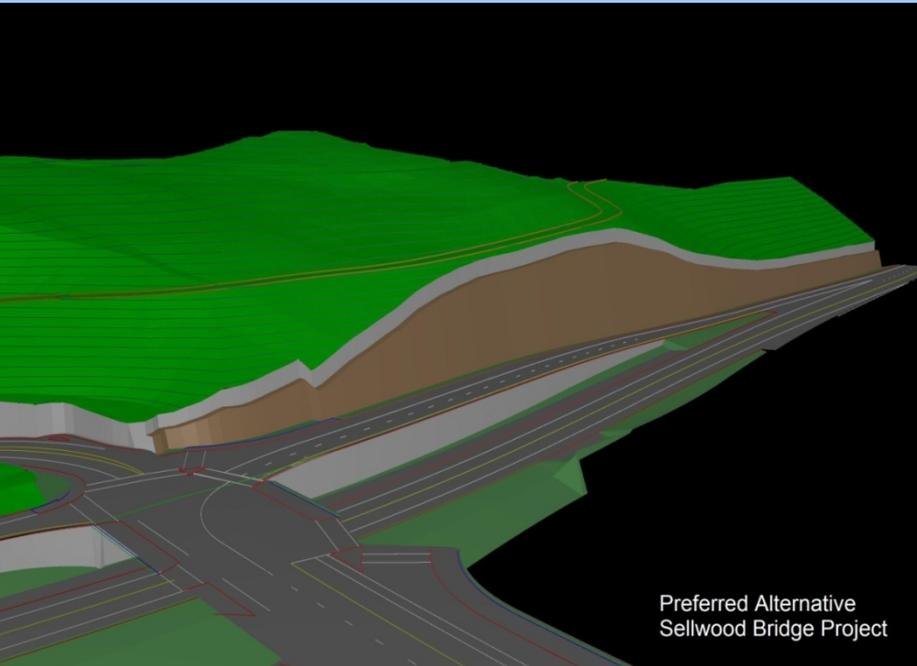




Compressed EIS Interchange as 30% Design Element

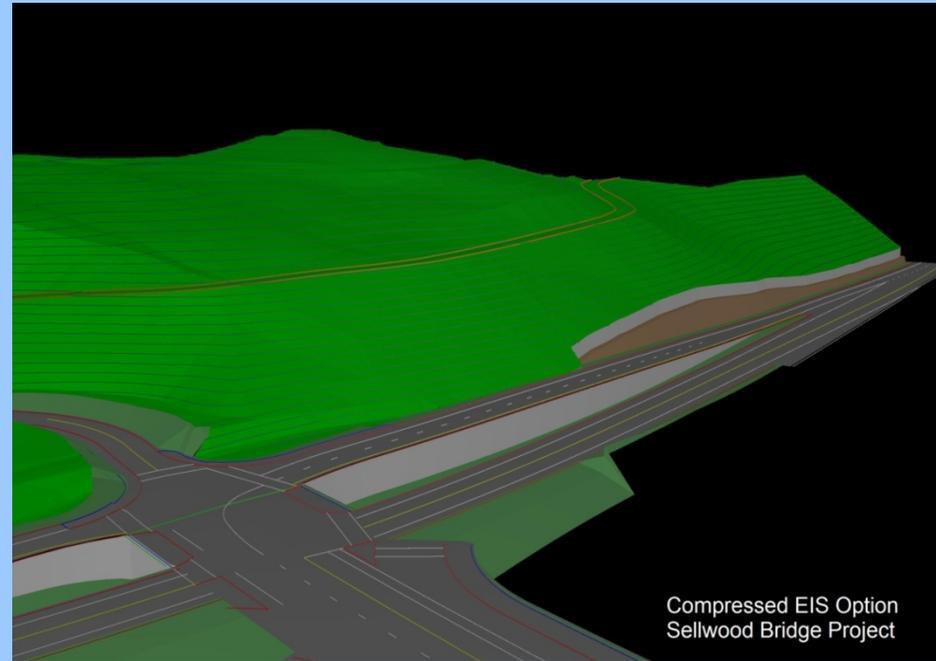
- Saves \$34 million compared to FEIS design
 - \$131 vs. \$97 million
 - Eliminates horseshoe ramp
 - Reduces footprint by 3 acres

Rock Cut Reduced by 50%



Final EIS

- 80 feet high
- 88,000 sq. ft. of surface



Compressed EIS

- 40 feet high
- 40,000 sq. ft. of surface

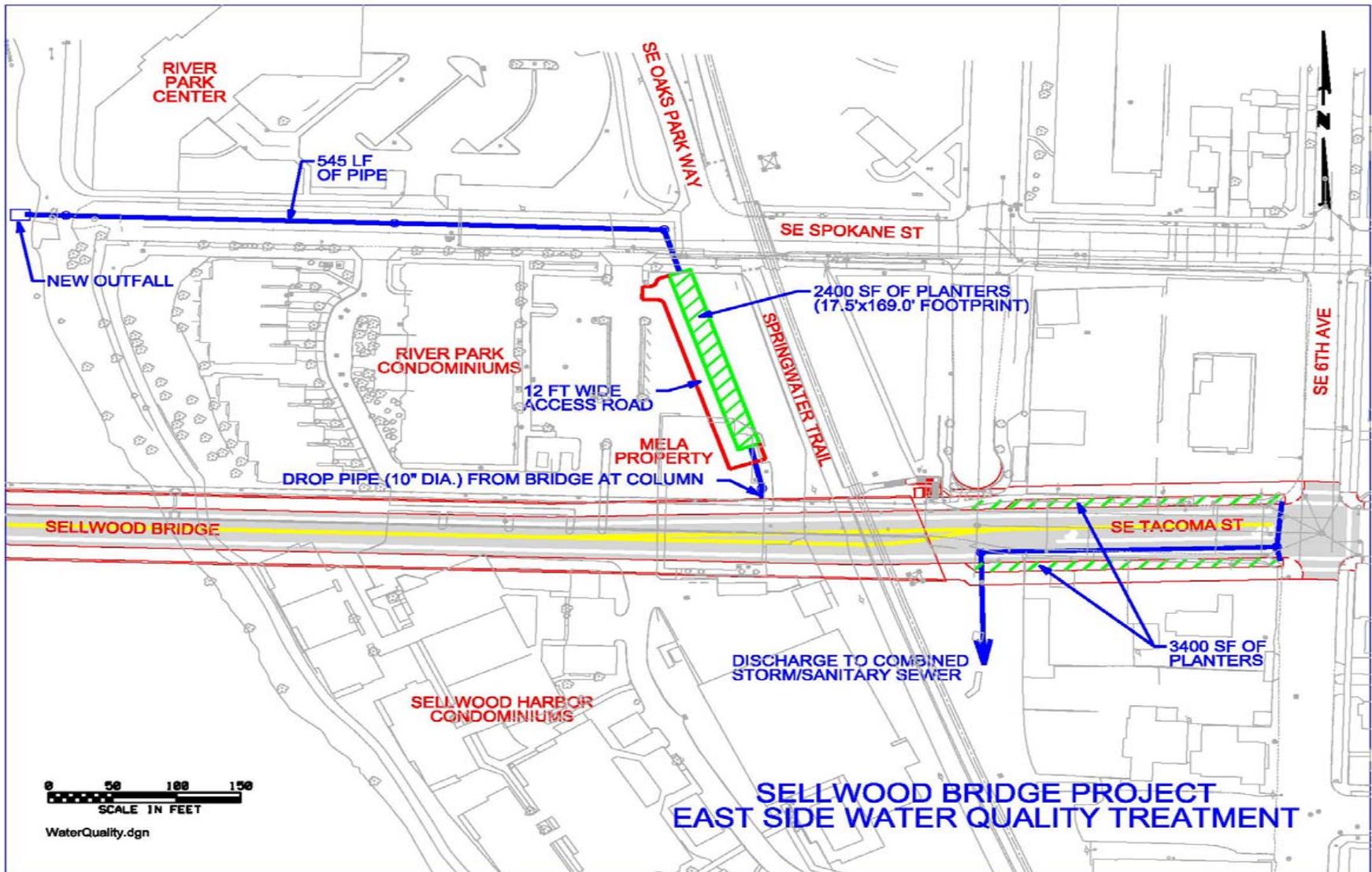
Existing Stephens Creek Crossing



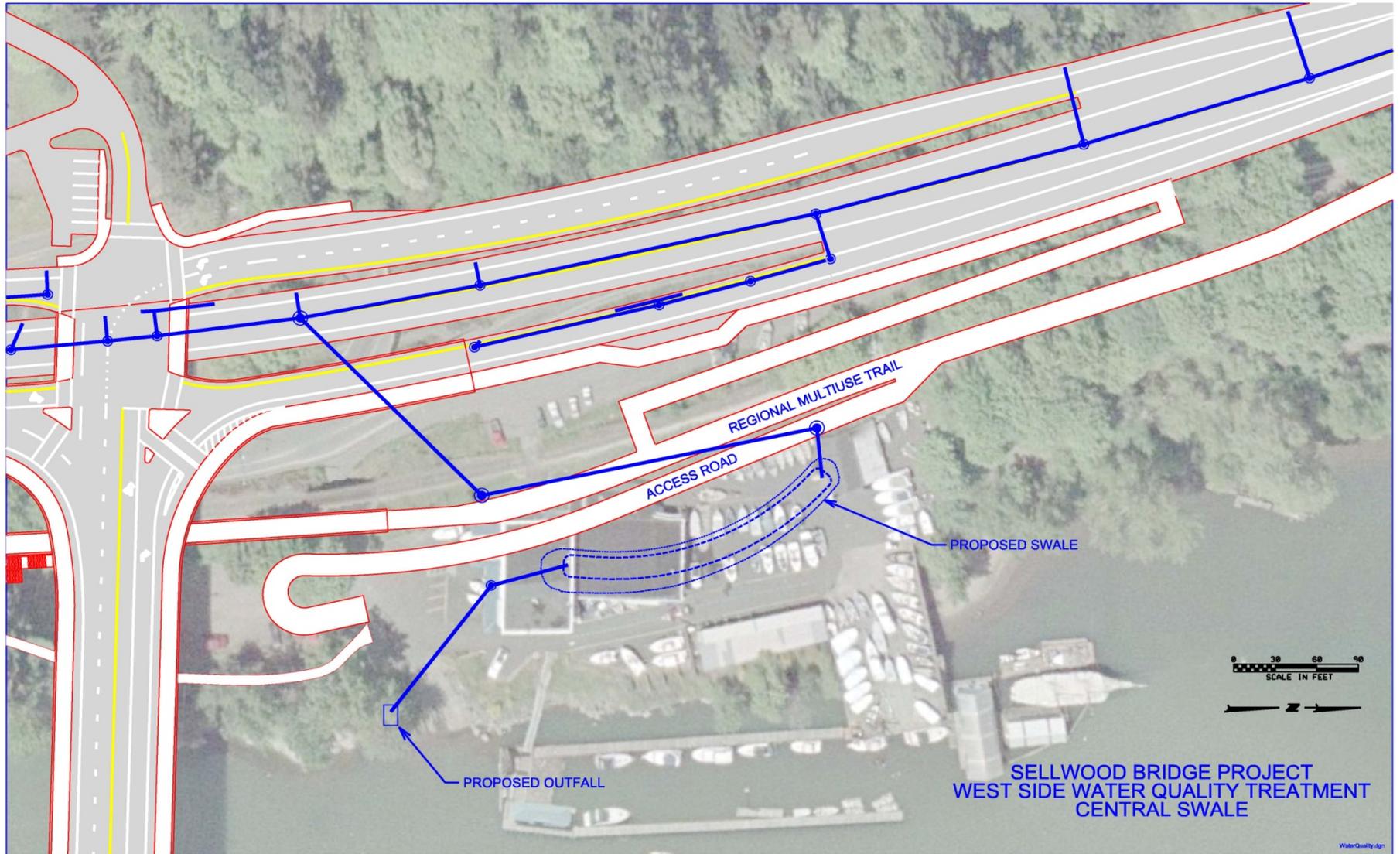
Concrete Arch Culvert



Water Quality Facilities: East Side



Water Quality Facilities: West Side





Total Project Cost Comparison

- The 30% Design Alternative reduces cost by \$41 million
 - \$331 vs. \$290 million total
 - Saves \$34 million on interchange, \$7 million on bridge
 - Includes design, right-of-way acquisition, construction, mitigation, and construction contingency, inflated to 2014 dollars
- We will continue to look for additional cost savings

A Solution Based on Community Values

- Reflects community consensus
- Reduces budget and project impacts
- Meets performance and regulatory criteria
- Respects community aesthetic sensibility
- Encourages local economic development
- Incorporates sustainability