33rd Ave W Pedestrian and Bicycle Bridge

REHABILITATION/REPLACEMENT PROJECT

Conceptual Design Report Briefing
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8/12/2021 Department of Transportation

City of Seattle

Project team

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Presentation overview

INTRODUCTION

- Project overview and area
- Project need
- Existing conditions

CONCEPTUAL DESIGN REPORT

- Rehabilitation & replacement alternatives considered
- Evaluation strategy
- Evaluation results
  - ~~Qualitative Performance~~
  - ~~Costs – Construction Costs, Maintenance & Inspection Costs, Risk Costs~~
  - ~~Value Index~~

Project Overview

We've evaluated options to rehabilitate or replace the 33rd Ave W Pedestrian and Bicycle Bridge in Magnolia.

We're now in the design phase for the selected alternative.

Project area

- The bridge is located in the Magnolia neighborhood, near the Salmon Bay waterfront
- It is an important part of Seattle's biking and walking network
- It crosses an active railroad corridor
- It links Magnolia to Ballard and the Burke-Gilman Trail

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Project Timeline

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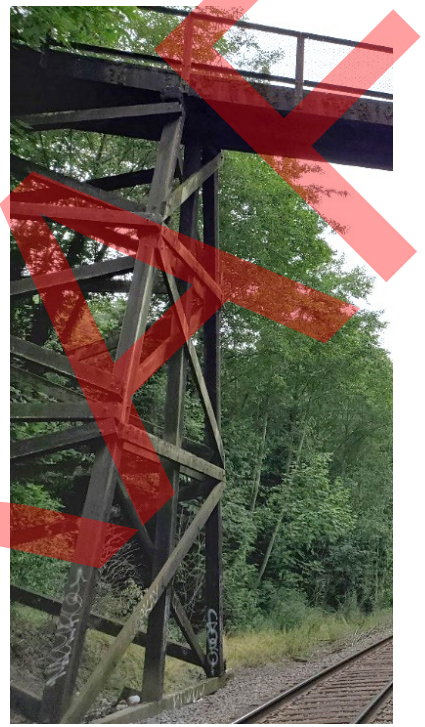
Project Need

- While still safe, the bridge is showing signs of deterioration
- SDOT evaluated options to rehabilitate or replace the bridge
- The evaluation included:
  - Short- and long-term residential impacts
  - Demand for walking and biking
  - Environmental impacts
  - Bridge maintenance
  - Cost
- There are no plans to remove the bridge

Existing conditions: Structural

- Aging timber trestle substructure, beams, and plank walkway
- Bridge trestles show signs of rot
- Timber walkway planks are slick when wet, with some water ponding
- Not vertically ADA compliant: 7% continuous grade



Existing conditions: Approaches

- South approach
  - The asphalt path is cracking and drops before it meets the timber deck
- North approach
  - Access off of 33rd Ave NW
- Not vertically ADA compliant
  - 8% grade at north approach
  - Up to 14% grade at south

Initial Stakeholder Outreach

Topic:

Listening sessions to understand priorities for external and internal (SDOT) stakeholders.

What We Heard:

Community:

Neighbors:

SDOT Maintenance:

BNSF:

What We Did:

Used what we learned to define the evaluation criteria for different design alternatives in the **Conceptual Design Report**.

Public Impression of Current Path/Bridge:

- “Pull a few direct quotes to put in here from the early outreach.”
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Conceptual Design Report Summary

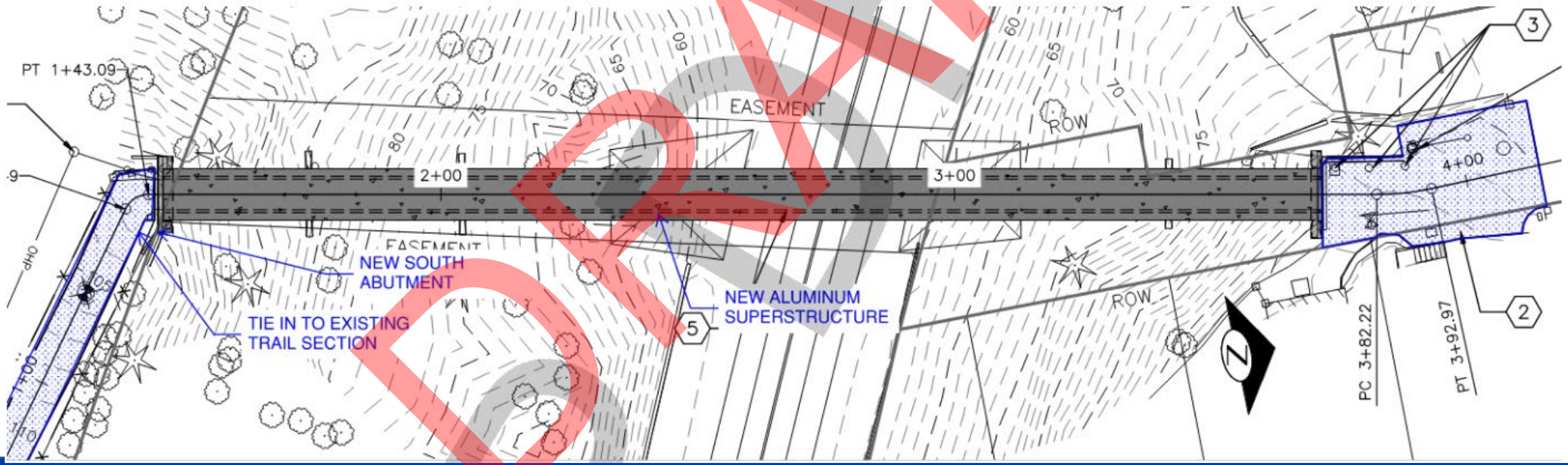
- Developed and ranked project performance attributes
- Developed three design alternatives at the conceptual level
- Ranked each of the three alternatives based on the identified performance attributes

Three Alternatives Developed

- Alternative 1 - Rehabilitation
- Alternative 2 – New Structure on Same Alignment (Single-Span)
- Alternative 3 – New Two-Span Structure on New Alignment

Alternative 1 - Rehabilitation

- Remove existing superstructure (timber, 6’ W)
- Repair timber trestles
- New Steel girders and Aluminum Decking/Railing – Approx. 10’ W
- New south abutment



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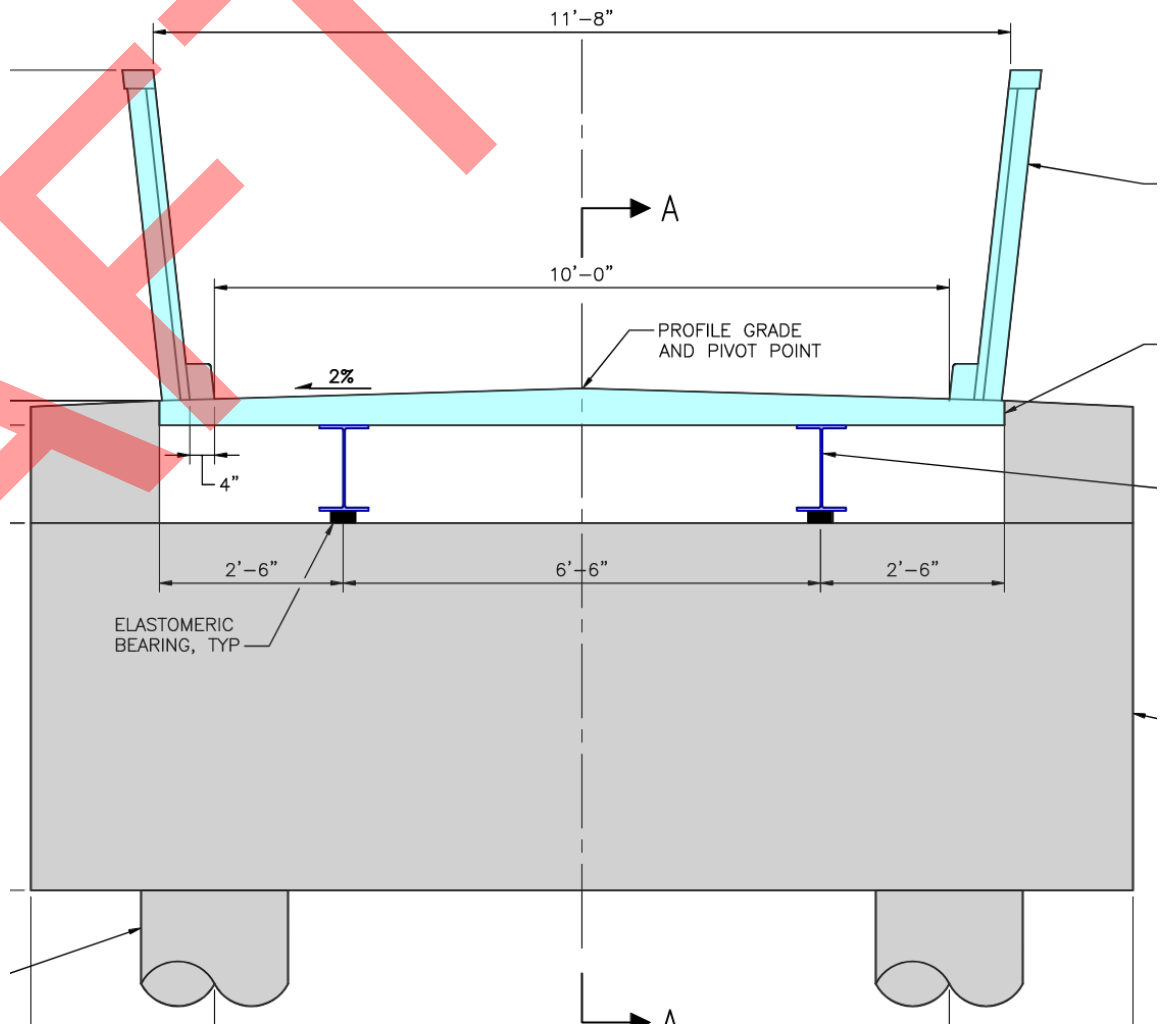
Alternative 1: Rehabilitation of existing bridge

- Widening of bridge surface will be considered (going from existing 6 feet to 10 feet wide)
- Not vertically ADA compliant but widened surface will be an improvement from current state



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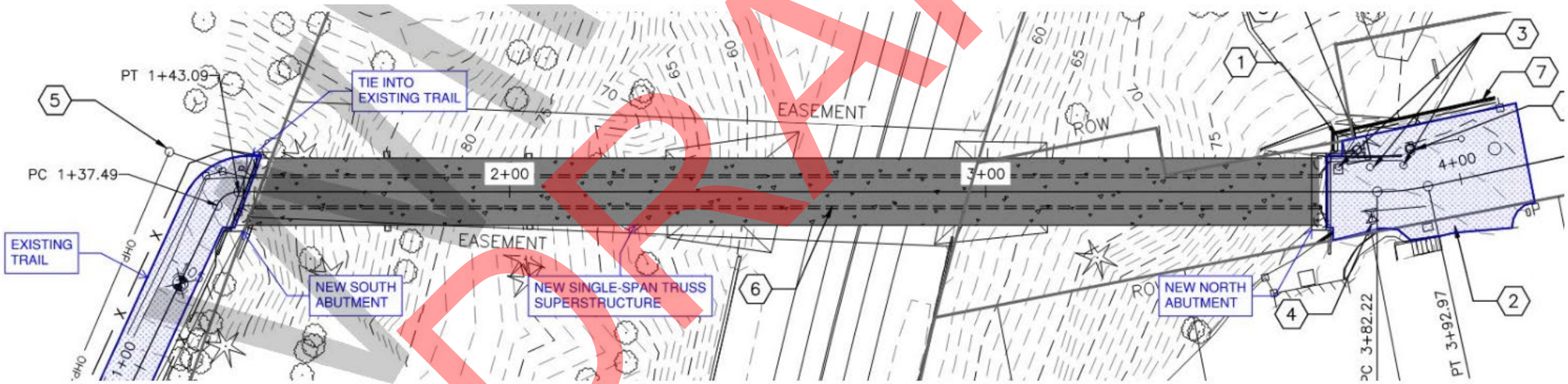
Alternative 2 – Single-Span Truss

- Remove existing structure
- Build new north & south abutments
- Erect new prefabricated truss (14’ W)
- Same alignment and slope as existing



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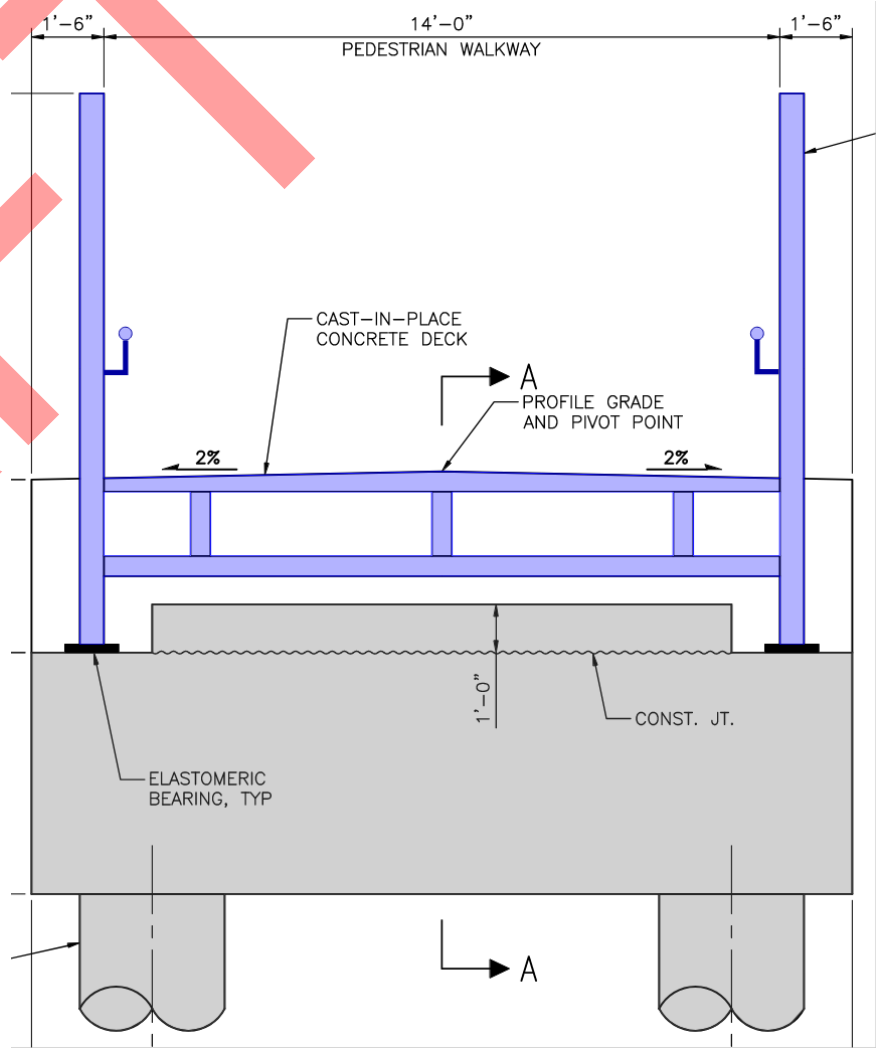
Alternative 2: Replacement of existing bridge – same alignment

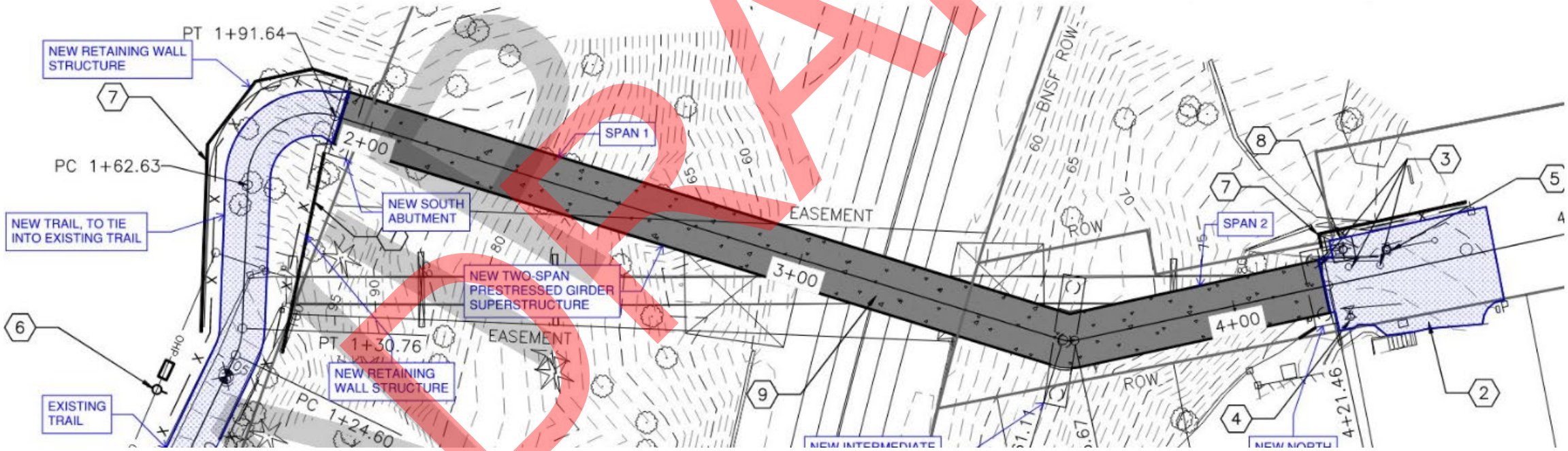
- Widening of bridge surface will be incorporated (going from existing 6 feet to 14 feet wide)
- Not vertically ADA compliant but widened surface will be an improvement from current state



Alternative 3 – Two-Span Alignment

Selected Alternative

- Remove existing structure
- Build new N & S Abutments, new S retaining wall, and one intermediate pier on north slope
- Erect new girder superstructure (concrete or steel girders, concrete deck, 14’ W)
- ADA-compliant profile



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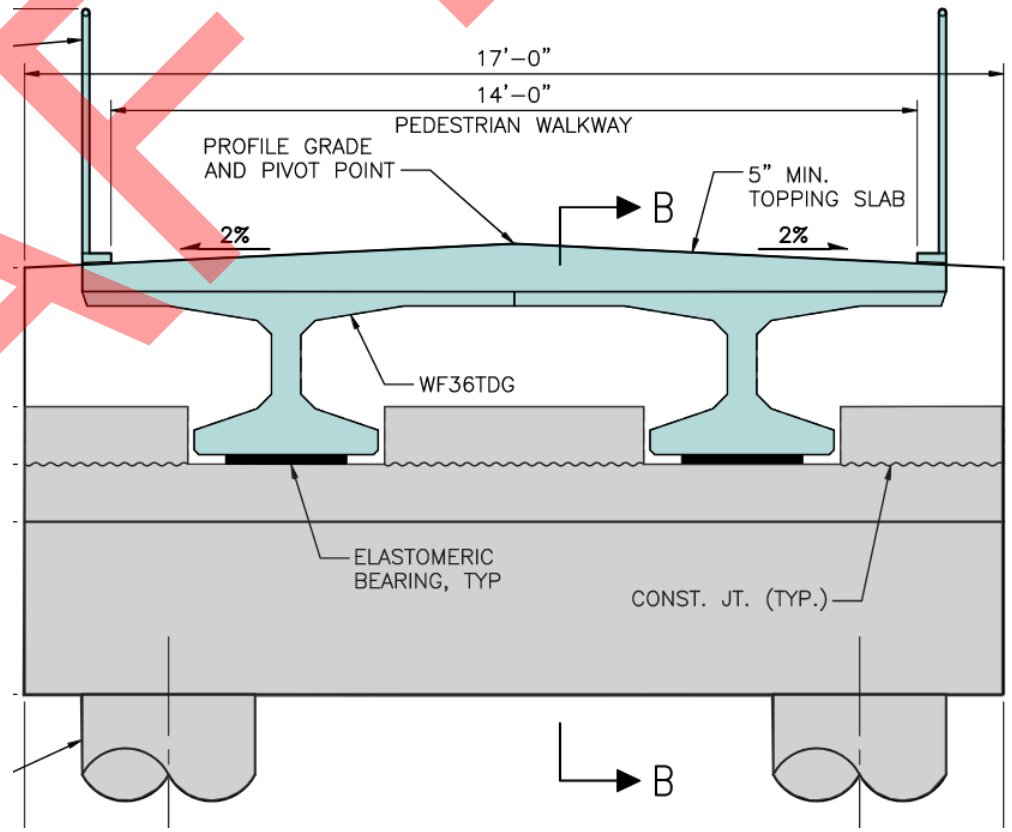
Alternative 3: Replacement of existing bridge – angled alignment

- Higher up-front cost option, lower long-term costs
- Complete replacement of the existing structure
- Widening of bridge surface will be incorporated (going from existing 6 feet to 14 feet wide)
- Vertically ADA compliant across bridge (no change to non-compliant approaches)



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Alternative 3: Replacement of existing bridge – angled alignment

- Realigns structure to be centered within city ROW (current bridge skirts the edge of the private property to the NW.
- Requires construction of intermediate pier at north slope, but still >25’ away from BNSF tracks and out of BNSF ROW.

Concrete pedestrian bridge of similar type to proposed. Source: Google Streetview

Public Comment on Alternatives

Topic:

Asked to rank alternatives, and give individual feedback.

What We Heard:

What We Did:

Supported decision to select Alternative 3.

Understood public concerns of aesthetics and function to consider at later design stages.

Design Discussion: Materials

ITEM	DESIGN FLEXIBILITY
Steel Girders	Paint Color
Concrete Deck	Concrete Surfacing / Patterns Integral Concrete Colors

Design Discussion: Materials

ITEM	DESIGN FLEXIBILITY
Railing & Throw Fence	Pattern & Material
Walls	Concrete Pattern

Design Discussion: Lighting

Blue Heron Nesting

Blue Heron Nesting

Q&A

Thank you!

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