

Testimony in Support of the Dayton Street Bridge Replacement Project

Submitted to: Joint Subcommittee on Capital Construction

Date: May 9, 2025

Re: SB 5531 – Lottery Bond Authorization



Dear Co-Chairs and Members of the Committee,

On behalf of the City of Falls City and the residents we serve, I'm writing to urge your support for funding the Dayton Street Water-Wastewater-Pedestrian Bridge project. This is not just an infrastructure project, it is a critical necessity for the health, safety, and resiliency of our rural community.

The Dayton Street Bridge spans the Little Luckiamute River, connecting the north and south halves of Falls City. Originally a vehicular bridge, it was converted in the 1960s into a narrow 6-foot-wide pedestrian and utility bridge. Over the years, this structure has quietly become the backbone of our city's essential services. It supports our water distribution and wastewater lines, and it provides a pedestrian route that supplements our limited vehicle crossings. It now supports the only sewer connection and water lines for residents living on the south side of town.

However, this bridge has reached the end of its life. A professional inspection in January 2025 by DOWL Engineering revealed alarming structural decay, including severe rot in major girders and sills, crushed supports, and sagging spans. The inspection concluded that the bridge was unsafe for pedestrian use and ordered its immediate closure. Since then, Falls City has lost a vital footpath and risks losing critical water and sewer service to the south side of town if the bridge fails completely. Its structural failure would result in the immediate loss of sewer service, compromised water pressure, including for our ability to fight fires—and the loss of one of just two remaining pedestrian routes across town.

The implications are stark:

- All wastewater lines serving the south side of Falls City depend on this bridge's integrity. A structural failure would cut off sewage services for numerous households.
- Water service and fire suppression capacity for the south side would be compromised, especially in the event of a main break.
- Emergency response routes are already limited. This bridge closure has further reduced our ability to provide timely aid in crisis situations.

Temporary repairs would cost up to \$600,000 but offer only limited and short-lived relief. A full bridge replacement is estimated at \$3.1 million in today's dollars, based on verified engineering and inflation-adjusted projections. Despite extensive efforts, Falls City has not been able to secure the necessary funding due to limited local revenue capacity.

This project was identified as a top-priority infrastructure need in our 2017 Falls City Water System Master Plan. We've waited years in the hope that circumstances would allow us to act before the situation became urgent. That time is now. The bridge is closed. The risks are immediate. And the consequences of inaction would be catastrophic for dozens of families and the entire community's stability.

We respectfully request \$1.5 million in state funding to support this replacement project. This would match federal and local efforts already under pursuit and allow us to finally move forward with construction.

Thank you for your time and for considering this critical request. Falls City stands ready to proceed immediately upon award to restore the safety, function, and reliability of this vital infrastructure.

Sincerely,

TJ Bailey

A handwritten signature in blue ink that reads "TJ Bailey". The signature is stylized and cursive.

Mayor City of Falls City

mayor@fallscityoregon.gov | 503-787-3631



January 28, 2025

Chris Brugato
Westech Engineering, Inc.
3841 Fairview Industrial Drive SE, Suite 100
Salem, OR 37302

Re: Falls City Pedestrian Bridge over Little Luckiamute River Special Inspection
DOWL Job No. 2870.80850.01

Dear Chris,

DOWL has completed the safety inspection of the City's pedestrian bridge over the Little Luckiamutte River. Overall, the structure is in very poor condition with some major defects identified to structural members. Prior to DOWL leaving the site, we contacted John Creekmore, Falls City representative, and discussed our findings and indicated the structure needed to be closed to pedestrian access as there were major structural members that were compromised. Below is an outline of our findings.

Decking

Overall, the decking was in fair condition. There is a large amount of timber planks that appear to be the original lumber. These members are heavily worn and have surface decay. The newer planks have been screwed down and are well secured to the superstructure. The newer planks have light checking and some splitting throughout. There is no immediate need to replace any planking.

Superstructure

The bridge superstructure is comprised of timber girders in all 6 spans. The approach spans are constructed of three (3) rough sawn timber girders, while the main span is two (2) 27-inch-deep glulam timber girders. All girders were visually inspected as well as sounded to identify any decay. The approach spans were accessed using a ladder and were found to be in fairly good condition; only minor checks were identified. Span 3 over the river was not accessible and so the girders were drilled, using a Resistograph drill, from the top. The drill utilizes a 1/8-inch diameter drill bit that is 16-inches long. The girders were drilled in a 5-foot pattern to identify any decay. Decay was found throughout the upstream girder with areas of severe section loss in the middle half of the girder. The extent of the decay was not fully identified as the glulams are 27-inches deep and we were only able to drill up to 14-inches into the girder, so in some areas we were not able to get to the bottom of the decayed section. Based on our drillings, there is a minimum of 14-inches (>50% section loss) of decay in this member. This decay would explain why this girder is sagging approximately 2-inches.

Substructure

The bridge foundation consists of timber columns supported by concrete spread footings with timber caps and sills. Many of the timber members are in very poor condition with large amounts of decay. The concrete spread footings are mostly exposed, with bents 3, 4, and 5 within the active channel flow. Bents 3 and 4 are heavily abraded exposing the large aggregates in the concrete. The bent 5 footing appears to be slightly undermined along the stream side. All of the footings appear to be founded on erodible river rock materials.



Bent 5 Footing Undermining

Resting on the top of each concrete footing are timber sills. These sills are heavily decayed, many of which are 1-inch shells. The timber sill at bent 4 appears to be crushing under several of the timber columns.

The timber columns are in very poor condition with many being a 1-inch shell. Most of the decay is located in the bottom portion of the column. The middle column at bent 4A appears to be heavily decayed and had been struck by drift shifting the column to the north. Due to this movement, the middle column at bent 4B has also shifted approximately 8-inches and has lost 75% of its bearing.



Bent 4A Middle Column Broken



Bent 4B Middle Column Loss of Bearing



Overall, the bridge is in very poor condition and is no longer safe to use. There is extensive decay in major structural members that jeopardize the capacity of the bridge. This is evident with the sagging of the upstream girder over the river. As noted above, we have informed the City to close the bridge to pedestrian use until the bridge can be rehabilitated or replaced. Due to the sagging of span 3, we highly recommend a temporary system installed in this span to help support the utilities on the bridge.

Thank you for having DOWL perform this work. We hope to continue our services with the City to provide further Engineering assistance. If you have any questions about information contained in the reports, please do not hesitate to contact us.

Sincerely,

Michael Hawkins, P.E., CBSI
Project Manager

Bridge Inspection Report



Name Falls City Pedestrian Bridge
 Owner City of Falls City
 Crossing Little Luckiamute River
 AC Depth 0 Bridge Width 6.0 ft

Insp Freq As Needed
 Facility N/A
 Bridge Length 157.0 ft

Bridge ID NA
 County Polk
 Mile Point N/A
 Insp Date 1/17/2025

Inspector 1 Mike Hawkins (C0087)
 Inspector 2 Robert Ashburn

Signature _____

Element Condition States

| Elem | Description | Env | Qty | Units | CS1 | CS2 | CS3 | CS4 | Status |
|------------|--------------------------------------|------|------------|-------------|------------|-----------|-----------|-----------|--------|
| 31 | Deck, Timber | Mod. | 942 | (SF) | 0 | 848 | 94 | 0 | |
| 1140 | Decay/Section Loss (Timber) | Mod. | 94 | (SF) | 0 | 94 | 0 | 0 | |
| 1150 | Timber Checks | Mod. | 754 | (SF) | 0 | 754 | 0 | 0 | |
| 1170 | Timber Splits/Delams | Mod. | 94 | (SF) | 0 | 0 | 94 | 0 | |
| 111 | Girder, Timber Open Beam | Mod. | 419 | (LF) | 315 | 28 | 62 | 14 | |
| 1140 | Decay/Section Loss (Timber) | Mod. | 52 | (LF) | 0 | 28 | 10 | 14 | |
| 1150 | Timber Checks | Mod. | 52 | (LF) | 0 | 0 | 52 | 0 | |
| 215 | Abutment, Reinforced Concrete | Mod. | 154 | (LF) | 154 | 0 | 0 | 0 | |
| 205 | Column, Reinforced Concrete | Mod. | 8 | (EA) | 8 | 0 | 0 | 0 | |
| 206 | Column, Timber | Mod. | 21 | (EA) | 3 | 6 | 1 | 11 | |
| 1140 | Decay/Section Loss (Timber) | Mod. | 12 | (EA) | 0 | 1 | 1 | 10 | |
| 1150 | Timber Checks | Mod. | 5 | (EA) | 0 | 5 | 0 | 0 | |
| 2240 | Bearing Area Loss | Mod. | 1 | (EA) | 0 | 0 | 0 | 1 | |
| 221 | Submerged Concrete Footing | Mod. | 120 | (LF) | 84 | 36 | 0 | 0 | |
| 1190 | Abrasion/Prestressed/RC | Mod. | 30 | (LF) | 0 | 30 | 0 | 0 | |
| 6000 | Scour | Mod. | 6 | (LF) | 0 | 6 | 0 | 0 | |
| 235 | Timber Pier Cap | Mod. | 140 | (LF) | 60 | 0 | 30 | 50 | |
| 1140 | Decay/Section Loss (Timber) | Mod. | 80 | (LF) | 0 | 0 | 30 | 50 | |
| 306 | Joint, Other | Mod. | 12 | (LF) | 0 | 0 | 12 | 0 | |
| 2310 | Expansion Joint Leakage | Mod. | 12 | (LF) | 0 | 0 | 12 | 0 | |
| 332 | Rail, Timber | Mod. | 314 | (LF) | 236 | 78 | 0 | 0 | |
| 1150 | Timber Checks | Mod. | 78 | (LF) | 0 | 78 | 0 | 0 | |
| 980 | Approach Rdwy Embankment | Mod. | 1 | (EA) | 1 | 0 | 0 | 0 | |
| 990 | Misc. Items | Mod. | 1 | (EA) | 1 | 0 | 0 | 0 | |
| 999 | Roadway Impact | Mod. | 1 | (EA) | 0 | 1 | 0 | 0 | |

Appraisal**NBI Category**

| <u>Appraisal</u> | <u>NBI #</u> | <u>Rating</u> | <u>Category</u> | <u>NBI #</u> | <u>Rating</u> |
|--------------------|--------------|---------------|-----------------|--------------|-----------------|
| Bypass Detour | 19 | N/A | Deck Condition | 58 | 6 Satisfactory |
| Lanes on/under | 28 | N/A | Superstructure | 59 | 2 Critical |
| ADT | 29 | N/A | Substructure | 60 | 2 Critical |
| Approach Road | 32 | N/A | Channel | 61 | 6 Satisfactory |
| Bridge Rail | 36A | 0 Substandard | Culvert | 62 | N N/A (NBI) |
| Transitions | 36B | 0 Substandard | Inv. Rating | 66 | |
| Approach Rail | 36C | 0 Substandard | Waterway | 71 | 7 Above Minimum |
| Rail Ends | 36D | 0 Substandard | Approach Align. | 72 | 8 |
| Main Struct Type | 43 | 702 | Defense Highway | 100 | |
| Bridge Roadway | 51 | 6.0 ft | Temp. Repair | 103 | |
| Vertical Clearance | 53 | 99.99 ft | Wearing Surf. | 108 | |
| Vert. Under Clear. | 54 | N/A | Scour | 113 | |

(Remarks)

| <u>Element</u> | <u>Note</u> |
|----------------|---|
| 31 | |
| 1140 | Several deck planks, primarily in span 3 that are heavily worn and have surface decay. |
| 1150 | Many planks are lightly checked throughout |
| 1170 | Many planks are split (17 total) |
| 111 | Span 3 upstream girder sagging up to 2-inches near midspan. |
| 1140 | Span 3 glulam girders were not accessible from the underside. Decay was found by drilling through the topside of the members. Girder 2 (Upstream) was found to have large decay pockets near midspan. Drillings indicated up to 14-inches (limits of drill bit) |
| 1150 | Span 3 girders are both checked. Only the downstream girder was quantified due to heavy decay in the upstream member taking precedence. |
| 206 | |
| 1140 | Heavy decay in many of the timber columns near the timber sills (lower 1-2-ft). Most of these locations indicate the columns are 1-inch shells. |
| 1150 | Several column in bents 5 & 6 have light drying checks |
| 2240 | Bent 4B middle column has been shifted 8-inches towards bent 5 causing the column to only have 25% bearing on the timber sill. |
| 221 | |
| 1190 | Heavy abrasion noted on bents 3 and 4 as they are in the active channel. Some loss of large aggregates. |
| 6000 | Bent 3, 4 and 5 footings are fully exposed. Bent 5 footing is slightly undermined along the river side up to 6-feet long and penetrates under the footing by 8-inches. Footing founded on erodible gravels. Bent 4 footing unable to access due to water level. |
| 235 | |
| 1140 | Severe decay to most of the timber sills that support the columns on the spread footings. Some crushing noted at bent 4. Decay noted in Bent 3A & B caps (R5). |
| 306 | |
| 2310 | Evidence of leakage at both joints (Bridge ends). |
| 332 | |
| 1150 | Light drying checks throughout all timber rail members. |
| 990 | Channel and banks well vegetated. 3 utilities are located on the bridge. Some heavy corrosion, but no leakage found. |
| | Due to heavy decay to the columns and span 3 girders, the City was informed to close the bridge. |
| 999 | Some approach settlement onto the bridge causing a bump. |

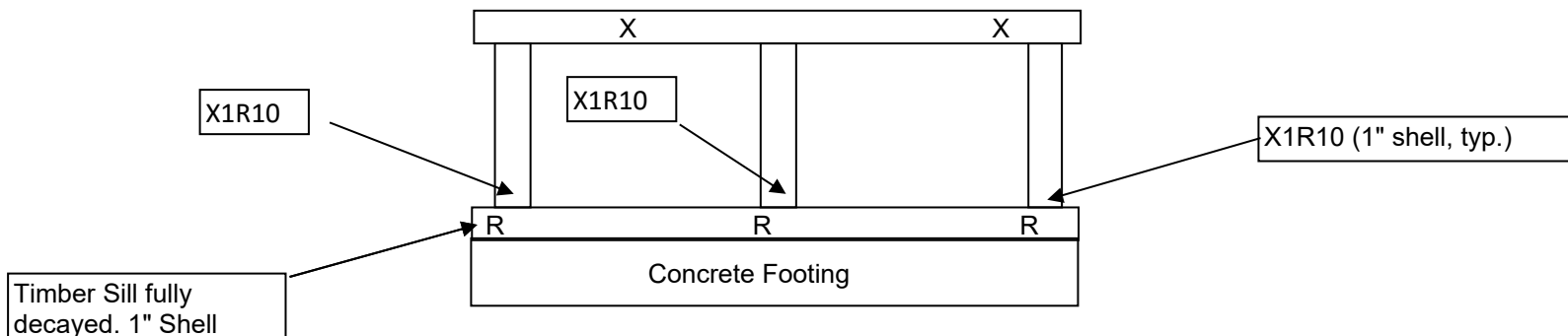
(Maintenance)

| <u>Priority</u> | <u>Element</u> | <u>Maintenance</u> | <u>Est. Cost</u> |
|-----------------|----------------|--|------------------|
| Critical | 990 | Close Bridge and Install Closure Signs | \$500 |
| Critical | 111 | Replace Span 3 Girder | \$300,000 |
| Critical | 206 | Replace Decayed Columns | \$150,000 |
| Critical | 235 | Replace Decayed Sills | \$150,000 |
| Urgent | 221 | Mitigate Scour | \$50,000 |
| | | | |
| | | | |
| | | | |

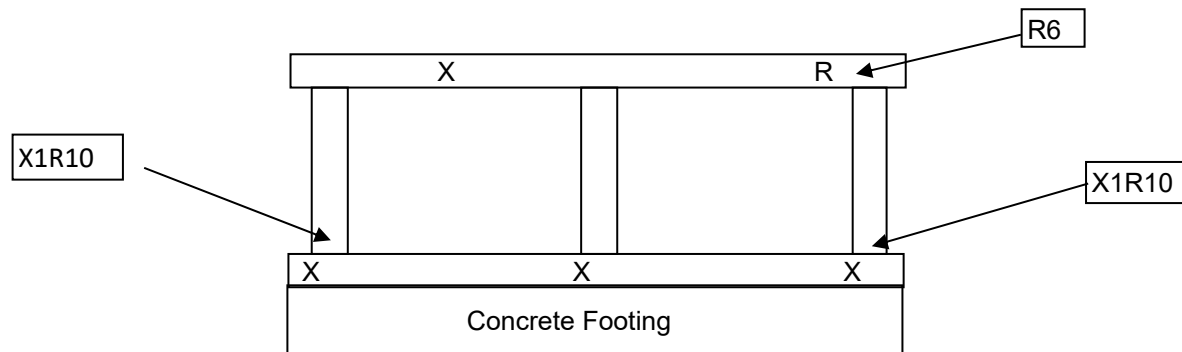
(Inspection Schedule)

| <u>Conducted On</u> | <u>Activity</u> | <u>Frequency</u> | <u>Next Inspection</u> |
|---------------------|--------------------|------------------|------------------------|
| 1/17/2025 | Special Inspection | TBD | As Needed |
| | | | |
| | | | |
| | | | |

TIMBER BORING REPORT



Bent 2

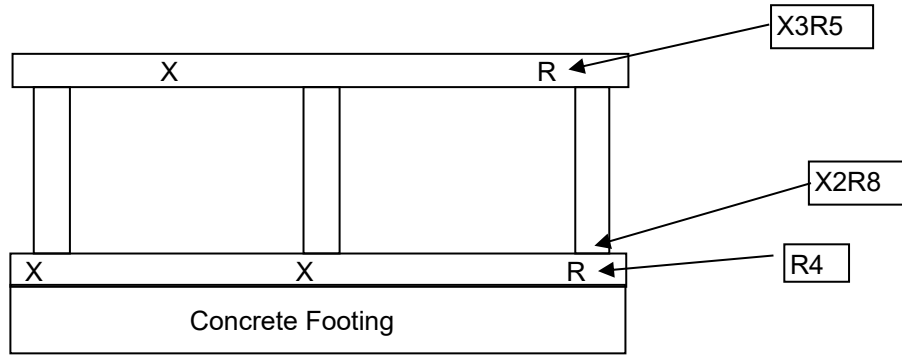


Bent 3A

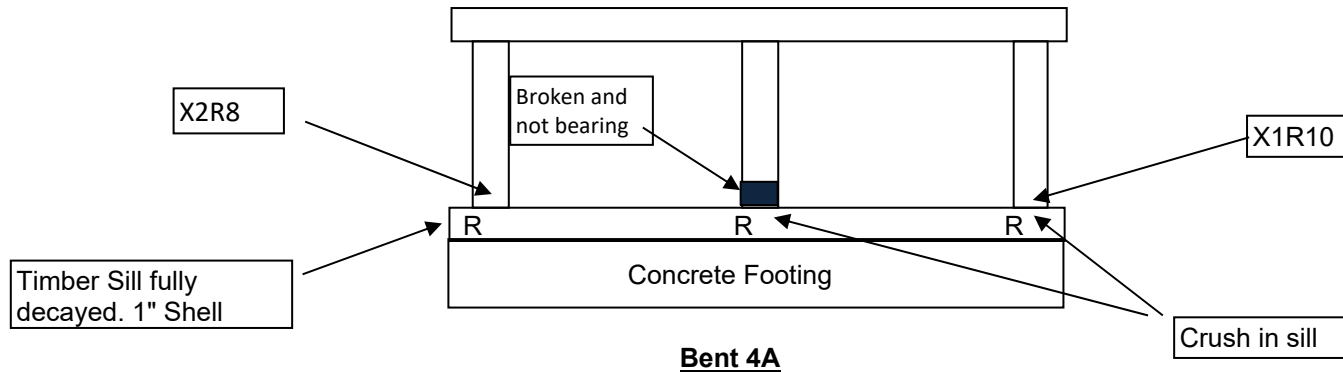


COUNTY Marion
BRIDGE NO. Unknown
NAME Falls City Ped.
OWNER City
DATE 01/17/2025

TIMBER BORING REPORT



Bent 3B

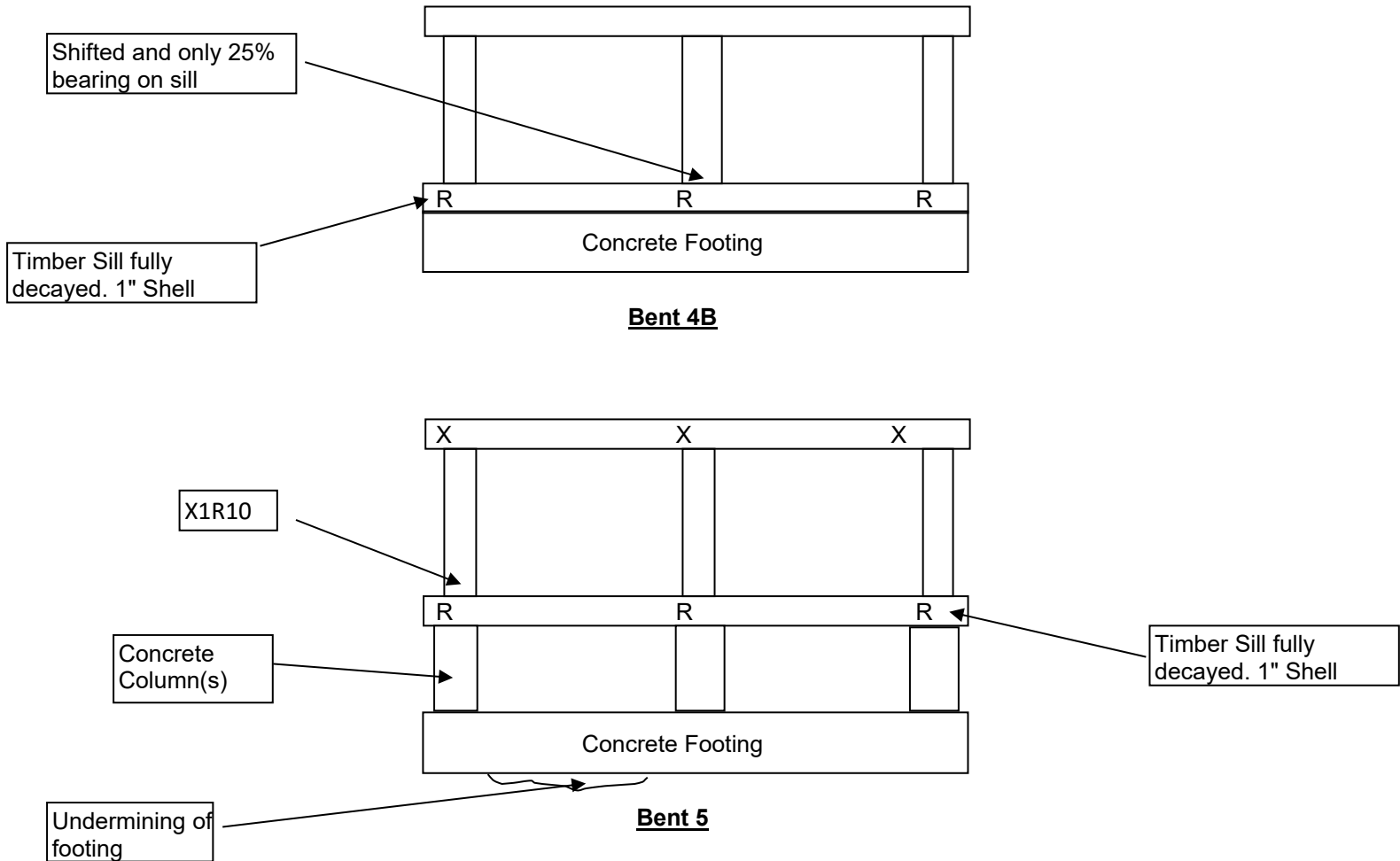


Bent 4A



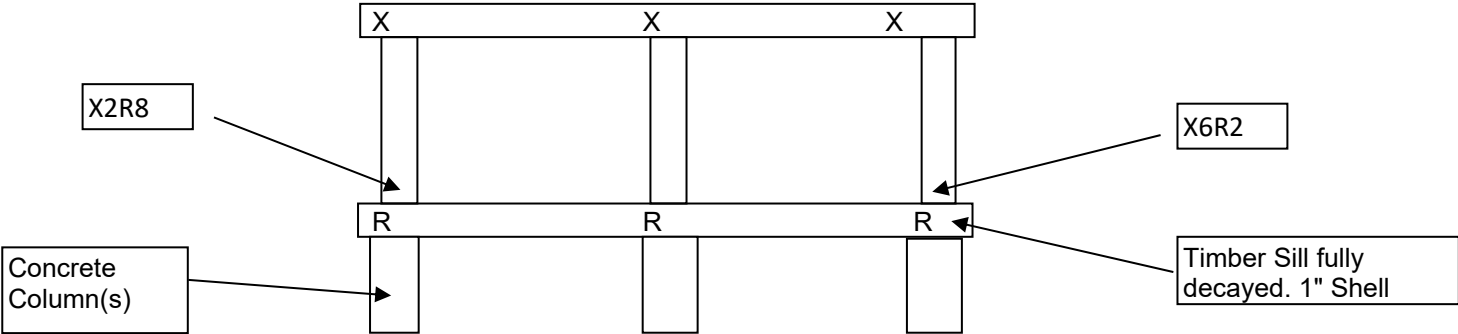
COUNTY Marion
BRIDGE NO. Unknown
NAME Falls City Ped.
OWNER City
DATE 01/17/2025

TIMBER BORING REPORT



COUNTY Marion
BRIDGE NO. Unknown
NAME Falls City Ped.
OWNER City
DATE 01/17/2025

TIMBER BORING REPORT



Bent 6

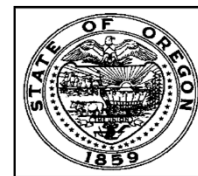
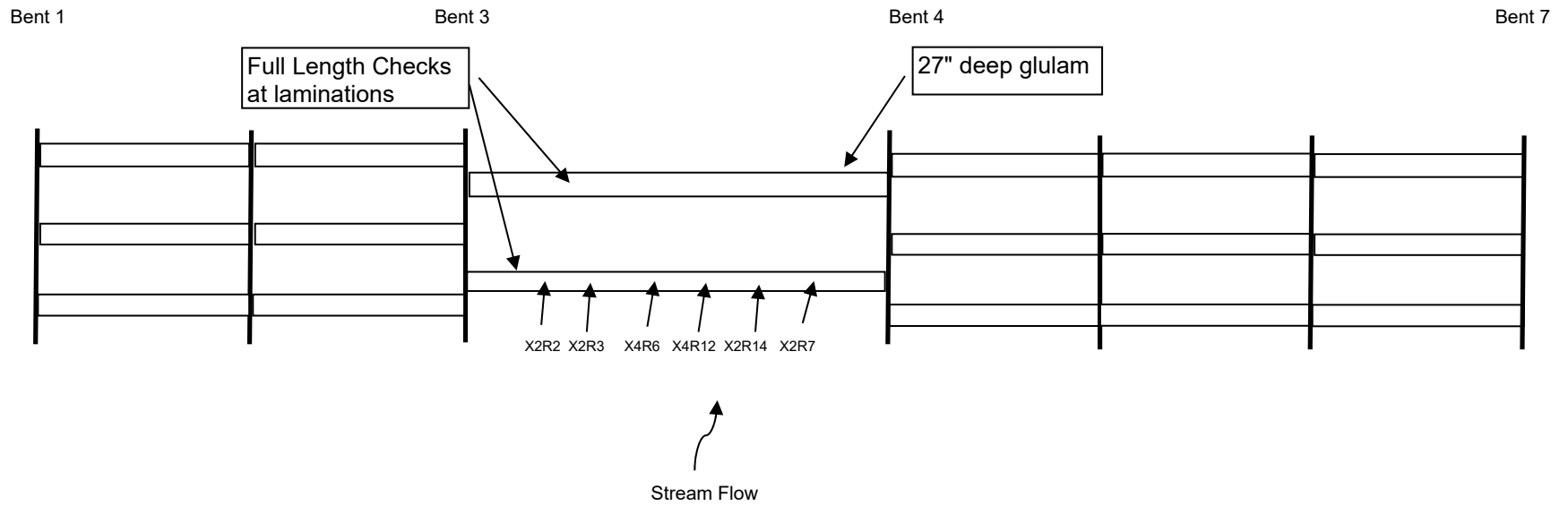


COUNTY Marion
BRIDGE NO. Unknown
NAME Falls City Ped.
OWNER City
DATE 01/17/2025

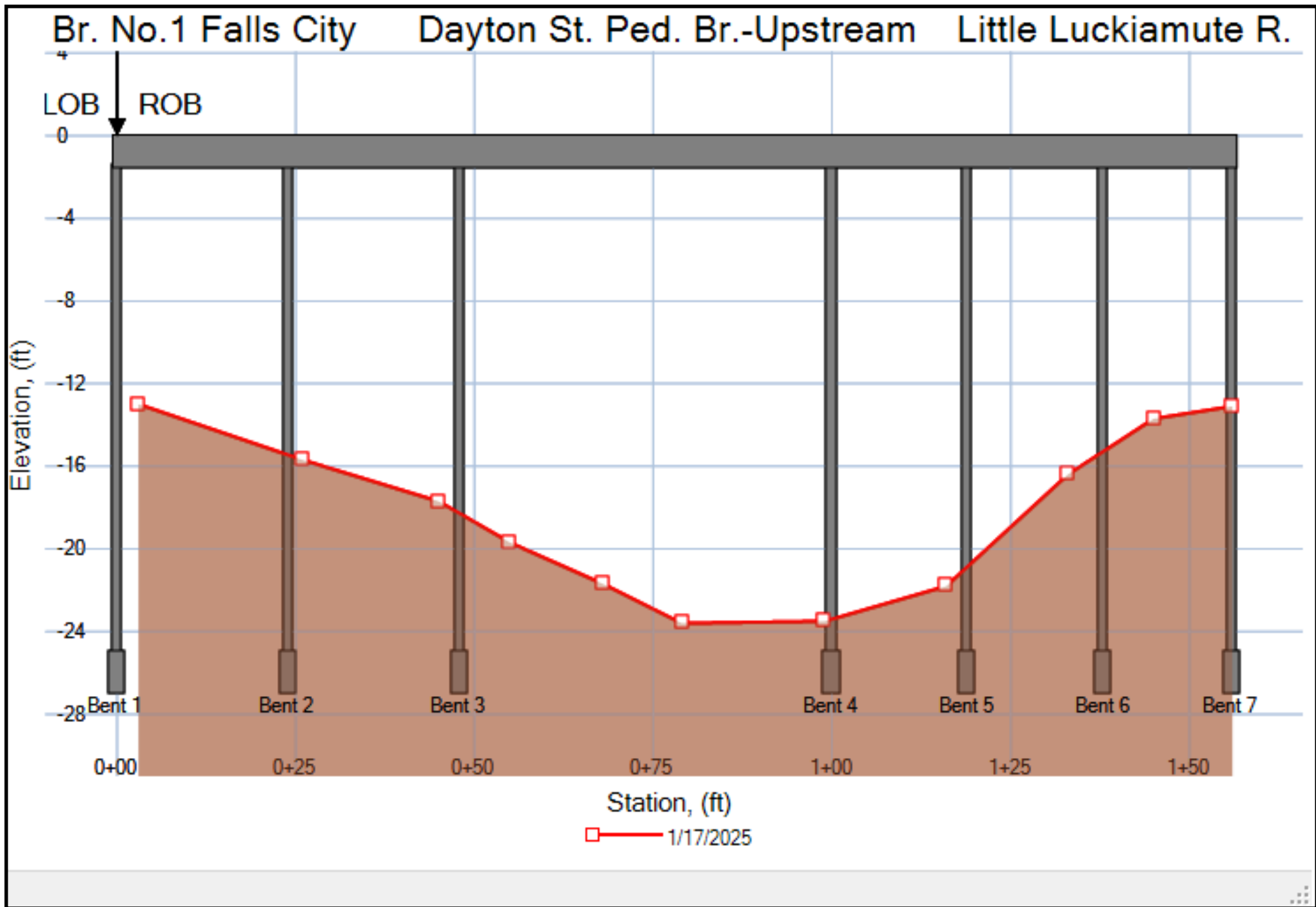
TIMBER BORING REPORT

GIRDER DIAGRAM

← North



COUNTY Marion
BRIDGE NO. Unknown
NAME Falls City Ped
OWNER City
DATE 1/17/2025





Falls City Utility Bridge

Falls City, OR

REPAIR EXHIBIT

Prepared For: City of Falls City
Project Number: 70.80850.01
Date: 6 February 2025

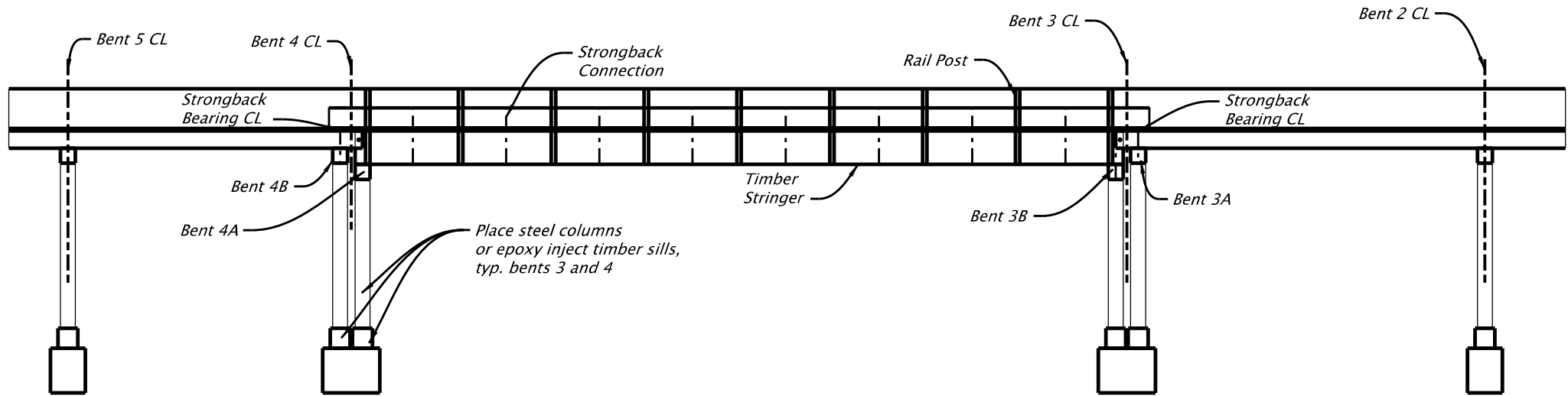
Project Abstract:

Falls City Utility Bridge has been shut down to pedestrian loads and we have been tasked with evaluating the capacity of the existing members to carry the bridge's dead load and utility load. DOWL has also recommended repairs.

These exhibits accompany a report for the above project titled Falls City Bridge Findings Letter dated: 28 January 2025



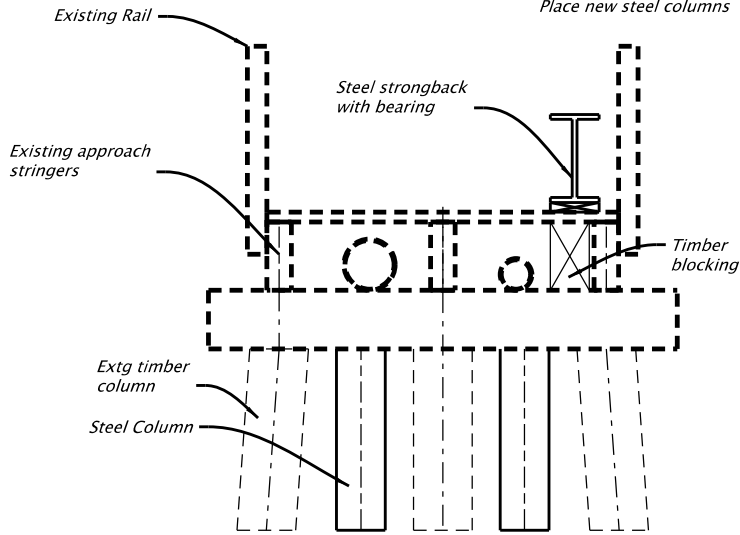
Mainspan Strongback Repair



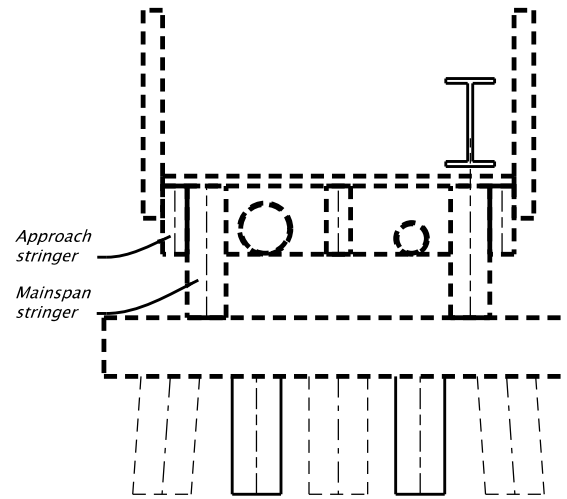
Repair Elevation View

Bent Elevations and Mainspan
typical section

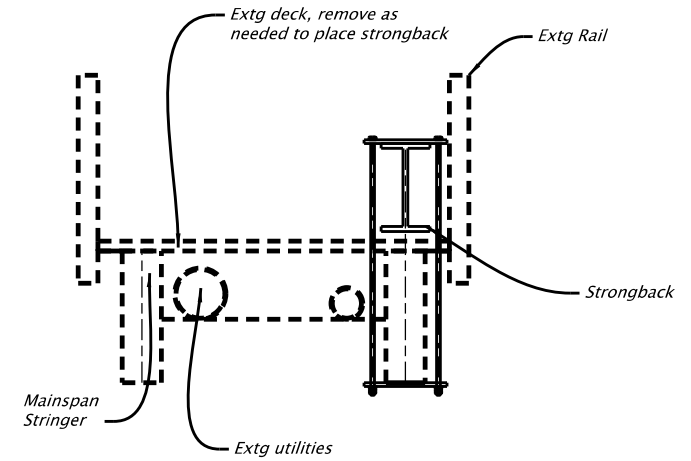
Either epoxy repair existing timber sills and repair bearing
OR
Place new steel columns



Bent 4B/3A



Bent 4A/3B



Main Span

**Falls City Utility Bridge
Repair Costs with Steel Columns**

**Engineer's Opinion of Cost
Date 2/6/2025**

| Item No. | Spec. No. | Item | Bid Unit | Est. Unit | Est Quantity | Est Unit Price | Bid Quantity | Bid Unit Price | Total Price |
|--|-----------|---------------------|----------|-----------|--------------|----------------|--------------|----------------|---------------|
| Falls City Utility Bridge Repairs | | | | | | | | | |
| 10 | 00210 | MOBILIZATION | Lump Sum | Lump Sum | 1 | \$ 13,180.44 | 1 | \$ 13,180.44 | \$ 13,180.44 |
| 20 | 00501 | BRIDGE REMOVAL WORK | Lump Sum | Sq Ft | 112 | \$ 100.00 | 1 | \$ 11,200.00 | \$ 11,200.00 |
| 30 | 00560 | STRUCTURAL STEEL | Lump Sum | Lb | 14560 | \$ 7.00 | 1 | \$ 101,920.00 | \$ 101,920.00 |
| 40 | 00582 | BEARING DEVICES | Lump Sum | Each | 2 | \$ 2,500.00 | 1 | \$ 5,000.00 | \$ 5,000.00 |
| 50 | 01999 | STRUCTURAL TIMBER | Lump Sum | FBM | 28 | \$ 18.00 | 1 | \$ 504.00 | \$ 504.00 |

| | | |
|--------------------------------|----|------------|
| SUB-TOTAL OF ITEMS | \$ | 131,804.44 |
| DESIGN ENGINEERING (10%) | \$ | 13,180.44 |
| CONSTRUCTION ENGINEERING (10%) | \$ | 13,180.44 |
| CONTINGENCY (30%) | \$ | 47,449.60 |
| TOTAL | \$ | 205,614.93 |



Project: Falls City Utility Bridge
Subject: Ballpark cost estimate
Date: 1/8/2025

Using Dayton Utility bridge, bid in December 2022 as a data point, estimate a total construction cost for replacing the Falls City Utility bridge with a similar prefabricated truss.

Dayton bridge length = 220 ft
Dayton bridge width = 12 ft
Plan area = 2640 sq. ft.

Winning bid total cost = \$ 5,979,053
Massive temporary work bridge cost = \$ 500,000
Massive drilled shafts cost = \$ 450,000
Winning bid net total cost = \$ 5,029,053
Winning bid unit cost per bridge area = \$ 1,905/sq. ft.

Doesn't really apply to Falls City (applies to oranges)
Doesn't really apply to Falls City (applies to oranges)
"Apples to apples" cost to use for comparison

Falls City bridge length = 160 ft
Falls City bridge width = 8 ft
Falls City bridge plan area = 1280 sq. ft.

Falls City bridge replacement cost = \$ 2,438,329 in 2022

Construction cost inflation rate = 5% per year
Multiplier for inflating 2022 costs to 2027 (5 years) = 1.276

Falls City bridge replacement cost in 2027 dollars = \$ 3,111,994

AACE Class 5 low end cost estimate (-20%) = \$ 2,489,595.20

AACE Class 5 high end cost estimate (+40%) = \$ 4,356,791.60