Weddle Covered Bridge (Sweet Home, OR)

JANUARY 31, 2023

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Executive Summary

Oregon Transportation Professionals, LLC, was contracted by the City of Sweet Home to visually inspect the Weddle Covered Bridge. The city intends to continue public access to the bridge and ensure that the bridge remains suitable for continued access. This report documents the findings of the inspection.

The bridge was found to be in subpar condition during the bridge inspection. The truss will require some maintenance, but the floor beams and stringers exhibit the bulk of the problems. There are floor beams and stringers with decay over 50% of the member depth. Maintenance recommendations have been included in the report to reduce the future risk and liability to the city when the bridge incurs typical loads.

A structural analysis of the load carrying capacity of the timber structure is recommended to determine whether the bridge can carry vehicle loads used in maintenance operations as well as heavy pedestrian loads that may occur during large events such as the Oregon Jamboree. At a minimum, the floor beams should be analyzed.

Section 1 Bridge Location & Description

The Weddle Covered Bridge is located at the Southwest corner of Sweet Home High School and provides a connection to the nearby Sanky Park. The bridge is open to the public for pedestrian use only, through it must also support vehicles used in maintenance operations. Listed on the National Register of Historic Places in Oregon, the history of Weddle Covered Bridge is well documented. Additional information can be found on Wikipedia and other internet sources.

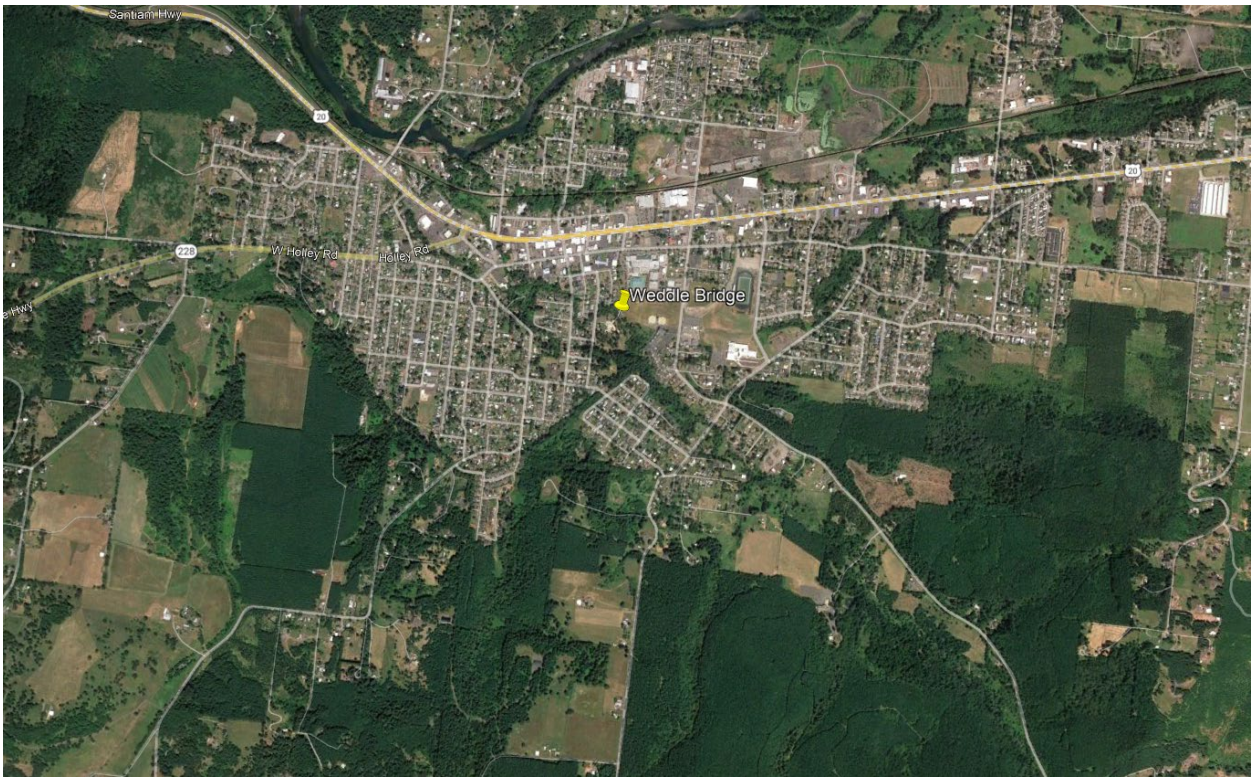


Figure 1 - Map View

The bridge is a single span bridge timber structure comprised of a covered Howe truss with timber floor beams, timber stringers and a timber deck.

The record drawings are included in Appendix A from the original bridge. The bridge has been modified (plans not included) several times. The whole structure was rebuilt in 1990 and the timber deck has been replaced.

Section 2 Bridge Inspection

Truss members

The bridge superstructure was inspected on May 31, 2022. The substructure was also inspected on September 20, 2022. Visual inspection, sounding and resistograph timber boring was used to evaluate the structure and extent of decay in structural members. Ladders were used to access the upper chord above the bridge deck. Similarly, ladders were used to inspect the substructure. Removal of the board

and batten siding was necessary to inspect the lower chord. Bent 1 was assumed to be the bent at the Southwest corner of the bridge and Bent 2 at the Northeast corner.

The inspection portion of the project involved assessing the existing conditions of the structure. The superstructure of the bridge was examined to determine the condition of the protective systems (paint), welded or other connections, and the defects associated with the main load carrying members of the bridge (beams and diaphragms).

The roof appears to have widespread surface decay replacing the shingles is recommended. Based on appearance, the shakes were installed in 1990 with the covered bridge which would age them 32 years. A replacement should be planned considering cedar shake roof usually lasts around 30 years.

Figure 2 – Cedar shake roof should be replaced soon.

Fortunately, the roof is still effective, and no leaks were observed at the time of the inspection. The top chord is in good shape without signs of advancing decay. While the roof is the primary moisture barrier, the secondary preservation system is a good coat of paint.

The overall truss is in fair condition. The top chord has minimal timber defects with minor checks throughout. There are localized areas of decay in diagonals and the bottom chord. Most of the

Figure 3 - Unpainted top chord

substantial decay was located on the downstream side either in the diagonals or bottom chord. It is evident that most seasonal rain (and therefore decay) is intrusive on the downstream side of the structure.

When rating decay in timber, 10% to 50% of the section loss in a member is considered moderate and enough for replacement. Our recommendation is to replace all moderately decayed structural members. Should the City decide not to replace these members, we recommend a load rating to be completed for public saftey to limit the occupancy and maintenance vehicles. A complete load rating of the truss will cost over $20,000. An alternative approach is only analyzing the the members with the greatest decay and posting the bridge for those members. A floor beam/stringer load rating costs around $3,000 each.

To avoid analyzing the full truss, an approach for the chords could be augmenting the decayed sections with steel (plates/channels) i.e a repair to replace the lost capacity. This option wouldn't give full load rating for the truss but would be sufficent in keeping it inservice for a few more years.

Over 50% decay is considrerd major and should be scheduled for immediate replacement and further load restrictions.

The downstream diagonals have areas of moderate to heavy decay present. L3U4 (Right) a 10"x10" downsteam diagonal has minor decay in right member which should be monitored in the future if the decay spreads. The Left member has major decay (9") localized at the brace. While not designed as a tension or compression member, the bracing serves to provide ridgidity against buckling.

Figure 4– Downstream L3U4 (Left) 9" of Major Decay

Figure 5 – Downstream L3U4 (right) 2” of minor decay

Figure 6 - Downstream U6L7 (Left) 5" Moderate Decay

The bottom chord also has decay throughout with moderate decay on top of the bottom chord along the downstream side of the bridge. All of the bottom chords are 12”x12”. L1L2 and L6L7 have 3” of moderate decay. L2L3 has 6” of decay. And 6” of decay centered in bottom chord towards FB2 and 6” at the top FB3.

Floor beams and stringers

Figure 7 - Bottom chord L2L3 and Floor beam 2

The floor beams are typically 12” wide and 22” deep. The defects worth noting are areas of heavy decay, splits and checking. When excessive decay was found it was around the steel rods and towards the bottom of the floor beam

Floor beams 5 and 6 have some of the most urgent problems due to major decay (around 12”). The decay found in 5 and 6 was found on the upstream side. Floor beams 2 and 7 had moderate decay (around 9”) on the downstream end.

Floor beam 3 has a split at both ends that will need to be monitored. We recommend repair with a fish plate to stabilize the split.

Figure 8 – Split at end of Floor Beam 3

The steel rods and anchor plates have mild surface corrosion and pitting. They need to be painted to prevent future section loss. The section loss is within tolerable limits.

Figure 9 – Pitting on tie rod anchors

Most of the stringers are in satisfactory condition. There are stringers with heavy decay, splits, and checking. Major decay was found in stringers: S6 in bay 1, and S1,5,6 and 8 in Bay 8. Moderate decay was found in Bay 3, 4 and 5. Specific stringers are specified in maintenance recommendations.

Figure 10 - Bottom chord and stringer 1, 2 and 3

Figure 11 - Surface decay and fire damage to Bay 5 Stringers 7 & 8

The deck of the bridge was also examined. The deck system was in satisfactory condition with some noted defects. These defects influence the long-term maintenance and safety of the bridge. Recommendations to maintain the structure have been summarized in Section 3 later in this document.

Abutments

The substructure of the bridge was examined. Both ends of the bridge appear well supported on the concrete blocks that do not have a deep footing system.

Figure 12 - Bent 2 scour – monitor scour after peak rainfall events.

Bent 2 has some scour with no undermining and appears to be in a stable condition. Monitoring the scour is critical. Erosion around the substructure may cause structure instability and should be prevented. Maintenance recommendations have been included with a monitoring program to continually reevaluate the stability of the substructure.

The channel under the bridge was also assessed to determine waterway adequacy. The channel was determined to be in stable condition.

Figure 13 – Bent 1 backwall is a 1” shell with 11” of decay.

Figure 14 – Crack present in Bent 2 appears stable but should be monitored.

The painting system on the outside of the house is approaching the end of its useful life. Repainting of the bridge within the next five years will extend the life of the exterior siding and more importantly protect the interior truss members. As a protective system, paint repels damaging moisture that leads to timber decay. The inside portion has some life left but the top of the top chord is unpainted.

Figure 15 – Outside paint condition

Figure 16 – Inside Paint condition

Section 3 Recommendations

Recommendation #1 – Replace the truss roofing to mitigate moisture penetration to structural members of the bridge. Cedar shake roofs usually last 20 - 30 years. Alternative composite roofing shingles that look like cedar shake are available for additional longevity to preserve structural members. Maintenance Priority = Routine High (next 2-3 years), est. $12,000.

Recommendation #2 –Replace Floor Beams 2, 5, 6, and 7. Maintenance Priority = Urgent (next 12-24 months), est. $15,000.

Recommendation #3 –Replace CS4 timber stringers: Bay 8 Stringer 1,5,6,8, and Bay 1 stringer 6. Monitor or replace CS3 timber stringers: Bay 1 Stringer 5, Bay 2 Stringer 5, Bay 3 Stringer 1, Bay 4 Stringer 4,7, 8, Bay 5 Stringer 1,3,5,7, Bay 7 stringer 3, and Bay 8 Stringer 10. Insert shims for timber stringers: Bay 3 Stringer 2 and 7, and Bay 4 Stringer 5. Maintenance Priority = Routine High (next 2-3 years), est. $19,000.

Recommendation #4 – Repair CS3/CS4 timber truss members. Maintenance Priority = Urgent (next 1-2 years), est. $10,000.

Recommendation #5 – Replace missing 3 bolts on U4L5(L) Truss Member Connection. Maintenance Priority = Routine Schedule (next 2-3 years), est. $1,000.

Recommendation #6 – Replace bridge deck near Bent 2 with CS3 decay. Maintenance Priority = Routine High (next 2-3 years), est. $3,000.

Recommendation #7 – Clean and paint pitted plates at bottom connection of steel cables. Maintenance Priority = Routine Schedule (next 2-3 years), est. $2,000.

Recommendation #8 – Replace broken anchor and missing bolt on L5L6(L) member connection near Floor beam 6. Maintenance Priority = Routine High (next 2-3 years), est. $2,000.

Recommendation #9 – Replace rail section with major decay. Maintenance Priority = Routine High (next 2-3 years), est. $1,000.

Recommendation #10 – Replace bumper boards on both sides of the bridge. Approach at both ends of decayed boards at the ends of the bridge. The timber sill/backwall is also needs to be replaced due to decay. Maintenance Priority = Routine High (next 2-3 years), est. $3,000.

Recommendation #11 – Have bridge analyzed for maintenance vehicle loads and heavy pedestrian loads that are possible at events such as the Oregon Jamboree. Maintenance Priority = Urgent (next 6-12 months), est. $20,000.

Recommendation #12 – Monitor the bridge ends after significant storms or flooding events to make sure the substructure fully supports the bridge ends. The bridge should have the concrete blocks fully bearing on the ground without any deflection to the structure. Immediately halt traffic using the bridge until the bridge abutments are stable and fully supported. Maintenance Priority = Monitor, est. $250/year.

Recommendation #13 – Inspect the bridge every five years. Maintenance Priority = Routine Schedule (every 5 years), est. $3,000.

Recommendation #14 – Limit bridge (signing) to 50 people until a load rating is performed for an occupancy limit determination and maintenance vehicle weight limit. Maintenance Priority = Urgent (next 6 months), est. $2,000.

Section 4 Limitations

A bridge inspection is an evaluation at a moment in time. Bridges never improve as they age. The federal standard for maintaining a bridge on a public road is a periodic inspection schedule to monitor the aging condition and recommend necessary maintenance for the bridge. In Oregon, ODOT uses a 24-month cycle, which is required by federal code 23CFR650, to monitor bridge conditions and maintain structural integrity. Some bridges can have an annual or even bi-annual inspection schedule, depending on the severity of a bridge's deficiencies.

However, privately-held bridges (such as this one) are not subject to this regulation. The onus and risk management is held by the bridge owner.

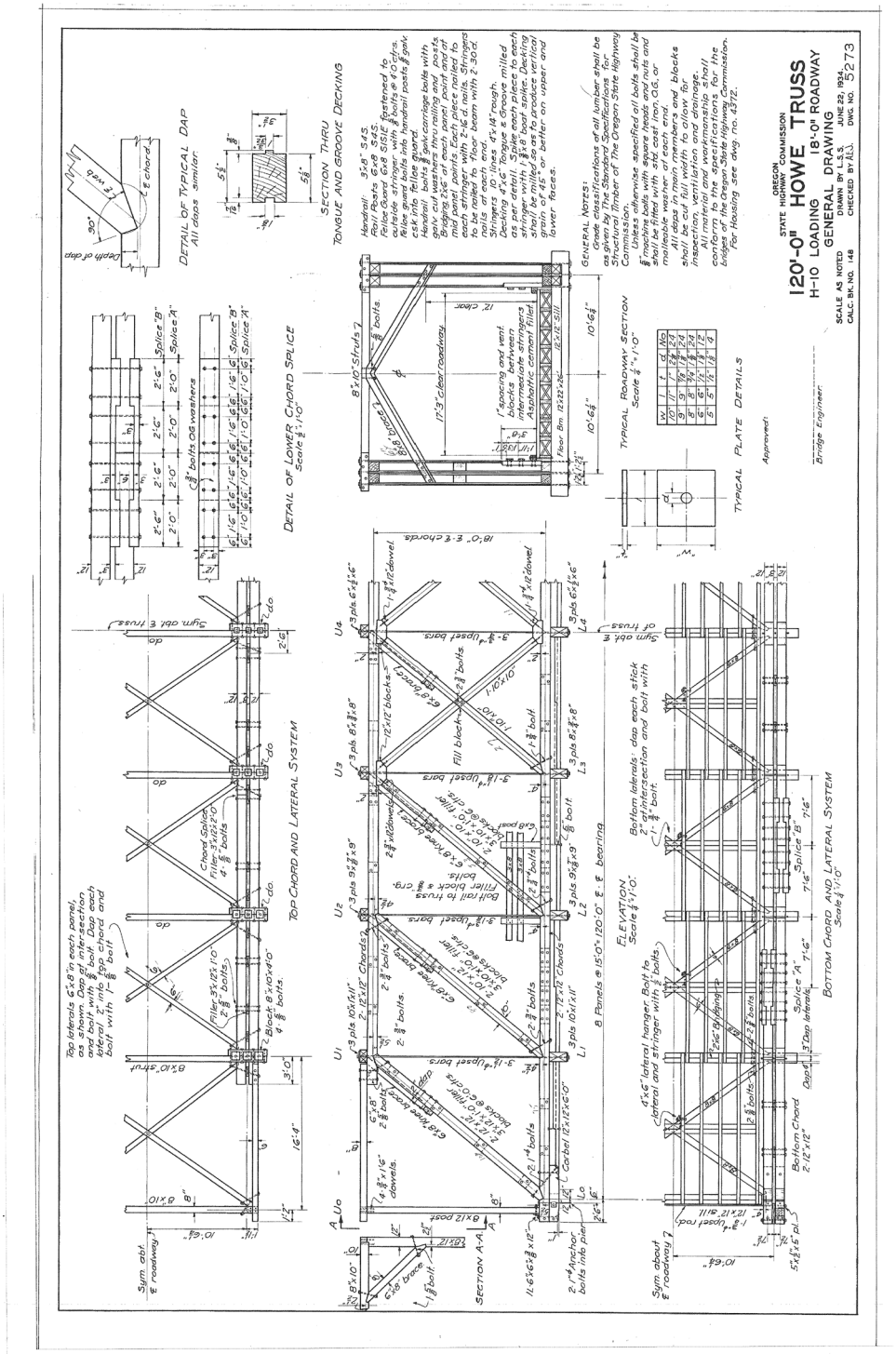
Load rating and analysis is typically done about every 10 years, or earlier if the routine bridge inspection determines that there is a reason to reevaluate a bridge. A bridge may be load-rated more often because of an observed failure of a bridge element, collision damage, or because the bridge owner applied more dead load to the bridge (such as placing an additional 4 inches of asphalt on a bridge deck). Just like an inspection, a load rating is strictly an evaluation at a moment in time.

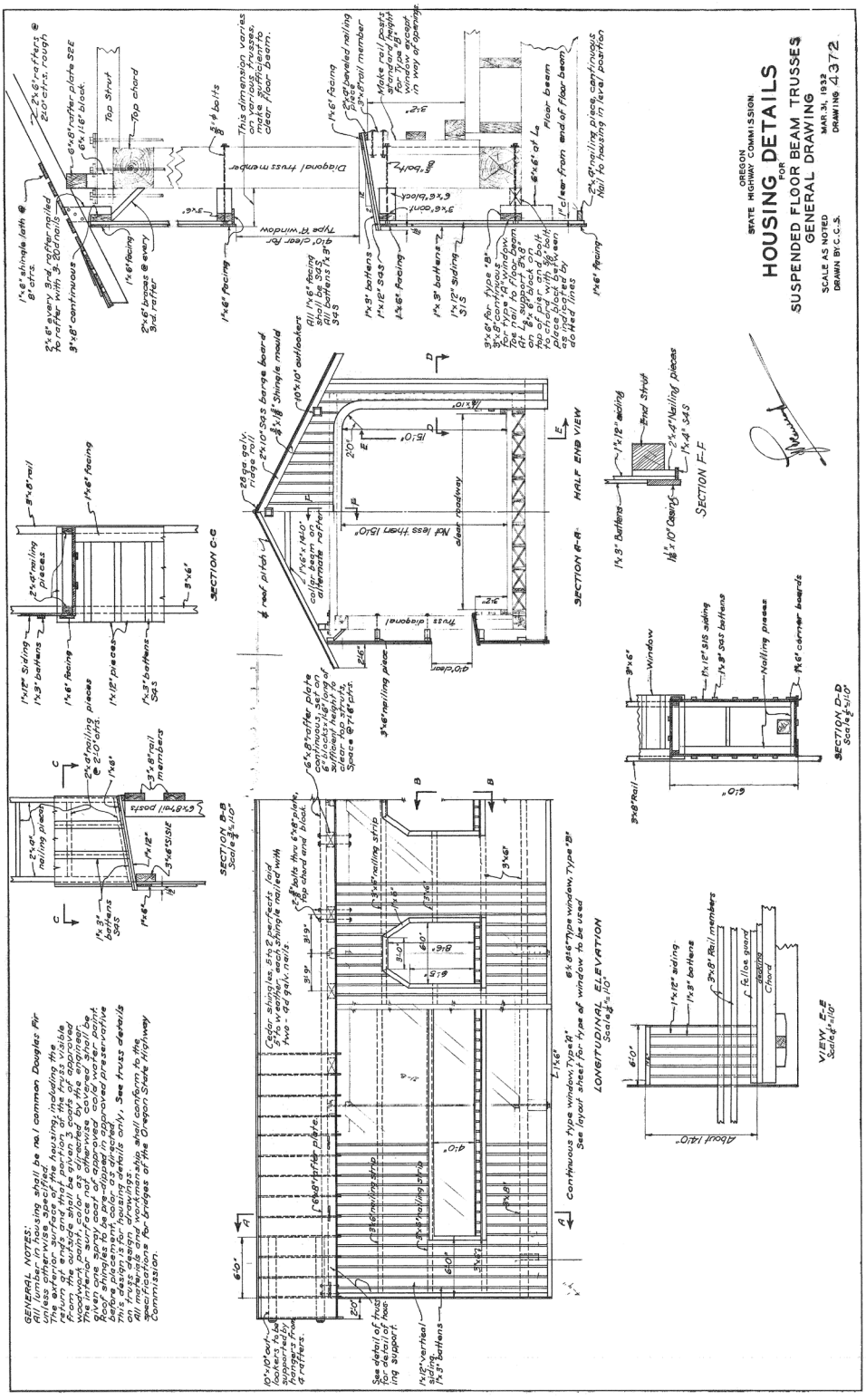
The data presented in this report reflects the condition of the bridge at the time of the inspection. An engineer cannot certify a bridge for unseen future conditions. Due to the serious implications this imposes on bridge owners, routine inspections and periodic maintenance is highly recommended to avoid a catastrophic failure due to neglect.

The inspection performed is also limited by visual inspection. Material testing, full hydraulic analysis for a base flood event, or certification that the bridge will withstand a significant seismic event or even a major collision is not cost effective nor recommended on a regular basis. Some engineering firms offer these types of services should the client desire a higher level of assurance, but they usually come with a significant cost. Also, these types of inspections usually occur on a 'lifeline route", which this bridge is clearly not.

Overloaded bridges and scour pose the greatest threat to most bridge owners and is a common reason for bridge collapse. A rigorously-enforced policy to deter overloading bridges is the best defense for a bridge owner over the long term to avoid accidents and costly litigation.

Appendix A Original Record Drawings




OREGON
STATE HIGHWAY COMMISSION
HOUSING DETAILS
FOR
SUSPENDED FLOOR BEAM TRUSSES
GENERAL DRAWING
SCALE AS NOTED
DRAWN BY C.C.S.
MAR. 31, 1932
DRAWING 4372
GENERAL NOTES:
Lumber used in housing shall be No.1 common Douglas Fir unless otherwise specified.
The exterior surface of the housing, including the roof, shall be painted with two coats of approved paint. From the outside shall be given 3 coats of approved woodwork paint, color as directed by the engineer. Roof shingles to be dipped in approved preservative given one spray coat of approved color water paint.
This design is for housing details only. See truss details on truss design drawings.
All workmanship and materials shall conform to the specifications for Bridges of the Oregon State Highway Commission.
SECTION C-C
SECTION B-B
SECTION A-A HALF END VIEW
SECTION E-E
SECTION F-F
SECTION D-D
LONGITUDINAL ELEVATION
VIEW E-E
Weddle Covered Bridge

Appendix B Bridge Inspection Data Summary

NBI Item:	Value:
6 Features Intersected	Ames Creek
7 Facility Carried	Pedestrian Traffic
16 Latitude	44° 23' 40.66"
17 Longitude	122° 43' 35.82"
19 Bypass, Detour Length	0
28 Lanes On and Under	2/0
29 Approach Roadway Width	0
34 Skew	0
36 Traffic Safety Features	0
37 Historical Significance	0
41 Posting	K
43 Structure Type, Main	710
45 Number of Spans in Main Unit	1
46 Number of Approach Spans	0
47 Horizontal Clearance	17.5'
48 Length of Maximum Span	120'
49 Structure Length	120'
50 Curb or Sidewalk Widths	0/0
51 Roadway Width	17.5'
52 Deck Width, Out-to-out	17.5'
58 Deck	6
59 Superstructure	4
60 Substructure	5
61 Channel	7
71 Waterway Adequacy	6
72 Appr. Roadway Alignment	0
102 Direction of Traffic	2
103 Temporary Structure	
108 Wearing Surface	

				Condition State			
ELEMENT	DEFECT	ENV	QTY	1	2	3	4
(31) - Timber Deck		3	2100 SF	1893	171	36	0
(31) - Timber Deck	(1140) - Decay/Section Loss	3	83 SF	0	48	35	0
(31) - Timber Deck	(1150) - Check/Shake	3	19 SF	0	18	1	0
(31) - Timber Deck	(1180) - Abrasion/Wear	3	105 SF	0	105	0	0
(117) - Timber Stringer		3	1088 LF	786	219	69	14
(117) - Timber Stringer	(1140) - Decay/Section Loss	3	105 LF	0	32	59	14
(117) - Timber Stringer	(1150) - Check/Shake	3	171 LF	0	161	10	0
(117) - Timber Stringer	(1170) Split / Delamination	3	22 LF	0	22	0	0
(117) - Timber Stringer	(7000) Damage	3	4 LF	0	4	0	0
(135) - Timber Truss		3	240 LF	98	115	26	1
(135) - Timber Truss	(1140) - Decay/Section Loss	3	52 LF	0	25	26	1
(135) - Timber Truss	(1150) - Check/Shake	3	84 LF	0	84	0	0
(135) - Timber Truss	(1900) - Distortion	3	6 LF	0	6	0	0
(156) - Timber Floor Beam		3	182 LF	0	136	37	9
(156) - Timber Floor Beam	(1140) - Decay/Section Loss	3	17 LF	0	0	8	9
(156) - Timber Floor Beam	(1150) - Check/Shake	3	162 LF	0	136	26	0
(156) - Timber Floor Beam	(1170) Split / Delamination	3	3 LF	0	0	3	0
(206) - Timber Column		3	4 LF	0	4	0	0
(206) - Timber Column	(1150) - Check/Shake	3	4 LF	0	4	0	0

				Condition State			
ELEMENT	DEFECT	ENV	QTY	1	2	3	4
(215) - Concrete Abutment		3	52 LF	50	1	1	0
(215) - Concrete Abutment	(1130) - Cracks	3	2 LF	0	1	1	0
(148) Steel Main Cables (Secondary)		3	42 EA	0	0	42	0
(148) Steel Main Cables (Secondary)	(1000) - Corrosion	3	42 EA	0	0	42	0
(332) Timber Bridge Railing		3	240 LF	229	8	0	3
(332) Timber Bridge Railing	(1140) - Decay/Section Loss	3	11 LF	0	8	0	3
(963a) Covered Bridge Housing Roof		3	1 EA	0	0	1	0
(963b) Covered Bridge Housing Rails & Walls		3	1 EA	0	1	0	0
(963c) Covered Bridge Housing Protective System		3	1 EA	0	1	0	0
(980) - Approach Roadway Embankment		3	1 EA	1	0	0	0
(999) - Roadway Ride Quality		3	1 EA	0	0	1	0

Bridge Element Remarks

Element	Location	Deck
31	Bent 1	17.5' Wide Deck x 120' Length. Scattered CS2 Decay and Shakes with significant area of abrasion near Bent 1. Some CS3 Decay near Bent 2.

Element	Location	Stringers
117	Bay 1, Stringer 1	Double stringer, both counted here. 5' CS2 surface decay.
117	Bay 1, Stringer 2	80% Length CS2 Horizontal Split.
117	Bay 1, Stringer 3	No defects noted.
117	Bay 1, Stringer 4	CS2 Weather Checking Full length.
117	Bay 1, Stringer 5	CS2 Vertical Split 50% length of stringer at midspan. CS3 section loss near FB1.
117	Bay 1, Stringer 6	CS2 Weather Checking for 60% length of stringer at midspan. CS4 decay for first 0.25L.
117	Bay 1, Stringer 7	No defects noted.
117	Bay 1, Stringer 8	No defects noted.
117	Bay 1, Stringer 9	No defects noted.
117	Bay 1, Stringer 10	Double Stringer. No defects noted.
117	Bay 2, Stringer 1	10% length CS2 Horizontal Weather Checking at midspan.
117	Bay 2, Stringer 2	25% length CS2 Horizontal Weather Checking near midspan.
117	Bay 2, Stringer 3	20% length CS2 Horizontal Weather Checking near midspan.
117	Bay 2, Stringer 4	15% length CS2 Horizontal Weather Checking near midspan.
117	Bay 2, Stringer 5	50% length CS3 Horizontal Weather Checking at midspan.
117	Bay 2, Stringer 6	10% length CS2 Horizontal Weather Checking at midspan.
117	Bay 2, Stringer 7	10% length CS2 Horizontal Weather Checking at midspan.
117	Bay 2, Stringer 8	10% length CS2 Horizontal Weather Checking at midspan
117	Bay 3, Stringer 1	4' length of CS3 decay near FB2. 4' length CS2 decay near FB3.
117	Bay 3, Stringer 2	Needs shim at FB3
117	Bay 3, Stringer 3	No defects noted.
117	Bay 3, Stringer 4	2' CS2 Surface Decay near FB2.
117	Bay 3, Stringer 5	10% CS2 Vertical Weather Checking near FB2.
117	Bay 3, Stringer 6	No defects noted.
117	Bay 3, Stringer 7	Needs shim at FB3.
117	Bay 3, Stringer 8	15% CS2 Vertical Weather Checking near FB2, 15% CS2 Checks and Shakes near FB3.

Element	Location	Stringers
117	Bay 4, Stringer 1	No defects noted.
117	Bay 4, Stringer 2	No defects noted.
117	Bay 4, Stringer 3	No defects noted.
117	Bay 4, Stringer 4	CS2 Vertical Weather Checking, 20% length near midspan. CS3 decay at FB4, 2'.
117	Bay 4, Stringer 5	Need shim at FB3 and FB4.
117	Bay 4, Stringer 6	No defects noted.
117	Bay 4, Stringer 7	CS3 decay near FB3, 4'. CS3 decay near FB4, 4'.
117	Bay 4, Stringer 8	CS3 decay near FB4, 4'.
117	Bay 5, Stringer 1	CS3 decay near FB4, 4'.
117	Bay 5, Stringer 2	No defects noted.
117	Bay 5, Stringer 3	CS3 Surface Decay, 3'.
117	Bay 5, Stringer 4	No defects noted.
117	Bay 5, Stringer 5	7' of CS3 Surface Decay on outside.
117	Bay 5, Stringer 6	No defects noted.
117	Bay 5, Stringer 7	5' of CS3 surface decay near FB4.
117	Bay 5, Stringer 8	3' CS2 fire damage near FB4.
117	Bay 6, Stringer 1	1' CS2 Decay near FB5.
117	Bay 6, Stringer 2	CS2 shakes 0.5L near FB5.
117	Bay 6, Stringer 3	3' CS2 decay near FB6.
117	Bay 6, Stringer 4	1' CS2 Fire Damage near FB6
117	Bay 6, Stringer 5	No defects noted.
117	Bay 6, Stringer 6	No defects noted.
117	Bay 6, Stringer 7	CS2 check, 50% length.
117	Bay 6, Stringer 8	No defects noted.
117	Bay 7, Stringer 1	No defects noted.
117	Bay 7, Stringer 2	CS2 Surface Decay, full length.
117	Bay 7, Stringer 3	2' CS3 Shake near FB7.
117	Bay 7, Stringer 4	1' CS2 Shake on top near FB7.
117	Bay 7, Stringer 5	No defects noted.
117	Bay 7, Stringer 6	No defects noted.
117	Bay 7, Stringer 7	Full length CS2 Shake & check. 1' CS2 split near FB6.
117	Bay 7, Stringer 8	CS2 surface decay near FB6, 1' in length.

Element	Location	Truss Downstream Diagonals
117	Bay 8, Stringer 1	CS3 section loss first 80% then CS4 section loss last 20%.
117	Bay 8, Stringer 2	Double Stringer. No defects noted.
117	Bay 8, Stringer 3	2' Shake CS2 near 0.3L, 3' Shake CS2 near Bent 2.
117	Bay 8, Stringer 4	Full length CS2 shake
117	Bay 8, Stringer 5	Full Length CS2 check. CS4 decay near Bent 2, 3'. CS2 Surface decay at FB7 bearing. CS3 decay near midspan, 3'.
117	Bay 8, Stringer 6	Full length CS2 check. 3' CS2 Shake near Bent 2. CS4 decay near Bent 2, 3'.
117	Bay 8, Stringer 7	No defects noted.
117	Bay 8, Stringer 8	Full length CS2 check. CS4 Decay last 1' at FB7.
117	Bay 8, Stringer 9	Double stringer. CS2 shakes full length.
117	Bay 8, Stringer 10	Double stringer. Rt. Stringer has CS3 decay near FB7, 30% of length.

Element	Location	Truss Downstream Diagonals
135	L0U1	No defects noted.
135	L1U2	Suspect Decay on Left (L_1 X10) (R_1 X10).
135	L2U3	Suspect Decay both sides (L_1 X10) (L_1 X10 Starting on Left).
135	L3U4	Decay on Right bottom (R1 R2X8). CS4 Decay Left above brace (X1R9).
135	U3L4	Distortion, Decay Left.
135	L4U5	Decay Right (X10) R CS2 8'.
135	U4L5	Decay Right below brace (X10), Left missing 3 bolts (X10).
135	U5L6	Decay Left Middle (X10).
135	U6L7	CS3 Decay Left (R5X5).
135	U7L8	L CS2 10'.

Element	Location	Top Chord Downstream
135	U1U2	L outside - CS2 check top. R - CS2 check btm
135	U2U3	L outside - CS2 check top. R - CS2 check btm
135	U3U4	L outside - CS2 check top 75%. R - CS1
135	U4U5	L outside - CS1. R - CS1
135	U5U6	L outside - CS1. R - CS1
135	U6U7	L outside - CS1. R - CS1

Element	Location	Bottom Chord Downstream
135	L0L1	No defects noted.
135	L1L2	3' CS3 Section loss near FB1
135	L2L3	4' CS3 Section loss near FB2. 4' CS3 Section loss near FB3.
135	L3L4	No defects noted.
135	L4L5	No defects noted.
135	L5L6	No defects noted. Anchor rod broken and bolt missing at connection.
135	L6L7	5' CS3 section loss near mid length.
135	L7L8	No defects noted.

Element	Location	Truss Upstream Diagonals
135	L0U1	Insufficient thread engagement, loose bolt Left 12' off ground.
135	L1U2	Left btm decay, X10.
135	L2U3	X10. No defects noted.
135	L3U4	Left btm decay, soft but X10. Right side CS2 Checks Full Length.
135	U3L4	Left Middle, btm Decay X10.
135	L4U5	No defects noted.
135	U4L5	Right shake, decay, soft X10. Right decay btm R2X8, L soft X10.
135	U5L6	Both decay middle L X10, Right X10.
135	U6L7	Right Decay, Soft X10.
135	U7L8	No defects noted.

Element	Location	Top Chord Upstream
135	U1U2	L - CS1. R outside - CS2 check top and inside face
135	U2U3	L - CS1. R outside - CS2 check inside face
135	U3U4	L - CS1. R outside - CS1
135	U4U5	L - CS2 check inside face. R outside - 2" shake for 1' @ U4
135	U5U6	L - CS1. R outside - CS1
135	U6U7	L - CS1. R outside - CS1

Element	Location	Bottom Chord Upstream
135	L0L1	No defects noted
135	L1L2	No defects noted.
135	L2L3	No defects noted.
135	L3L4	No defects noted.
135	L4L5	No defects noted.
135	L5L6	No defects noted. Added 10' of CS2 decay from L5 to L8 for sporadic soft spots.
135	L6L7	No defects noted.
135	L7L8	No defects noted.

Element	Location	Steel Cables
148		42 total steel cables in truss. All have CS4 paint protection full length. All plates at bottom connection have CS3 pitting. Left Side 3' steel cable with insufficient thread.

Element	Location	Floor beams
156	Floor beam 1	Full Length CS2 Weather Checking. 1' CS2 Shake under Stringer 7.
156	Floor beam 2	CS2 Horizontal Weather Checking full length. X3R9 Upstream side at anchors.
156	Floor beam 3	CS3 Horizontal Weather Checking Full Length. CS3 Split at both ends.
156	Floor beam 4	CS2 Horizontal Weather Checking full length.
156	Floor beam 5	Full Length CS2 Check, CS3 decay at upstream anchor rod location. CS3 split last 3' downstream side.
156	Floor beam 6	Full Length CS2 Check, CS3 decay at anchor rod locations.
156	Floor beam 7	Full Length CS2 Check, CS3 decay at downstream connection.

Element	Location	Timber Column
206	L0	Column Left CS2 Check Full Height.

Element	Location	Concrete Abutment
215	Bent 1	1' CS2 crack. Timber still on abutment has CS4 section loss full length.
215	Bent 2	1' CS3 crack D/S. Timber sill on abutment has CS2 check full length. Bumper board rotted. Footing is exposed.

Element	Location	Rail
332	Upstream Rail	2' CS2 Decay @ L0, 3' CS2 Decay @ L4,
332	Downstream Rail	CS2 Decay @ L2, CS4 Decay @ Bent 2

Element	Location	Covered Bridge Housing Roof
963a	Covered Bridge Housing	Roof is 95% effective, however decay is widespread so replacement is recommended.

Element	Location	Covered Bridge Housing Rails & Walls
963b	Covered Bridge Housing	Rails and walls are in good condition with minor decay.

Element	Location	Covered Bridge Housing Protective System
963c	Covered Bridge Housing	Protective system has widespread decay. Replacement recommended if routine inspection is not performed.

Element	Location	Approach Roadway Embankment
980		CS1

Element	Location	Roadway Ride Quality
999		Bent 2 has a bump due to approach beam decay, CS3.