

To: Dan Lovelady – OIPCB; Martin Callery – OIPCB	
From: Kurt Reichelt – HDR	Project: Task 8 – Bridge Inspection, Load Rating, and Repair Recommendations
Copy: Mark Hemphill – HDR, Don McCammon – HDR, Pat Casey – HDR, Jon Holladay – HDR, Michael Keller - HDR	
Date: April 8, 2011	Job No: 159759
Re: <b>Task 8.2 – Cursory Bridge Inspection Findings</b>	

The cursory inspection was conducted by Don McCammon, Pat Casey, and Jon Holladay of HDR Engineering, Inc. over the course of two weeks (March 14th – March 18th and March 28th – April 1st). The inspection was cursory in nature, primarily visual observations with some timber sounding, with limited time spent at each location in an effort to determine general condition and the major structural repairs that, in the inspector’s opinion, need to be completed prior to operating trains across the structure. Based on the conditions found, recommendations were made to help set the priority in which detailed inspections of some of the structures, rating and final determination of repairs should occur. In some cases, in lieu of repairs being made before reopening the line, there is a potential for safely operating trains at reduced speeds and loading. However, in light of the new FRA Bridge Safety Standards, we have not discussed with the FRA Bridge Engineers pending Port of Coos Bay concurrence.

The inspection primarily relied on subjective audio/visual techniques which rely on human judgment to evaluate; coupled with the limited time on site and limited access, HDR cannot guarantee that all wood fiber or steel deterioration was found, especially internal deterioration or hidden corrosion or cracks. However, critical, accessible visible defects and deterioration have been identified above the ground and water lines. These inspections were cursory in nature and in some cases, a detailed structural inspection and bridge rating in accordance with AREMA Chapter 7, Timber Structures, or 15, Steel Structures, is recommended to be completed to determine if further structure repairs are necessary prior to operating trains. In addition, HDR recommends that the regulations in 49 CFR Part 237 be followed and a detailed inspection be performed on all structures.

**General Observations**

In general, the following items were noted to be prevalent on many of the structures:

- Some timber open decks are in extremely poor shape needing replacement with others needing spot tie replacement, especially in the area of rail joints.
- Tie spacers in a majority of the timber open decks were in poor condition allowing ties to skew and bunch, causing damage to ties and uneven support for the track.
- Bridges that had decks replaced 20 or so years ago never had the holes plugged in the outer timber stringers; as a result, decay and insect damage has occurred to the extent that one stringer in each of a 4 stringer chord is not capable of supporting its share of the load.
- In a few bridges, more than the outer timber stringers appear to be in poor or bad condition due to decay and cannot be depended on to carry the load.
- We noted voids in the piling, more extensive inspection would note extent and whether bents were safe to support loads.

- Some of the TPG and beam spans appear to be in good condition.
- There are some tall bridges, 80-120' in height with timber approach spans and center spans consisting of steel deck plate girders supported by steel truss towers. In general, a detailed inspection and rating of these structures needs to be performed. Several were found to have significant corrosion of main structural members.
  - Several steel bridges noted significant section loss in upper flanges or lower flanges (30% or so). These structure warrant a detailed inspection and rating as the section loss was noted could seriously affect the safe load carrying capacity. The cursory inspection process was not intended to determine detailed conditions or note section loss measurements to allow the rating to take place.
  - Inspection walkway planks were generally in poor condition and should not be trusted. Walkways on bridges also had some bad areas and care should be taken when using them.
- We observed a bridge with a tipping abutment that appears to be subject to scour attack by the water flow. Underwater inspection would be suggested and other bridges may need this as well.
- In general all the bridge approaches appear low, and need ballast and tamping. On some the backwall planks needed work to support the backfill. Due to the low approaches, the first few bridge ties at the bridge ends were generally in poor condition with loose spikes and deep plate cutting (these should be replaced).

## Recommendations

At this time, HDR recommends the Port prioritize the repairs and the recommendation to conduct full inspections on the structures noted in Table 1. It is anticipated that as a result of the structural inspections, bridge rating work will be necessary. It is recommended that inspection and rating work be completed to ensure repairs are appropriately designed, completed and construction costs are minimized to the extent possible. Once repair work is underway, HDR suggests that the remainder of the bridges be inspected to fulfill the requirements in 49 CFR Part 213. We note bridges with rating and suggested repairs that need to be completed prior to opening the line.

It is not advisable to open the line without completing the detailed inspections noted and at least making the repairs highlighted in bold as indicated for specific structures in Table 1. Due to the cursory nature of the inspection, the listing of repairs is not considered all the repairs that may be necessary to restore safe load carrying capacity of a structure. Additional repairs may be found to be required once the detailed inspection and rating of the structure based on the inspection is completed.

Historical Southern Pacific records indicate that the steel bridges were rated at one time at a Cooper's Equivalent loading of E-55. It is not known when the rating occurred or what impact loading was used. In addition, the Southern Pacific's Line Clearance Circular No. 81, – printed in July 1981 (the last one they printed) listed the Maximum Gross Weight Car and Lading limit from Eugene to McCormac (MP 770.5) as 263,000# and from McCormac to Myrtle Point (end of the branch) as 240,000#. We have not been able to find evidence of any strengthening of bridges that may have occurred after the line was sold by Southern Pacific to RailTex in 1994. If the line were to be opened prior to those items being completed, it is suggested that traffic over bridges be limited to 263,000 lbs. gross weight cars and 4-axle locomotives operating at 10 mph. Note that the detailed inspections of Bridges 716.40, 739.63, and 763.55 that are ongoing as part of this task order may indicate that those particular structures should not be crossed under any circumstances until critical repairs can be made.

Due to the extent of bridges recommended to have a more detailed inspection and rating performed. A cost estimate of repairs has not been prepared as it would not approximate the anticipated magnitude of bridge work required to restore safe operating capacity of the structures. In addition, it appears that the intent of

the Port of Coos Bay may be to increase the loads the line will be subjected to from that noted in the historical records. If increasing loading is the intent, the inspection and rating would also determine the strengthening work that would be needed.

### Detailed Summary of Findings

The following table documents the inspection findings at each bridge. In addition, each bridge has a recommendation on if a Full Structural Inspection should occur, in addition to highlighting in **bold** conditions that require immediate repair for trains should be run across the line. These repairs are in addition to ensuring that the track across each bridge complies with minimum FRA track safety standards.

**Table 1 – Summary of Bridges (Immediate Repairs shown in **Bold**)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
<b>Bridge 652.21</b> (over Amazon Creek) - 120 ft ODPT	Y	<ul style="list-style-type: none"> <li>• Pile 1, Bent 2 has decay.</li> <li>• Pile 5, Bent 7 has decay.</li> <li>• Shim Bent 8 on the south end.</li> <li>• Top Backwall Plank at Bent 1 has decay.</li> <li>• Stringer 8, Spans 2 and 3 has decay.</li> <li>• Stringer 1, Spans 3 thru 9 has decay.</li> </ul>
<b>Bridge 652.56</b> (over ??) - 8 ft WSB		<ul style="list-style-type: none"> <li>• No comment</li> </ul>
<b>Bridge 656.12</b> (over Coyote Creek) - 103 ft Thru Truss	Y	<ul style="list-style-type: none"> <li>• West Abutment tipped 3-4 inches, likely due to scour. Underwater inspection needed.</li> </ul>
<b>Bridge 657.12</b> (over ??) - 120 ft ODPT	Y	<ul style="list-style-type: none"> <li>• Bent 3 Cap has decay.</li> </ul>
<b>Bridge 657.96</b> (over ??) - 30 ft BDPT		<ul style="list-style-type: none"> <li>• Stringers 1 and 8, Spans 1 and 2 have decay.</li> <li>• All Wingwall Supports have decay.</li> <li>• Multiple caps indicate settlement.</li> </ul>
<b>Bridge 658.17</b> (over ??) - 123 ft STL	Y	<ul style="list-style-type: none"> <li>• Stringer 1, at Bents 6 and 7 has decay.</li> <li>• Replace Stringer 8, Spans 7 and 8.</li> <li>• <b>60% of Tie Spacers need replacement; rest in poor condition.</b></li> <li>• <b>Timber Ties need replacement.</b></li> <li>• Bent 8 may be settling.</li> </ul>
<b>Bridge 660.89</b> (over ??) - 90 ft ODPT		<ul style="list-style-type: none"> <li>• Stringer 1, Spans 2 and 3 has decay.</li> <li>• Old holes on outer stringers were not plugged.</li> <li>• Bent 6, Pile 2 has void at top.</li> <li>• Span 6, Stringer 8 has void.</li> <li>• Shim LH chord at west Abutment.</li> <li>• Wingwall supports have decay.</li> </ul>
<b>Bridge 661.28</b> (over Long Tom Creek) - 87 ft ODPT, 60 ft TPG, 87 ft ODPT	Y	<ul style="list-style-type: none"> <li>• ¾" wide gage and line swing at east end.</li> <li>• Charred stringers and bents (1 thru 3).</li> <li>• Pile 2, Bent 2 has decay.</li> <li>• <b>Pile 2 and 5, Bent 4 have decay.</b></li> <li>• <b>14 ties need replacement on TPG span.</b></li> <li>• Bent 9, Pile 1 has decay.</li> <li>• Bent 10, Pile 1 has decay.</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>Bent 11, Pile 1 has decay.</li> <li>Stringer 1 at Bent 9 has decay.</li> </ul>
<p><b>Bridge 661.73</b> (over ??) - 135 ft ODPT</p>		<ul style="list-style-type: none"> <li>Pile 2, Bent 6 has decay.</li> <li>Tie Spacers are in poor condition.</li> <li>Pile 1, Bent 7 has decay.</li> </ul>
<p><b>Bridge 662.59</b> (over ??) - 345 ft ODPT</p>	Y	<ul style="list-style-type: none"> <li>Replace Bent 24 Cap.</li> <li>Bent 20 may be moving; line swing in alignment.</li> <li>Replace 40% of Tie Spacers; remainder are in poor condition.</li> <li>Bent 6, Pile 3 has decay near top.</li> <li>Line Swing at Bents 3 and 4.</li> <li><b>Bents 9 and 13 thru 19 are framed; bridge may need longitudinal stiffening.</b></li> </ul>
<p><b>Bridge 664</b> (over Long Tom Creek) - 100 ft Thru Truss, 132 ft BDPT</p>	Y	<ul style="list-style-type: none"> <li>Truss has rust pitting and section loss on bottom flanges of stringers, top laterals and bottom truss laterals. Lateral bracing is broken in locations.</li> <li>Ballast Retainers have decay.</li> <li><b>20% section loss on Stringers. Corrosion most notable below the deck.</b></li> </ul>
<p><b>Bridge 664.62</b> (over Long Tom Creek) - 90 ft ODPT, 100 ft Thru Truss, 90 ft ODPT</p>		<ul style="list-style-type: none"> <li>Scour on upstream nose of Bent 7.</li> <li>Bent 1, Pile 3 has interior decay.</li> <li>Line bolt holes open in outside stringers.</li> <li>Replace walkway planks in panels 3, 4, and 5, both sides.</li> <li>Replace Guard Timbers, 5 lengths.</li> <li><b>Bent 7, Piles 2 and 3 have interior decay.</b></li> <li>TRT OK – Minor corrosion.</li> </ul>
<p><b>Bridge 664.85</b> (over Long Tom Creek) - 75 ft ODPT, 100 ft Thru Truss, 75 ft ODPT</p>		<ul style="list-style-type: none"> <li>Bent 4, Piles 1, 2, 3, 5 have full height splits.</li> <li>Pile 2 has 1 ½" gap between pile and cap.</li> <li>TRT – Minor corrosion – OK.</li> <li><b>TRT needs timber ties.</b></li> <li><b>Panels 2 and 3, Stringers 7 and 9 have internal decay.</b></li> </ul>
<p><b>Bridge 665.49</b> (over Elk Creek) - 105 ft ODPT, 100 ft Thru Truss, 90 ft ODPT</p>	Y	<ul style="list-style-type: none"> <li>Pile 1, Bent 4 is hollow.</li> <li>Replace deck in 5 years.</li> <li><b>Replace rotted Longitudinal Girts.</b></li> <li>SE Timber Walkway has decay on Truss Span.</li> <li>Tie Spacers are in poor condition.</li> </ul>
<p><b>Bridge 666.21</b> (over ??) - 60 ft BDPT</p>		<ul style="list-style-type: none"> <li>Bent 2 and 4 have internal decay in the cross-bracing.</li> <li>Bent 5, Pile 3 is not bearing on the cap –</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
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<b>Bridge 667.28</b> (over ??) - 75 ft ODPT	Y	<ul style="list-style-type: none"> <li>• <b>Bent 2, Pile 4 and 5 have internal decay on the top.</b></li> <li>• <b>Replace all cross-bracing and sash bracing due to internal decay.</b></li> </ul>
<b>Bridge 667.4</b> (over Noti Creek) - 30 ft DPG, 30 ft DPG, 40 ft DPG, 60 ft DPG, 45 ft ODPT, 90 ft ODPT	Y	<ul style="list-style-type: none"> <li>• <b>DPG has significant corrosion on the top and bottom flange; knife edging is occurring.</b></li> <li>• <b>Replace corroded laterals.</b></li> <li>• Rivet heads on tower bents are corroded.</li> </ul>
<b>Bridge 668.5</b> (over Noti Creek) - 30 ft DPG, 30 ft DPG, 60 ft DPG, 90 ft ODFT, 150 ft ODPT	Y	<ul style="list-style-type: none"> <li>• Cross-bracing, sash bracing, and girts are needed to stabilize the approaches.</li> <li>• DPG is in fair condition.</li> <li>• Deck on DPG needs replacement.</li> <li>• Tall Bents.</li> </ul>
<b>Bridge 671.89</b> (over ??) - 90 ft ODPT		<ul style="list-style-type: none"> <li>• Stringer 8, Panel 1/2 are decayed.</li> <li>• Stringer 1, Panel 3/4 are decayed.</li> <li>• Several other stringers have decay.</li> <li>• Replace sash brace at Bent 5.</li> </ul>
<b>Bridge 674.03</b> (over Fish Creek) - 30 ft ODPT		<ul style="list-style-type: none"> <li>• Scour on upstream end of Bent 1.</li> <li>• <b>Replace the ties on the west end.</b></li> </ul>
<b>Bridge 676.23</b> (over Chickahominy Creek) - 60 ft STL	Y	<ul style="list-style-type: none"> <li>• Rust on all sections; 5% - 10% section loss.</li> <li>• Paint system gone.</li> </ul>
<b>Bridge 677.05</b> (over Walker Creek) - 60 ft ODTT	Y	<ul style="list-style-type: none"> <li>• Stringers 1 and 8 in Panels 1 and 2 have internal decay.</li> <li>• Headwall washout behind Bent 5.</li> <li>• Replace guard timbers.</li> <li>• Stringer chord has minor crushing over Bent 2 and 3.</li> <li>• <b>Left and Right Chord – Replace Panel 1, 2, and 3.</b></li> </ul>
<b>Bridge 677.8</b> (over Wildcat Creek) - 41 ft ODPT, 45 ft ODPT, 80 ft TPG		<ul style="list-style-type: none"> <li>• Bent 3, Pile 5 has internal decay near top.</li> <li>• Stringer 8 in Panel 2, 3, 4 has internal decay.</li> <li>• Deck is in Fair Condition.</li> <li>• TPG is in fair condition; lateral bracing has some rust.</li> </ul>
<b>Bridge 678.43</b> (over Wildcat Creek) - 45 ft ODPT, 60 ft TPG, 60 ft TPG, 75 ft ODPT	Y	<ul style="list-style-type: none"> <li>• New deck put on bad stringers.</li> <li>• Helper stringers added on east/west end and banded; ineffective.</li> <li>• <b>Numerous stringers with internal decay; vegetation growing out of stringers; renew stringers.</b></li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
<b>Bridge 680.17</b> (over Wildcat Creek) - 150 ft Thru Truss	<b>Y</b>	<ul style="list-style-type: none"> <li>• Paint almost gone.</li> <li>• <b>Ties are wheel cut for ½ of the truss length; replace.</b></li> <li>• <b>Scour at Pier 2 on the left side.</b></li> </ul>
<b>Bridge 680.46</b> (over Wildcat Creek) - 100 ft TPG	<b>Y</b>	<ul style="list-style-type: none"> <li>• Ties are wheel cut.</li> <li>• <b>Bottom lateral bracing has severe section loss.</b></li> <li>• <b>Bottom flange has 10% corrosion; top flange is ok.</b></li> <li>• <b>Bottom flange of stringers may have section loss; top flange is unknown.</b></li> </ul>
<b>Bridge 680.77</b> (over Wildcat Creek) - 100 ft TPG		<ul style="list-style-type: none"> <li>• Ties are wheel cut; guard timbers need to be replaced.</li> <li>• Rust and corrosion at connection of laterals to girders.</li> </ul>
<b>Bridge 681.05</b> (over Wildcat Creek) - 60 ft TPG, 100 ft TPG		<ul style="list-style-type: none"> <li>• Pitting on top of floor beam flanges and top of Stringer flanges.</li> <li>• Ties are wheel cut; guard timbers need to be replaced.</li> </ul>
<b>Bridge 681.45</b> (over Wildcat Creek) - 60 ft DPG, 60 ft DPG, 100 ft DPG		<ul style="list-style-type: none"> <li>• Pitting on bottom flange of girders, bottom laterals, and top of flanges.</li> <li>• Replace guard timbers.</li> </ul>
<b>Bridge 682.18</b> (over Suislaw River) - 50 ft DPG, 100 ft DPG, 50 ft TPG		<ul style="list-style-type: none"> <li>• Ties are wheel cut.</li> <li>• Pitting on bottom flange of girders, bottom laterals, and top of flanges.</li> </ul>
<b>Bridge 683.36</b> (over Suislaw River) - 60 ft TPG, 60 ft TPG, 100 ft Thru Truss, 100 ft TRT	<b>Y</b>	<ul style="list-style-type: none"> <li>• Fair steel condition; minor section loss on steel.</li> <li>• Top of wingwall on left side has scoured out behind.</li> <li>• Pitting on the floorbeam, stringer, and girder top and bottom flange.</li> </ul>
<b>Bridge 687.03</b> (over Rock Creek) - 68 ft ODPT		<ul style="list-style-type: none"> <li>• Ties and timber guards are new</li> <li>• Framed bents (except Bents 1,6) with 8-stringer cons't</li> <li>• <b>Stringers 1,8 at Panels 1,2,3,4,5 Needs Replacement</b></li> <li>• <b>Bent 1 Pile 5 Needs Replacement</b>, Pile 3 Replace in 3-5 years, Cap Replace in 3-5 years</li> <li>• Bents 4,5 on concrete foundations</li> <li>• Bent 6 Pile 3 Replace in 3-5 years</li> <li>• Stringer 3 at Panels 1,2 Replace in 3-5 years</li> <li>• Stringer 6 at Panel 2 Replace in 3-5 years</li> </ul>
<b>Bridge 687.88</b> (over Meadow Creek) -		<ul style="list-style-type: none"> <li>• Needs all new walkway cabling</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
90 ft ODPT		<ul style="list-style-type: none"> <li>• Need 4 new timber guards on right side</li> <li>• All ties have section loss of 10-20% from derailment</li> <li>• Need 2 new steel walkway sections</li> <li>• Bent 2,3,4,6 on concrete foundations</li> <li>• Bents 3,4,5 framed</li> <li>• Bent 2 Pile 5 Replace in 3-5 years</li> <li>• All caps are doubled up</li> <li>• Cap Sill 2 Replace in 3-5 years – crushing, top internal decay</li> <li>• Cap Sills 3,4,5,6,7 Replace in 3-5 years</li> <li>• Need top struts for Bents 2,3,4,5 both sides</li> <li>• <b>Bents 3,4 framed such that Piles 1,5 are off the ends of the concrete foundations</b></li> <li>• Need new top plank for each backwall</li> <li>• 4 walkway outrigger supports broken</li> <li>• Long. girts 1,2 at Panel 5 Replace in 3-5 years</li> <li>• Stringer 1 at Panel 1 has puncture holes on outside</li> <li>• Chords are placed to far out, rails are over stringers 3,6</li> <li>• <b>Need 20% new ties</b></li> </ul>
<b>Bridge 689.23</b> (over Dry Creek) - 15 ft BDPT		<ul style="list-style-type: none"> <li>• Has struts and good backwall diagonals</li> <li>• Need new ballast retainer left side, raise both sides 6"</li> <li>• Need 12" or bigger rip-rap at east end right side where water has scoured behind backwall (~3 CY)</li> <li>• Bent 2 Pile 1 posted</li> <li>• Bent 1 framed</li> <li>• Bent 2 needs to be framed</li> <li>• Bent 2 Pile 1 visible top rot</li> <li>• Stringer 12 Replace in 3-5 years</li> <li>• Need to replace half of backwall timbers on both ends</li> <li>• <b>Rail on left side approach east end not supported for 8 ties</b></li> </ul>
<b>Bridge 690.47</b> (over San Antone Creek) - 40 ft TPG	<b>Y</b>	<ul style="list-style-type: none"> <li>• 4 new guard timbers needed</li> <li>• Can't see any floor beam top plates (covered in debris, ballast)</li> <li>• Remove debris/duff throughout bridge</li> <li>• Ties are fair</li> <li>• TPG is generally in fair condition</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>● <b>Pitting visible in floor beam webs above bottom angle, FB 2 is the worst</b></li> </ul>
<p><b>Bridge 690.85</b> (over Siuslaw River) - 50 ft TPG, 50 ft TPG, 60 ft TPG, 100 ft Thru Truss</p>	<p><b>Y</b></p>	<ul style="list-style-type: none"> <li>● Can't see any floor beam top plates (covered in debris, ballast)</li> <li>● Need 6 new guard timbers, <b>30-40% new ties on TPG spans, 10% on thru-truss</b></li> <li>● Debris around all bearings, moss</li> <li>● <b>Steel is generally fair, corrosion at Floor Beams 4/5 connection points</b></li> <li>● 1st TPG – Floor Beam 3 right knee brace has 3" flange tear (50% cut) probably from shifted load</li> </ul>
<p><b>Bridge 691.05</b> (over Siuslaw River) - 60 ft DPG, 100 ft Thru Truss, 138 ft ODPT, 150 ft Thru Truss</p>	<p><b>Y</b></p>	<ul style="list-style-type: none"> <li>● Ties fair</li> <li>● Need 3 new timber guards</li> </ul> <p>DPG:</p> <ul style="list-style-type: none"> <li>● <b>Bottom girder lateral braces have localized section loss spots up to 50-100% of angles</b></li> <li>● <b>Panel 1 has a broken lateral girder brace</b></li> <li>● Top lateral girder braces are generally pitted but no holes</li> <li>● <b>Severe pitting (40%) on top flange of girder angles</b></li> </ul> <p>Truss 1:</p> <ul style="list-style-type: none"> <li>● <b>Stringer lateral braces panel 1 have holes – 50-90% loss on top of angles</b></li> <li>● <b>Panel 4 stringer lateral brace broken</b></li> <li>● Low chord lateral braces are better, pits &amp; occasional small holes in angles; braces are in worse shape at the drip line edge of the ties – 1" to 2" pack rust between angles and heavy section loss up to 50% common at drip line edges of ties</li> </ul> <p>Truss 2:</p> <ul style="list-style-type: none"> <li>● Same general conditions as Truss 1</li> <li>● Truss 2 is wider than Truss 1 for curve clearance</li> <li>● Steel above the deck tends to be in fair condition</li> </ul> <p>Timber:</p> <ul style="list-style-type: none"> <li>● 10 bents – 4-stringer chords</li> <li>● Bent 9 Pile 4 Replace in 3-5 years</li> <li>● Bent 8 Piles 1,2 posted, spliced</li> <li>● <b>Stringer 1 Panel 7 Needs Replacement - severe vehicle impact damage, other</b></li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<p><b>stringers have more superficial wounds on bottoms</b></p> <ul style="list-style-type: none"> <li>• Panels 3,4,5 have a single helper stringer placed in between chords</li> <li>• Stringer 3 Panels 1,2 Replace in 3-5 years</li> <li>• Stringer 7 Panel 4 Replace in 3-5 years</li> <li>• All outside stringers have old line bolt holes but can't be sounded</li> <li>• Added helper stringers are Replace in 3-5 years</li> <li>• Stringer 8 at Panel 6 Needs Replacement – has cavities</li> <li>• <b>Stringers 6,8 at Panel 3 Needs Replacement</b></li> </ul>
<p><b>Bridge 691.38</b> (over Pat Creek) - 15 ft ODFT</p>		<ul style="list-style-type: none"> <li>• 2 framed timber bents on 8 stringers</li> <li>• <b>Need 10% new ties</b></li> <li>• Need 1 guard timber</li> <li>• Chords are not centered under rails</li> </ul>
<p><b>Bridge 692.06</b> (over ???) - 15 BDPT</p>		<ul style="list-style-type: none"> <li>• Bent 2 Pile 1 Replace in 3-5 years</li> </ul>
<p><b>Bridge 693.27</b> (over ??) - 75 ft BDPT</p>		<ul style="list-style-type: none"> <li>• Bents 2,3,4,5 framed an on concrete foundations</li> <li>• Bent 2 Pile 4 Needs Replacement</li> <li>• Scour against concrete foundation of Bent 5</li> <li>• Bent 5 Pile 1 Replace in 3-5 years</li> <li>• Need to raise ballast retainers 6"</li> </ul>
<p><b>Bridge 694.32</b> (over Siuslaw River) - 90 ft ODPT, 135 ft ODPT, 200 ft Thru Truss</p>	<p><b>Y</b></p>	<p>Thru-truss:</p> <ul style="list-style-type: none"> <li>• Replace 50% of walkway outriggers on truss</li> <li>• Paint severely worn or gone on truss</li> <li>• <b>Panel 1 Stringer lateral brace broken, all others 70% to 100% section loss spots</b></li> <li>• <b>Section loss on low chord lateral braces more severe than other trusses on the line</b></li> <li>• <b>Panels 3,4,5 stringer braces broken through</b>, but Panels 6,7 braces are okay</li> <li>• Usual pitting at the tie drip line</li> <li>• Steel above deck generally in fair condition</li> <li>• <b>Floor Beams 4,5,7 right side lower curved angle bar connections broken</b></li> <li>• <b>Top &amp; bottom flanges of stringers have 20% loss</b></li> <li>• All stringer to floor beam connections have moderate pitting/rust</li> <li>• <b>Floor Beam 2 left and right low chord bottom gusset plates have major loss</b></li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• <b>Floor Beam 3 diagonal I-beam over panel 3 is tweaked, missing shoes that hold it laterally in place on the low-chord pin</b></li> <li>• <b>Floor Beam 4 holes in web above bottom flange</b></li> <li>• <b>Low chord pins holding I-bars require more inspection due to pitting/corrosion.</b></li> <li>• Remove debris from around bearings</li> <li>• <b>Panel 1 right side low-chord lacing bars have more advanced pitting</b></li> <li>• <b>Floor Beam 1 left low chord bottom gusset plate has major hole/section loss</b></li> </ul> <p>East Timber:</p> <ul style="list-style-type: none"> <li>• Need 6 guard timbers</li> <li>• Bent 2 Pile 1 Replace in 3-5 years</li> <li>• Stringer 1 Panel 5 – cracking diagonally</li> <li>• Bent 5 Pile 1 Replace in 3-5 years</li> <li>• Long. girts 3,4 (right) at Panels 9,10 have ID</li> <li>• Bent 5 Pile 1 Needs Replacement – decay at top</li> </ul> <p>West Timber:</p> <ul style="list-style-type: none"> <li>• Long gird #2 at Panels 4/5 Needs Replacement – cracked</li> <li>• Girts terminations at ground have lost all earthen support</li> <li>• Bents 2,3 framed</li> <li>• Bent 3 Pile 1 Needs Replacement</li> <li>• Bent 2 Pile 1 Needs Replacement</li> </ul>
<p><b>Bridge 694.78</b> (over Siuslaw River) - 80 ft DPG, 80 ft DPG, 150 ft Thru Truss</p>		<p>Truss:</p> <ul style="list-style-type: none"> <li>• Truss paint 40% gone</li> <li>• <b>Usual low-chord lateral brace section loss up to 30-50% &amp; corrosion at the tie drip line</b></li> <li>• <b>Usual stringer lateral brace heavy pitting, holes, section loss up to 70% in some places</b></li> <li>• Ponding in pockets on top of gusset plates at FB 5 connections</li> <li>• Steel above deck in fair condition</li> <li>• Ties are fair</li> <li>• <b>Stringer flanges have 10-20% loss</b></li> <li>• Lacing bars are fair</li> <li>• Large log (6' diam.) laying against concrete pier</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		East DPG: <ul style="list-style-type: none"> <li>• <b>Same loss issues on DPG for lateral braces, girder flanges</b></li> <li>• Remove debris from abutment seat at east end, lots of corrosion visible on bearing area</li> <li>• <b>Rockers of bearings at east end abutment of first DPG are lying on their sides</b></li> <li>• Sway/sash braces on DPGs heavily pitted</li> <li>• <b>Stiffeners for web of right stringer at east abutment bearing has severe loss</b></li> </ul> West DPG: <ul style="list-style-type: none"> <li>• <b>Same girder flange loss issues, heavier on right side</b></li> <li>• <b>Bad corrosion on left web stiffeners over west abutment fixed bearings</b></li> </ul>
<p><b>Bridge 694.96</b> (over ??) - 15 ft ODFT</p>		<ul style="list-style-type: none"> <li>• No comment.</li> </ul>
<p><b>Bridge 696.66</b> (over Lake Creek) - 75 ft BDFT, 135 ft ODPT, 150 ft Thru Truss</p>		Truss: <ul style="list-style-type: none"> <li>• <b>Need 30% ties</b>, guard timbers are okay</li> <li>• Truss paint is 60% good</li> <li>• Low chord &amp; stringer lateral braces are in much better condition than the several trusses east of this bridge – they are functioning generally</li> <li>• Steel above deck in fair condition</li> <li>• <b>Last tie on west end has walked off ends of steel extensions that extend beyond last floor beam leaving 30” of rail unsupported</b></li> <li>• Bottom flanges of stringers are fair</li> <li>• Wide load impact damage to right side end post, hanger, first diagonal and vertical at west end</li> </ul> East Timber spans: <ul style="list-style-type: none"> <li>• Ballast retainers – need 3 on left side and 1 on right</li> <li>• Stringers 1,12 at Panel 1 Replace in 3-5 years</li> <li>• Bents 2,3,4,5 framed</li> <li>• All bents on concrete foundations</li> <li>• Bent 2 sill crushing Needs Replacement</li> <li>• Bent 3 Pile 1 Replace in 3-5 years</li> <li>• Bent 4 sill Replace in 3-5 years</li> <li>• Bent 5 Pile 1 Replace in 3-5 years, internal decay at ground</li> <li>• All outside stringers are suspect</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<p>West Timber Spans:</p> <ul style="list-style-type: none"> <li>• Bents 2,3,4,5 framed on conc. foundations</li> <li>• Long girts from Bent 2-7</li> <li>• Girt 2 Panels 6/7 Needs Replacement</li> <li>• Bent 7 Panel 4 Replace in 3-5 years – ID at ground</li> <li>• Girt 1 at Panels 3,4 Needs Replacement</li> <li>• Bent 4 Pile 2 is split and sill is Replace in 3-5 years – cracked whole length</li> <li>• Bent 3 sill Replace in 3-5 years, pile 2 split</li> <li>• Girt 2 Panels 1/2 Needs Replacement, girts 1,4 at Panel 1 broke thru</li> <li>• Bent 2 Pile 1 Needs Replacement, Pile 5 Replace in 3-5 years</li> <li>• Bent 7 missing sway brace nut/washer at Pile 1</li> <li>• Ties, guard timbers are fair, need 1 guard timber</li> <li>• 2 stringers added inside of chords at panel 8 (longer span over access road below)</li> </ul>
<p><b>Bridge 700.37</b> (over Thompson Creek) - 119 ft ODPT/ODFT</p>		<ul style="list-style-type: none"> <li>• Bents 4,5,6 framed on concrete foundations</li> <li>• Longitudinal girts from Bent 3 to 7</li> <li>• Need to re-bolt metal fendering on Bent 2 and replace all the timber fenders</li> <li>• Ties, timber guards fair</li> <li>• Replace 3 walkway outriggers</li> <li>• Stringer 7 at Panel 4 Replace in 3-5 years</li> <li>• Stringer 1 at Panel 6 Replace in 3-5 years</li> <li>• Stringer 8 at Panel 7 Replace in 3-5 years</li> <li>• Bent 6 Pile 1 Needs Replacement, Pile 4 Replace in 3-5 years</li> <li>• Need to place 24" rip rap or bigger around Bent 4 to prevent scour</li> </ul>
<p><b>Bridge 702.65</b> (over Walker Creek) - 129 ft ODPT/ODFT</p>		<ul style="list-style-type: none"> <li>• Bents 3,4 steel piles and caps</li> <li>• Girt #4 at Panel 6 broken thru/missing</li> <li>• Remove downed tree at Bent 9</li> <li>• Replace missing tie plates on either side of joint bar in left rail at Bent 7</li> <li>• Need 4 guard timbers</li> <li>• Remove tree leaning against right chord at Bent 3</li> <li>• Stringer 1 Panel 5 internal decay</li> <li>• Stringer 1 at Panels 8,9 Needs Replacement</li> <li>• Bent 9 Pile 1 Replace in 3-5 years</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
<p><b>Bridge 702.95</b> (over Berkshire Creek) - 60 ft ODPT</p>		
<p><b>Bridge 710.2</b> (over David Creek) - 105 ft BDPT</p>		<ul style="list-style-type: none"> <li>• Bents 1,8 on concrete abutments</li> <li>• <b>Bent 2 Pile 3 Needs Replacement – 2’ shell at top, Pile 2 Replace in 3-5 years ID at top, Pile 1 Needs Replacement top decay , Pile 5 Replace in 3-5 years ground decay</b></li> <li>• Bent 4 framed</li> <li>• Bent 4 catching drift at sill plate, needs rip rap</li> <li>• West end wingwalls need ballast retainer planks – losing ballast</li> <li>• Bent 5 Pile 4 needs replacement - internal decay full length</li> <li>• <b>Bent 8 Pile 2 Needs Replacement top ID &amp; shims decayed (not supporting cap), Pile 3 Replace in 3-5 years ID at top</b></li> </ul>
<p><b>Bridge 711.37</b> (over ??) - 75 ft BDPT</p>		<ul style="list-style-type: none"> <li>• Need 1 new ballast retainer right side</li> <li>• Bents 1,2 too low, need to shim up or double cap</li> <li>• Bent 1 Pile 4 Replace in 3-5 years ID at top</li> <li>• Need new sway braces at Bent 2 and at Bent 3</li> <li>• Stringer 1 at Panels 4/5 internal decay &amp; cavities Needs Replacement</li> <li>• Raise ballast retainers 8”</li> <li>• Could replace bridge with fill &amp; a culvert</li> </ul>
<p><b>Bridge 711.67</b> (over Hanson Creek) - 75 ft BDPT</p>		<ul style="list-style-type: none"> <li>• <b>Bent 1 Pile 1 Monitor, Pile 2 Needs Replacement 1” shell at top, Pile 5 Needs Replacement 2” shell at top</b></li> <li>• Bents 1,2,5,6 are low</li> <li>• Bents 5,6 framed</li> <li>• Raise ballast retainers 6”</li> <li>• Need ballast retainers for wing walls at west end</li> </ul>
<p><b>Bridge 712.18</b> (over Schoolhouse Creek) - 60 ft BDPT</p>		<ul style="list-style-type: none"> <li>• Need ballast retainers off wing walls at both ends</li> <li>• Raise ballast retainers on deck 4”</li> <li>• Could replace bridge with fill &amp; culvert</li> <li>• <b>Bent 1 Pile 1 Needs Replacement top ID, Pile 4 - Monitor, Pile 5 Replace in 3-5 years</b></li> <li>• Bent 2 Pile 3 Replace in 3-5 years ID at middle – split and bolted back together</li> <li>• Ballast retainers left side Panels 1,2 popping</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>out and at Panel 5 right side</li> <li>• Stringer 1 Bent 3,4 internal decay</li> <li>• <b>Bent 5 Pile 1 Needs Replacement, Piles 3,4 spliced, Pile 5 “V”</b></li> <li>• Bent 4 Piles 2,3 Monitor - both are split &amp; bolted, Pile 5 - Monitor</li> <li>• Need 2 new ballast retainers</li> </ul>
<p><b>Bridge 712.8</b> (over Olsen Creek) - 60 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Ties are fair, need 10%</li> <li>• Need 4 guard timbers</li> <li>• Bent 4 framed</li> <li>• Bent 2 Pile 1 – Monitor, Piles 2,5 spliced, Pile 3 Replace in 3-5 years</li> <li>• Bent 1 Pile 1 Replace in 3-5 years, Pile 3 – Monitor</li> <li>• Stringer 5 at Panel 4 – Monitor, Stringer 1 at Bent 4 internal decay over bent</li> <li>• Stringer 1 at Panel 1 ID at top of Bent 1</li> <li>• Need 1 sway brace Bent 3</li> <li>• Bent 2 Panels 2,4 spliced</li> </ul>
<p><b>Bridge 716.4</b> (over Suislaw River) - 68 ft TPG, 105 ft ODPT, 200 ft Thru Truss, 200 ft TPT, 295 ft TRT Swing, 2510 ft ODPT/ODFT</p>		<ul style="list-style-type: none"> <li>• <b>Steel Truss Inspections to be Completed.</b></li> <li>East Timber Spans <ul style="list-style-type: none"> <li>• 8 timber bents, 1 concrete pier, bent 1 is framed</li> <li>• Bent 1 is a double bent with one half supporting the TPG and the other the pile trestle</li> <li>• Bent 2 – a power utility pole is guyed to Pile 2 – remove if possible</li> <li>• Bent 5 Pile 4 spliced</li> <li>• Bent 8 Pile 1,2,3 - Monitor</li> <li>• Bent 5 Pile 1 posted</li> <li>• Ties/rail/guard timbers/walkways all fair to good</li> <li>• Stringers were all fair</li> </ul> </li> <li>West Timber Spans <ul style="list-style-type: none"> <li>• Bents are framed with longitudinal x-braces every other panel</li> <li>• Bents 2 Pile 1 Replace in 3-5 years, Pile 5 Needs Replacement ID at bottom</li> <li>• Bent 4 Pile 5 Needs Replacement ID at ground</li> <li>• Bent 5 Pile 4 spliced, Pile 5 Needs Replacement split and decayed</li> <li>• Bent 6 Pile 3 Needs Replacement</li> </ul> </li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Bent 7 Pile 5 Needs Replacement</li> <li>• Re-attached Panel 5 longitudinal diagonal x-brace on right side, also Panel 7 left</li> <li>• Bent 8 Piles 1,5 - Monitor</li> <li>• Bent 9 Pile 5 - Monitor</li> <li>• Bent 10 Pile 5 Replace in 3-5 years – decay at bolts and sash brace connection</li> <li>• Bent 10 Pile 2 - Monitor</li> <li>• Panel 5 at Bent 12 longitudinal x-brace missing bolt</li> <li>• <b>Bent 12 Piles 1,3 Needs Replacement</b></li> <li>• <b>Bent 13 Pile 2 Needs Replacement – split, bolted together, decayed, Pile 3 Replace in 3-5 years</b></li> <li>• Bent 14 Pile 3 - Monitor</li> <li>• <b>Bent 15 Pile 3 Replace in 3-5 years, Pile 5 Needs Replacement</b></li> <li>• Bent 19 Pile 1 Needs Replacement, Pile 5 Needs Replacement – split</li> <li>• Bent 20 Pile 5 - Monitor, Pile 1 Needs Replacement</li> <li>• Bent 21 Pile 5 Replace in 3-5 years – split</li> <li>• In general, internal decay goes from ground up to 7 or 8’ to connections with braces and girts</li> <li>• Bent 23 Pile 5 - Monitor</li> <li>• Bent 25 Pile 2 - Monitor, Pile 5 - Monitor at ground</li> <li>• Bent 27 Pile 1 - Monitor</li> <li>• <b>Bent 28 Pile 5 Needs Replacement, Pile 1 Needs Replacement</b></li> <li>• Bent 29 Pile 5 Replace in 3-5 years</li> <li>• Bent 33 Pile 1 - Monitor, re-attach left x-bracing at Panel 33</li> <li>• Bent 32 Pile 5 - Monitor</li> <li>• Bent 34 pile 1 - Monitor</li> <li>• Panel 30 Girt 1 Needs Replacement</li> <li>• Bent 36 Pile 5 - Monitor</li> <li>• Bent 40 Pile 5 Replace in 3-5 years – split, decayed, Pile 1 - Monitor</li> <li>• Bent 42 Pile 1 - Monitor</li> <li>• Bent 45 Piles 1,5 Replace in 3-5 years</li> <li>• Bent 46 Pile 5 - Monitor</li> <li>• Bent 49 Pile 5 - Monitor</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Bent 50 Pile 1 - Monitor</li> <li>• Bent 56 Pile 5 - Monitor</li> <li>• Bent 60 Pile 5 Replace in 3-5 years</li> <li>• Bent 62 – construction changes to round piles onward, no framing</li> <li>• Bent 71 &amp; 72 about 5’ apart</li> <li>• Bent 72 – back to framed construction</li> <li>• Bent 76 Pile 5 - Monitor</li> <li>• Panel 77 right x-braces loose</li> <li>• Bent 84 Pile 5 - Monitor</li> <li>• Bent 87 - Monitor – vertical split</li> <li>• Bent 89 Pile 5 Replace in 3-5 years</li> <li>• Bent 90 Pile 5 Replace in 3-5 years</li> <li>• Bent 91 Pile 1 Needs Replacement</li> <li>• Bent 92 Pile 5 Needs Replacement</li> <li>• Rails, ties, guards in fair condition</li> <li>• Bent 99 Pile 5 Needs Replacement vertical split and decay</li> <li>• Panel 110 left girt not attached</li> <li>• Bent 106 Pile 5 - Monitor</li> <li>• Bent 108 Pile 1 Needs Replacement</li> <li>• Bent 110 Pile 4 - Monitor</li> <li>• Panel 111 missing right side girt</li> <li>• Panel 115 driftwood broke all girts</li> <li>• <b>Bent 116 Pile 1,2,5 Needs Replacement, Pile 4 - Monitor</b></li> <li>• Bent 117 Pile 5 - Monitor vertical split</li> <li>• Bent 118 Pile 5 Replace in 3-5 years</li> <li>• Rest of bents not accessible on east side, piles inspected visually where possible from deck going forward</li> <li>• Bent 139 Pile 3 Needs Replacement cavities at bottom visible from deck</li> <li>• <b>Bent 139 suspect internal decay at Piles 2,4,5 – splits and some cavities visible</b></li> <li>• Panel 151 – extra large stringers used in this panel only</li> <li>• Bent 7 from the end Pile 3 exterior decay visible</li> </ul>
<p><b>Bridge 718.12</b> (over Demming Creek) - 30 ft CONC</p>		<ul style="list-style-type: none"> <li>• East end right side wing wall pre-cast panel failing; panel has broken its welds and is slipping/rotating</li> <li>• East end left side – need ballast retainers behind wing wall</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>All pre-cast conc. wing and backwall panels are moving, have broken welds, rotated, and tilted</li> </ul>
<b>Bridge 719.07</b> (over ??) - 105 ft ODPT		<ul style="list-style-type: none"> <li>Need 20% ties</li> <li>Need 4 guard timbers</li> <li>Bent 7 Pile 2 spliced - Monitor</li> <li>Bent 5 Pile 1 has a bird hole near top "V/B"</li> <li>Bent 6 Piles 3,4 have 2" shell at top Replace in 3-5 years</li> <li>Bent 7 Pile 5 bird hole Replace in 3-5 years</li> <li>Panel 4 Girt 1 broken Needs Replacement</li> <li>Bent 6 Pile 1 bird hole "V/B"</li> <li>Bent 2 sash brace split Needs Replacement</li> <li>Bent 1 Pile 3 Replace in 3-5 years</li> <li>Bent 2 Pile 1 Replace in 3-5 years for top internal/external decay</li> <li>Bent 3 Pile 3 - Monitor decay at top</li> <li>Stringers are fair</li> </ul>
<b>Bridge 719.21</b> (over ??) - 313 ft ODPT		<ul style="list-style-type: none"> <li><b>Need 15 to 20% ties</b></li> <li>Need 12 guard timbers</li> <li>Couple of rail joints are close to being unsupported joints</li> <li>Bent 20 Pile 1 Needs Replacement from bird damage</li> <li>Bent 21 Pile 3 - Monitor</li> <li>Panel 20 Girts 1,2 broken off at ground</li> <li>Bent 17 Pile 1 bird holes – Needs Replacement</li> <li>Bent 15 Pile 5 has 2 bird holes Replace in 3-5 years</li> <li>Bent 14 Pile 1 has 2 bird holes Replace in 3-5 years</li> <li>Bent 13 Pile 1 2 bird holes midway up Replace in 3-5 years</li> <li>Bents 7,8,10 Pile 1 bird holes</li> <li>Bent 8 Pile 5 bird hole at top</li> <li>Bent 8 – 2nd story girts cracked</li> <li>Bents 4,5 Pile 1 bird holes</li> <li>Panel 3 Girts 2,3 broken (2nd story)</li> <li>Stringer 8 at Panel 1 Needs Replacement</li> <li>Stringer 8 Panels 4,5 Needs Replacement</li> <li>Stringer 7 Panels 11,12 Needs Replacement</li> <li>Stringer 3 Panels 9,10 Needs Replacement</li> <li>Stringer 8 Panel 10 Needs Replacement</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• <b>Stringers 5,7 at Bent 14 internal decay</b></li> <li>• Stringer 1 at Bent 14 Needs Replacement cavities</li> <li>• <b>Stringers 7,8 at Panel 14 Needs Replacement</b></li> <li>• Stringer 1 at Panel 15 Needs Replacement</li> <li>• Stringer 3 at Panel 17 Replace in 3-5 years</li> <li>• Stringer 8 at Panels 18 Replace in 3-5 years</li> <li>• Stringers 3,7 at Panel 19 Replace in 3-5 years</li> <li>• Stringers 3,7 at Panel 21 Replace in 3-5 years</li> </ul>
<p><b>Bridge 724.22</b> (over Mills Creek &amp; Johns Creek) - 120 ft Concrete Tub</p>		<ul style="list-style-type: none"> <li>• Top concrete panel of west backwall tilted back</li> <li>• Panel buckling at low chord of bridge near top of cap</li> <li>• Backwall sliding off cap at Bent 5</li> <li>• Wingwalls don't seem to have shifted</li> <li>• Both wingwalls were H-piles at west end to hold them in place</li> <li>• Could be bad original installation</li> <li>• Piles in west end bent may not be plumb – girders not centered on cap</li> </ul>
<p><b>Bridge 725.96</b> (over Siltcoos Lake) - 577 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Ties, rail, walkways, guard timbers are fair</li> <li>• Stringers 2,4 at Bent 2 have insufficient bearing surface on cap</li> <li>• Stringer 2 at Bent 35 has insufficient bearing surface on cap</li> <li>• Bent 38 is steel 3-H Pile bent</li> <li>• Bent 39 framed</li> <li>• Bent 40 is steel</li> <li>• Bents 39/40 are 4' apart</li> <li>• Bridge in fair condition but can't access piles</li> <li>• Bents are all 6-pile</li> <li>• Bents 1,2 are steel</li> </ul>
<p><b>Bridge 726.31</b> (over Siltcoos Lake) - 990 ft ODFT</p>		<ul style="list-style-type: none"> <li>• Ties, guard timbers, rails in good condition</li> <li>• Bent 1 is steel H-pile</li> <li>• Need to kill/remove fir seedlings growing out of stringer joints</li> <li>• Can't access piles</li> <li>• Timber bents are all framed</li> <li>• Need struts from Bent 1 to 2</li> <li>• Stringer 8 Panels 1,2 Needs Replacement</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Stringer 1 at Pile 1 - Monitor</li> <li>• Panel 3 helper stringer added to left chord</li> <li>• Stringers 1,3 at Panel 3 Needs Replacement</li> <li>• Stringer 6 at Panel 4 - Monitor</li> <li>• Stringer 4 at Panels 5,6 Needs Replacement</li> <li>• Stringer 8 at Panel 11 Needs Replacement, helper ends at Bent 10</li> <li>• Left and right helpers added starting at Bent 19</li> <li>• <b>Stringers 3,5 at Panels 20/21 Needs Replacement</b></li> <li>• Stringers 1,8 have line bolt holes at Panels 19, 20, 22, 26 – suspect internal decay</li> <li>• Stringer 4 at Panel 21 Needs Replacement</li> <li>• Stringer 1 at Panel 22 Replace in 3-5 years</li> <li>• Stringer 5 at Panels 24,25 Needs Replacement</li> <li>• Stringer 6 at Panel 24 - Monitor</li> <li>• Stringer 4 at Panels 25/26 Needs Replacement</li> <li>• Bent 27 left helper stringer a - Monitor</li> <li>• Stringer 3 at Bent 27 has poor bearing on cap and decay Replace in 3-5 years</li> <li>• <b>Stringers 5,8 at Panels 28,29 Needs Replacement</b></li> <li>• Stringer 4 at Panel 29 Needs Replacement</li> <li>• Bent 29 left side helper stops</li> <li>• <b>Stringers 5,7 at Panel 30 Needs Replacement</b></li> <li>• Stringer 4 at Panel 32 Needs Replacement</li> <li>• Many shims on top of stringers make it hard to sound timbers</li> <li>• Exterior stringers full length of bridge all have old line bolt holes</li> <li>• Stringer 5 at Panel 41 Replace in 3-5 years</li> <li>• Stringer 5 at Panel 50 Needs Replacement</li> <li>• <b>Stringer 5,7 at Panel 51 Needs Replacement</b></li> <li>• <b>Stringers 3,5 at Panel 53 Needs Replacement</b></li> <li>• Left helper stringer added at Bent 45</li> <li>• <b>Stringers 5,6 at Panel 54 Needs Replacement</b></li> <li>• Stringer 2 at Panel 55 - Monitor</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• <b>Stringers 4,6 at Panel 55 Needs Replacement</b></li> <li>• Stringers 1,8 at Panels 5,6,7 - Monitor</li> <li>• Stringer 6 at Panel 58 Needs Replacement</li> <li>• Stringer 1 at Panel 58,59 Needs Replacement</li> <li>• Bent 61 struts not attached &amp; need to extend them to Bent 62</li> <li>• <b>Stringers 1,3 at Panel 60 Needs Replacement</b></li> <li>• Bent 61,62,65 are steel</li> <li>• Replace west end back wall timbers</li> </ul>
<p><b>Bridge 727.33</b> (over Fiddle Creek Arm Siltcoos Lake) - 1200 ft CONC</p>		<ul style="list-style-type: none"> <li>• On steel round piles</li> <li>• Generally in good condition</li> <li>• Minor spalling on some caps at corners</li> <li>• Paint in good condition</li> <li>• Ballast leaks at 50% of girder joints; mostly minor but a few go all the way down to girder</li> </ul>
<p><b>Bridge 728.51</b> (over Lane Creek) - 319 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Ties all gouged down the center from derailment – ugly but they function; <b>could use 20% new ties</b></li> <li>• Need to replace 25% of walkway outriggers</li> <li>• Remove fir saplings growing from joints between members</li> <li>• Need 2 guard timbers</li> <li>• Stringer 3 at Bent 5 insufficient bearing area on cap</li> <li>• Cap 6 Replace in 3-5 years, Bent 6 Pile 1 Needs Replacement</li> <li>• Helper bent between Bents 1,2</li> <li>• Panel 6 has two helper stringers in between chords</li> <li>• Stringer 1 at Panel 6 Needs Replacement</li> <li>• Stringer 4 at Panel 6 - Monitor</li> <li>• Stringer 5 at Panel 6 - Monitor</li> <li>• Bent 8 Pile 3 Needs Replacement top decay</li> <li>• Bent 10 Pile 1 Needs Replacement – tree growing from top of pile</li> <li>• Defective rail weld right side in Panel 13</li> <li>• Stringer 6 at Bent 15 insufficient bearing on cap</li> <li>• Bent 15 Panel 1 Needs Replacement for top decay</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Panel 17 has a helper bent in it</li> <li>• Bent 18 Helper Pile 4 Needs Replacement for 1" shell at top</li> <li>• Bent 17 Helper Pile 5 Replace in 3-5 years</li> <li>• 1 wingwall timber west end left side is blowing out</li> <li>• Most piles not accessible</li> <li>• Bent 2 Pile 1 - Monitor</li> <li>• Bent 3 Pile 5 Replace in 3-5 years for decay at top</li> </ul>
<p><b>Bridge 729.04</b> (over ??) - 380 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Ties were gouged in derailment but are functioning – 10 to 20% section loss</li> <li>• Need 6 new guard timbers</li> <li>• Stringer 1 at Panels 1,2 Replace in 3-5 years</li> <li>• Stringer 8 Panels 2,3,4 Needs Replacement</li> <li>• Stringers 1/8 at Panel 5 Needs Replacement</li> <li>• Stringer 1 at Panel 7 Needs Replacement</li> <li>• Stringer 4 at Panel 8 - Monitor</li> <li>• Stringer 1 at Panel 9 Needs Replacement</li> <li>• Bent 4, 10 framed</li> <li>• Stringer 2 at Panel 13 Needs Replacement</li> <li>• Stringers 1,8 at Bent 14 - Monitor</li> <li>• Stringer 8 at Panel 15 Replace in 3-5 years</li> <li>• Stringers 1,8,Right Helper at Panel 17 Needs Replacement</li> <li>• Stringer 1 at Panels 18, 19 Needs Replacement</li> <li>• <b>Stringers 1,2, 8 at Panel 20 Needs Replacement, Stringer 4 Replace in 3-5 years</b></li> <li>• Stringer 1 at Panel 21 Needs Replacement</li> <li>• Stringer 7 at Panel 26 Needs Replacement</li> <li>• Stringer 1 at Panels 26/27 Needs Replacement</li> <li>• Need to add ballast retainer plank to top of both back walls</li> <li>• Bents 1,2 Pile 5 Needs Replacement top decay</li> <li>• Bent 2 Pile 2 Replace in 3-5 years</li> <li>• Bent 5 Pile 3 - Monitor – split up top half</li> <li>• Bent 4 Pile 1 Replace in 3-5 years – bird damage</li> <li>• Middle bents not accessible due to marsh</li> <li>• Bent 26 Pile 5 posted Needs Replacement –</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>bird damage</li> <li>• Bent 24 Pile 1 Replace in 3-5 years – top decay</li> <li>• Bent 22 Pile 1 Replace in 3-5 years bird damage</li> <li>• Bent 19 Pile 5 - Monitor top decay</li> <li>• Bent 20 Pile 5 Needs Replacement bird damage, decay</li> <li>• Bent 15 Pile 5 Replace in 3-5 years bird damage</li> <li>• Bent 16 Pile 1 - Monitor vertical split</li> </ul>
<p><b>Bridge 730.17</b> (over Catfish Cove Lake Tahkenitch) - 728 ft Concrete Slab</p>		<ul style="list-style-type: none"> <li>• Left concrete wing wall top panel broken loose and tilting out at east end</li> <li>• Cracked concrete cap at last bent; it will be okay for a while but eventually will start coming apart</li> <li>• Bents 2,15 are steel H-piled, the rest are steel pipe piles</li> </ul>
<p><b>Bridge 730.56</b> (over North Arm Lake Tahkenitch) - 101 ft DPG Draw Span, 521 ft ODPT/ODFT, 564 ft ODPT/ODFT</p>	<p><b>Y</b></p>	<ul style="list-style-type: none"> <li>• Bents 1, 2, 3 are burned; caps and stringers were replaced but piles still burnt</li> <li>• <b>Bent 2 Pile 1,3,4 Replace in 3-5 years, Piles 2,5 - Monitor</b></li> <li>• Bent 1 Piles 1,2,3,4,5 - Monitor</li> <li>• <b>Backwall almost burned through; needs total replacement</b></li> <li>• Bent 4 Pile 3 - Monitor split from waterline up 8'</li> <li>• Panels 14,15,16,17 are concrete box beams</li> <li>• Bent 18 to DPG is ODPT</li> <li>• Bents 36 to 38 are an old DPG swing span now fixed in place</li> <li>• <b>All top lateral girder braces have 60-100% loss</b></li> <li>• <b>Some lower lateral braces have heavy pitting and holes with about 50% loss on lower plate of angles</b></li> <li>• <b>Girder top flanges have 30% section loss</b></li> <li>• Diagonal x-braces between girders are fair</li> <li>• Ties and timber guards are fair, replace 5% of both</li> <li>• <b>Bottom flange angles of girders have 10% loss</b></li> <li>• Bent 25 Pile 6 vertically split top to bottom – - Monitor</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Bent 12 Pile 1 - Monitor for decay and not bearing on cap sufficiently</li> <li>• <b>Track has a profile dip across the DPG span; timber trestles higher on either side</b></li> <li>• Bents 39 to 70 are framed with a 5-pile frame over old 6-pile bents. They left Piles 1,6 in place which mostly Need Replacement with severe decay and thin shells at top</li> <li>• Bent 45 Piles 2/4 vertically split full length - Monitor</li> <li>• Bent 40 Pile 4 – suspect internal decay at waterline</li> <li>• Bents 7 and 24 are framed</li> </ul>
<p><b>Bridge 731.68</b> (over Lake Tahkenitch) - 101 ft DPG Draw Span, 945 ft ODPT, 1245 ft ODPT/ODFT</p>	<p><b>Y</b></p>	<p>East Timber Spans</p> <ul style="list-style-type: none"> <li>• Ties are fair, need 50 new guard timbers</li> <li>• Stringer 1 Panel 4 Needs Replacement</li> <li>• Stringer 5 Panels 13/14 Needs Replacement</li> <li>• Stringer 7 Panels 18/19 Needs Replacement</li> <li>• Stringer 3 at Panels 27/28 Needs Replacement</li> <li>• Stringer 4 Panels 28/29 Needs Replacement</li> <li>• <b>Stringer 3 Panels 34/35 - Monitor</b></li> <li>• Stringer 8 Panel 35 Needs Replacement</li> <li>• <b>Stringer 4 Panels 34/35 Needs Replacement</b></li> <li>• Stringer 3 Panel 26 - Monitor</li> <li>• Stringer 4 Panels 36,37,38,39 Needs Replacement</li> <li>• Stringer 2 Panel 29 - Monitor</li> <li>• Stringer 4 at Panel 41 Needs Replacement</li> <li>• Stringer 2 at Panels 48/49 Needs Replacement</li> <li>• Stringer 7 at Panel 50 - Monitor</li> <li>• Stringer 6 at Panel 54 Replace in 3-5 years</li> <li>• Stringer 4 at Panels 62/63 Replace in 3-5 years</li> </ul> <p>Swing Span</p> <ul style="list-style-type: none"> <li>• Bents 64 to 66 are old DPG swing span fixed in place</li> <li>• <b>Top lateral braces better than previous bridge, less pitting/holes, on average they have 20 to 50% section loss but a couple are 100% loss</b></li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• <b>Bottom lateral braces have up to 20% loss but many have less than 10%</b></li> <li>• Can't see top flanges of girders</li> <li>• Bottom flanges of girders fair</li> </ul> <p>West Timber Spans</p> <ul style="list-style-type: none"> <li>• Helper stringers added to outsides from Bent 66 on</li> <li>• Panel 66 left helper stringer kicking out</li> <li>• <b>Stringer 1 at Panel 66 Needs Replacement</b></li> <li>• <b>Stringer 3 at Panel 67 Needs Replacement</b></li> <li>• <b>Stringer 1 at Panel 68 Needs Replacement</b></li> <li>• Inspect right side rail near Bent 69 for a 6" long smashed down head. Could be an engine burn or something else.</li> <li>• <b>Stringer 3 at Panel 72 Replace in 3-5 years, Stringers 1,4 Needs Replacement</b></li> <li>• <b>Need 20% new ties</b></li> <li>• Helper bents added between all bents from Bent 66 to west end. Bents were framed to be 6-pile bents but Piles 1,6 were never installed on any of them</li> <li>• <b>Stringer 2 at Panel 79 Needs Replacement</b></li> <li>• <b>Stringer 2 at Panels 81/82/83 Needs Replacement</b></li> <li>• <b>Panels 81,82 right helper kicked out</b></li> <li>• <b>Stringer 1 Panel 84 Needs Replacement</b></li> <li>• <b>Stringer 1 at Panel 86 Needs Replacement</b></li> <li>• <b>Stringer 7 at Panels 88,89 Needs Replacement</b></li> <li>• <b>Stringer 5 at Panel 89 Replace in 3-5 years</b></li> <li>• <b>Stringer 1 at Panel 90 Needs Replacement</b></li> <li>• <b>Stringer 7 at Panel 91 Needs Replacement</b></li> <li>• <b>Stringer 8 at Panel 94 Replace in 3-5 years</b></li> <li>• <b>Stringer 5 at Panels 95,96 Needs Replacement, Stringer 7 Replace in 3-5 years</b></li> <li>• <b>Stringer 6 at Panel 96 Needs Replacement</b></li> <li>• <b>Stringer 7 at Panel 97 Needs Replacement</b></li> <li>• <b>Stringer 2 at Panel 99 Replace in 3-5 years</b></li> <li>• <b>Stringer 2 at Panel 101 Replace in 3-5 years</b></li> <li>• <b>Stringer 2,4 at Panel 107 Replace in 3-5 years, Stringer 3 Needs Replacement</b></li> <li>• <b>Stringer 6,7 at Panel 108 Needs Replacement</b></li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Stringer 3 at Panel 110 Replace in 3-5 years</li> <li>• Stringer 2 at Panel 116 Needs Replacement</li> <li>• Stringer 7 at Panel 117 Needs Replacement</li> <li>• Stringer 4 at Panel 118 - Monitor, Stringer 7 Replace in 3-5 years</li> <li>• <b>Stringer 2,4 at Panel 119 Needs Replacement</b></li> <li>• <b>Stringers 2,4 at Panel 120 Needs Replacement</b></li> <li>• <b>Stringers 2,3 at Panel 121 Needs Replacement</b></li> <li>• Stringer 7 at Panel 123 - Monitor</li> <li>• Stringer 3 at Panels 123/124 - Monitor</li> <li>• Stringer 3 at Panel 126 Replace in 3-5 years</li> <li>• <b>Stringer 4 at Panel 127 Needs Replacement, Stringer 2 Replace in 3-5 years</b></li> <li>• Stringer 6 at Panel 130 Needs Replacement, Stringer 4 - Monitor</li> <li>• Stringer 4 at Panel 141 Replace in 3-5 years</li> <li>• Stringer 6 at Panel 132 - Monitor</li> <li>• Stringer 2 at Panel 135 Replace in 3-5 years</li> <li>• Stringer 2 at Panels 136/137 - Monitor</li> <li>• Stringer 6 at Panel 137 Replace in 3-5 years</li> <li>• Stringer 3 at Panel 138 Replace in 3-5 years</li> <li>• <b>Stringer 6 at Panel 141 - Monitor, Stringer 2,7 Replace in 3-5 years, Stringer 4 Needs Replacement</b></li> <li>• Stringer 4,6 at Panel 142 Needs Replacement,</li> <li>• Stringer 4,7 at Panel 142 Needs Replacement</li> <li>• <b>Stringers 6,7 at Panel 143 Needs Replacement</b></li> <li>• All helper stringers are mostly installed ineffectively to carry loading so we did not rate them</li> <li>• Original bents are now framed</li> <li>• <b>Original caps – about 50% of them have varying degrees of exterior decay visible</b></li> </ul>
<p><b>Bridge 732.84</b> (over Cleves Cove Lake Tahkenitch) - 28 ft DPG, 225 ft ODPT/ODFT, 375 ft ODPT/ODFT</p>	<p><b>Y</b></p>	<ul style="list-style-type: none"> <li>• Bents 4 through 26 framed; 5-frame piles framed into originally 6-pile bents</li> <li>• Deck/stringers/walkway all relatively new and fair</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Bents 26,27 are a DPG span</li> <li>• DPG sash braces at top almost gone</li> <li>• <b>Lateral braces have 20% to 50% localized loss spots</b></li> <li>• Can't see top flanges of girders</li> <li>• Cross-frame braces okay</li> <li>• Bottom flanges of girders look fair</li> <li>• Bent 28 forward are regular 5-pile bents (not framed)</li> <li>• Bents 34 to 37 helper bents were added</li> <li>• Need new ballast retainers for west end wingwalls</li> <li>• <b>Original piles 1,6 of framed bents all have thin shells at top – Needs Replacement</b></li> <li>• Bent 2 Pile 5 section loss at waterline – 2.5" of outer shell gone around ¼ of circumference</li> <li>• Bent 2 girt not attached</li> </ul>
<p><b>Bridge 733.68</b> (over Lake Tahkenitch) - 952 ft Concrete Slab</p>		<ul style="list-style-type: none"> <li>• No comment.</li> </ul>
<p><b>Bridge 733.99</b> (over Bedolf Arm Lake Tahkenitch) - 1126 ft CONC</p>		<ul style="list-style-type: none"> <li>• Ballast leaks at most joints. A few are moderate leaks (maybe 6 or 8)</li> </ul>
<p><b>Bridge 735.86</b> (over ??) - 80 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Ties are fair</li> <li>• Need 8 new guard timbers (100% replacement)</li> <li>• Stringer 1 at Panels 1,2 Needs Replacement</li> <li>• Bent 1 Pile 3 posted – decay in lower half – Monitor</li> <li>• Span 3 is longer than typical with deeper stringers</li> <li>• Stringer 8 Pile 3 suspect internal decay</li> <li>• Stringer 5 Panels 1,2 - Monitor</li> <li>• Stringer 7 at Panel 3 - Monitor</li> <li>• <b>Bent 6 Pile 5 - Monitor, Pile 3,4 Replace in 3-5 years for top decay</b></li> <li>• Need top planks for backwalls at both ends</li> </ul>
<p><b>Bridge 736.03</b> (over Franz Creek) - 80 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Bents 3,4 have 7 piles</li> <li>• Bent 1 Pile 2 - Monitor</li> <li>• Bent 2 Pile 2 - Monitor</li> <li>• Bent 3 Pile 5 - Monitor</li> <li>• Bent 4 broken sway brace</li> <li>• Bent 6 Pile 3 Replace in 3-5 years, Pile 2 - Monitor</li> <li>• Panel 3 has 10 stringers</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Bent 4 Pile 7 has bird hole</li> <li>• 10% Ties needed, 2 new guard timbers needed</li> <li>• Bent 5 cap shims crushed</li> </ul>
<b>Bridge 736.51</b> (over ??) - 50 ft ODPT		<ul style="list-style-type: none"> <li>• Ties are fair</li> <li>• Bent 1 Pile 1 Needs Replacement</li> <li>• Stringer 1,8 at Panels 1,2 Needs Replacement</li> <li>• Bents 2,3 have 6 piles</li> <li>• Bent 2 Pile 1 spliced, has bird hold Needs Replacement</li> <li>• Bent 3 Pile 5 spliced</li> <li>• Bent 4 Pile 5 Needs Replacement</li> <li>• Need 3 new timber guards</li> </ul>
<b>Bridge 737.33</b> (over Franz Creek) - 90 ft BDPT		<ul style="list-style-type: none"> <li>• Raise the left ballast retainers 12", right by 8"</li> <li>• Bent 1 Pile 4 - Monitor</li> <li>• Stringer 12 at Panel 1 Needs Replacement</li> <li>• Stringer 12 Panels 2,3,4,5 Needs Replacement</li> <li>• Bent 4 cracked sway brace</li> </ul>
<b>Bridge 738.7</b> (over ??) - 30 ft ODPT		<p>Main Deck:</p> <ul style="list-style-type: none"> <li>• Stringer 2 at Panel 1 - Monitor</li> <li>• Stringer 8 at Panels 1,2 Needs Replacement</li> <li>• Stringer 5 at Panel 2 Replace in 3-5 years</li> <li>• Ties, guard timbers, walkway in good condition</li> </ul> <p>Siding Deck:</p> <ul style="list-style-type: none"> <li>• <b>Need 40% new ties</b>, guard timbers okay</li> <li>• <b>Stringer 4,5 Panels 1,2 Needs Replacement, Stringer 6 - Monitor, Stringers 1,8 Replace in 3-5 years</b></li> <li>• Cap 2 Replace in 3-5 years</li> </ul> <p>Siding Bents:</p> <ul style="list-style-type: none"> <li>• <b>Bent 1 Pile 5 Needs Replacement, Piles 3,5 Posted, Pile 2 Replace in 3-5 years</b></li> <li>• Bent 2 Pile 3 Needs Replacement, Pile 5 spliced</li> <li>• Bents 3 Piles 3,4 - Monitor</li> </ul> <p>Main Bents:</p> <ul style="list-style-type: none"> <li>• Bent 1 Pile 2 - Monitor</li> <li>• Bent 2 Pile 5 posted</li> </ul>
<b>Bridge 738.94</b> (over Smith River Channel) - 390 ft ODPT/ODFT		<ul style="list-style-type: none"> <li>• Ties, guard timbers, walkways in good condition</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Bent 2,4,6,7,8,9 framed</li> <li>• Stringers are all newer glu-lams in fair condition</li> <li>• Has girts from Bent 1 to 6 and Bent 7 to 9</li> <li>• Last 5 bents are framed</li> <li>• Girts in last four panels are all shattered</li> <li>• 4th to last bent Pile 3 has exterior damage – - Monitor</li> </ul>
<p><b>Bridge 739.14</b> (over Smith River Channel) - 50 ft TPG, 160 ft ODPT/ODFT, 371 ft ODPT</p>	<p><b>Y</b></p>	<p>East Timber spans</p> <ul style="list-style-type: none"> <li>• Bent 2 Pile 4 Needs Replacement</li> <li>• Bent 3 Pile 4 Replace in 3-5 years</li> <li>• Bent 10 Pile 3 - Monitor – cracked/split at top</li> <li>• <b>Need 10% new ties</b></li> <li>• Stringers are all glu-lams in fair condition</li> </ul> <p>TPG</p> <ul style="list-style-type: none"> <li>• <b>Floor Beam 1 right side blown gusset plate at girder to floor beam to lateral brace connection</b></li> <li>• <b>Girders and flanges are fair – 10 to 15% section loss in angles of right side bottom girder flange and 5-10% on left side</b></li> <li>• <b>Stringer lateral braces are fair, some small holes/pitting but one has 50% section loss</b></li> <li>• Left girder has 10% of top flange rivet heads ineffective</li> <li>• Stringer bottom flanges are good, can't see tops</li> </ul> <p>West Timber Spans</p> <ul style="list-style-type: none"> <li>• Bents 2 to 12 framed</li> <li>• Need 5% ties, guard timbers are okay</li> <li>• Bent 12 Pile 5 - Monitor for decay at bottom, Pile 1 - Monitor</li> <li>• Bent 10 Pile 3 Replace in 3-5 years (this is a 7-pile bent)</li> <li>• Need to remove tree trunk in water resting against timber bent near steel span</li> </ul>
<p><b>Bridge 739.43</b> (over Smith River Channel) - 92 ft TPG, 117 ft ODPT/ODFT, 283 ft ODPT</p>	<p><b>Y</b></p>	<p>East Timber Spans</p> <ul style="list-style-type: none"> <li>• Almost all bents have middle 3 piles framed with an intermediate cap a couple feet above water surface (tide was high) and piles below. No longitudinal girts were installed along framing. The framed bents have 4 framed piles in the middle and 2 full-</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<p>length round piles (outsides) that do not intersect the low cap</p> <ul style="list-style-type: none"> <li>• Bent 2 Pile 5 internal decay, pile 4 has a splice</li> <li>• Bents 4,5,7 lower caps have internal decay</li> <li>• <b>Bent 5 Piles 1,2,3 have holes and Pile 4 not supporting cap</b></li> <li>• Bent 4 missing lower sash brace below framing</li> <li>• Many lower frame caps may be internal decay but are not accessible</li> <li>• Stringers generally appear to be relatively new</li> <li>• Bent 15, 16 lower frame caps appear to have internal decay</li> </ul> <p>West Timber Spans:</p> <ul style="list-style-type: none"> <li>• Same framed construction as east spans</li> <li>• Bent 1,2,6 lower frame caps have internal decay</li> <li>• Need 6 new guard timbers on deck</li> <li>• Stringers appear to be relatively new</li> <li>• Longitudinal girts between bents are present</li> <li>• Last bent Pile 4 internal decay</li> </ul>
<p><b>Bridge 739.63</b> (over Umpqua River) - 45 ft TPTOD, 60 ft TPTOD, 125 ft TRT, 348 ft TR Swing Span, 1000 ft TRT</p>		<ul style="list-style-type: none"> <li>• <b>Steel Truss Inspections to be Completed.</b></li> </ul> <p>West Approach Timber Spans</p> <ul style="list-style-type: none"> <li>• <b>Need 50% new ties</b></li> <li>• Bents 1,2,3 timber framed while Bent 4 is h-piled</li> <li>• <b>Bent 3 Piles 3,4 minor internal decay, Pile 2 has internal decay at bottom</b></li> <li>• Bent 2 Piles 4,5 split along length and have internal decay</li> </ul> <p>East Approach Timber Spans:</p> <ul style="list-style-type: none"> <li>• <b>Bent 1 piles 2,5 internal decay</b></li> <li>• Bents 2,3,4 framed</li> <li>• Bent 2 Pile 3 internal decay at top</li> <li>• Panels 1/2 Stringer 1 internal decay</li> <li>• Ties okay</li> <li>• Panel 3 Stringer 8 internal decay</li> </ul>
<p><b>Bridge 740.26</b> (over ??) - 60 ft ODPT</p>		<p>Siding:</p> <ul style="list-style-type: none"> <li>• Bent 2 – 3 framed piles have internal decay/sound hollow.</li> </ul> <p>Main:</p>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Internal Decay detected at tops and bottoms of piles at Bents 3, 4, 5</li> <li>• <b>There are no girts between framed bents.</b></li> </ul>
<p><b>Bridge 740.84</b> (over Scofield Creek) - 480 ft CONC</p>		<ul style="list-style-type: none"> <li>• No comment</li> </ul>
<p><b>Bridge 741.36</b> (over ??) - 60 ft ODPT/ODFT</p>		<ul style="list-style-type: none"> <li>• <b>Bent 5 has 3 piles with internal decay</b></li> <li>• Panel 4 Stringers 1 &amp; 8 (outsides) crushing over cap</li> <li>• Bent 1 has 1 pile with internal decay</li> <li>• Bents 2, 3, 4, 5 are timber framed with longitudinal girts</li> </ul>
<p><b>Bridge 741.74</b> (over ??) - 45 ft ODPT/ODFT</p>		<ul style="list-style-type: none"> <li>• Bent 3 Stringer 8 crushing over bent</li> <li>• Panel 3 Stringer 1 has internal decay</li> <li>• <b>Bridge needs a deck replacement</b></li> <li>• <b>Bent 1 piles 3, 4 have internal decay</b></li> <li>• Panel 1 Stringer 4 has horizontal splits along entire length</li> <li>• Bent 2 Stringer 1 crushing over bent, internal decay</li> </ul>
<p><b>Bridge 742.05</b> (over ??) - 45 ft ODFT</p>		<ul style="list-style-type: none"> <li>• Needs all new guard timber on right side.</li> <li>• Bents 1, 2, 3, 4 timber framed with long. girts</li> <li>• <b>Bent 4 Piles 2, 3 have internal decay</b></li> <li>• <b>Bent 3 Piles 1, 3, 5 have horizontal splits entire length; internal decay suspected.</b></li> <li>• Panel 3 Stringer 4 Internal Decay</li> <li>• Panel 3 Stringer 5, 8 internal decay</li> <li>• Panels 1, 2 Stringer 1 has bad internal decay</li> <li>• <b>Bent 1 Piles 2, 3 have internal decay</b></li> <li>• <b>Need 25% new ties.</b></li> </ul>
<p><b>Bridge 742.24</b> (over ??) - 125 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Panel 4 is longer than typical span with deeper stringers</li> <li>• Internal Decay at:             <ul style="list-style-type: none"> <li>• Bent 1 Pile 2</li> <li>• Bent 2 Pile 5</li> <li>• Stringer 1 over Panel 1, 2</li> <li>• <b>Bent 9 Pile 1, 2</b></li> <li>• Bent 5 Pile 3</li> </ul> </li> <li>• Bent 5, 6 have exterior fire damage</li> <li>• Panel 4 5th stringer added to each chord on the outsides (4 stringers elsewhere)</li> <li>• <b>Need 25% new ties</b></li> <li>• Need to re-spike guard timbers</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
<p><b>Bridge 742.72</b> (over Scofield Creek) - 137 ft ODPT/ODFT</p>		<ul style="list-style-type: none"> <li>• Bents 2, 3 are H-pile steel framed with steel caps</li> <li>• Panels 1, 2, 5 have 5-stringer chords (helpers added)</li> <li>• <b>Internal decay in almost all exterior stringers on both sides, full bridge length</b></li> <li>• Stringer 9 (helper) at Panel 7 has kicked out and not supporting the deck.</li> <li>• <b>Bents 4, 5, 6, 7 have piles 2, 3, 4 timber framed while piles 1, 5 are round piles</b></li> <li>• Bents 7, 8, 9 are timber framed with long. girts</li> <li>• <b>Joint defect left side at Bent 9; joint unsupported</b></li> <li>• <b>Bent 10 Piles 3, 4 have internal decay</b></li> <li>• Stringer 2 at Panel 1 has severe internal decay</li> <li>• <b>Bent 1 piles 2, 3, 4 have internal decay (1937 date nails, 60' cut-off depth)</b></li> </ul>
<p><b>Bridge 742.95</b> (over ??) - 60 ft ODPT</p>		<ul style="list-style-type: none"> <li>• <b>Panel 2 Stringers 4, 5 moderate internal decay</b></li> <li>• Panel 4 Stringers 1, 8 internal decay</li> <li>• Panel 1 Stringer 5 internal decay</li> <li>• Panel 2 Stringer 1 internal decay and Stringer 1 crushing over Bent 3</li> <li>• <b>Trains probably effectively running on only 3 stringers per side along whole length of bridge</b></li> <li>• <b>Need 50% new guard timbers</b></li> <li>• <b>Need 25% new ties</b></li> </ul>
<p><b>Bridge 743.2</b> (over ??) - 45 ft BDPT</p>		<ul style="list-style-type: none"> <li>• Ballast retainer left side rotted, starting to fail</li> <li>• 12-stringer construction over 4 bents</li> <li>• Diagonal headwall braces (both sides) at east end failed; severe internal decay</li> <li>• <b>Bent 3 Pile 4, 5 internal decay</b></li> <li>• Bent 2 Pile 4 internal decay at ground.</li> </ul>
<p><b>Bridge 743.73</b> (over Scofield Creek) - 135 ft ODPT</p>		<ul style="list-style-type: none"> <li>• 4 guard timbers missing (never re-installed) at west end</li> <li>• Bent 5 Stringer 4 – severe internal decay over bent</li> <li>• <b>Fire damage on Bents 6,7,8,9,10 – all need new sway braces</b></li> <li>• Bent 7 Pile 1 internal decay</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Panels 4/5 Stringer 8 internal decay</li> <li>• <b>Need 15% new ties</b></li> <li>• Panels 1/2 Stringers 1, 8 internal decay</li> <li>• Bent 1 Cap – minor internal decay</li> </ul>
<p><b>Bridge 743.86</b> (over Scofield Creek) - 120 ft ODPT</p>		<ul style="list-style-type: none"> <li>• <b>Panel 5 Stringer 6 severe internal decay</b></li> <li>• Need 3 new guard timbers</li> <li>• <b>Bent 1 Piles 1,2,3,5 internal decay</b></li> <li>• <b>Bent 2 Pile 3 internal decay (2" shell visible at top), Pile 1 internal decay</b></li> <li>• Bent 3 Pile 3 severe internal decay</li> <li>• Panels 1/2 Stringer 1 internal decay</li> <li>• <b>Panel 1 Stringers 4,8 internal decay</b></li> <li>• All stringers are banded together because the chord bolts are ineffective. Some metal bands are missing/broken</li> <li>• <b>Need 25% ties</b></li> <li>• Bent 9 Pile 1 internal decay at top</li> <li>• Bent 8 pile 1 internal decay at top</li> <li>• Panels 7/8 Stringer 1 internal decay</li> </ul>
<p><b>Bridge 743.97</b> (over Scofield Creek) - 105 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Need new guard timbers full length, both sides</li> <li>• Bent 7 framed</li> <li>• Bent 8 Pile 1 internal decay</li> <li>• <b>Need 40% new ties</b></li> <li>• Panels 4/5 and 6/7 Stringer 1 internal decay</li> <li>• <b>Panel 7 Stringers 3, 8 internal decay</b></li> <li>• Panels 5/6 Stringer 8 internal decay</li> <li>• Bent 6 Pile 5 internal decay</li> <li>• Tighten all chord bolts</li> <li>• <b>Bent 1 Piles 2,3,4 internal decay at top</b></li> <li>• <b>Bent 2 Piles 1,5 internal decay at top</b></li> <li>• Panel 1 Stringers 1, 8 internal decay</li> <li>• Bent 1 cap minor internal decay</li> </ul>
<p><b>Bridge 744.25</b> (over Wind Creek) - 75 ft BDPT</p>		<ul style="list-style-type: none"> <li>• 12-stringer construction</li> <li>• Panel 1 Stringers 1, 7, 12 internal decay</li> <li>• Need new sway braces on Bent 2</li> <li>• Bent 2 Pile 4 split entire length, Pile 1 internal decay at top and ground</li> <li>• Bent 4 Pile 3 internal decay</li> <li>• Missing a handrail vertical timber post on left side</li> <li>• Panels 3/4 Stringer 1 internal decay</li> <li>• Panels 2/3 Stringer 12 internal decay</li> <li>• Bent 5 needs new sway braces</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Bent 6 Pile 2 internal decay</li> <li>• Panel 5 Stringer 1 internal decay</li> </ul>
<b>Bridge 744.44</b> (over Wind Creek) - 75 ft BDPT		<ul style="list-style-type: none"> <li>• 4 bad ballast retainer timbers left side</li> <li>• Bent 1 Pile 1 spliced with framed-in timber – has internal decay</li> <li>• Panel 1 Stringer 12 internal decay</li> <li>• Bent 6 Pile 1 internal decay, sounds hollow</li> <li>• Bent 6 Pile 3 internal decay</li> </ul>
<b>Bridge 744.7</b> (over Wind Creek) - 75 ft BDPT		<ul style="list-style-type: none"> <li>• Re-affix ballast retainer timbers on left side</li> <li>• Panel 3 Stringer 12 internal decay – has cavities</li> <li>• <b>Bent 1 Piles 2, 5 internal decay at top</b></li> <li>• Panels 1,2,3,4,5 Stringer 1 internal decay</li> <li>• <b>Bent 6 Piles 4,5 internal decay</b></li> <li>• Cap 1 minor internal decay</li> <li>• Bent 4 – replace one sway brace</li> </ul>
<b>Bridge 744.85</b> (over Wind Creek) - 75 ft BDPT		<ul style="list-style-type: none"> <li>• Extend ballast retainers up 6", replace 1 retainer on right side and 1 on left side</li> <li>• Bent 3 need 1 new sway brace</li> <li>• Bent 1 Pile 5 internal decay</li> <li>• Panel 2 Stringer 2,3 internal decay</li> <li>• Panels 1/2/3 Stringer 12 internal decay</li> <li>• Panels 4/5 Stringers 1, 12 internal decay</li> <li>• Panel 4 Stringer 2 internal decay</li> </ul>
<b>Bridge 748.06</b> (over ??) - 90 ft BDPT		<ul style="list-style-type: none"> <li>• Bent 2 Pile 2 internal decay at top</li> <li>• Panel 1 Stringer 11 internal decay</li> <li>• Panels 1/2/3 Stringer 1 internal decay</li> <li>• Raise ballast retainers 6"</li> <li>• Bent 6 Pile 5 internal decay</li> <li>• Panel 5 Stringer 9 internal decay</li> </ul>
<b>Bridge 748.44</b> (over ??) - 30 ft BDPT		<ul style="list-style-type: none"> <li>• Need new ballast retainers right side full length of bridge</li> <li>• Panel 1 Stringers 1, 12 internal decay</li> </ul>
<b>Bridge 748.68</b> (over ??) - 75 ft ODFT		<ul style="list-style-type: none"> <li>• All bents framed with long. girts</li> <li>• 7 ¾" x 16 ¾" stringers, 8"x18" helper stringers added to outside, full length of bridge</li> <li>• Panel 1 Stringers 1, 8 internal decay</li> <li>• Bent 3 Stringer 5 badly crushed over bent</li> <li>• Panel 3 Stringer 8 internal decay</li> <li>• <b>Need 15% new ties</b></li> <li>• Panel 4/5 Stringer 5 internal decay, 5th helper stringer added to outside of Panels 4/5 left side</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Panel 4/5 stringer 4 internal decay</li> <li>• Bent 6 framed and set over mud blocks with internal decay, although mud blocks may not be for support but jacking during rehab work</li> <li>• <b>Bent 6 Piles 3,4 internal decay</b></li> <li>• Panel 5 Stringer 5 minor internal decay</li> <li>• Guard timbers in fair condition</li> </ul>
<p><b>Bridge 749.89</b> (over Blacks Arm North Tenmile Lake) - 923 ft CONC</p>		<ul style="list-style-type: none"> <li>• Has longitudinal x-bracing in panel 3</li> <li>• Bent 1 on H-piles</li> <li>• Need 11 new steel plate joints between box girders to retain ballast (ballast can slip between joints)</li> </ul>
<p><b>Bridge 750.46</b> (over North Tenmile Lake) - 50 ft DPG, 806 ft ODFT, 941 ft ODFT</p>		<ul style="list-style-type: none"> <li>• Framed bents with long. girts full length</li> <li>• Steel-riveted deck plate girder starting at Bent 69</li> <li>• 10% new guard timbers needed</li> <li>• Ties okay (recent deck replacement)</li> <li>• Tighten all hardware, chord bolts &amp; replace missing bolts/nuts</li> </ul>
<p><b>Bridge 751.02</b> (over ??) - 315 ft ODPT/ODFT</p>		<ul style="list-style-type: none"> <li>• Note, panels numbered according to original bents</li> <li>• <b>Panel 1 Stringers 2, 5, 7, 8 severe internal decay</b></li> <li>• Helper stringers added to outsides nearly full length; metal bands around stringers mostly gone/broken</li> <li>• Panel ½ Stringer 6 severe internal decay</li> <li>• New bents are spaced ~ 14' apart but the distance between new and old bents varies</li> <li>• Joints in stringers fall over old bents</li> <li>• Old bents spaced 15' apart, new bents placed 4' downstation from old bents beginning at east end but the gap grows toward the west end</li> <li>• Panel 3 Stringers 3,4 internal decay</li> <li>• <b>Panel 4 Stringers 2,4,5,6,7 internal decay</b></li> <li>• Panel 5 Stringer 1 internal decay</li> <li>• Panel 6 Stringer 8 bad internal decay</li> <li>• Panel 6 Stringers 1, 7 internal decay</li> <li>• Panel 6/7 Stringer 4 internal decay</li> <li>• Panel 7 Stringer 8 internal decay</li> <li>• Panel 7 Stringer 1 internal decay</li> <li>• <b>Panel 8 Stringers 6,8 internal decay</b></li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• Panel 9 Stringers 1, 8 internal decay</li> <li>• Panel 10 Stringer 2 internal decay</li> <li>• <b>Panel 11 Stringers 1,2,3 internal decay</b></li> <li>• <b>Panels 11/12 Stringers 5,6 internal decay</b></li> <li>• Panel 12 Stringers 1,6 internal decay</li> <li>• <b>Needs 10% ties</b></li> <li>• Panel 14 Stringers 1,2 internal decay</li> <li>• Panel 15 Stringer 1 internal decay</li> <li>• <b>Panel 16 Stringers 1,5,6 internal decay</b></li> <li>• Panel 17 Stringers 5,7 internal decay</li> <li>• <b>Panel 18 Stringers 1,3,7 internal decay</b></li> <li>• <b>Panel 19 Stringers 1,3,4,5,6,8 internal decay</b></li> <li>• Caps 6,7,8,20 (old bent system) internal decay</li> </ul>
<p><b>Bridge 752.99</b> (over Ten Mile Creek) - 180 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Panel 3 left side, broken longitudinal sway x-bracing</li> <li>• Bent 2 Pile 5 internal decay at top</li> <li>• Bent 3 Pile 2 internal decay at top</li> <li>• Bent 4 Pile 1 internal decay</li> <li>• Bent 7 Broken sash brace</li> <li>• Need to clear debris against upstream piles</li> <li>• Panel 2 Stringer 4 internal decay</li> <li>• Panel 3 Stringer 3 internal decay</li> <li>• <b>Bent 13 Piles 1,4,5 internal decay (3" shell visible on 1,5)</b></li> <li>• Bent 12 Pile 1 has a spliced pile, internal decay below splice line</li> <li>• <b>Bent 12 Piles 2,5 internal decay at ground</b></li> <li>• Panel 12 ineffective longitudinal sway braces both sides</li> </ul>
<p><b>Bridge 753.48</b> (over ??) - 105 ft ODPT</p>		<ul style="list-style-type: none"> <li>• <b>Bent 1 Pile 4,5 internal decay at ground</b></li> <li>• Bent 4 Pile 1 internal decay</li> <li>• Replace 1 guard timber right side at west abutment</li> <li>• <b>Need 10% new ties</b></li> </ul>
<p><b>Bridge 753.97</b> (over ??) - ?? ft TPG</p>	<p><b>Y</b></p>	<ul style="list-style-type: none"> <li>• Top flange of stringers not visible due to ballast deck</li> <li>• Repairs needed to left handrail at east abutment</li> <li>• Girder cover plate corroded</li> <li>• <b>Bottom flange has 20% section loss</b></li> <li>• <b>Bottom flange angles corroded 20%</b></li> <li>• <b>Multi-ply floor beams spaced ~2 o.c. with</b></li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<p><b>corroded bottom flanges (20% loss)</b></p> <ul style="list-style-type: none"> <li>• <b>Timber deck – hole visible in deck from roadway below in one location directly over roadway with potential for ballast to drop onto roadway</b></li> <li>• Left girder – water dripping more on left than from right side – more corrosion on left.</li> <li>• Ballast fouled throughout</li> </ul>
<b>Bridge 755.63</b> (over Clear Lake) - 75 ft ODPT		<ul style="list-style-type: none"> <li>• Bent 1, Piles 2, 3, 4 have internal decay.</li> <li>• Stringer 7 at Panel 2/3 has internal decay and needs to be replaced.</li> </ul>
<b>Bridge 756.19</b> (over Saunders Lake) - 75 ft ODFT		<ul style="list-style-type: none"> <li>• Piles 2/4 of Bent 1 have internal decay.</li> <li>• Cap 2 has internal decay above Piles 3, 4, and 5.</li> <li>• Bent 5, Pile 1 has decay.</li> <li>• Stringer 4 and Panel 2/5 has decay.</li> </ul>
<b>Bridge 756.55</b> (over Saunders Lake) - 75 ft ODPT/ODFT		<ul style="list-style-type: none"> <li>• 10% of ties need to be replaced.</li> <li>• <b>Stringer 8 of Panel 2/3 is crushing and needs to be replaced.</b></li> <li>• <b>Stringer 6 of Panel 2/3 needs to be replaced in 3-5 years.</b></li> </ul>
<b>Bridge 757.37</b> (over Butterfield Lake) - 75 ft ODFT		<ul style="list-style-type: none"> <li>• 10% of ties need to be replaced.</li> <li>• Missing longitudinal struts at Bent 4.</li> <li>• Bent 1, Piles 2 and 3 have internal decay.</li> <li>• Bent 6, Piles 3 has internal decay (2" shell).</li> <li>• <b>Stringer 1 of Panels 3/4 needs to be replaced and is crushing at Bent 4.</b></li> <li>• <b>Stringer 8 of Panel 4/5 needs to be replaced.</b></li> <li>• Stringer 7 of Panel 1 – replaced in 3-5 years.</li> <li>• <b>Stringer 2 of Panels 2/4 need to be replaced.</b></li> <li>• Outside stringers all have open bolt holes.</li> </ul>
<b>Bridge 761.13</b> (over ??) - 45 ft WSB	<b>Y</b>	<ul style="list-style-type: none"> <li>• Approximately 25 % of ties need to be replaced.</li> <li>• <b>Piles 1, 2, and 3 has 40% section loss at the ground and Bent 2 and 3.</b></li> <li>• Stringer 1 of Panel ½ and Stringer 8 of Panel 1/2/3 have severe internal decay.</li> </ul>
<b>Bridge 761.53</b> (over ??) - 45 ft WSB	<b>Y</b>	<ul style="list-style-type: none"> <li>• All Bents are H-pile steel w/ steel caps and TPT OD.</li> <li>• Stringer 5 at Bent 2 is crushing over the cap due to internal decay.</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<ul style="list-style-type: none"> <li>• <b>Bent 2 and Bent 3 have 40% section loss a Piles 1, 2, and 3 at the ground.</b></li> <li>• <b>Stringer 1/8 of Panel 1/2 has internal decay.</b></li> <li>• <b>Stringer 8 of Panel 3 has internal decay.</b></li> <li>• <b>Stringer 2 of Panel 2 has internal decay.</b></li> </ul>
<p><b>Bridge 763.55</b> (over Coos Bay Bridge) - 180 ft TRT, 180 ft TRT, 315 ft BDPT, 450 ft TRT, 458 ft T Swing Span, 555 ft BDPT, 900 ft TRT</p>	<p><b>Y</b></p>	<ul style="list-style-type: none"> <li>• <b>Steel Inspection Ongoing; see other interim memo.</b></li> <li>Timber Spans</li> <li>• Construction is ballast deck on 6-pile bents with 12 stringers</li> <li>• 21 timber bents, 2 steel helper bents near swing span</li> <li>• No bad timber piles detected</li> <li>• Stringers are bunched as 1 – 5 – 5 – 1</li> <li>• Stringers generally in fair condition</li> <li>• Timber spans appear to have been entirely rebuilt in the last 30-40 years (original bents cut off near water surface)</li> <li>• New double-steel bents at 2, 4, 5. All other bents are Timber on 6 piles</li> <li>• Bent 35 has one pile spliced</li> <li>• <b>Bent 34 Piles 1, 5 internal decay at ground</b></li> <li>• Stringers generally in fair condition</li> <li>• Bent 33 Piles 2, 3 spliced</li> <li>• Bent 32 Piles 4, 5 spliced</li> <li>• Bent 31 is framed</li> <li>• Bent 30 Piles 4/5 spliced</li> <li>• Bent 30 bad sway braces</li> <li>• <b>Bent 29 Pile 3 internal decay (entire length), Pile 2 internal decay at ground, bad sway braces, cap has some internal decay</b></li> <li>• Bent 26, 27, 28 bad sway braces</li> <li>• Bent 26 Pile 5 exterior damage at ground – 25% section loss</li> <li>• Bent 23 needs sash braces</li> <li>• Bent 21, 22 suspect internal decay in caps</li> </ul>
<p><b>Bridge 769.11</b> (over Coal Bank Slough) - 90 ft ODPT, 90 ft ODPT, 102 ft DPG Draw Span</p>	<p><b>Y</b></p>	<ul style="list-style-type: none"> <li>• Steel helper bents added at 2A, 3A, 4A, 5A, 6A, 7A</li> <li>• Bents 1-8 are timber</li> <li>• Bents 9-12 are a DPG movable span that is now fixed onto steel bents</li> <li>• Bents 13-20 are timber with 5-stringer</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		<p>chords</p> <ul style="list-style-type: none"> <li>• Stringer 4 at Panels 2,3 Needs Replacement</li> <li>• Stringers added to inside of Panels 4,5</li> <li>• <b>Stringers 5,6 not bearing under ties at Panels 4,5 (the other stringers there have shims or dapping to provide tie support)</b></li> <li>• Stringer 8,9 at Panel 5 - Monitor</li> <li>• Cap 6 Needs Replacement</li> <li>• Stringer 2 at Bent 14 Needs Replacement at ends</li> <li>• <b>Stringers 4,5,8,9 Needs Replacement at Panel 13</b></li> <li>• <b>Stringer 3,6,7,8 at Panel 14 Needs Replacement, Stringers 2,4 Replace in 3-5 years</b></li> <li>• <b>Panels 15, 16 All Stringers have severe fire damage and are all Needs Replacement.</b></li> <li>• <b>Stringers 2,3,8,9 at Panel 17 Needs Replacement</b></li> <li>• Stringer 8,9 at Panel 18 Needs Replacement</li> <li>• Cap 19 "AS"</li> <li>• Bent 20 framed</li> <li>• Re-build &amp; reinforce left and right wing walls at west end</li> <li>• <b>In burned area, need 18 new ties, all new stringers for Panels 15,16, new cap Bent 15, 4 new guard timbers, new ties plates and OTM. Inspect rails.</b></li> </ul> <p>DPG</p> <ul style="list-style-type: none"> <li>• <b>All top lateral braces are shot</b></li> <li>• <b>Girder top flanges have 20% loss</b></li> <li>• <b>Bottom lateral braces have moderate to severe section loss, one is broken through</b></li> <li>• <b>Bottom girder flanges have 10% section loss and 10% rivet heads lost on right side from center pier eastward but flange is fair west of the center pier.</b></li> </ul>
<p><b>Bridge 771.76</b> (over Shinglehouse Slough) - 90 ft ODPT</p>		<ul style="list-style-type: none"> <li>• <b>Need 10% ties, 2 new guard timbers</b></li> <li>• Bent 1 Pile 5 Needs Replacement</li> <li>• Bent 4 Cap Needs Replacement</li> <li>• Need new top plank for back walls at both ends</li> </ul>
<p><b>Bridge 773.94</b> (over ??) - 45 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Bridge is 4-bent, 6-stringer construction</li> <li>• Ties and guard timbers are good</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
<p><b>Bridge 774.8</b> (over Davis Slough) - 90 ft CONC</p>		<ul style="list-style-type: none"> <li>• Stringer 1 at Panel 2 - Monitor</li> <li>• Ballast leaks at wing walls on both ends, both sides where wing walls connect to back walls</li> <li>• One minor ballast leak at joint over Bent 3</li> <li>• Broken corner on left side of lefthand beam in Panel 3; broken at angle plate. Same cap is spalling at one corner and exposing the reinforcing steel.</li> <li>• Pitting/corrosion of 10% loss on most steel pile skins</li> </ul>
<p><b>Bridge 776.56</b> (over Pogue Gulch) - 45 ft ODPT</p>		<ul style="list-style-type: none"> <li>• <b>Need 20% ties</b> and 2 guards</li> <li>• Stringer 7 at Panel 1 Needs Replacement</li> <li>• <b>Stringer 8 at Panels 2,3 Needs Replacement</b></li> <li>• Stringer 2 at Panel 1 Replace in 3-5 years</li> <li>• <b>Stringer 7 at Panel 2 Needs Replacement</b></li> <li>• <b>Stringers 1,2 at Panels 2,3 Needs Replacement</b></li> <li>• All piles on all bents have moderate to extreme internal and external section loss due to brackish tide waters – 1.5” exterior shell loss on all piles. All piles are - Monitor.</li> </ul>
<p><b>Bridge 777.03</b> (over Manning Gulch) - 24 ft ODPT</p>		<ul style="list-style-type: none"> <li>• Ties and guard timbers fair</li> <li>• Stringers 6,7 at Bent 3 - Monitor for decay at both ends</li> </ul>
<p><b>Bridge 779.8</b> (over Beaver Creek) - 60 ft ODPT</p>		<ul style="list-style-type: none"> <li>• <b>Need 20% new ties</b> and 4 new guard timbers</li> <li>• <b>Stringers 1,2 at Panel 1 Needs Replacement</b></li> <li>• Stringer 8 at Panels 2,3,4 Needs Replacement</li> <li>• Stringer 1 at Panel 4 Needs Replacement</li> </ul>
<p><b>Bridge 782.35</b> (over ??) - 45 ft ODPT</p>		<ul style="list-style-type: none"> <li>• <b>Need 10% new ties</b> and 2 new guard timbers</li> <li>• Stringer 1 at Pile 1 Replace in 3-5 years crushing over Bent 1</li> <li>• Stringer 4 at Panels 1,2 Needs Replacement</li> <li>• Need to add backwall plank at east end</li> <li>• Stringer 7 at Panel 1 Needs Replacement, Stringer 2 Replace in 3-5 years</li> <li>• Stringers 5,7 at Bent 2 have insufficient bearing on cap</li> <li>• Stringer 7 at Panel 3 Replace in 3-5 years,</li> </ul>

**Table 1 – Summary of Bridges (Immediate Repairs shown in Bold)**

Bridge Number and Description	Full Structural Inspection Recommended?	Noted Defects
		Stringer 3 Needs Replacement, Stringer 6 - Monitor
<b>Bridge 782.53</b> (over ??) - 60 ft ODPT		<ul style="list-style-type: none"> <li>• <b>Need 10% new ties</b> and 2 new guard timbers</li> <li>• Stringers 1,8 at Panel 1 Needs Replacement</li> <li>• Bent 1 Pile 1 - Monitor for 3" shell</li> <li>• Stringer 4 at Panels 1,2 Replace in 3-5 years</li> <li>• Stringer 8 at Panel 2 Needs Replacement</li> <li>• Stringer 1 at Panel 2 Replace in 3-5 years</li> <li>• Stringer 1 at Panel 4 Needs Replacement</li> <li>• Bent 4 at Panel 5 - Monitor</li> </ul>
<b>Bridge 785.26</b> (over Calloway Creek) - 60 ft ODPT, 92 ft OD	<b>Y</b>	<ul style="list-style-type: none"> <li>• Need 1 new guard timber, 2 new timber walkway planks, 1 new railing plank on left</li> <li>• <b>Need 10% ties</b></li> <li>• Bent 2 Pile 1 Needs Replacement</li> <li>• <b>Stringers 1,4,5 Panels 1,2 Needs Replacement</b></li> <li>• Outside helper stringers added panels 1,2</li> <li>• Stringer 4 at Panel 5 Replace in 3-5 years</li> <li>• Stringer 8 at Panels 3,4 Needs Replacement</li> <li>• <b>Stringers 1,2,4,5,6 at Panel 1 Needs Replacement</b></li> <li>• <b>Stringer 1,5,6,8 at Panel 2 Needs Replacement</b></li> <li>• Stringers 3,8 at Panel 3 Needs Replacement</li> <li>• Stringer 3 at Panel 4 Needs Replacement</li> </ul>
<b>Bridge 785.33</b> (over ??) - 45 ft ODPT, 60 ft OD		<ul style="list-style-type: none"> <li>• Bent 4 Pile 4 - Monitor</li> <li>• Rails, ties, guard timbers are all fair; need 5% new ties</li> <li>• Stringer 3 Pile 1 Needs Replacement</li> <li>• Stringer 2 Pile 3 Needs Replacement</li> <li>• Re-attach walkway cable on right side</li> </ul>