

Bridge Inspection											
Bridge File Number	72467 -1 Bridge				Form Type	PSR					
Year Built/Year Supstr	1963/1963				Lot No.	1					
Bridge or Town Name	TOLMAN BRIDGE				Inspector Name	Dave Lam					
Located Over	RED DEER RIVER, 3, WATERCRS-ST				Inspector Class	BR CLS A					
Located On	585:02 C1 18.284				Assistant Name						
Water Body Cl./Year					Assistant Class						
Navigabil. Cl./Year					Inspection Date	14-Jul-2011					
Legal Land Location	SW SEC 23 TWP 33 RGE 22 W4M				Data Entry By	Marcia Chavez					
Longitude, Latitude	-113:01:02, 51:50:18				Data Entry Date	16-Aug-2011					
Road Authority	Alberta Transportation (AIT)				Reviewer Name	John O'Brien					
Contract Main. Area	CMA20				Review Date	27-Jul-2011					
Clear Roadway/Skew	7.9 / 15 deg. (RHF)				Dept. Reviewer Name	Chris Black					
AADT/Year	440 / 2010 (A)				Dept. Review Date	30-Aug-2011					
Road Classification	RCU-208-110				Follow-Up By						
Detour Length (km)	56										
Allowable Load (t):	Single	CS1 47 GIRDER			Semi	CS2 52 GIRDER			Train	CS3 63 GIRDER	----> On Critical Spans ---->Critical Member
Design Loading:	HS20									----> Primary Span	

Posting Information									
Required Load Posting (t)			Single		Semi			Truck Train	
Posted Loading (t)			Single		Semi			Truck Train	
Posted:	Lane	EB	At Junction (Y/N)	No	In Advance (Y/N)	No	At Bridge (Y/N)	No	
Posted:	Lane	WB	At Junction (Y/N)	No	In Advance (Y/N)	No	At Bridge (Y/N)	No	
Remarks									
Hazard Marker At Bridge (Y/N)			No						
Remarks			Required.						
Other Sign Types			Curve; Deer Crossing; Steep Shoulder; Max. 100km/h						

Utilities (Located at)										
Utility Attachments										
Telephone					Gas					
Power					Municipal					
Others					Problem (Y/N)	No				
Remarks	Conduit attached to S overhang underside of bridge.									

Approach Road										
			Last	Now	Explanation of Condition					
Horizontal Alignment			5	5	No passing. At bottom of steep winding roads into valley. Limited sight distance in both directions.					
Vertical Alignment			5	5						
Roadway Width (m)		8.500								
Approach Bump			N	7						
Guardrail (Y/N)		Yes				NE & SW - 62.3m; NW & SE - 47.1m				
Guardrail			7	7						
Length (m)		47.100								
Current Standard (Y/N)		Yes								
Termination Type		TURNED DOWN END								
Drainage			4	4	Erosion gully @ East slope/hole-photos. Gap between curb end & approach slab at corners allowing drainage beside wingwalls-photo (typ).					
<b>Approach Road General Rating</b>			<b>4</b>	<b>5</b>						

Superstructure						
Bridge Component		Last	Now	Explanation of Condition		
(Primary Span : PO, 5 Spans, Lengths(m): 34.7-38.1-38.1-38.1-34.7, A-Ident Number: )						
<b>Special Features</b>						
Special Feature			8	External lateral strengthening. All girders, all spans (photo).		
(Type : <b>UNDERSLUNG DIAPHR</b> )						
Special Feature			X			
(Type : )						
Wearing Surface/Deck Top Detail Ratings						
	N (%)	1 (%)	2 (%)	3 (%)		
<b>Last</b>						
<b>Now</b>	0.0	0.0	0.0	0.0		
Wearing Surface				N	7	
(Material Type : <b>CONCRETE - CONVENTIONAL CHIP SEAL COAT</b> )						
(Thickness(mm) : <b>50</b> )						
Lateral Connection Problem (Y/N)		No				
Deck Top			N	N		
Deck Rideability			7	7		
Deck Joints			4	3	Plumbing below corroding SE & SW corners leaking onto concrete/girder end causing corrosion & cracking - photos. E jnt plumbing is worse; plumbing not aligned & perforated causing 1m deep erosion gully. Jnt leakage causing deck to crack/delam btwn girder (photo-A2).	
Temperature (deg. C)		22				
(Expansion Type : <b>FINGER PLATES</b> )						
(Fixed Type : )						
Gap Size (mm)		Gap Location				
40		E. abut				
30		W. abut				
Deck Drainage			4	4	(Ponding @ South gutter @ posts 17,21, 24, 25 & 26 and North gutter post 35 from W.)960628. Could not confirm - rating carried forward. Minor light scaling & span #4 @ South.	
Drains Clogged (Y/N)		No				
Curbs/Median			6	4	Local some holes in curb top (photo). Spalls at NE, SW & SE cover plates. Sealed.	
(Curb Type : <b>Standard</b> )						
Scaling (Percent Area)		1				
Bridge Rail			8	8	1% post grout pad delam exposing post anchor bolt, rusting-photo. 15% of post A/B have insufficient thread on nut-photo. Missing nut on one post A/B in each of 2 posts on N rail, posts 1 & 2 from E end-photo. Parapet crack & spalled at top rail anchors SE, NW. Dirty.	
(Type : <b>GALVANIZED STEEL LATTICE</b> )						
Bridge Rail Posts			3	3		
(Type : <b>GALVANIZED POST STEEL;GALVANIZED POST STEEL</b> )						
Bridge Rail/Posts Coating			7	6		
(Type : <b>GALVANIZED</b> )						
Sidewalk			X	X		
Girder Detail Ratings						
	N (count)	1 (count)	2 (count)	3 (count)		
<b>Last</b>					S2-4 not accessible.	
<b>Now</b>	12	0	0	0		
Girders			4	4	S5G2 minor typical cracking at shoe plates (photo). S1G1 girder end cracked/corrosion due to leaking from finger joint above-photo. Poor consolidation during construction causing honeycombing in U/S S1G1-2.	
Cracking (Y/N)		Yes				
Spalling (Percent Area)		0				
(Number Of Girders : <b>20</b> )						

Superstructure				
Bridge Component		Last	Now	Explanation of Condition
(Primary Span : PO, 5 Spans, Lengths(m): 34.7-38.1-38.1-38.1-34.7, A-Ident Number: )				
Diaphragms/Cross Frame		5	5	Minor 5% corrosion pitting @ East abutment. Corrosion staining above pier #1 @ S. Corrosion staining @ S ext above pier #1.
Bearings		5	4	Abut bearing grout pad delam - 50%, worst is S5G1 (photo). Both abut bearings expanded bending A/Bs - photo. 50% corrosion pitting on S ext bearing @ P1. 50% corrosion pitting on abut bearings - photo.
Temperature (deg. C)	22			
(Expansion Type : <b>ROCKER BEARING</b> )				
(Fixed Type : <b>PINNED BEARING</b> )				
Coating Adequate (Y/N)	No			
Functioning (Y/N)	Yes			
Deck Underside		5	5	
Stains (Percent Area)	1			
<b>Span Alignment Problems</b>				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
<b>Superstructure General Rating</b>		<b>4</b>	<b>4</b>	
Substructure				
Bridge Component		Last	Now	Explanation of Condition
<b>Abutments</b>				
Bearing Seats/Caps		7	6	
(Type : <b>CONCRETE</b> )				
Backwalls/Breastwalls		7	7	
Wingwalls		5	5	
Piles		N	N	
Paint/Coating		4	4	Sealed previously. Moderate scaling from leaking jnts.
Abutment Stability		6	6	
Scour/Erosion		4	3	1m deep erosion gully at A2. A1 similar but not as bad.
<b>Piers/Bents</b>				
(Type : <b>PIER-SOLID</b> )				
Bearing Seats/Caps		7	7	
(Type : <b>CONCRETE</b> )				
(Total Number of Bearing Piles : <b>0:0:0:0</b> )				Vert. cracking in piers, not causing problems.
Pier Shaft/Piles		6	6	
Bracing/Struts/Sheathing		X	X	
Nose Plate		7	7	
Paint/Coating		4	4	Superficial corrosion on 90% nose plates.
(Colour Description : )				
(Colour Code : )				
Pier Stability		7	7	
Scour		N	N	Under water.
Debris (Y/N)	No			
<b>Substructure General Rating</b>		<b>4</b>	<b>6</b>	

Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel</b>				
(U/S Direction : <b>N</b> )				
(D/S Direction : <b>S</b> )				
Alignment		7	7	
Bank Stability		8	8	
HWM (m below Top of Curb)				(HWM level with bottom of concrete slope protection at W abut. 19Dec2001). Not visible at this time.
Drift (Y/N)	No			
Slope Protection		6	6	Some CL2 at E toe.
(Type : <b>RIP RAP; RIP RAP</b> )				
Guidebank/Spurs		X	X	
Adequacy of Opening		9	9	
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>7</b>	<b>6</b>	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
REPAIR/REPLACE BRIDGE RAIL	2011	Install missing nuts on N rail posts 1 & 2 (2). Repair A/Bs with insufficient thread at next major rehab, patch delaminated post grout pads.					
GALVANIZE/PAINT BRIDGE RAIL							
SEAL CURBS	2011	Patch local small holes & seal.					
PATCH DECK							
SEAL DECK							
OVERLAY DECK							
REPAIR/REPLACE DECK JOINTS	2011	Patch delam/spalled joint concrete at all 4 corners of curb & girder end at next major rehab. Replace joint plumbing.					
RESET/ PAINT BEARINGS	2011	Also regrout bearing grout pads & repair bent A/Bs.					
WASHING	2011						
SHOTCRETE REPAIRS							
REPAIR ABUTMENT SCOUR/EROSION	2011	Fill hole @ both hslps. Replace troughs.					
PLACE ADDITIONAL RIP RAP							
REMOVE DRIFT ACCUMULATION							
OTHER ACTION	2011	Consider retrofit drains @ ponding locations. 4 - 2m long 100mm dia PVC & 200ml epoxy. Could not confirm-if required.					
OTHER ACTION	2011	Install hazard markers to meet standard.					
OTHER ACTION	2011	Seal gap between curb end & approach slab at all corners. Consider installing ACP curbs at approach or construct concrete troughs at all corners.					
OTHER ACTION	2011	Patch cracked/spalled parapet at rail connection.					
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>44.4/55.6</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>45.5/55.6</b>	Est. Repl. Yr	2034	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection			Department Comments				
Maintenance Reviewed By			Date			Estimated Total	0
Proposed Long-Term Strategy							
On 3-Year Program (Y/N)	Y						
Proposed Action	2009.11.03 See 2007 chip seal report. Repair deck, cracks and seal in 2010. CB						
Previous Inspector's Name	Dave Lam		Previous Assistant's Name				
Next Inspection Date	14-Oct-2014		Previous Inspection Date	17-Mar-2005			

Inspection Cycle (Default) (months)	39
Comment	