

Bridge Inspection							
Bridge File Number	71019 -1 Bridge			Form Type	SG		
Year Built/Year Supstr	1957/1957			Lot No.	1		
Bridge or Town Name	BRETON			Inspector Name	Arnold Assenheimer		
Located Over	POPLAR CREEK, 6.132, WATERCRS-ST			Inspector Class	BR CLS A		
Located On	616:02 C1 26.971			Assistant Name	Wade Nanninga		
Water Body Cl./Year				Assistant Class	BR CLS B		
Navigabil. Cl./Year				Inspection Date	14-Feb-2011		
Legal Land Location	NW SEC 34 TWP 47 RGE 4 W5M			Data Entry By	Janie Assenheimer		
Longitude, Latitude	-114:30:34, 53:06:18			Data Entry Date	25-Feb-2011		
Road Authority	Alberta Transportation (AIT)			Reviewer Name	Stew Hagan		
Contract Main. Area	CMA11			Review Date	22-Feb-2011		
Clear Roadway/Skew	7.9 /			Dept. Reviewer Name	Brent Herrick		
AADT/Year	860 / 2009 (A)			Dept. Review Date	02-Mar-2011		
Road Classification	RCU-209-110			Follow-Up By			
Detour Length (km)	20						
Allowable Load (t):	Single	H 64 GIRDER	Semi	HS 78 GIRDER	Train	CS3 108 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	Not required.							
Hazard Marker At Bridge (Y/N)	Yes							
Remarks	Hazard markers at varying heights. Do not meet standard. Anywhere from 300mm low to 400mm high. NE leaning.							
Other Sign Types	Curve delinators, 80 kph, Information.							

Utilities (Located at)			
Utility Attachments			
Telephone	South r/w.	Gas	
Power	2 lines North r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks	Telus O/H across creek.		

Approach Road				
		Last	Now	Explanation of Condition
Horizontal Alignment		3	3	On curve. Reduced speed to 80km/hr.
Vertical Alignment		5	5	Limited sight distance. Sag curve. (History has had WB cars go into river. 01/Sept/2004)
Roadway Width (m)	9.000			Both approach slabs have settled causing minor bumps.
Approach Bump		4	4	
Guardrail (Y/N)	Yes			Damage to several sections but still functional. Not thrie beam.
Guardrail		4	4	
Length (m)	68.500			
Current Standard (Y/N)	No			
Termination Type	Turned Down			
Drainage		4	N	(Gravel windrows impede drainage. 13-may-2009)
Approach Road General Rating		3	3	

Superstructure						
Bridge Component		Last	Now	Explanation of Condition		
(Primary Span : RB, 3 Spans, Lengths(m): 15.2-18.3-21.3, A-Ident Number: A0244-03;A0245-02;A0247-02)						
Special Features						
Special Feature			6	Retrofit Galvanized Steel Posts. Bridgerail post added where concrete posts have failed.		
(Type :)						
Special Feature			X			
(Type :)						
Wearing Surface/Deck Top Detail Ratings						
	N (%)	1 (%)	2 (%)	3 (%)		
Last						
Now	0.0	0.0	0.0	0.0		
Wearing Surface			4	4	5% loss of chip coat. Some medium map cracks visible on exposed deck top. Small gouges in chipseal/deck.	
(Material Type : 2 LAYER MMA (TOP LAYER SEEDED) - CONVENTIONAL CHIP SEAL COAT)						
(Thickness(mm) :)						
Deck Top			N	N		
Deck Rideability			6	6		
Deck Joints			3	3	Joints leak. Deck end beams deteriorating, poor joint anchorage. E pier paving lip damaged exposing rebar - buffer angle damaged & coming loose.	
Temperature (deg. C)		0				
(Expansion Type : SLIDING PLATES)						
(Fixed Type : BUFFER ANGLES)						
Gap Size (mm)		Gap Location				
5		West abutment - A1				
11		West pier				
5		East pier				
5		East abutment - A2				
Deck Drainage			3	3	Runs off side of bridge and wets soffit and underside of deck scaling. Drainage through joints adds damage.	
Drains Clogged (Y/N)		No				
Curbs/Median			X	X	No curbs.	
(Curb Type : Standard)						
Scaling (Percent Area)						
Bridge Rail			4	4	Double layer. Minor scrapes. Spliced improperly. Missing 5 splice bolts.	
(Type : GALVANIZED STEEL FLEX BEAM)						
Bridge Rail Posts			3	2	Posts severly scaled/cracked. With total of 17 defective both North and South sides. More retrofit posts are required as more concrete posts have cracked/spalled.	
(Type : GALVANIZED POST STEEL;GALVANIZED POST STEEL)						
Bridge Rail/Posts Coating			6	6	Dirty.	
(Type : GALVANIZED)						
Sidewalk			X	X		
Girder/Beam						
Cover Plate			5	5	Span 3 girder 4 has notches. All spans have slight sag.	
Flange			5	5		
Web			6	6		
Stiffeners			7	7		
Splice			7	7		
Weld			3	3	Butt weld S1G1 cover plate.	

Superstructure				
Bridge Component		Last	Now	Explanation of Condition
(Primary Span : RB, 3 Spans, Lengths(m): 15.2-18.3-21.3, A-Ident Number: A0244-03;A0245-02;A0247-02)				
Diaphragms/Cross Frame		3	3	(2 cracked welds and 1 loose bolt on span 3, diaphragm 2, between G2 & G3. 2 cracked welds span 1 diaphragm. 1 between G1 & G2, 1 diaphragm weld cracked between G2 & G3 at diaphragm 2. 13-May-2009)
Paint Condition		3	3	5% rust predominantly under joints. Rust blisters up to 2mm section loss. Green.
(Colour Description :)				
(Colour Code :)				
Touchup Required (Y/N)	Yes			
Bearings		3	3	Abutment bearings corroded and pitted, scaling rust. All bearings appear frozen. Dirt/ice covering pier bearings.
Temperature (deg. C)	0			
(Expansion Type : SLIDING PLATE)				
(Fixed Type : PINNED BEARING)				
Coating Adequate (Y/N)	No			
Functioning (Y/N)	No			
Deck Underside		3	3	Both edges have scaling and spalling with some rebar exposed. Honeycomb along South.
Stains (Percent Area)	5			
Span Alignment Problems				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
Superstructure General Rating		3	2	
Substructure				
Bridge Component		Last	Now	Explanation of Condition
Abutments				
Bearing Seats/Caps		4	4	Wide crack running underneath bearing 1, both abutments.
(Type : CONCRETE)				
Backwalls/Breastwalls		5	5	
Wingwalls		4	4	Wide crack @ SE allows water into wingwall.
Piles		N	N	
Paint/Coating		X	X	
Abutment Stability		6	6	
Scour/Erosion		4	4	Voids exposed @ both abutment breastwalls. Large gulley down SE headslope.
Piers/Bents				
(Type : PIER-SOLID)				P1 at SE and P2 at NW losing concrete under bearing. Significant delaminations with some spalling both piers. Vertical wide cracks West side of both piers.
Bearing Seats/Caps		3	3	
(Type : CONCRETE)				SE corner of pier 2 is severely scaled exposing rebar. North end of P1 has 2 areas delaminated. South end of P2 heavily scaled at top. Pier vertically cracked with large areas of spalling and delamination.
(Total Number of Bearing Piles : 0:0)				
Pier Shaft/Piles		3	3	
Bracing/Struts/Sheathing		X	X	
Nose Plate		4	4	P2 nose plate has spall on West side with rebar exposed.
Paint/Coating		4	X	
(Colour Description :)				
(Colour Code :)				
Pier Stability		6	5	

Substructure				
Bridge Component		Last	Now	Explanation of Condition
Scour		6	N	
Debris (Y/N)	Yes			Drift caught on P2 nose.
Substructure General Rating		3	3	
Structure Usage				
		Last	Now	Explanation of Condition
Channel				
(U/S Direction : S)				Bends U/S and D/S.
(D/S Direction : N)				
Alignment		5	5	
Bank Stability		5	5	Minor scour on east headslope at upstream bank due to a few logs caught on pier. Vertical banks to North.
HWM (m below Top of Curb)				HWM not visible. Beaver dam 20m D/S.
Drift (Y/N)	Yes			
Slope Protection		4	4	Ditched erosion on headslope upto 1m deep.
(Type : GEOTEXTILE; GEOTEXTILE)				
Guidebank/Spurs		X	X	
Adequacy of Opening		8	8	
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		4	4	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
REPAIR/REPLACE BRIDGE RAIL	2011	Immediate action required to install additional retrofit posts - SW corner.					
GALVANIZE/PAINT BRIDGE RAIL							
RETROFIT BRIDGE RAIL							
SEAL CURBS							
PATCH DECK	2011	Deck, soffits require replacement.					
SEAL DECK							
OVERLAY DECK							
REPAIR/REPLACE DECK JOINTS	2011	Replace deck joints.					
RESET/ PAINT BEARINGS	2011	Replace with neoprene pads.					
REPAINT SUPERSTRUCTURE	2011						
STRAIGHTEN/REPLACE MEMBERS	2011	Repair 5 cracked stitch welds on diaphragms.					
WASHING							
SHOTCRETE REPAIRS	2011	Jacket piers & pier caps or rehab piers. Patch nose of pier #2 (interim repair).					
REPAIR ABUTMENT SCOUR/EROSION							
PLACE ADDITIONAL RIP RAP	2011	10m3 of Class I riprap - N headslope.					
REMOVE DRIFT ACCUMULATION	2011	From pier #2.					
OTHER ACTION	2011	Redo entire water management systems at both bridge ends and repair all damage.					
OTHER ACTION	2011	Rehab/seal abutments.					
OTHER ACTION	2011	Replace approach slabs.					
OTHER ACTION	2011	Remove gravel from below guardrails if not done.					
OTHER ACTION	2011	Upgrade approach guardrail to meet standard.					
OTHER ACTION	2011	Reinstall hazard markers to meet standard.					
OTHER ACTION	2011	Inspect at 18 month cycle until rehabed.					
OTHER ACTION	2011	Reset HM					
OTHER ACTION							
OTHER ACTION							
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OTHER ACTION							
Structural Condition Rating (Last/Now) (%)	33.3/27.8	Sufficiency Rating (Last/Now) (%)	45.3/42.9	Est. Repl. Yr	2014	Maint. Req. (Y/N)	Yes

Special Comments for Next Inspection	This bridge is at the end of its life with numerous expensive repairs required. It is on a poor alignment and narrow clear roadway to justify major expenditures. Recommend replacement. If kept in service for a few years, these following repairs are essential: BR posts @ SW, tack-weld buffer angle over P2. Low rating advisory sent FEb. 17, 2011.		Department Comments		
Maintenance Reviewed By		Date		Estimated Total	0
Proposed Long-Term Strategy					
On 3-Year Program (Y/N)					
Proposed Action					
Previous Inspector's Name	Randy Bredo	Previous Assistant's Name	Bryce Clayton		
Next Inspection Date	14-May-2014	Previous Inspection Date	13-May-2009		
Inspection Cycle (Default) (months)	39				
Comment					