

Bridge Inspection							
Bridge File Number	74455 -1 Bridge			Form Type	SG		
Year Built/Year Supstr	1956/1956			Lot No.	1		
Bridge or Town Name	CASTOR			Inspector Name	Owen Salava		
Located Over	CASTOR CREEK, 5.20, WATERCRS-ST			Inspector Class	BR CLS A		
Located On	12:14 C1 60.913			Assistant Name			
Water Body Cl./Year				Assistant Class			
Navigabil. Cl./Year				Inspection Date	31-Aug-2012		
Legal Land Location	NE SEC 26 TWP 37 RGE 14 W4M			Data Entry By	Marcia Chavez		
Longitude, Latitude	-111:53:32, 52:12:35			Data Entry Date	18-Sep-2012		
Road Authority	Alberta Transportation (AIT)			Reviewer Name	John O'Brien		
Contract Main. Area	CMA21			Review Date	06-Sep-2012		
Clear Roadway/Skew	13.3 /			Dept. Reviewer Name	Andrew Smikles		
AADT/Year	1,740 / 2011 (A)			Dept. Review Date	22-Oct-2012		
Road Classification	RAU-213.4-120			Follow-Up By			
Detour Length (km)	3						
Allowable Load (t):	Single	CS1 73 GIRDER	Semi	CS2 96 GIRDER	Train	CS3 115 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)	No							
Remarks	Not required.							
Other Sign Types								

Utilities (Located at)			
Utility Attachments	TELEPHONE UTILITIES-PHONE LINE		
Telephone	South side underside & N & S r/w.		Gas
Power	5 wires 15m North and 2 wires East end.		Municipal
Others	Fibre optic in N r/w. Conduit between G1/G2 length of bridge. West - hangers detached (2).		Problem (Y/N) Yes
Remarks	Broken hanger brackets along Telus conduit.		

Approach Road				
		Last	Now	Explanation of Condition
Horizontal Alignment		6	6	Approach entrance immediately SE of structure.
Vertical Alignment		7	7	
Roadway Width (m)	13.200			Low area at NW approach along the transition curb.
Approach Bump		5	5	
Guardrail (Y/N)	Yes			East end guardrail turns into approach entrance - 7.6m NE & SE (type VI) 30m @ NW, 38m @ SW. W end guardrail are not attached to bridgerail, insufficient length. NW terminal end not lapped correctly.
Guardrail		3	4	
Length (m)	34.300			
Current Standard (Y/N)	No			
Termination Type	Turn Down			
Drainage		4	4	{Low spot @ NW corner could cause ponding onto traffic lanes. May 7, 2009 CP inspection} (Ponding along S curb. 28Aug2010).
<b>Approach Road General Rating</b>		<b>6</b>	<b>6</b>	

Superstructure						
Bridge Component		Last	Now	Explanation of Condition		
(Primary Span : <b>RB, 3 Spans, Lengths(m): 15.2-18.3-24.4, A-Ident Number: A0244-04;A0245-01;A0242-02</b> )						
<b>Special Features</b>						
Special Feature			X			
(Type : )						
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				5	5	Random cracking throughout.
(Material Type : <b>CONCRETE</b> )						
(Thickness(mm) : <b>50</b> )						
Deck Top				N	N	
Deck Rideability				6	6	
Deck Joints				3	4	E abut joint missing 0.7m section of extension in WBL. Staining @ abut indicates joints are leaking. Missing S curb 3 cover plate bolts @ P2.
Temperature (deg. C)		27				
(Expansion Type : <b>SLIDING PLATES;GLAND (WABO-MAUER, TRANSFLEX, ETC))</b>						
(Fixed Type : <b>BUFFER ANGLES</b> )						
Gap Size (mm)		Gap Location				
3		Abut #1				
75		Pier #1				
67		Pier #2				
24		Abut #2				
Deck Drainage				5	5	(Deck joints leak water onto abuts - photo. 02/06/25) - Old stains visible. Superficial corrosion on 100% of drains. (Bird baths along S curb don't discharge to deck drain and gland torn above pier 2. 28Aug2010).
Drains Clogged (Y/N)		No				
Curbs/Median				3	3	Anchorage on S curb deteriorating at rail posts. Patched N curb failed, heavy scaling - photo. Gap below curb to ACP at NE corner.
(Curb Type : <b>Standard</b> )						
Scaling (Percent Area)		30				
Bridge Rail				4	6	Double layer; scrape to 1st S2 post a S curb, 4 posts on S1.  Several anchor bolts with insufficient thread and/or no washers.
(Type : <b>GALVANIZED STEEL FLEX BEAM</b> )						
Bridge Rail Posts				3	4	
(Type : <b>GALVANIZED POST STEEL;GALVANIZED POST STEEL</b> )						
Bridge Rail/Posts Coating				6	6	
(Type : <b>GALVANIZED</b> )						
Sidewalk				X	X	
<b>Girder/Beam</b>						
Cover Plate				3	N	{4 coverplate welds at ends are cracked. 7 coverplate stitch welds are cracked. May 7, 2009 CP inspection}
Flange				7	7	
Web				7	7	
Stiffeners				X	X	
Splice				7	7	
Weld				3	N	{There are numerous cracked welds. May 7, 2009 CP inspection}

Superstructure				
Bridge Component		Last	Now	Explanation of Condition
(Primary Span : <b>RB, 3 Spans, Lengths(m): 15.2-18.3-24.4, A-Ident Number: A0244-04;A0245-01;A0242-02</b> )				
Diaphragms/Cross Frame		3	3	{There are 23 cracked welds on diaphragms, 1 broken bolt and 1 broken plate. All are marked on HC girders. May 7, 2009 CP inspection}
Paint Condition		6	6	Brown.
(Colour Description : )				
(Colour Code : )				
Touchup Required (Y/N)	No			
Bearings		4	4	{East abutment bearings not accessible. Bearings are heavily corroded. Pier 2 North bearing bolt is cracked. Bearings displaced from design. OK as is. May 7, 2009 CP inspection} W abut bearings are heavily corroded.
Temperature (deg. C)	27			
(Expansion Type : <b>ROCKER BEARING</b> )				
(Fixed Type : <b>ROCKER BEARING</b> )				
Coating Adequate (Y/N)	No			
Functioning (Y/N)	Yes			
Deck Underside		4	4	Efflorescence through random cracking. Some delaminations @ South side near East pier. Worst @ South side near West pier.
Stains (Percent Area)	10			
<b>Span Alignment Problems</b>				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
<b>Superstructure General Rating</b>		<b>3</b>	<b>3</b>	Cracked cover plate welds. GR was 3 from 07May2009.
Substructure				
Bridge Component		Last	Now	Explanation of Condition
<b>Abutments</b>				
Bearing Seats/Caps		5	5	Minor scaling at bearing seat.
(Type : <b>CONCRETE</b> )				
Backwalls/Breastwalls		5	5	
Wingwalls		6	6	Wide crack at SW near backwall.
Piles		N	N	
Paint/Coating		4	4	Parging is failing on W abut; E abut not accessible.
Abutment Stability		6	6	
Scour/Erosion		5	5	Minor run-off gullies at A1.
<b>Piers/Bents</b>				
(Type : <b>PIER-COLUMN</b> )				Vertical cracks on all concrete columns with delam (photo). Check caps for shear capacity. (Heavy scaling below waterline of E pier. 07May2009 CP Inspection). Cracked base of East pier cap (photo).
Bearing Seats/Caps		5	5	
(Type : <b>CONCRETE</b> )				
(Total Number of Bearing Piles : <b>4:4</b> )				
Pier Shaft/Piles		4	4	
Bracing/Struts/Sheathing		X	X	
Nose Plate		X	X	
Paint/Coating		X	X	Peeling. Tinted sealer.
(Colour Description : )				
(Colour Code : )				
Pier Stability		7	7	

Substructure				
Bridge Component		Last	Now	Explanation of Condition
Scour		6	6	
Debris (Y/N)	No			
<b>Substructure General Rating</b>		<b>4</b>	<b>4</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel</b>				
(U/S Direction : <b>S</b> )				Sharp bend immediately U/S.
(D/S Direction : <b>N</b> )				
Alignment		5	5	
Bank Stability		6	6	
HWM (m below Top of Curb)				HWM not visible. Beaver dam/rock dam 20m North of bridge.
Drift (Y/N)	Yes			
Slope Protection		7	7	Natural at West. Rock wall at East - natural.
(Type : <b>NATURAL; NATURAL</b> )				
Guidebank/Spurs		X	X	
Adequacy of Opening		6	6	
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>5</b>	<b>5</b>	



Maintenance Reviewed By		Date	Estimated Total	0
Proposed Long-Term Strategy	2005.03.10 Bridge will most likely require rehab in 2020 when it is 64 years old. Should be good until 2040.			
On 3-Year Program (Y/N)				
Proposed Action				
Previous Inspector's Name	Randy Bredo	Previous Assistant's Name	Bryce Clayton	
Next Inspection Date	31-May-2014	Previous Inspection Date	28-Aug-2010	
Inspection Cycle (Default) (months)	21			
Comment				

**Maintenance Recommendations**

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
REPAIR/REPLACE BRIDGE RAIL						
GALVANIZE/PAINT BRIDGE RAIL						
RETROFIT BRIDGE RAIL						
SEAL CURBS	2012	Repair or replace curbs.	Defer, Replacement programmed	2022		
PATCH DECK						
SEAL DECK	2012					
OVERLAY DECK						
REPAIR/REPLACE DECK JOINTS						
RESET/ PAINT BEARINGS						
REPAINT SUPERSTRUCTURE						
STRAIGHTEN/REPLACE MEMBERS						
WASHING						
SHOTCRETE REPAIRS						
REPAIR ABUTMENT SCOUR/EROSION						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION						
OTHER ACTION	2012	Install missing bolt on S curb cover plate at P2.	Next time on site			
OTHER ACTION	2012	Notify utility company of broken conduit hangers.	Defer			
OTHER ACTION	2012	Seal substructure concrete.	Completed 2011			
OTHER ACTION	2012	Consider for rehab - curbs, piers, misc.	Defer, Replacement programmed	2022		
OTHER ACTION						
OTHER ACTION						
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Maintenance Recommendations							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>38.9/38.9</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>64.3/65.2</b>	Est. Repl. Yr	2020	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	(Very poor diaphragm & cover plate welds; reduce coverplate inspection to every 5yrs. 07May2009 CP Inspection).			Department Comments	Currently programmed for replacement in 2022.		
Maintenance Reviewed By	Andrew Smikles			Date	19-Nov-2012	Estimated Total	0
Proposed Long-Term Strategy	2005.03.10 Bridge will most likely require rehab in 2020 when it is 64 years old. Should be good until 2040.						
On 3-Year Program (Y/N)							
Proposed Action							
Previous Inspector's Name	Randy Bredo			Previous Assistant's Name	Bryce Clayton		
Next Inspection Date	31-May-2014			Previous Inspection Date	28-Aug-2010		
Inspection Cycle (Default) (months)	21						
Comment							