

Bridge Culvert Inspection			
Bridge File Number	09454 -1 Bridge Culvert	Form Type	CULM
Year Built	1958	Lot No.	1
Bridge or Town Name	JARVIE	Inspector Name	Todd Warshawski
Located Over	TRIBUTARY TO PEMBINA RIVER, 8.11.84.10, WATERCRS-ST	Inspector Class	BR CLS B
Located On	44:02 C1 35.481	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	16-Apr-2013
Legal Land Location	SW SEC 13 TWP 63 RGE 27 W4M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-113:57:46, 54:26:42	Data Entry Date	24-Apr-2013
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA10	Review Date	21-Apr-2013
Clear Roadway/Skew	11 / -30 deg. (LHF)	Dept. Reviewer Name	Brent Herrick
AADT/Year	2,250 / 2012 (A)	Dept. Review Date	01-May-2013
Road Classification	RAU-211.8-110	Follow-Up By	
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2314	2552	SPE	57.9	152X51	2.8	ELLIPSE
2	MAIN	1429	1575	SPE	76	152X51	2.8	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	West r/w.	Gas	
Power	4 wires East r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks	BF tag on N pipe inlet		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	In sag curve, limited sight distance in both directions. No passing NBL.
Vertical Alignment		6	6	ACP patched over culvert.
Roadway Width (m)	11.100			ACP patched over culvert is raveling.
Embankment		8	8	
Sideslope (__:1)	3.0			
(Height of Cover(m) : 5)				
Guardrail (Y/N)	Yes			Missing bolts and corrosion on West rail. SE terminal end not buried.
Approach Road / Embankment General Rating		6	6	Improper lap on last 2 sections on NE.

Upstream End

Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		E		North pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		5	5	
Heaving (mm)	100			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	1000			
Scour Protection		6	6	Well vegetated.
(Type : NONE)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		6	6	
Beavers (Y/N)	Yes			Beaver dam @ inlet, 1/2 dia height.
Upstream End General Rating		5	5	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2314, Rise (mm): 2552, Type: SPE)				
Barrel Last Accessible Date	16-Apr-2013			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	5	Some dents in roof near outlet & inlet from construction. Patch in R2 Sag not measured due to ice. Sag est at less than 7%.
Measured Rise (mm)	2420			
Measured At Ring No.	13			
Sag (mm)				
Percent Sag				
Sidewall		N	3	See logn sea notes.
Measured Span (mm)	2465			
Measured At Ring No.	11			
Deflection (mm)	151			
Percent Deflection	7			
Floor		N	N	Missing bolts (x 4) at U/S end rings 1, 2 & 3. Superficial rust.-10-Sep-2010
Bulge (mm)	0			
Measured At Ring No.				Ice covered
Abrasion (Y/N)	No			
Circumferential Seams		N	6	Missing circumferential seam bolts.-10-Sep-2010 Lower 1/3 not viewed
Separation (mm)	0			
Longitudinal Seams		N	3	R10 with 83mm remaining steel, 11 crcked bolt holes. R14 with 115m remaining steel, 7 cracked bolt holes.
Total No. of Cracked Rings	2			
Total No. of Rings with Two Cracked Seams	0			1N
Min. Remaining Steel Between Cracks (mm)	83			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2314, Rise (mm): 2552, Type: SPE)					
Coating		N	5	Stains at upper bolts/seams	
Corrosion By Soil (Y/N)	Yes				
Corrosion By Water (Y/N)	Yes				
Camber POS/ZERO/NEG	NEG				
Ponding (Y/N)	No				
Fish Passage Adequacy		4	4	Perched 1900mm above stream bed.	
Baffle		X	X		
(Type :)					
Waterway Adequacy		5	5		
Icing (Y/N)	No				
Silting (Y/N)	No				
Drift (Y/N)	No				
Barrel General Rating		3	3		
Downstream End					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 1, Span Type: Primary Span)					
Direction		W		North pipe	
End Treatment (Concrete, Steel, Others, None)	STEEL				
Headwall		X	X		
Collar		X	X		
Wingwalls		X	X		
(Shape :)					
Cutoff Wall		X	X		
Bevel End		4	4	Bevel unsupported for 1m. Bevel perched above streambed 1.9m.	
Heaving (mm)	0				
Invert Above/Below Stream Bed	ABOVE				
Above/Below (mm)	1900				
Scour Protection		5	5		
(Type : RIP RAP)					
(Avg. Rock Size(mm) : 500)					
Scour/Erosion		5	5	Scour hole armored with riprap.	
Beavers (Y/N)	Yes				
Downstream End General Rating		4	4		
Upstream End					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Span Type: Secondary Span)					
Direction		E		South pipe. 1500 dia pipe on different skew than 2400 dia pipe.	
End Treatment (Concrete, Steel, Others, None)	NONE				
Headwall		X	X		
Collar		X	X		

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		N	N	Inlet totally buried under silt & mud. Submerged.
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		N	N	Submerged
(Type : NONE)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	N	
Beavers (Y/N)	Yes			Beaverdam blocking inlet.
Upstream End General Rating		N	N	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 1429, Rise (mm): 1575, Type: SPE)				
Barrel Last Accessible Date	16-Apr-2013			U/S end blocked and submerged.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	3	8th ring from d/s.-08-Mar-2006
Measured Rise (mm)	1360			Rise not measured due to ice.
Measured At Ring No.				Sag est at less than 15%
Sag (mm)	140			
Percent Sag	10			
Sidewall		N	2	Corrugations buckled at 9 & 3 o'clock.-in Rings 7-13 from d/s.
Measured Span (mm)	1675			Plates sheared at 9th ring from d/s end.
Measured At Ring No.	10			
Deflection (mm)	246			
Percent Deflection	17			
Floor		N	5	U/S 1/2 of pipe viewed/rated.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	5	
Separation (mm)				
Longitudinal Seams		N	5	Lower seam not viewed/rated for 70% of pipe.
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				1N
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 1429, Rise (mm): 1575, Type: SPE)					
Coating		N	4	Pitting rust lower 1/2.	
Corrosion By Soil (Y/N)	Yes				
Corrosion By Water (Y/N)	Yes				
Camber POS/ZERO/NEG	NEG				
Ponding (Y/N)	No				
Fish Passage Adequacy		N	4	Blocked pipe	
Baffle		N	X		
(Type :)					
Waterway Adequacy		N	4	Blocked pipe	
Icing (Y/N)	No				
Silting (Y/N)	No				
Drift (Y/N)	Yes				
Barrel General Rating		2	2		
Downstream End					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Span Type: Secondary Span)					
Direction		W		South pipe.	
End Treatment (Concrete, Steel, Others, None)	STEEL				
Headwall		X	X		
Collar		X	X		
Wingwalls		X	X		
(Shape :)					
Cutoff Wall		X	X		
Bevel End		4	4	Unsupported for 1m.	
Heaving (mm)	0				
Invert Above/Below Stream Bed	ABOVE				
Above/Below (mm)	300				
Scour Protection		5	5		
(Type : RIP RAP)					
(Avg. Rock Size(mm) : 500)					
Scour/Erosion		5	5		
Beavers (Y/N)	Yes				
Downstream End General Rating		4	4		
Structure Usage					
		Last	Now	Explanation of Condition	
Channel (U/S and D/S)					
Alignment		5	5	Sharp bend to enter U/S.	
Bank Stability		5	5		
HWM (m below Top of Culvert)	0.1			Stains on pipe. Fallen trees in stream.	
Drift (Y/N)	Yes				

Structure Usage				
		Last	Now	Explanation of Condition
Channel Bottom Degrading/Aggrading	DEGRADING			Beaver activity in stream U/S and D/S.
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		5	5	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
SHOTCRETE REPAIRS							
PLACE ADDITIONAL RIP RAP							
REMOVE DRIFT ACCUMULATION	2013	Remove blockage at both inlets.					
INSTALL CONCRETE/STEEL LINING							
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION	2013	Bridge assessment. (if not done)					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
Structural Condition Rating (Last/Now) (%)	22.2/22.2	Sufficiency Rating (Last/Now) (%)	31.6/28.4	Est. Repl. Yr	2015	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Low rating advisory sent to AT-15-Sep-2009 and 15-Jul-2011 LRA reissued on April 18, 2013 to Jeff Zhang.		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	Eric Carcoux		Previous Assistant's Name				
Next Inspection Date	16-Jan-2015		Previous Inspection Date	13-Jul-2011			
Inspection Cycle (Default) (months)	21						
Comment							