

Bridge Culvert Inspection			
Bridge File Number	77925 -1 Bridge Culvert	Form Type	CULE
Year Built	1978	Lot No.	2
Bridge or Town Name	RAINBOW LAKE	Inspector Name	Brian Pientsch
Located Over	TRIBUTARY TO HAY RIVER, 9.27, WATERCRS-ST	Inspector Class	BR CLS A
Located On	58:04 C1 6.811	Assistant Name	Clem Guenette
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	11-Jan-2012
Legal Land Location	NE SEC 25 TWP 109 RGE 9 W6M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-119:20:23, 58:29:52	Data Entry Date	29-Feb-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA01	Review Date	26-Feb-2012
Clear Roadway/Skew	15 / -7 deg. (LHF)	Dept. Reviewer Name	David Morrison
AADT/Year	740 / 2011 (A)	Dept. Review Date	30-Mar-2012
Road Classification	RAU-211.8-110	Follow-Up By	
Detour Length (km)	999		

**Bridge Culvert Information**

Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	U/S	-	2400	MP	8	125X26	2.8	ROUND
1	MAIN	-	2100	MP	32.3	68X13	4.2	ROUND
1	D/S	-	2700	MP	13	125X26	2.8	ROUND
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone	South r/w. Fibreoptic North r/w.	Gas	
Power	North 3 wire	Municipal	
Others		Problem (Y/N)	No
Remarks			

**Approach Road / Embankment**

	Last	Now	Explanation of Condition
Horizontal Alignment	7	7	Land access both sides 110m West.
Vertical Alignment	9	9	
Roadway Width (m)	15.000		
Embankment	8	8	
Sideslope (__:1)	4.0		
(Height of Cover(m) : 2)			
Guardrail (Y/N)	No		
<b>Approach Road / Embankment General Rating</b>	<b>7</b>	<b>7</b>	

**Upstream End**

Culvert Component	Last	Now	Explanation of Condition
Direction	N		
End Treatment (Concrete, Steel, Others, None)	STEEL		
Headwall	X	X	
Collar	X	X	
Wingwalls	X	X	
(Shape : )			

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Cutoff Wall		X	X	
Bevel End		8	8	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	500			
Scour Protection		8	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		8	8	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>8</b>	<b>8</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 2400, Type: MP)				
Barrel Last Accessible Date	11-Jan-2012			
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		8	8	at cl - measured 27-May-2010
Measured Rise (mm)	2386			Ice on floor
Measured At Ring No.				
Sag (mm)	14			
Percent Sag	1			
Sidewall		8	8	at cl
Measured Span (mm)	2396			
Measured At Ring No.				
Deflection (mm)	4			
Percent Deflection	0			
Floor		N	N	Covered with silt and water/ice
Bulge (mm)				1.14m crown to ice.
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		9	8	Rated grouted connection to centre section.
Separation (mm)				
Longitudinal Seams		X	X	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				
Coating		8	8	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 2400, Type: MP)				
Ponding (Y/N)	Yes			1m ponding
Fish Passage Adequacy		8	8	
Baffle		X	X	
(Type : )				
Waterway Adequacy		8	8	
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
<b>Barrel Extension General Rating</b>		<b>8</b>	<b>8</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2100, Type: MP)				
Barrel Last Accessible Date	11-Jan-2012			No access, 0.9m crown to ice u/s.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		4	4	at C/L, measured 27-May-2010
Measured Rise (mm)	2223			Crease along top of pipe from installation.
Measured At Ring No.				
Sag (mm)	123			
Percent Sag	6			
Sidewall		6	6	at C/L-measured 27-May-2010
Measured Span (mm)	2042			
Measured At Ring No.				
Deflection (mm)	58			
Percent Deflection	3			
Floor		N	N	Under water and silt. Beaver dam 4m from d/s end.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	N	(d/s seam 2005/05/10)
Separation (mm)				Not visible due to water/ice level.
Longitudinal Seams		X	X	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				
Coating		4	4	Pitting rust below waterline.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2100, Type: MP)				
Ponding (Y/N)	Yes			1m ponding
Fish Passage Adequacy		6	6	
Baffle		X	X	
(Type : )				
Waterway Adequacy		5	5	
Icing (Y/N)	No			Beaverdam 4m d/s.
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
<b>Barrel General Rating</b>		<b>4</b>	<b>4</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: D/S, Span (mm): , Rise (mm): 2700, Type: MP)				
Barrel Last Accessible Date	11-Jan-2012			
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		8	8	No measurements taken due to ice on floor.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		8	8	@ CL Inward
Measured Span (mm)	2666			
Measured At Ring No.				
Deflection (mm)	34			
Percent Deflection	1			
Floor		N	N	0.6m ice on floor
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	X	No collars
Separation (mm)				
Longitudinal Seams		N	X	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				
Coating		N	8	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: D/S, Span (mm): , Rise (mm): 2700, Type: MP)				
Ponding (Y/N)	Yes			0.6m ponding
Fish Passage Adequacy		8	7	
Baffle		X	X	
(Type : )				
Waterway Adequacy		8	8	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel Extension General Rating</b>		<b>N</b>	<b>8</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		S		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		8	8	
Heaving (mm)	150			
Invert Above/Below Stream Bed	ABOVE			End of bevel under water/ice
Above/Below (mm)	300			
Scour Protection		8	N	Snow covered
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		8	N	Snow covered
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>8</b>	<b>8</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		7	7	Incised channel
Bank Stability		7	7	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				

<b>Structure Usage</b>				
		<b>Last</b>	<b>Now</b>	<b>Explanation of Condition</b>
<b>Channel General Rating</b>		<b>7</b>	<b>7</b>	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
SHOTCRETE REPAIRS							
PLACE ADDITIONAL RIP RAP							
REMOVE DRIFT ACCUMULATION							
INSTALL CONCRETE/STEEL LINING							
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION	2012	Remove beaverdam from main barrel.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>44.4/44.4</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>53.6/54.1</b>	Est. Repl. Yr	2018	Maint. Req'd. (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)							
Proposed Action							
Previous Inspector's Name	Brian Pientsch		Previous Assistant's Name	Lisbeth Medina			
Next Inspection Date	11-Oct-2013		Previous Inspection Date	27-May-2010			
Inspection Cycle (Default) (months)	21						
Comment							