

Bridge Culvert Inspection			
Bridge File Number	77489 -1 Bridge Culvert	Form Type	CUL1
Year Built	1977	Lot No.	1
Bridge or Town Name	KANANASKIS	Inspector Name	Garry Roberts
Located Over	RIPPLE ROCK CK, 2.13.56.16, WATERCRS-ST	Inspector Class	BR CLS A
Located On	40:12 C1 4.232	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	01-Apr-2013
Legal Land Location	SW SEC 1 TWP 21 RGE 9 W5M	Data Entry By	Lauren Korte
Longitude, Latitude	-115:07:57, 50:45:03	Data Entry Date	11-Apr-2013
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Tom Carey
Contract Main. Area	CMA28	Review Date	10-Apr-2013
Clear Roadway/Skew	11.5 / 10 deg. (RHF)	Dept. Reviewer Name	Tim Davies
AADT/Year	1,690 / 2012 (A)	Dept. Review Date	06-May-2013
Road Classification	RAU-209-110	Follow-Up By	
Detour Length (km)	50		

**Bridge Culvert Information**

Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	4574	SP	61.5	152X51	4.2	ROUND
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone		Gas	
Power	East ROW.	Municipal	
Others		Problem (Y/N)	No
Remarks			

**Approach Road / Embankment**

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	
Vertical Alignment		6	6	
Roadway Width (m)	11.500			
Embankment		6	6	1:1 SW corner of pipe.
Sideslope (__:1)	2.0			
(Height of Cover(m) : 4)				
Guardrail (Y/N)	Yes			Broken post SE corner. Several with minor damage from plows.
<b>Approach Road / Embankment General Rating</b>		<b>6</b>	<b>6</b>	

**Upstream End**

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

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Bevel End		5	5	Some damage to sides of bevel - minor. Large rocks laying in bevel 600mm high.
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1000			
Scour Protection		6	6	
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>500</b> )				
Scour/Erosion		6	6	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>5</b>	<b>5</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : <b>1, Primary Span, Location Code: MAIN, Span (mm):</b>				<b>Rise (mm): 4574, Type: SP</b> )
Barrel Last Accessible Date	01-Apr-2013			Inlet span 4410, outlet span 4652.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		5	3	Localized reverse curvature in R13-R14.
Measured Rise (mm)	4100			Could not confirm rise due to ice.
Measured At Ring No.	13			
Sag (mm)	324			
Percent Sag	7			
Sidewall		4	4	@ R-14. diag span 4080-inward from localized bulge.
Measured Span (mm)	4993			4083 measured at 2011 inspection- no change.
Measured At Ring No.	12			
Deflection (mm)	419			Shape is adequate except for R14 localized bulge.
Percent Deflection	9			
Floor		4	N	(Floor bulge of 150mm @ R13 & R14. Longitudinal floor seam with missing nuts).
Bulge (mm)	150			1.7m of ice on floor.
Measured At Ring No.	14			
Abrasion (Y/N)	Yes			
Circumferential Seams		4	4	Circ seam @ ring 3 with 3 cracks 80mm 85mm & 45m long.-no change at 2013 inspection. Suspect cracking @ cusping seams
Separation (mm)	20			
Longitudinal Seams		4	4	Ring 13 North sidewall - 100mm rem steel 7 bolts cracked (14 nuts missing @ R-13 floor seam).
Total No. of Cracked Rings	1			No change in crack growth this inspection.
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	100			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		4	4	Corrosion throughout floor and bevels with pitting. Soil staining at upper seams.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 4574, Type: SP)				
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type : )				
Waterway Adequacy		8	8	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>4</b>	<b>3</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		W		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls (Shape : )		X	X	
Cutoff Wall		X	X	
Bevel End		5	5	Bevel is pushing inward at top of bevel @ South - 200mm.
Heaving (mm)	200			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	300			
Scour Protection		5	5	300mm DP scour of end of bevel. Rock in scour hole.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>5</b>	<b>5</b>	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		5	5	Steep banks.
HWM (m below Top of Culvert)	1.0			No visible HWM.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			At D/S.
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
<b>Channel General Rating</b>		<b>5</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	2025	3000-3500 liner- possibly in D/S rings only.					
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION	2013	Replace SE GR Post.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>44.4/33.3</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>55.7/51.5</b>	Est. Repl. Yr	2025	Maint. Reqd. (Y/N)	Yes
Special Comments for Next Inspection	Cracks appear to have stabilized over last several inspections. Continue to monitor on regular cycle. Continue 3500 liner in future,		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	Garry Roberts		Previous Assistant's Name				
Next Inspection Date	01-Jan-2015		Previous Inspection Date	26-May-2011			
Inspection Cycle (Default) (months)	21						
Comment							