Bridge Culvert Inspection

Bridge File Number	73832 -1 Bridge Culvert	Form Type	CULM
Year Built	1978	Lot No.	4
Bridge or Town Name	CARDSTON	Inspector Name	Jon Davies
Located Over	BOUNDARY CREEK, 24, WATERCRS-ST	Inspector Class	BR CLS B
Located On	2:02 C1 2.152	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	12-Oct-2011
Legal Land Location	SE SEC 11 TWP 1 RGE 26 W4M	Data Entry By	Anne Roberts
Longitude, Latitude	-113:22:07, 49:00:58	Data Entry Date	24-Nov-2011
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Jason Rusu
Contract Main. Area	CMA25	Review Date	10-Nov-2011
Clear Roadway/Skew	12 / -9 deg. (LHF)	Dept. Reviewer Name	Tim Davies
AADT/Year	660 / 2010 (A)	Dept. Review Date	25-Nov-2011
Road Classification	RAU-213-120	Follow-Up By	
Detour Length (km)	56		

Bridge Culvert Information

Number of Culverts		2						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	5200	SP	50	152X51	3.0,4.0	ROUND
2	MAIN	-	2130	MP	25.6	75X25	2.8	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	West ditch	Gas	
Power		Municipal	
Others	Fibre optics @ E r/w	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	300 m sight distance to south. No passing SB.
Vertical Alignment		6	6	
Roadway Width (m)	12.000			
Embankment		7	7	1:1 @ 2130 pipe @ U/S and D/S pipe.. 2.7m COVER OVER CATTLEPASS CSP.
Sideslope (__:1)	4.0			
(Height of Cover(m) : **3.2**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
(Pipe # : **1, Span Type: Primary Span**)				
Direction		W		WEST INVERT - south pipe
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		5	5	50mm settlement between collar and shoulder

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	X	
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1000			
Scour Protection		6	6	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		6	6	
Beavers (Y/N)	No			
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): , Rise (mm): 5200, Type: SP**)				
Barrel Last Accessible Date	20-Jan-2010			South pipe. Not accessible due to high water level.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	X	(Est - Jan 20/10) Prev. rating 7 Viewed from ends. General shape is good.
Measured Rise (mm)	5040			
Measured At Ring No.	3			
Sag (mm)	160			
Percent Sag	3			
Sidewall		7	N	Prev. rating 7
Measured Span (mm)	5360			
Measured At Ring No.	3			
Deflection (mm)	160			
Percent Deflection	3			
Floor		N	N	(ice covered) Jan 20/10
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	N	Prev. rating 7
Separation (mm)				
Longitudinal Seams		6	N	(Lower sidewall seams under ice) Jan 20/10 Prev. rating 6
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	0			1N stagger
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): , Rise (mm): 5200, Type: SP**)				
Coating		5	N	(SURFACE RUST LOWER SIDEWALL) Jan. 20/10 Prev. rating 5
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**7**	**N**	Prev. rating 7

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Direction		E		EAST - 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		7	6	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1000			
Scour Protection		5	5	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
Downstream End General Rating		**5**	**5**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction		W		WEST - North Pipe - Cattle pass.
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		X	X	
Heaving (mm)				
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	50			
Scour Protection		7	7	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		**7**	**7**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2130, Type: MP**)				
Barrel Last Accessible Date	10-Oct-2011			North pipe
Special Features				
Special Feature				Cattle pass
(Type :)				
Special Feature				
(Type :)				
Roof		7	7	Est
Measured Rise (mm)	2076			
Measured At Ring No.	3			
Sag (mm)	54			
Percent Sag	2			
Sidewall		7	7	
Measured Span (mm)	2184			
Measured At Ring No.	3			
Deflection (mm)	54			
Percent Deflection	2			
Floor		N	N	Dirt covered
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	5	80mm vertical misalignment at R3. At South side roof 100 mm horizontal separation at R3.
Separation (mm)	100			
Longitudinal Seams		X	X	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
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): , Rise (mm): 2130, Type: MP**)				
Coating		5	5	Light corrosion at lower haunch
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		X	7	Handles minor drainage.
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**7**	**7**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction		E		EAST END. North Pipe
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)				
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	50			
Scour Protection		6	6	Ingrown and natural.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		6	6	
Beavers (Y/N)	No			
Downstream End General Rating		**6**	**6**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		6	6	MEANDERS THROUGH VALLEY
Bank Stability		5	5	
HWM (m below Top of Culvert)	2.0			No visible HWM
Drift (Y/N)	No			

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**6**	**6**	

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						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**77.8/77.8**	**Sufficiency Rating (Last/Now) (%)**	**69.3/70.1**	Est. Repl. Yr	2030	Maint. Reqd. (Y/N)	No

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	Garry Roberts	Previous Assistant's Name	
Next Inspection Date	12-Jul-2013	Previous Inspection Date	20-Jan-2010
Inspection Cycle (Default) (months)	21		
Comment			