Bridge Culvert Inspection

Bridge File Number	01903 -1 Bridge Culvert	Form Type	CUL1
Year Built	1970	Lot No.	2
Bridge or Town Name	ARROWWOOD	Inspector Name	Garry Roberts
Located Over	2ND ORDER TRIBUTARY TO BOW RIVER, 2.13.16.1, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	547:04 C1 16.721	Assistant Class	
Water Body Cl./Year		Inspection Date	03-Jan-2012
Navigabil. Cl./Year		Data Entry By	Anne Roberts
Legal Land Location	NE SEC 9 TWP 21 RGE 23 W4M	Data Entry Date	30-Jan-2012
Longitude, Latitude	-113:07:57, 50:46:17	Reviewer Name	Joel Wozney
Road Authority	Alberta Transportation (AIT)	Review Date	05-Jan-2012
Contract Main. Area	CMA30	Dept. Reviewer Name	Tim Davies
Clear Roadway/Skew	8.5 /	Dept. Review Date	06-Feb-2012
AADT/Year	940 / 2010 (A)	Follow-Up By	
Road Classification	RLU-209-110		
Detour Length (km)	55		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2320	2560	SPE	42.9	152X51	3.5	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	North r/w.	Gas	
Power	3 wires 10m west c/l.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		5	5	Hill and curve to South
Vertical Alignment		5	5	4:1 to 2:1 both sides.
Roadway Width (m)	8.500			
Embankment		7	7	
Sideslope (__:1)	2.0			
(Height of Cover(m) : **2.6**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**5**	**5**	

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		6	6	Missing 7 bolts.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		N	7	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **500**)				
Scour/Erosion		N	7	
Beavers (Y/N)	No			
Upstream End General Rating		**6**	**6**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2320, Rise (mm): 2560, Type: SPE**)				
Barrel Last Accessible Date	03-Jan-2012			
Special Features				
Special Feature				2000mm dis. 125x25 corrugation liner with couplers at inside dia.
(Type :)				
Special Feature				
(Type :)				
Roof		6	6	Uneven install of liner. Roof is void of grout at several areas. Localized construction bulges from grouting
Measured Rise (mm)	2000			
Measured At Ring No.	3			
Sag (mm)	0			
Percent Sag	3			
Sidewall		6	6	Uneven install of liner.
Measured Span (mm)	2020			
Measured At Ring No.	1			
Deflection (mm)	20			
Percent Deflection	1			
Floor		N	7	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	4	Foam rope filler is displaced at R3/R4 joint with void.
Separation (mm)	80			
Longitudinal Seams		7	7	Only 2m @ each end is visible of original barrel.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			1N stagger
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		7	6	
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: MAIN, Span (mm): 2320, Rise (mm): 2560, Type: SPE**)				
Ponding (Y/N)	No			
Fish Passage Adequacy		4	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**6**	**6**	

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		6	6	Bent @ end.
Heaving (mm)	50			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	300			
Scour Protection		N	6	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **350**)				
Scour/Erosion		N	6	Scour hole - minor. Rock at bottom
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	Sharp turns U/S and D/S.
Bank Stability		5	6	
HWM (m below Top of Culvert)	1.5			No visible HWM
Drift (Y/N)	No			
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	2012	Fill void and seam at R3/R4 with grout				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**66.7/66.7**	**Sufficiency Rating (Last/Now) (%)**	**60.2/66.4**	Est. Repl. Yr	2025	Maint. Reqd. (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	Tom Carey	Previous Assistant's Name	
Next Inspection Date	03-Apr-2015	Previous Inspection Date	05-Feb-2010
Inspection Cycle (Default) (months)	39		
Comment			