Bridge Culvert Inspection

Bridge File Number	77118 -1 Bridge Culvert	Form Type	CUL1
Year Built	1970	Lot No.	1
Bridge or Town Name	STRANGMUIR	Inspector Name	Garry Roberts
Located Over	TRIBUTARY TO BOW RIVER, 2.13.21, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	817:02 C1 7.546	Assistant Class	
Water Body Cl./Year		Inspection Date	04-Jan-2012
Navigabil. Cl./Year		Data Entry By	Anne Roberts
Legal Land Location	SE SEC 28 TWP 22 RGE 25 W4M	Data Entry Date	07-Feb-2012
Longitude, Latitude	-113:23:57, 50:53:42	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	9.1 / -20 deg. (LHF)	Dept. Review Date	09-Feb-2012
AADT/Year	1,060 / 2010 (A)	Follow-Up By	
Road Classification	RLU-209-110		
Detour Length (km)	5		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	3000	SP	35.2	152X51	3.5	ROUND
Special Features		VERT TIMBER STRUTS						
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone		Gas	Crosses 30m U/S
Power	East	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		5	5	MIDDLE OF CURVE, ADVISORY SIGN FOR 55 KPH
Vertical Alignment		7	7	
Roadway Width (m)	9.100			
Embankment		7	7	
Sideslope (__:1)	2.5			
(Height of Cover(m) : **3.3**)				
Guardrail (Y/N)	Yes			1 split/rotting posts @ W Only 300mm high @ SE
Approach Road / Embankment General Rating		**5**	**5**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction				West
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	7	
Heaving (mm)	200			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		7	7	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		**6**	**7**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3000, Type: SP**)				
Barrel Last Accessible Date	04-Jan-2012			
Special Features				
Special Feature		5	4	BARREL HAS BEEN STRUTTED 150 x 200 T.T. 2 struts leaning at U/S end Ring 1
(Type : **VERT TIMBER STRUTS**)				
Special Feature				
(Type :)				
Roof		5	5	Est.
Measured Rise (mm)	2800			
Measured At Ring No.	6			
Sag (mm)	200			
Percent Sag	6			
Sidewall		2	2	cracked rings, 2-4,6-10. Least amt of remaining steel @ rings 6&9
Measured Span (mm)	3200			
Measured At Ring No.	6			
Deflection (mm)	200			
Percent Deflection	6			
Floor		N	5	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		7	6	
Separation (mm)	0			
Longitudinal Seams		2	2	Ring 4, Longit sidewall seam cracked both sides, s. wall only cracked @ 2 holes, 140mm rem @ s., 95 mm remaining @ Ring 3 two cracked seams, S. wall 3 holes only, N Seam Ring 6 - 65mm steel rem. S Seam Ring 9 - 65mm steel rem. Cracks in R 2, 3, 4, 6, 7, 8, 9, 10
Total No. of Cracked Rings	8			
Total No. of Rings with Two Cracked Seams	2			
Min. Remaining Steel Between Cracks (mm)	65			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		4	4	Pitting at floor plates
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3000, Type: SP**)				
Ponding (Y/N)	No			
Fish Passage Adequacy		4	5	
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**	1 point increase for struts. Leaning struts not in ring with cracks.

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction				West end
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	
Heaving (mm)	200			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	300			
Scour Protection		5	5	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) : **350**)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			Scour hole ripraped to 2m from bevel
Downstream End General Rating		**7**	**5**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		8	7	
Bank Stability		6	6	
HWM (m below Top of Culvert)				No visible HWM
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	NONE			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**8**	**7**	

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	2012	Repair 2 struts in R1				
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2012	Assess for liner or replacement				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**33.3/33.3**	**Sufficiency Rating (Last/Now) (%)**	**43.2/47.7**	Est. Repl. Yr	2018	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	William Reardon	Previous Assistant's Name			
Next Inspection Date	04-Apr-2015	Previous Inspection Date	28-Nov-2008		
Inspection Cycle (Default) (months)	39				
Comment					