Bridge Culvert Inspection

Bridge File Number	02162 -1 Bridge Culvert	Form Type	CUL1
Year Built	1978	Lot No.	1
Bridge or Town Name	STRATHMORE	Inspector Name	Jon Davies
Located Over	TRIBUTARY TO CROWFOOT CREEK, 2.13.14.9, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	1:14 L1 10.060;1:14 R1 10.060	Assistant Class	
Water Body Cl./Year		Inspection Date	16-Feb-2012
Navigabil. Cl./Year		Data Entry By	Erin Roberts
Legal Land Location	SW SEC 14 TWP 24 RGE 23 W4M	Data Entry Date	18-Mar-2012
Longitude, Latitude	-113:07:03, 51:02:16	Reviewer Name	Garry Roberts
Road Authority	Alberta Transportation (AIT)	Review Date	27-Feb-2012
Contract Main. Area	CMA30	Dept. Reviewer Name	Tim Davies
Clear Roadway/Skew	25 /	Dept. Review Date	22-Mar-2012
AADT/Year	7,520 / 2010 (A)	Follow-Up By	
Road Classification	RAD-412.4-120		
Detour Length (km)	1		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	5374	2908	RPE	64.6	152X51	4.0	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	South ROW	Gas	
Power	30m FROM C.L. NORTH & SOUTH X's ROAD 23m E OF CULVERT C.L.	Municipal	
		Problem (Y/N)	No
Others	Fibre optics North RW		
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	INTERSECTION 200 m WEST On grade hills to East & West.
Vertical Alignment		6	6	
Roadway Width (m)	25.000			
Embankment		7	7	
Sideslope (__:1)	5.0			
(Height of Cover(m) : **1.8**)				
Guardrail (Y/N)	Yes			Collision damage to SW guardrail.
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		N		NORTH END.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	CRACKS ALONG TOP & MOWER DAMAGE @ CROWN.
Collar		6	6	SPALL AT LOWER NW CORNER - MINOR.
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	N	Submerged

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		6	6	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1000			
Scour Protection		7	7	INGROWN
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **450**)				
Scour/Erosion		7	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): 5374, Rise (mm): 2908, Type: RPE**)				
Barrel Last Accessible Date	16-Feb-2012			
Special Features				
Special Feature				Grout holes at roof R1 to R8.
(Type :)				
Special Feature				
(Type :)				
Roof		N	3	Roof sag measured from top of tab on chord to roof-47mm @ R10. Estimate. U/S to ring 8 less than 5%. Ring 9 to D/S end up to 10% sag.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	290			
Percent Sag	10			
Sidewall		N	3	POOR JOINT @ OLD PIPE (SEAM). R9 @ West upper sidewall seam cusping in 100 mm.
Measured Span (mm)	5537			
Measured At Ring No.	10			
Deflection (mm)	183			
Percent Deflection	3			
Floor		N	N	Silt and ice up to 1600mm.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	5	
Separation (mm)	20			
Longitudinal Seams		N	3	BOTTOM SEAMS NOT SEEN. 3 BOLT HOLES CRACKED @ RING #13 West SIDE. 80mm REMAINING STEEL-200mm BELOW LONGITUDINAL SEAM
Total No. of Cracked Rings	1			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	0			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		N	6	ROOF SEAMS HAVE ALKALINE STAINS. Minor corrosion at waterline.
Corrosion By Soil (Y/N)	Yes			
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): 5374, Rise (mm): 2908, Type: RPE**)				
Fish Passage Adequacy		6	6	
Baffle		N	N	
(Type :)				
Waterway Adequacy		4	4	Silt avg 1.4m deep
Icing (Y/N)	Yes			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
Barrel General Rating		**3**	**3**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		S		SOUTH END.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		7	7	
Collar		7	7	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	N	Submerged
Bevel End		6	6	Only to 2/3 viewed due to silt and ice.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1000			
Scour Protection		7	7	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **600**)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Downstream End General Rating		**6**	**6**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	FARMERS ROAD D/S CAUSES PONDING 1/2 full with ice WITH 2-900 mm CULVERTS.
Bank Stability		8	8	
HWM (m below Top of Culvert)	0.8			No visable HWM
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	AGGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**7**	**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						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2012	Replace 4 T.T guardrail post at SW corner				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**33.3/33.3**	**Sufficiency Rating (Last/Now) (%)**	**44.4/44.3**	Est. Repl. Yr	2016	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Reinspect in January 2014. Roof sag appears stable.	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	16-Nov-2013	Previous Inspection Date	17-Aug-2010		
Inspection Cycle (Default) (months)	21				
Comment					