Bridge Culvert Inspection

Bridge File Number	71181 -1 Bridge Culvert	Form Type	CUL1
Year Built	1961	Lot No.	3
Bridge or Town Name	HALKIRK	Inspector Name	Jason Saly
Located Over	TRIBUTARY TO PAINTEARTH CREEK, 5.23.7, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	855:06 C1 6.923	Assistant Class	
Water Body Cl./Year		Inspection Date	16-Jun-2010
Navigabil. Cl./Year		Data Entry By	Jill Potts
Legal Land Location	SW SEC 12 TWP 39 RGE 16 W4M	Data Entry Date	02-Jul-2010
Longitude, Latitude	-112:11:18, 52:20:13	Reviewer Name	John O'Brien
Road Authority	Alberta Transportation (AIT)	Review Date	24-Jun-2010
Contract Main. Area	CMA21	Dept. Reviewer Name	Chris Black
Clear Roadway/Skew	9.3 /	Dept. Review Date	09-Jul-2010
AADT/Year	490 / 2009 (A)	Follow-Up By	
Road Classification	RCU-209-110		
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	1724	1901	SPE	50.2	152X51	3.0	ELLIPSE
Special Features								
Special Features Comment		Extended in 1981. 6.1m East, 14.0m West.						

Utilities (Located at)

Utility Attachments			
Telephone	West side of road.	Gas	
Power	2 wires 17m East of c/l.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		9	8	1000m South of NE 11. Oil lease approach 50m North.
Vertical Alignment		8	8	
Roadway Width (m)	9.300			
Embankment		6	6	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **5.8**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**8**	**8**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		W		
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		N	N	(Floor corrosion/scaling/pitting. 15/11/03) Covered by grass and drift. Snow + ice covered
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	50			
Scour Protection		N	5	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	5	
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): 1724, Rise (mm): 1901, Type: SPE**)				
Barrel Last Accessible Date	16-Jun-2010			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		6	6	Rise measured @ R2 = 1911, 10mm. Ring 12 = 1891, 20mm.
Measured Rise (mm)	1863			
Measured At Ring No.	7			2.5%
Sag (mm)	48			
Percent Sag	3			
Sidewall		6	6	Span @ R2 = 1720, 4mm. R12 = 1718, 6mm.
Measured Span (mm)	1778			
Measured At Ring No.	7			
Deflection (mm)	34			
Percent Deflection	2			
Floor		N	4	Heavy scaling no perforations.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		N	4	Missing bolt from the 2nd seam from West @ 10 o'clock when facing East.
Separation (mm)	0			
Longitudinal Seams		N	5	80% improper lap original & extension. No longitudinal stagger on extension.
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)	No			
Coating		N	4	Heavy scaling/corrosion/pitting.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	POS			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 1724, Rise (mm): 1901, Type: SPE**)				
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		4	4	Appears undersized due to 10 x 8 x 1.0m scour hole at outlet.
Icing (Y/N)	No			Minor.
Silting (Y/N)	No			
Drift (Y/N)	Yes			
Barrel General Rating		**5**	**5**	

Downstream 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	
Bevel End		N	5	(Corrosion/scaling/pitting. 15/11/03)
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			Perched invert.
Above/Below (mm)	500			
Scour Protection		N	4	Requires additional protection beside bevel. Natural with some rock.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	4	Scour hole at invert 10 x 8 x 1.
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		4	4	90 degree bend at U/S end.
Bank Stability		N	5	Cut bank @ SE - photo.
HWM (m below Top of Culvert)				HWM not visible. Rock dam created by bevel riprap washed 10m D/S.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**4**	**4**	

Maintenance Recommendations						
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2010	20m2 Class 1 riprap.				
REMOVE DRIFT ACCUMULATION						
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2010	Place riprap if it is causing a problem.				
OTHER ACTION	2010	Fill in scour hole D/S end.				
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**55.6/55.6**	**Sufficiency Rating (Last/Now) (%)**	**51.2/51.0**	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	Tim Davies	Previous Assistant's Name			
Next Inspection Date	16-Sep-2013	Previous Inspection Date	23-Mar-2007		
Inspection Cycle (Default) (months)	39				
Comment					