Bridge Culvert Inspection

Bridge File Number	77193 -1 Bridge Culvert	Form Type	CUL1
Year Built	1970	Lot No.	1
Bridge or Town Name	ENTRANCE	Inspector Name	Shane Hall
Located Over	TRIBUTARY TO PINTO CREEK, 8.11.118.3.1.5, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	40:30 C1 55.003	Assistant Class	
Water Body Cl./Year		Inspection Date	18-Oct-2012
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	SE SEC 1 TWP 54 RGE 2 W6M	Data Entry Date	26-Nov-2012
Longitude, Latitude	-118:09:12, 53:38:07	Reviewer Name	Eric Carcoux
Road Authority	Alberta Transportation (AIT)	Review Date	19-Nov-2012
Contract Main. Area	CMA13	Dept. Reviewer Name	Brent Herrick
Clear Roadway/Skew	8.9 /	Dept. Review Date	06-Dec-2012
AADT/Year	2,040 / 2011 (A)	Follow-Up By	
Road Classification	RAU-209-110		
Detour Length (km)	420		

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	42.7	152X51	2.8	ELLIPSE

Special Features	
Special Features Comment	

Utilities (Located at)

Utility Attachments			
Telephone	East r/w.	Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Bottom of sag, limited sight distance, no passing north.
Vertical Alignment		6	6	
Roadway Width (m)	8.500			
Embankment		N	4	Work done at u/s end - embankment mostly void of vegetation above culvert.
Sideslope (__:1)	2.5			
(Height of Cover(m) : **5.6**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**6**	**6**	

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	X	Bevel removed
Heaving (mm)	2000			
Invert Above/Below Stream Bed	ABOVE			First 2 barrel sections heaved.
Above/Below (mm)	300			
Scour Protection		N	4	Riprap scattered through channel and on road embankment. Appears work done u/s this year. Cannot confirm if protection adeuate for spring runoff.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		N	4	
Beavers (Y/N)	Yes			Appears to be beaverdam u/s of inlet.
Upstream End General Rating		**4**	**4**	

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	15-Oct-2007			Excessive sag @ 1/3 to 2/3 L.(ice up to 0.9m below crown.-24-Nov-2010) Viewed from d/s end. Cannot access from u/s end, too steep. Only last 2 d/s rings inspected.. Beyond that water over hip waders.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	(Cracks at circumferential seams. 15/Oct/2007)
Measured Rise (mm)	1820			
Measured At Ring No.	6			
Sag (mm)	81			
Percent Sag	4			
Sidewall		N	N	
Measured Span (mm)	1802			
Measured At Ring No.	6			
Deflection (mm)	78			
Percent Deflection	5			
Floor		N	N	2 perforations in last d/s rings.-photo
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	N	(6 cracks at 12:00. R5-10. 15/Oct/2007)
Separation (mm)	0			
Longitudinal Seams		N	N	(Loose bolts, poor nesting on approx 20% of seams. Water squirting through seams & bolt holes from under pipe. 15/Oct/2007)
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		N	4	Superficial rust below waterline. Rust perforations in floor at d/s end. One 200mmx50mm, 1-100mm x 50mm.-photo
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): 1724, Rise (mm): 1901, Type: SPE**)				
Ponding (Y/N)	Yes			Ice to crown @ 1/3 to 2/3 L.-09-Feb-2009
Fish Passage Adequacy		3	3	Outlet above streambed.
Baffle		X	X	
(Type :)				
Waterway Adequacy		4	4	Inlet iced up to within 0.2 m from crown @ inlet.-24-Nov-2010
Icing (Y/N)	Yes			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**4**	**4**	G.R. carried forward from 15/Oct/2007.

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		6	6	
Heaving (mm)	300			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	600			
Scour Protection		4	4	Scour around sides of bevel.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **400**)				
Scour/Erosion		4	4	
Beavers (Y/N)	Yes			Debris @ d/s bevel appears from beavers.
Downstream End General Rating		**4**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		4	4	Stream makes 90 degree bend immediately D/S of pipe.
Bank Stability		6	6	Old slide mark on outlet bank.
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			Degrading D/S.
Beavers (Y/N)	Yes			
(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						
REMOVE DRIFT ACCUMULATION						
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2013	Complete Level II inspection and assess (requires dewatering) or replace.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**44.4/44.4**	**Sufficiency Rating (Last/Now) (%)**	**31.8/31.8**	Est. Repl. Yr	2021	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Monitor u/s barrel heaving. Monitor 12:00 o'clock cracks at circum. seams. Monitro erosion @ d/s end. Monitor corrosion.	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	Shane Hall	Previous Assistant's Name			
Next Inspection Date	18-Jul-2014	Previous Inspection Date	24-Nov-2010		
Inspection Cycle (Default) (months)	21				
Comment					