Bridge Culvert Inspection

Bridge File Number	79127 -1 Bridge Culvert	Form Type	CUL1
Year Built	1979	Lot No.	2
Bridge or Town Name	BARRHEAD	Inspector Name	Melanie Johnson
Located Over	CONNOR CREEK, 8.11.84.30.16, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	18:06 C1 23.004	Assistant Class	
Water Body Cl./Year		Inspection Date	27-Aug-2011
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	SE SEC 13 TWP 58 RGE 7 W5M	Data Entry Date	13-Sep-2011
Longitude, Latitude	-114:53:47, 54:00:39	Reviewer Name	Eric Carcoux
Road Authority	Alberta Transportation (AIT)	Review Date	07-Sep-2011
Contract Main. Area	CMA10	Dept. Reviewer Name	Brent Herrick
Clear Roadway/Skew	11.2 / -20 deg. (LHF)	Dept. Review Date	15-Sep-2011
AADT/Year	990 / 2010 (A)	Follow-Up By	
Road Classification	RAU-211.8-110		
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	3800	4190	SPE	39.6	152X51	3.0	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	West r/w.	Gas	
Power	1 line West r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		6	6	SH intersection 300 m South.
Vertical Alignment		7	7	On curve and long sag curve. No passing. Superelevated over pipe. New asphalt patch over pipe.
Roadway Width (m)	11.200			
Embankment		6	6	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **3.3**)				
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)	CONCRETE			
Headwall		X	X	
Collar		4	4	Apron slab next to collar settled 300mm. Wide transverse crack @ corners (typ).
Wingwalls		X	X	
(Shape :)				

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Cutoff Wall		N	N	
Bevel End		5	5	
Heaving (mm)	300			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	1300			
Scour Protection		5	5	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **400**)				
Scour/Erosion		5	5	
Beavers (Y/N)	Yes			Drift/beaver debris at 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): 3800, Rise (mm): 4190, Type: SPE**)				
Barrel Last Accessible Date	09-Sep-2000			Water ~ 2m deep. Viewed from ends - shape appears adequate.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	(Measured to ice at inlet 1.65, 3rd seam from outlet .914 and 1.346 at outlet. Therefore sag is 584 mm minus negative camber. 99/01/04)
Measured Rise (mm)				
Measured At Ring No.				Roof sag observed @ about c/l.-09-Sep-2000
Sag (mm)	400			
Percent Sag				
Sidewall		N	N	(Assume sag is 400 and deflection is 400. Deflections are 10.9%. (On safe side. 99/01/04) (Viewed from ends. 3491 @ R1 = 4mm 3632 @ R3 = 137mm, 3.9%-09-Sep-2000)
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	400			
Percent Deflection				
Floor		N	N	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		N	N	
Separation (mm)	0			
Longitudinal Seams		N	N	(Cracked rings appear likely. Sides are wavy. 2002/04/17) (Plates @ R5 are not properly nested.- 09-Sep-2000)
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				1N
Min. Remaining Steel Between Cracks (mm)				1N
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		4	4	Heavy rust up to 3/4 pipe.
Corrosion By Soil (Y/N)	Yes			
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): 3800, Rise (mm): 4190, Type: SPE**)				
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	09-Sep-2000
Icing (Y/N)	Yes			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel General Rating		**3**	**3**	G.R. carried forward since 09/Sept/2000.

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	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		5	5	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **400**)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
Downstream End General Rating		**N**	**5**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		7	7	
HWM (m below Top of Culvert)				Drift caught @ upstream end of pipe at crown.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading				
Beavers (Y/N)	Yes			
(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	2011	Remove drift.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**33.3/33.3**	**Sufficiency Rating (Last/Now) (%)**	**48.4/48.4**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Schedule next inspection in winter to confirm condition.	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	Melanie Johnson	Previous Assistant's Name			
Next Inspection Date	27-May-2013	Previous Inspection Date	05-Nov-2009		
Inspection Cycle (Default) (months)	21				
Comment					