Bridge Culvert Inspection

Bridge File Number	72854 -1 Bridge Culvert	Form Type	CULM
Year Built	1962	Lot No.	4
Bridge or Town Name	BRETON	Inspector Name	Wade Nanninga
Located Over	LITTLE STRAWBERRY CREEK, 6.112.16, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	616:04 C1 5.791	Assistant Class	
Water Body Cl./Year		Inspection Date	14-Feb-2011
Navigabil. Cl./Year		Data Entry By	Janie Assenheimer
Legal Land Location	SE SEC 4 TWP 48 RGE 3 W5M	Data Entry Date	25-Feb-2011
Longitude, Latitude	-114:22:42, 53:06:18	Reviewer Name	Arnold Assenheimer
Road Authority	Alberta Transportation (AIT)	Review Date	22-Feb-2011
Contract Main. Area	CMA11	Dept. Reviewer Name	Brent Herrick
Clear Roadway/Skew	10 / 10 deg. (RHF)	Dept. Review Date	02-Mar-2011
AADT/Year	760 / 2009 (A)	Follow-Up By	
Road Classification	RCU-209-110		
Detour Length (km)	10		

Bridge Culvert Information

Number of Culverts		2						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2019	2226	SPE	50	152X51	3.0	ELLIPSE
2	MAIN	-	2000	MP	39	125X26	2.8	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	South r/w.	Gas	
Power	3 lines North r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Entrances 50m both directions.
Vertical Alignment		7	8	
Roadway Width (m)	9.500			
Embankment		8	8	3.5 over primary span.
Sideslope (__:1)	3.0			
(Height of Cover(m) : **2.5**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**7**	**7**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Direction		S		East pipe.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Cutoff Wall		X	X	
Bevel End		7	7	
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		7	7	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **400**)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		**7**	**7**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2019, Rise (mm): 2226, Type: SPE**)				
Barrel Last Accessible Date	14-Feb-2011			0.6m ice along floor - design 2019 x 2226.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	7	2 - 75 mm dia holes in roof @ 4/5 L.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	70			est.
Percent Sag	3			
Sidewall		7	4	Missing.
Measured Span (mm)	2075			
Measured At Ring No.	9			
Deflection (mm)	56			
Percent Deflection	3			
Floor		7	N	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	5	Loose circumferential bolts rings 12 & 13.
Separation (mm)	0			
Longitudinal Seams		7	4	Missing 15 bolts/nujts in R4/5/13.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				Rings 1, 2, 17 & 18 not staggered. 1N stagger starting 2 rings in from U/S and D/S ends.
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		6	6	Minor superficial rust lower 1/4.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2019, Rise (mm): 2226, Type: SPE**)				
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		4	4	Outlet above S.B.
Baffle		X	X	
(Type :)				
Waterway Adequacy		8	8	800mm pile of small sized drift at inlet East pipe.
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	Yes			
Barrel General Rating		**7**	**4**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Direction		N		East pipe.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		7	7	
Heaving (mm)	150			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	300			
Scour Protection		8	8	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **400**)				
Scour/Erosion		8	8	
Beavers (Y/N)	No			
Downstream End General Rating		**7**	**7**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction		S		Overflow pipe. West pipe.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Bevel End		8	8	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	800			
Scour Protection		8	8	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **400**)				
Scour/Erosion		8	8	
Beavers (Y/N)	No			
Upstream End General Rating		**8**	**8**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2000, Type: MP**)				
Barrel Last Accessible Date	14-Feb-2011			0.5m ice in barrel.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	7	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	40			
Percent Sag	2			est.
Sidewall		8	7	
Measured Span (mm)	2040			c/l
Measured At Ring No.				
Deflection (mm)	40			
Percent Deflection	2			
Floor		7	N	(Minor corrosion on floor. 21-Nov-2007)
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		8	6	
Separation (mm)	50			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2000, Type: MP**)				
Longitudinal Seams		X	X	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				
Coating		6	6	Minor superficial rust but no pitting.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		4	4	Outlet above streambed. 2m deep scour hole, 6m wide and 6m long.
Baffle		X	X	
(Type :)				
Waterway Adequacy		8	8	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**7**	**7**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction		N		West pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		8	8	
Heaving (mm)	50			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	2000			
Scour Protection		3	4	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **400**)				
Scour/Erosion		3	4	Large scour hole 6 x 6 x 2m off of the bevel end - photo 4.
Beavers (Y/N)	No			
Downstream End General Rating		**3**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		7	4	Sloughing banks d/s.
HWM (m below Top of Culvert)				HWM not visible. Small sized drift.
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		**7**	**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						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**77.8/44.4**	**Sufficiency Rating (Last/Now) (%)**	**68.7/52.9**	Est. Repl. Yr	2042	Maint. Reqd. (Y/N)	No

Special Comments for Next Inspection	Monitor scour & erosion at d/s end of overflow pipe.	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	Jacob Oresile	Previous Assistant's Name			
Next Inspection Date	14-May-2014	Previous Inspection Date	21-Nov-2007		
Inspection Cycle (Default) (months)	39				
Comment					