Bridge Culvert Inspection

Bridge File Number	78879 -1 Bridge Culvert	Form Type	CULM
Year Built	1977	Lot No.	3
Bridge or Town Name	Millarville	Inspector Name	Calvin Roberts
Located Over	TRAIL-ANIMAL, OVER SP	Inspector Class	BR CLS B
Located On	549:02 C1 9.482	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	30-Jan-2013
Legal Land Location	NE SEC 1 TWP 21 RGE 4 W5M	Data Entry By	Lauren Korte
Longitude, Latitude	-114:25:14, 50:45:34	Data Entry Date	01-Mar-2013
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Garry Roberts
Contract Main. Area	CMA27	Review Date	03-Feb-2013
Clear Roadway/Skew	9 /	Dept. Reviewer Name	Tim Davies
AADT/Year	1,510 / 2011 (A)	Dept. Review Date	04-Mar-2013
Road Classification	RCU-209-110	Follow-Up By	
Detour Length (km)	1		

Bridge Culvert Information

Number of Culverts		2						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	2134	MP	20.3	68X13	4.2	ROUND
2	MAIN	-	1219	MP	54.7	68X13	1.6	ROUND
Special Features								
Special Features Comment								

Posting Information

Required Vert. Clearance Posting (m)											
Posted Vertical Clearance (Y/N)											
Posted:	Lane	NB	On Bridge (m)		In Advance (Y/N)		Lane	SB	On Bridge (m)		In Advance (Y/N)
Remarks	Not required.										

Utilities (Located at)

Utility Attachments			
Telephone	South R/W	Gas	
Power	1 wire to North.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	On a hill rising to the West. Limited sight distance.
Vertical Alignment		5	5	
Roadway Width (m)	9.000			
Embankment		5	5	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **2**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**5**	**5**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Direction				North.
End Treatment (Concrete, Steel, Others, None)	NONE			

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		X	N	Snow covered.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		X	N	
Beavers (Y/N)	No			
Upstream End General Rating		**5**	**N**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2134, Type: MP**)				
Barrel Last Accessible Date	31-Jan-2013			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		5	5	Estimate Roof.
Measured Rise (mm)	1995			4.9m from North.
Measured At Ring No.				
Sag (mm)	139			
Percent Sag	7			
Sidewall		5	6	
Measured Span (mm)	2250			4.9m from North.
Measured At Ring No.				
Deflection (mm)	176			
Percent Deflection	5			
Floor		N	N	600mm of ice, (200mm silt).
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		4	4	
Separation (mm)	390			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2134, Type: MP**)				
Longitudinal Seams		X	X	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	0			
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				
Coating		5	5	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	Yes			Embankment soil has fallen into barrel @ d/s & u/s. Up to 1m deep at sides @ ends (Ponds 600mm). Nov 7/09.
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		X	X	Approx 600mm thick.
Icing (Y/N)	Yes			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
Barrel General Rating		**5**	**5**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Span Type: Primary Span**)				
Direction				South.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		X	N	Snow covered.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		X	N	
Beavers (Y/N)	No			
Downstream End General Rating		**5**	**N**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction				South.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)	200			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		7	N	Snow covered.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		7	N	
Beavers (Y/N)	No			
Upstream End General Rating		**7**	**N**	P.R 7.

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1219, Type: MP**)				
Barrel Last Accessible Date	30-Jan-2013			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	7	Localized 200mm dent @ roof @ 4m in from d/s.
Measured Rise (mm)	1170			No change in dimensions.
Measured At Ring No.	8			
Sag (mm)	49			
Percent Sag	4			
Sidewall		7	7	
Measured Span (mm)	1270			
Measured At Ring No.	8			
Deflection (mm)	51			
Percent Deflection	4			
Floor		5	5	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	5	
Separation (mm)	80			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1219, Type: MP**)				
Longitudinal Seams		X	X	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	0			
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				
Coating		5	5	Superficial corrosion @ floor.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		X	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		5	5	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**5**	**5**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction				North.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		4	N	Snow covered.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		4	N	(5m Diameter x 0.5m deep scour hole Due to cattle action & vehicle traffic. 1.5m from end of pipe) Nov 7/09.
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**N**	P.R 4.

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Grade Separation				
Road Alignment		6	X	Uneven icy surface, dangerous for cattle.
Roadway Surface		3	4	
(Type :)				
Icing (Y/N)	Yes			Approx 600mm ice in pipe.
Traffic Safety Features		X	X	
Type				
Lighting		X	X	
Barrel Leakage (Y/N)	No			
Drainage		3	3	Cattle pass floor (covered in ice due to poor drainage).
Structure In Use (Y/N)	Yes			
Grade Separation General Rating		**3**	**3**	

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	Improve drainage. Is in use. Remove silt build up @ U/S and D/S ends. - photo				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**55.6/55.6**	**Sufficiency Rating (Last/Now) (%)**	**52.7/53.7**	Est. Repl. Yr	2020	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	Jason Rusu	Previous Assistant's Name			
Next Inspection Date	30-Apr-2016	Previous Inspection Date	07-Nov-2009		
Inspection Cycle (Default) (months)	39				
Comment					