Bridge Culvert Inspection

Bridge File Number	76735 -1 Bridge Culvert	Form Type	CULM
Year Built	1970	Lot No.	4
Bridge or Town Name	DERWENT	Inspector Name	Jason Saly
Located Over	TRAIL-ANIMAL, OVER SP	Inspector Class	BR CLS A
Located On	45:08 C1 56.272	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	21-Jan-2013
Legal Land Location	SW SEC 14 TWP 54 RGE 7 W4M	Data Entry By	Marcia Chavez
Longitude, Latitude	-110:55:57, 53:39:30	Data Entry Date	01-Mar-2013
Road Authority	Alberta Transportation (AIT)	Reviewer Name	John O'Brien
Contract Main. Area	CMA15	Review Date	13-Feb-2013
Clear Roadway/Skew	9.2 /	Dept. Reviewer Name	Chris Black
AADT/Year	580 / 2011 (A)	Dept. Review Date	14-Mar-2013
Road Classification	RAU-209-110	Follow-Up By	
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts		2						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1829	MP	24.4	68X13	3.5	ROUND
2	MAIN	-	762	MP	24.4	68X13		ROUND
Special Features								
Special Features Comment								

Posting Information

Required Vert. Clearance Posting (m)											
Posted Vertical Clearance (Y/N)		No									
Posted:	Lane	NB	On Bridge (m)		In Advance (Y/N)		Lane	SB	On Bridge (m)		In Advance (Y/N)
Remarks	Not required; cattle crossing.										

Utilities (Located at)

Utility Attachments			
Telephone	South ditch.	Gas	
Power	5 wire 20m North. High voltage.	Municipal	
Others	Fibre optics North r/w.	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Crest curves located 300m W & E of crossing. Field access at NW; farm access at NE.
Vertical Alignment		7	7	
Roadway Width (m)	9.200			
Embankment		7	N	Transverse crack across roadway. Snow covered, but no signs of problems.
Sideslope (__:1)	3.0			
(Height of Cover(m) : **1.2**)				
Guardrail (Y/N)	Yes			Minor creasing.
Approach Road / Embankment General Rating		**7**	**7**	

Upstream End

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

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		4	4	Mower damaged @ roof; no action required if structure not in use.
Heaving (mm)	100			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		6	N	Some rock. Snow covered.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		6	N	
Beavers (Y/N)	No			
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): , Rise (mm): 1829, Type: MP**)				
Barrel Last Accessible Date	21-Jan-2013			West pipe.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		5	5	Roof sag estimated. North crown damaged, mower.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	66			Estimate.
Percent Sag				
Sidewall		7	6	Dirt splattered from cattle.
Measured Span (mm)	1755			U/S span 1755=74mm=4.0% Mid span 1892=63mm=3.4% D/S span 1772=57mm=3.1%
Measured At Ring No.				
Deflection (mm)	75			Inwards
Percent Deflection	4			
Floor		N	N	Dirt covered.
Bulge (mm)	0			(03/03/25)
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	7	Up by coupler.
Separation (mm)	75			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1829, Type: MP**)				
Longitudinal Seams		7	7	Riveted
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		5	5	Some leakage of salt through riveted seams near ends of barrel under shoulders.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			Minor water in pipe ~150mm.
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		X	X	Pipe takes some flow.
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 # : **1, Span Type: Primary Span**)				
Direction		S		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		6	6	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		6	N	(Small amount of rocks. 07Jun2011) - Snow covered, but no signs of problems.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		6	N	Snow covered.
Beavers (Y/N)	No			
Downstream End General Rating		**6**	**6**	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction		N		East pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		6	N	Snow covered.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	150			
Scour Protection		6	N	Snow covered.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		6	N	Snow covered.
Beavers (Y/N)	No			
Upstream End General Rating		**6**	**N**	GR was 6 from 07Jun2011.

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 762, Type: MP**)				
Barrel Last Accessible Date				Located 15m East of primary span. (Roof appears to be pushed down; shape should be adequate. 07Jun2011). Pipe completely covered by snow.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	(Roof pushed down 100mm. 07Jun2011).
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	50			(03/03/25)
Percent Sag				
Sidewall		N	N	
Measured Span (mm)				(03/03/25)
Measured At Ring No.				
Deflection (mm)	50			
Percent Deflection				
Floor		N	N	(03/03/25)
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	N	
Separation (mm)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 762, 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		N	N	(Superficial corrosion on floor. 03/03/25).
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		5	N	
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
Barrel General Rating		**N**	**N**	GR was 5 since 07Sep2006.

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **2, Span Type: Secondary Span**)				
Direction		S		East pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		7	N	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	150			
Scour Protection		7	N	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		7	N	
Beavers (Y/N)	No			
Downstream End General Rating		**7**	**N**	GR previoulsy rated 7 from 07Jun2011.

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Grade Separation				
Road Alignment		5	5	(200mm drop @ North. 07Jun2011) - Snow covered. Sloppy mud.
Roadway Surface		5	6	
(Type :)				
Icing (Y/N)	No			
Traffic Safety Features		X	X	
Type	None			
Lighting		X	X	
Barrel Leakage (Y/N)	No			
Drainage		X	X	
Structure In Use (Y/N)	No			No concrete floor, some rock in barrel floor, minimal dirt cover. Gate across East approach; fencing still in good condition, could still be used.
Grade Separation General Rating		**5**	**5**	

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) (%)	**55.6/55.6**	**Sufficiency Rating (Last/Now) (%)**	**55.6/68.1**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	No

Special Comments for Next Inspection		Department Comments	

Maintenance Reviewed By		Date		Estimated Total	0
Proposed Long-Term Strategy					
On 3-Year Program (Y/N)	Y				
Proposed Action	2007.12.29 Review in two years time for continued usage. Brownlee & Associates				
Previous Inspector's Name	Jason Saly	Previous Assistant's Name			
Next Inspection Date	21-Oct-2014	Previous Inspection Date	07-Jun-2011		
Inspection Cycle (Default) (months)	21				
Comment					