

Bridge Culvert Inspection				
Bridge File Number	77779 -1 Bridge Culvert		Form Type	CUL1
Year Built	1973		Lot No.	1
Bridge or Town Name			Inspector Name	Dave Halwa
Located Over	MCCUE CK, WATERCRS-NI		Inspector Class	BR CLS A
Located On	734:10 C1 2.305		Assistant Name	Kayd Larsen
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	23-Apr-2010
Legal Land Location	NW SEC 5 TWP 31 RGE 9 W5M		Data Entry By	Jill Potts
Longitude, Latitude	-115:15:02, 51:37:47		Data Entry Date	30-Jun-2010
Road Authority	Alberta Transportation (AIT)		Reviewer Name	John O'Brien
Contract Main. Area	CMA28		Review Date	22-Jun-2010
Clear Roadway/Skew	8.5 /		Dept. Reviewer Name	Chris Black
AADT/Year	100 / 2009 (A)		Dept. Review Date	22-Jul-2010
Road Classification	RLU-208G-90		Follow-Up By	
Detour Length (km)	80			

Bridge Culvert Information								
Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	PI./Slab Thickness	Shape
1	MAIN	2019	2226	SPE	20.7	152X51		ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)			
Utility Attachments			
Telephone		Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks	No utilities.		

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		4	4	In superelevated curve. Steep hill to South/North on sharp curve. Had to reduce speed.
Vertical Alignment		4	4	
Roadway Width (m)	10.000			
Embankment		5	5	Steep sideslopes. Pipe too short. 1.0m West side/0.6m East.
Sideslope (__:1)	1.0			
(Height of Cover(m) : 0.6)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		4	4	

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		2	2	Torn - photo.
Heaving (mm)	1000			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	600			
Scour Protection		N	X	No scour protection.
(Type : NONE)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	5	
Beavers (Y/N)	Yes			
Upstream End General Rating		2	2	
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	23-Apr-2010			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		2	1	Ring 1 seam collapsed, torn & pushed upward - photos. Remainder of barrel rated '7'. Midspan measured - 2240. R1, R2 badly damaged.
Measured Rise (mm)	2310			
Measured At Ring No.	1			
Sag (mm)	84			3.7%
Percent Sag	4			
Sidewall		2	2	Remainder of barrel rated '7'. Midspan measured - 2060.
Measured Span (mm)	1640			
Measured At Ring No.	1			
Deflection (mm)	379			
Percent Deflection	19			
Floor		2	2	Ring 1 & 1.1m of ring 2 torn @ 4 & 6 o'clock - photos. Remainder of barrel rated '7'. Piping under R1 & R2.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		2	1	Torn seam between ring 1 & 2.
Separation (mm)	70			
Longitudinal Seams		2	1	Torn seam in ring 1 & 1.1m of ring 2 both sides. Remainder of barrel rated '8'.
Total No. of Cracked Rings	2			
Total No. of Rings with Two Cracked Seams	2			
Min. Remaining Steel Between Cracks (mm)	0			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		6	6	Floor abrasion.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			

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)				
Fish Passage Adequacy		1	1	D/S perched 1.0m.
Baffle		X	X	
(Type :)				
Waterway Adequacy		2	5	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		2	1	
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		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	1000			
Scour Protection		3	N	Perched bevel. Water/ice.
(Type :)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		3	3	Scour hole 18m x 10m x 1.5m.
Beavers (Y/N)	No			
Downstream End General Rating		3	3	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		7	4	90 degree bend @ U/S end.
Bank Stability		4	8	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading				Unknown.
Beavers (Y/N)	Yes			
(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	2010	Armour both ends after repairing bevel. (50m3)								
REMOVE DRIFT ACCUMULATION										
INSTALL CONCRETE/STEEL LINING										
INSTALL STRUTS										
INSTALL CONCRETE COLLAR/CUTOFF										
REPAIR SEAMS										
OTHER ACTION	2010	Replace U/S bevel, 1st ring & ring 2.								
OTHER ACTION	2013	Replace pipe.								
OTHER ACTION	2010	Inspect at 12 month cycle until repaired.								
OTHER ACTION										
OTHER ACTION										
OTHER ACTION										
Structural Condition Rating (Last/Now)	22.2/11.1	Sufficiency Rating (Last/Now)	8.3/10.8	Est. Repl. Yr	2013	Maint. Req. (Y/N)	Yes			
Special Comments for Next Inspection	AT notified by email September 06, 2005. AT notified April 23, 2010.		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	Dave Lam	Previous Assistant's Name								
Next Inspection Date	23-Jul-2013	Previous Inspection Date	06-Sep-2005							
Inspection Cycle (Default) (months)	39									
Comment										

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2010	Armour both ends after repairing bevel. (50m3)	Resotre D/S and armour	2012		
REMOVE DRIFT ACCUMULATION						
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2010	Replace U/S bevel, 1st ring & ring 2.	Make repairs - low water	2012		
OTHER ACTION	2013	Replace pipe.	Too early to repalce			
OTHER ACTION	2010	Inspect at 12 month cycle until repaired.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	22.2/11.1	Sufficiency Rating (Last/Now) (%)	8.3/10.8	Est. Repl. Yr	2013	Maint. Req. (Y/N)	Yes
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Special Comments for Next Inspection	AT notified by email September 06, 2005. AT notified April 23, 2010.	Department Comments	Site likely experiences high volumes and velocities; maybe consider concrete cutoff and collar
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Maintenance Reviewed By	Paul Carrier	Date	12-Feb-2011	Estimated Total	0
Proposed Long-Term Strategy					
On 3-Year Program (Y/N)					
Proposed Action					
Previous Inspector's Name	Dave Lam	Previous Assistant's Name			
Next Inspection Date	23-Jul-2013	Previous Inspection Date	06-Sep-2005		
Inspection Cycle (Default) (months)	39				
Comment					