

Bridge Culvert Inspection			
Bridge File Number	78169 -1 Bridge Culvert	Form Type	CULM
Year Built	1977	Lot No.	2
Bridge or Town Name	FOOTHILLS	Inspector Name	Todd Warshawski
Located Over	LOVETT RIVER, 8.11.84.72, WATERCRS-ST	Inspector Class	BR CLS B
Located On	40:24 C1 16.548	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	31-Oct-2012
Legal Land Location	SE SEC 23 TWP 47 RGE 20 W5M	Data Entry By	Lisa Fairhurst
Longitude, Latitude	-116:48:45, 53:03:51	Data Entry Date	21-Nov-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA13	Review Date	13-Nov-2012
Clear Roadway/Skew	14.5 /	Dept. Reviewer Name	Brent Herrick
AADT/Year	300 / 2011 (A)	Dept. Review Date	22-Nov-2012
Road Classification	RAU-213.4-110	Follow-Up By	
Detour Length (km)	31		

Bridge Culvert Information

Number of Culverts		2						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	4390	4841	SPE	83.5	152X51	4.2	ELLIPSE
2	MAIN	4390	4841	SPE	83.5	152X51	4.2	ELLIPSE
Special Features		VERT STEEL STRUTS						
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	SW r/w	Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks	File tag in place. NW headwall at collar		

Approach Road / Embankment

	Last	Now	Explanation of Condition
Horizontal Alignment	7	7	Campground entrance @ NW. Sag curve.
Vertical Alignment	7	7	
Roadway Width (m)	14.500		
Embankment	N	7	
Sideslope (__:1)	4.0		
(Height of Cover(m) : 12.8)			
Guardrail (Y/N)	No		
Approach Road / Embankment General Rating	4	7	

Upstream End

Culvert Component	Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)			
Direction	W		North pipe.
End Treatment (Concrete, Steel, Others, None)	CONCRETE		
Headwall	X	9	
Collar	N	9	
Wingwalls	X	9	Concrete wall between bevels
(Shape :)			

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Cutoff Wall		N	N	Ice Covered.
Bevel End		5	6	
Heaving (mm)	300			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		N	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 800)				
Scour/Erosion		N	7	
Beavers (Y/N)	No			
Upstream End General Rating		3	6	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 4390, Rise (mm): 4841, Type: SPE)				
Barrel Last Accessible Date	31-Oct-2012			North pipe.
Special Features				
Special Feature			9	Rings 1-11
(Type : VERT STEEL STRUTS)				
Special Feature				
(Type :)				
Roof		2	2	Rings 6 & 7 have reverse curvature - photo.
Measured Rise (mm)				Estimate - due to ice.
Measured At Ring No.	6			
Sag (mm)	250			
Percent Sag	5			
Sidewall		6	6	
Measured Span (mm)	4575			
Measured At Ring No.	9			
Deflection (mm)	185			
Percent Deflection	4			
Floor		N	N	Covered with ice.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		6	6	
Separation (mm)	0			
Longitudinal Seams		2	2	R20, R21 & R22 @ 12:00.
Total No. of Cracked Rings	3			Rings 20-22 cracked at 12:00
Total No. of Rings with Two Cracked Seams	0			Estimate
Min. Remaining Steel Between Cracks (mm)	50			1N
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		5	5	Superficial rust.
Corrosion By Soil (Y/N)	Yes			Soil side also rust leaking through bolt holes.
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): 4390, Rise (mm): 4841, Type: SPE)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	5	Drop at outlet
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	(Iced over - Apr. 17/07)
Icing (Y/N)	Yes			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		2	2	LRA re-issued Nov 10/12
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		E		North 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	5	(Bevel pushed inward at top and projects from fill 200 mm -
Heaving (mm)	400			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		N	4	(Scoured under bevel back upto 1m scour hole @ outlet 5m x 10m x 1m.
(Type : NONE)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	4	
Beavers (Y/N)	No			
Downstream End General Rating		4	4	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		W		South pipe.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	9	
Collar		N	9	(Bottom of collar broken, both sides. Void along bevel North side, up to 1.0m deep. 17/Apr/2007) Snow covered.
Wingwalls		X	9	Concrete walls between bevels
(Shape :)				
Cutoff Wall		N	N	Covered in ice.

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Bevel End		5	5	
Heaving (mm)	300			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		N	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 800)				
Scour/Erosion		N	7	
Beavers (Y/N)	No			
Upstream End General Rating		3	5	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 4390, Rise (mm): 4841, Type: SPE)				
Barrel Last Accessible Date	17-Feb-2010			South pipe.
Special Features				
Special Feature			9	Rings 1-19
(Type : VERT STEEL STRUTS)				
Special Feature				
(Type :)				
Roof		3	3	See longitudinal seam comment.
Measured Rise (mm)				flattening @ R4 - R6.
Measured At Ring No.	5			
Sag (mm)	100			Estimate.
Percent Sag	2			
Sidewall		5	5	
Measured Span (mm)	4614			
Measured At Ring No.	6			
Deflection (mm)	224			
Percent Deflection	5			
Floor		N	N	Covered with ice.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		6	6	
Separation (mm)	0			
Longitudinal Seams		3	3	Ring 1 & 21 cracked @ 12:00
Total No. of Cracked Rings	2			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	125			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		5	5	Superficial rust. Soil side also rust leaking through bolt holes.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 4390, Rise (mm): 4841, Type: SPE)				
Ponding (Y/N)	No			
Fish Passage Adequacy		7	5	Drop at outlet
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	(17/Apr/2007 Iced over.)
Icing (Y/N)	Yes			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		3	3	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		E		South pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		5	5	Bevel projects from fill 700 mm -
Heaving (mm)	400			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		N	4	Scour along and under bevel
(Type : NONE)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	4	Scoured under bevel up to 1m, scour hole approx 5 x 10 x 1m.
Beavers (Y/N)	No			
Downstream End General Rating		4	4	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		5	5	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		5	7	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
SHOTCRETE REPAIRS							
PLACE ADDITIONAL RIP RAP	2013	40m3 CL2 at outlet					
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) (%)	22.2/22.2	Sufficiency Rating (Last/Now) (%)	33.1/46.3	Est. Repl. Yr	2025	Maint. Req. (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	Todd Warshawski		Previous Assistant's Name				
Next Inspection Date	31-Jul-2014		Previous Inspection Date	17-Feb-2010			
Inspection Cycle (Default) (months)	21						
Comment							