

Bridge Culvert Inspection			
Bridge File Number	77935 -1 Bridge Culvert	Form Type	CULM
Year Built	1975	Lot No.	2
Bridge or Town Name	LUSCAR	Inspector Name	Todd Warshawski
Located Over	MUNICIPAL	Inspector Class	BR CLS B
Located On	40:28 C1 7.879	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	30-Oct-2012
Legal Land Location	NE SEC 22 TWP 47 RGE 24 W5M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-117:25:19, 53:04:29	Data Entry Date	27-Nov-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA13	Review Date	13-Nov-2012
Clear Roadway/Skew	8.3 /	Dept. Reviewer Name	Brent Herrick
AADT/Year	210 / 2011 (A)	Dept. Review Date	06-Dec-2012
Road Classification	RCU-209G-90	Follow-Up By	
Detour Length (km)	83		

Bridge Culvert Information								
Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	11800	8630	SCA	76.2	152X51	4.8,6.4,5.6	ARCH
2	MAIN	7315	8610	RPE	76.2	152X51		ELLIPSE
Special Features	SIDEWALK, CONC THRUST BEAM, REINFORCING RIBS							
Special Features Comment								

Posting Information												
Required Vert. Clearance Posting (m)	UNDER: MUNICIPAL 5.2m											
Posted Vertical Clearance (Y/N)	Yes											
Posted:	Lane	NB	On Bridge (m)	4.9	In Advance (Y/N)	Yes	Lane	SB	On Bridge (m)	4.9	In Advance (Y/N)	Yes
Remarks	Rdwy = 5.32m inline conc barrier, CNR track = 7.16m, HM each end rdwy at all 4 corners. VC sign on East str only.											

Utilities (Located at)			
Utility Attachments			
Telephone	East & west sides.	Gas	
Power	1 wire West side. Interior lights. 3 wires crossing 100m North, 5 wires crossing 20m South.	Municipal	
Others	Lighting inside barrel.	Problem (Y/N)	No
Remarks	No file tag noticed.		

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		4	4	Curves with limited sight distances, reduced speed. Open pit mine road, signage in place.
Vertical Alignment		6	6	
Roadway Width (m)	8.300			Concrete footing each side; pedestrian walkway on East.
Embankment		6	6	
Sideslope (__:1)	2.0			
(Height of Cover(m) : 2.5)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		4	4	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		S		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Headwall		6	6	Medium transverse cracks @ top headwall.
Collar		N	N	Snow cover.
Wingwalls (Shape :)		X	X	
Cutoff Wall		X	X	
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection (Type : NONE) (Avg. Rock Size(mm) :)		X	X	Not required.
Scour/Erosion		X	X	
Beavers (Y/N)	No			
Upstream End General Rating		6	6	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 11800, Rise (mm): 8630, Type: SCA)				
Barrel Last Accessible Date	30-Oct-2012			East barrel.
Special Features				
Special Feature (Type : SIDEWALK)		5	5	Dirt sidewalk East side. Not maintained, railing rusting.
Special Feature (Type :)				"9" Type "CE". (Concrete thrust beams. 2002/04/08)
Roof		8	8	No visible deformities. roof - road.
Measured Rise (mm)	6450			
Measured At Ring No.	7			
Sag (mm)	0			
Percent Sag				
Sidewall		8	8	Measured span 11902
Measured Span (mm)				
Measured At Ring No.	7			
Deflection (mm)	102			
Percent Deflection	1			
Floor		X	X	"Tunnel" for Hwy 40 traffic. Suspect there is no floor but rather concrete footing on either side.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		8	8	
Separation (mm)	0			

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 11800, Rise (mm): 8630, Type: SCA)					
Longitudinal Seams		8	8	3N except where top & side plates meet @ change in radius.	
Total No. of Cracked Rings	0				
Total No. of Rings with Two Cracked Seams					
Min. Remaining Steel Between Cracks (mm)					
Proper Lap (Y/N)	No				
Longitudinal Stagger (Y/N)	No				
Coating		7	7	Stains at bolts and upper seams.	
Corrosion By Soil (Y/N)	Yes				
Corrosion By Water (Y/N)	No				
Camber POS/ZERO/NEG	ZERO				
Ponding (Y/N)	No				
Fish Passage Adequacy		X	X		
Baffle		X	X		
(Type :)					
Waterway Adequacy		X	X		
Icing (Y/N)	No				
Silting (Y/N)	No				
Drift (Y/N)	No				
Barrel General Rating		8	8		
Downstream End					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 1, Span Type: Primary Span)					
Direction		N		East barrel.	
End Treatment (Concrete, Steel, Others, None)	CONCRETE				
Headwall		6	6	Medium transverse cracks @ shoulders.	
Collar		N	N	Snow covered.	
Wingwalls		X	X		
(Shape :)					
Cutoff Wall		X	X		
Bevel End		7	7		
Heaving (mm)	0				
Invert Above/Below Stream Bed					
Above/Below (mm)	0				
Scour Protection		X	X	Not required.	
(Type : NONE)					
(Avg. Rock Size(mm) :)					
Scour/Erosion		X	X		
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		S		West barrel. CNR crossing. RR line is abandoned. Not in use.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	4	Crack/spall at headwall collar connection on SE.-photo
Collar		N	N	Snow covered.
Wingwalls (Shape :)		X	X	
Cutoff Wall		X	X	
Bevel End		5	5	Bevel sides at top are pressed inwards approx 75mm.
Heaving (mm)	0			
Invert Above/Below Stream Bed Above/Below (mm)				
Scour Protection (Type : NONE) (Avg. Rock Size(mm) :)		X	X	Not required.
Scour/Erosion		X	X	
Beavers (Y/N)	No			
Upstream End General Rating		4	4	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 7315, Rise (mm): 8610, Type: RPE)				
Barrel Last Accessible Date	30-Oct-2012			West barrel.
Special Features				
Special Feature (Type :)				
Special Feature (Type :)				
Roof		8	8	Ground-roof. Sag estimated.
Measured Rise (mm)	7978			
Measured At Ring No.	7			
Sag (mm)	0			
Percent Sag	1			
Sidewall		8	8	Springline to high, not measured. Estimated defleciton
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		N	N	CNR track.- Tracks removed
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		8	8	
Separation (mm)	0			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 7315, Rise (mm): 8610, Type: RPE)				
Longitudinal Seams		8	7	3N except where top & side plates meet @ change in radius.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		7	7	Few stains @ bolts.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		X	X	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		8	7	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		N		West barrel.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		4	4	Cracked and broken at NE corner where headwall poured around concrete thrust blocks.
Collar		N	N	Snow covered.
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		5	5	Top of bevel bowed inwards, approx 75mm.
Heaving (mm)	0			
Invert Above/Below Stream Bed				Estimated
Above/Below (mm)				
Scour Protection		X	X	
(Type : NONE)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		X	X	
Beavers (Y/N)	No			
Downstream End General Rating		4	4	

Structure Usage				
		Last	Now	Explanation of Condition
Grade Separation				
Road Alignment		8	8	Mine road on top.
Roadway Surface		8	8	
(Type : GRAVEL)				
Icing (Y/N)		No		
Traffic Safety Features		3	4	North side railing disconnected @ 1 location. South side 1/2 missing.
Type		Pipe Rail		
Lighting		4	4	Lighting in East barrel only. 13 of 18 not working.
Barrel Leakage (Y/N)		Yes		
Drainage		7	7	
Structure In Use (Y/N)		Yes		CNR structure not in use.
Grade Separation 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	2012	Repair loose electrical/lighting.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
Structural Condition Rating (Last/Now) (%)	88.9/77.8	Sufficiency Rating (Last/Now) (%)	71.0/63.7	Est. Repl. Yr	2047	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	There should be 2 separate form, 77935-1 (hwy 40), 77935-2(CNR r/r). Parking on mine haul road not AT responsibility.		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	Shane Hall		Previous Assistant's Name				
Next Inspection Date	30-Jul-2014		Previous Inspection Date	22-Nov-2010			
Inspection Cycle (Default) (months)	21						
Comment							