

Bridge Culvert Inspection			
Bridge File Number	01712 -1 Bridge Culvert	Form Type	CULE
Year Built	1949	Lot No.	4
Bridge or Town Name	BLACK DIAMOND	Inspector Name	Garry Roberts
Located Over	TRIBUTARY TO SHEEP RIVER, 2.13.27.2.14, WATERCRS-ST	Inspector Class	BR CLS A
Located On	22:12 C1 20.870	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	05-Jun-2012
Legal Land Location	SE SEC 7 TWP 20 RGE 2 W5M	Data Entry By	Kelsey Roberts
Longitude, Latitude	-114:16:01, 50:40:38	Data Entry Date	05-Jul-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Tom Carey
Contract Main. Area	CMA27	Review Date	18-Jun-2012
Clear Roadway/Skew	11.7 /	Dept. Reviewer Name	Tim Davies
AADT/Year	3,060 / 2011 (A)	Dept. Review Date	12-Jul-2012
Road Classification	RAU-209-110	Follow-Up By	
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	U/S	1724	1901	SPE	1			ELLIPSE
1	MAIN	3600	1800	BP	26.2			RECTANGLE
Special Features	CONC FLOOR, BARREL ELBOW							
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	South side.	Gas	
Power		Municipal	Manhole @ SW.
Others	Fibre Optics - south side	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		5	5	No passing E/B & W/B.
Vertical Alignment		6	6	
Roadway Width (m)	11.700			
Embankment		5	5	3:1 from guardrail to pedestrian walkway then 2:1 over N end of pipes.
Sideslope (__:1)	2.0			
(Height of Cover(m) : 3.3)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		5	6	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		N		
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Cutoff Wall		X	X	
Bevel End		X	X	West pipe set at stream bed. East pipe set 0.6m higher
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		6	6	Some scattered rock 400mm
(Type : NATURAL)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		6	6	
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: U/S, Span (mm): 1724, Rise (mm): 1901, Type: SPE)				
Barrel Last Accessible Date	05-Jun-2012			West pipe handles low flows
Special Features				
Special Feature		6	6	
(Type : BARREL ELBOW)				Elbow at transition to concrete box
Special Feature		7	7	
(Type : CONC FLOOR)				
Roof		7	7	
Measured Rise (mm)	1893			
Measured At Ring No.	4			
Sag (mm)	8			
Percent Sag	1			
Sidewall		4	4	West pipe measurements recorded 1 cracked seam
Measured Span (mm)	1710			
Measured At Ring No.	4			
Deflection (mm)	14			
Percent Deflection	1			
Floor		N	N	Concrete Floor
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	7	
Separation (mm)	0			
Longitudinal Seams		4	4	Cracks in East sidewall of West pipe longitudinal seam @ ring #6 - 70 mm remaining steel - 12 of 12 bolt holes cracked. Ring 4 West pipe west sidewall has 1 bolt pulled through and 4 tipped bolts. Appears stable with no change from previous inspection
Total No. of Cracked Rings	1			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	70			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		5	5	Superficial corrosion @ haunches. in West pipe only
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): 1724, Rise (mm): 1901, Type: SPE)				
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel Extension General Rating		4	4	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1800, Rise (mm): 1800, Type: BP, Cell Sequence: 1)				
Barrel Last Accessible Date	05-Jun-2012			West concrete box
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	6	Isolated narrow cracks
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		6	6	Isolated cracks
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)				
Percent Deflection				
Floor		6	6	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		X	X	
Separation (mm)				
Longitudinal Seams		X	X	
Total No. of Cracked Rings	1			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	70			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		X	X	
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)				
Camber POS/ZERO/NEG				

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1800, Rise (mm): 1800, Type: BP, Cell Sequence: 1)				
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		6	6	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1800, Rise (mm): 1800, Type: BP, Cell Sequence: 2)				
Barrel Last Accessible Date	05-Jun-2012			East BP Box
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	6	Isolated hairline cracks 1 wide crack in Ring 3
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		6	6	Isolated Cracks
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)				
Percent Deflection				
Floor		6	6	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		X	X	
Separation (mm)				
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		X	X	
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)				
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1800, Rise (mm): 1800, Type: BP, Cell Sequence: 2)				
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		6	6	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		S		South end of 2 cell 1800 x 1800 BP Boxes
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	Minor exposed rebar @ East.
Collar		X	X	
Wingwalls		4	4	Parging spalled 10%. Spalled @ end of East wing. Scaled 5%. Patching has spalled. Apron rates 5
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		7	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 500)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Downstream End General Rating		4	4	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		6	6	900 mm dia CSP @ D/S @ West. Pipes are on a 15 degree skew to channel @ U/S.
Bank Stability		7	7	
HWM (m below Top of Culvert)				HWM Not visible
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading				
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		6	6	

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) (%)	44.4/44.4	Sufficiency Rating (Last/Now) (%)	54.8/54.9	Est. Repl. Yr	2023	Maint. Req. (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)							
Proposed Action							
Previous Inspector's Name	Garry Roberts		Previous Assistant's Name				
Next Inspection Date	05-Mar-2014		Previous Inspection Date	06-Oct-2010			
Inspection Cycle (Default) (months)	21						
Comment							