

Bridge Culvert Inspection				
Bridge File Number	73127 -1 Bridge Culvert		Form Type	CUL1
Year Built	1974		Lot No.	1
Bridge or Town Name	TROCHU		Inspector Name	Dave Lam
Located Over	TRIBUTARY TO GHOSTPINE CREEK, 3.50.12, WATERCRS-ST		Inspector Class	BR CLS A
Located On	585:02 C1 9.315		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	14-Jul-2011
Legal Land Location	SE SEC 18 TWP 33 RGE 22 W4M		Data Entry By	Marcia Chavez
Longitude, Latitude	-113:06:17, 51:49:25		Data Entry Date	24-Aug-2011
Road Authority	Alberta Transportation (AIT)		Reviewer Name	John O'Brien
Contract Main. Area	CMA20		Review Date	28-Jul-2011
Clear Roadway/Skew	7.5 / -30 deg. (LHF)		Dept. Reviewer Name	Chris Black
AADT/Year	630 / 2010 (A)		Dept. Review Date	30-Aug-2011
Road Classification	RCU-208-110		Follow-Up By	
Detour Length (km)	6			

Bridge Culvert Information								
Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1524	MP	53.7	68X13	2.8	ROUND
Special Features	VERT TIMBER STRUTS							
Special Features Comment	Struts 1991.							

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

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	In bottom of sharp sag, limited sight distance in both directions.
Vertical Alignment		6	6	
Roadway Width (m)	7.500			
Embankment		7	7	Both sides.
Sideslope ( :1)	2.3			
(Height of Cover(m) : 7)				
Guardrail (Y/N)	Yes			
<b>Approach Road / Embankment General Rating</b>		<b>6</b>	<b>6</b>	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		N		First ring is 3.75m long and included 1.6m long bevel.
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		N	N	(Floor rusted - some pitting. 16Mar2005). Drifted-in (photo).
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		6	6	Willow brush.
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		6	6	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>4</b>	<b>4</b>	R=4 19Dec2001 carried forward from unknown date.
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1524, Type: MP)				
Barrel Last Accessible Date	14-Jul-2011			
<b>Special Features</b>				
Special Feature		7	7	(Installed in May 1991 - 93/09/27.
(Type : <b>VERT TIMBER STRUTS</b> )				
Special Feature				
(Type : )				
Roof		3	3	Min rise 1320mm 12%. Measured beside max span 1700mm. The 17th strut from U/S end.
Measured Rise (mm)	1320			
Measured At Ring No.				
Sag (mm)	180			
Percent Sag	12			
Sidewall		3	3	13.3% deflection 1700. Deflecting throughout appears stable. Waving throughout. 17th strut from u/s end.
Measured Span (mm)	1700			
Measured At Ring No.				
Deflection (mm)	176			11.6%
Percent Deflection	12			
Floor		N	4	Showing rust & some pitting. 6.7% bulge.
Bulge (mm)	100			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		5	5	Coupler functioning properly as installed.
Separation (mm)	65			
Longitudinal Seams		X	5	Rivetted seams.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	Yes			
Longitudinal Stagger (Y/N)	Yes			
Coating		N	4	4 rating relates to the floor mainly due to rust. Water & soil corrosion.
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1524, Type: MP)				
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type : )				
Waterway Adequacy		6	4	(16Mar2005). Not visible this inspection.
Icing (Y/N)	Yes			U/S end drifted-in.
Silting (Y/N)	No			
Drift (Y/N)	Yes			
<b>Barrel General Rating</b>		<b>4</b>	<b>4</b>	1 pt. increase in GR due to struts in good condition.
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		S		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		4	4	Perched. Rust on floor; some pitting.
Heaving (mm)	150			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	300			
Scour Protection		3	3	Some restoration done, more required.
(Type : <b>NONE</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		3	3	Scour hole 6m long x 5m wide approx 500mm depth undermining bevel end-photo. Embankment well vegetated but inadequate armouring around bevel.
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>3</b>	<b>3</b>	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		6	6	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			(D/S. 011219). Not visible.
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>6</b>	<b>7</b>	

Maintenance Recommendations										
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #				
SHOTCRETE REPAIRS										
PLACE ADDITIONAL RIP RAP										
REMOVE DRIFT ACCUMULATION	2011	U/S opening.								
INSTALL CONCRETE/STEEL LINING										
INSTALL STRUTS										
INSTALL CONCRETE COLLAR/CUTOFF										
REPAIR SEAMS										
OTHER ACTION	2011	Restore scour D/S end & undermining.								
OTHER ACTION	2011	Assess & program to replace; pipe appears inadequate to handle flow based on scour hole at d/s end.								
OTHER ACTION										
OTHER ACTION										
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>44.4/44.4</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>51.5/45.5</b>	<b>Est. Repl. Yr</b>	<b>2015</b>	<b>Maint. Req. (Y/N)</b>	<b>Yes</b>			
Special Comments for Next Inspection	(Pipe was strutted in 1991. Pipe located in slide area which is caused by springs. 011219). Inspect every 2yrs (RS).		Department Comments							
Maintenance Reviewed By	2003.08.19 Replace in 2015.		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	14-Oct-2014	Previous Inspection Date	16-Mar-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						
REMOVE DRIFT ACCUMULATION	2011	U/S opening.	To operations			
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2011	Restore scour D/S end & undermining.	Defer until replaced			
OTHER ACTION	2011	Assess & program to replace; pipe appears inadequate to handle flow based on scour hole at d/s end.	Defer, replacement programmed 2017			
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

<b>Structural Condition Rating (Last/Now) (%)</b>	<b>44.4/44.4</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>51.5/45.5</b>	Est. Repl. Yr	2015	Maint. Req. (Y/N)	Yes
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Special Comments for Next Inspection	(Pipe was strutted in 1991. Pipe located in slide area which is caused by springs. 011219). Inspect every 2yrs (RS).	Department Comments	Tentatively programmed to be replaced in 2017. AS
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Maintenance Reviewed By	Andrew Smikles	Date	22-Aug-2012	Estimated Total	0
Proposed Long-Term Strategy	2003.08.19 Replace in 2015.				
On 3-Year Program (Y/N)					
Proposed Action					
Previous Inspector's Name	Dave Lam	Previous Assistant's Name			
Next Inspection Date	14-Oct-2014	Previous Inspection Date	16-Mar-2005		
Inspection Cycle (Default) (months)	39				
Comment					