

Bridge Culvert Inspection								
Bridge File Number	74921 -1 Bridge Culvert				Form Type	CUL1		
Year Built	1986				Lot No.	2		
Bridge or Town Name	ST. MICHAEL				Inspector Name	Owen Salava		
Located Over	WHITFORD CREEK, 6.48.4, WATERCRS-ST				Inspector Class	BR CLS A		
Located On	29:02 C1 19.976				Assistant Name			
Water Body Cl./Year					Assistant Class			
Navigabil. Cl./Year					Inspection Date	30-Oct-2012		
Legal Land Location	SW SEC 30 TWP 55 RGE 17 W4M				Data Entry By	Marcia Chavez		
Longitude, Latitude	-112:31:37, 53:46:27				Data Entry Date	09-Nov-2012		
Road Authority	Alberta Transportation (AIT)				Reviewer Name	John O'Brien		
Contract Main. Area	CMA14				Review Date	31-Oct-2012		
Clear Roadway/Skew	12.5 / 30 deg. (RHF)				Dept. Reviewer Name	Andrew Smikles		
AADT/Year	1,000 / 2011 (A)				Dept. Review Date	13-Nov-2012		
Road Classification	RCU-209-110				Follow-Up By			
Detour Length (km)	5							
Bridge Culvert Information								
Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	PI./Slab Thickness	Shape
1	MAIN	-	1800	MP	35	68X13	3.5	ROUND
Special Features	VERT STEEL STRUTS, CONC FLOOR							
Special Features Comment								
Utilities (Located at)								
Utility Attachments								
Telephone					Gas			
Power	1 wire crossing 130m West.				Municipal			
Others					Problem (Y/N)	No		
Remarks								
Approach Road / Embankment								
		Last	Now	Explanation of Condition				
Horizontal Alignment		8	8	RR 180 junction 150m West.				
Vertical Alignment		7	7	Long gradual grade with crest to East.				
Roadway Width (m)	12.500							
Embankment		7	7					
Sideslope (___:1)	3.0							
(Height of Cover(m) : 1.7)								
Guardrail (Y/N)	Yes			77m North, 99m South. Minor collision damage @ both.				
Approach Road / Embankment General Rating		7	7					
Upstream End								
Culvert Component		Last	Now	Explanation of Condition				
Direction		N						
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		6	6	
Heaving (mm)	100			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection (Type : <b>RIP RAP</b> ) (Avg. Rock Size(mm) : <b>300</b> )		4	4	Well vegetated. Wide gap beside bevel, evidence of piping.
Scour/Erosion		4	4	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>4</b>	<b>4</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : <b>1</b> , Primary Span, Location Code: <b>MAIN</b> , Span (mm): , Rise (mm): <b>1800</b> , Type: <b>MP</b> )				
Barrel Last Accessible Date	30-Oct-2012			
<b>Special Features</b>				
Special Feature (Type : <b>CONC FLOOR</b> )			7	
Special Feature (Type : <b>VERT STEEL STRUTS</b> )			7	
Roof		3	3	Deformation in roof shape. Measurements from 13Aug2009. Concrete floor, cannot measure the rise. (10.8%. 13Aug2009).
Measured Rise (mm)	1605			
Measured At Ring No.	3			
Sag (mm)	195			
Percent Sag	11			
Sidewall		4	4	
Measured Span (mm)	1975			
Measured At Ring No.	3			
Deflection (mm)	175			9.7%
Percent Deflection	10			
Floor		N	N	Concrete floor.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	5	1st seam from North end.
Separation (mm)	130			
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		3	5	(Corrosion on floor with heavy scaling & loss of section (photo). 07Dec2010). Concrete floor, remaining coating OK.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
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): , Rise (mm): 1800, Type: MP)				
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type : )				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		3	4	Roof +1 with struts.
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		6	6	
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		6	6	Well vegetated.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		6	6	
Beavers (Y/N)	No			
Downstream End General Rating		6	6	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		6	6	
Bank Stability		7	7	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading				Unknown.
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	2013	Restore clay seal u/s end.							
OTHER ACTION									
OTHER ACTION									
OTHER ACTION									
<b>Structural Condition Rating (Last/Now)</b> <b>33.3/44.4</b> <b>Sufficiency Rating (Last/Now) (%)</b> <b>51.5/56.5</b> <b>Est. Repl. Yr</b> <b>2032</b> <b>Maint. Req'd. (Y/N)</b> <b>Yes</b>									
Special Comments for Next Inspection	Monitor deflection.		Department Comments						
Maintenance Reviewed By				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	30-Jul-2014		Previous Inspection Date		07-Dec-2010				
Inspection Cycle (Default) (months)	21								
Comment									

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	2013	Restore clay seal u/s end.	Defer						
OTHER ACTION									
OTHER ACTION									
OTHER ACTION									
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>33.3/44.4</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>51.5/56.5</b>	Est. Repl. Yr	2032	Maint. Req. (Y/N)	Yes		
Special Comments for Next Inspection	Monitor deflection.		Department Comments	Currently programmed to be replaced in 2022					
Maintenance Reviewed By	Andrew Smikles		Date	10-Jan-2013	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	30-Jul-2014		Previous Inspection Date	07-Dec-2010					
Inspection Cycle (Default) (months)	21								
Comment									