

Bridge Culvert Inspection				
Bridge File Number	09172 -6 Bridge Culvert		Form Type	CUL1
Year Built	1955		Lot No.	1
Bridge or Town Name	BULWARK		Inspector Name	Owen Salava
Located Over	TRIBUTARY TO NELSON CREEK, 5.18.2, WATERCRS-ST		Inspector Class	BR CLS A
Located On	599:04 C1 25.916		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	17-Sep-2012
Legal Land Location	SE SEC 2 TWP 38 RGE 11 W4M		Data Entry By	Marcia Chavez
Longitude, Latitude	-111:27:57, 52:13:49		Data Entry Date	22-Oct-2012
Road Authority	Alberta Transportation (AIT)		Reviewer Name	John O'Brien
Contract Main. Area	CMA21		Review Date	27-Sep-2012
Clear Roadway/Skew	8.6 /		Dept. Reviewer Name	Andrew Smikles
AADT/Year	730 / 2011 (A)		Dept. Review Date	22-Oct-2012
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	U/S	1810	1118	FP	13.2	68X13		ARCH
1	MAIN	1810	1118	FP	20.7	68X13		ARCH
Special Features	VERT TIMBER STRUTS							
Special Features Comment								

Utilities (Located at)			
Utility Attachments			
Telephone		Gas	
Power	3 wire North r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Field entrance 40m E; 6th pipe from W; 0.78km from Range Rd. 11-2.
Vertical Alignment		8	8	
Roadway Width (m)	8.600			
Embankment		8	8	
Sideslope (___:1)	3.0			
(Height of Cover(m) : 1)				
Guardrail (Y/N)	No			
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 :)				

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Cutoff Wall		X	X	
Bevel End		5	5	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		7	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 200)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		5	5	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): 1810, Rise (mm): 1118, Type: FP)				
Barrel Last Accessible Date	17-Sep-2012			
Special Features				
Special Feature			5	1 strut at N end, R2, at localized roof bulge.
(Type : VERT TIMBER STRUTS)				
Special Feature				
(Type :)				
Roof		3	2	Measured bulge at localized roof bulge (photo); height 1005 away from bulge (10.1%).
Measured Rise (mm)	910			
Measured At Ring No.	2			18.7%
Sag (mm)	208			
Percent Sag	19			
Sidewall		5	5	
Measured Span (mm)	1900			
Measured At Ring No.	3			
Deflection (mm)	90			
Percent Deflection	5			
Floor		4	4	Floor pitting.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	5	Grouted at extension.
Separation (mm)	50			
Longitudinal Seams		X	X	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)				
Longitudinal Stagger (Y/N)				
Coating		4	4	Pitting floor.
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): 1810, Rise (mm): 1118, Type: FP)				
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		3	3	Single vertical strut stable, increase by 1 point.
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		5	5	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		7	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 200)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Downstream End General Rating		5	5	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		8	8	No defined channel. Six pipes in large slough area.
Bank Stability		8	8	
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		8	8	

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) (%)	22.2/33.3	Sufficiency Rating (Last/Now) (%)	48.2/53.1	Est. Repl. Yr	2018	Maint. Req'd. (Y/N)	No			
Special Comments for Next Inspection	No action on 1st section, but monitor. LRA emailed to Donald Saunders (AT) on 25Sep2012. Adjust to regular inspection cycle per AT's previous advice. Revise to CUL1 form per 17Sep2012 inspection; confirm rings measured 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	Owen Salava	Previous Assistant's Name								
Next Inspection Date	17-Sep-2013	Previous Inspection Date	02-Nov-2009							
Inspection Cycle (Modified) (months)	12									
Comment										

Maintenance Recommendations

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