Bridge Culvert Inspection

Bridge File Number	77770 -1 Bridge Culvert	Form Type	CUL1
Year Built	1988	Lot No.	3
Bridge or Town Name	COCHRANE	Inspector Name	Garry Roberts
Located Over	TRIBUTARY TO WAIPAROUS CREEK, 2.13.49.4.3, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	40:14 C1 32.677	Assistant Class	
Water Body Cl./Year		Inspection Date	26-Mar-2013
Navigabil. Cl./Year		Data Entry By	Lauren Korte
Legal Land Location	SE SEC 31 TWP 27 RGE 7 W5M	Data Entry Date	11-Apr-2013
Longitude, Latitude	-114:58:03, 51:20:42	Reviewer Name	Tom Carey
Road Authority	Alberta Transportation (AIT)	Review Date	10-Apr-2013
Contract Main. Area	CMA28	Dept. Reviewer Name	Tim Davies
Clear Roadway/Skew	10.4 /	Dept. Review Date	06-May-2013
AADT/Year	380 / 2012 (A)	Follow-Up By	
Road Classification	RAU-209-110		
Detour Length (km)	20		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	2438	SP	79.3	152X51	4.0	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	East & West r/w.	Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		6	6	Limited sight distance in between 2 curves.
Vertical Alignment		6	6	
Roadway Width (m)	10.400			
Embankment		3	3	Erosion of embankment, 80m South of pipe, West side - erosion measures 15mx1mx1m dp cutting 400mm into Roadway and 1 post hanging.
Sideslope (__:1)	2.0			
(Height of Cover(m) : **15**)				
Guardrail (Y/N)	Yes			Missing isolated splice bolts.
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		W		
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		7	N	Only top of bevel visible under ice. P.R 7.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	350			
Scour Protection		8	N	P.R 8.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **500**)				
Scour/Erosion		8	N	P.R 8.
Beavers (Y/N)	No			
Upstream End General Rating		**7**	**N**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2438, Type: SP**)				
Barrel Last Accessible Date	14-Jun-2011			Both bevels are buried under ice.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		8	N	P.R 8.
Measured Rise (mm)	2380			
Measured At Ring No.	8			
Sag (mm)	58			
Percent Sag	2			
Sidewall		8	N	P.R 8.
Measured Span (mm)	2480			
Measured At Ring No.	8			
Deflection (mm)	42			
Percent Deflection	1			
Floor		7	N	(Minor abrasions). P.R 7.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		7	N	P.R 7.
Separation (mm)	0			
Longitudinal Seams		8	N	P.R 8.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	0			1N stagger.
Proper Lap (Y/N)	Yes			
Longitudinal Stagger (Y/N)	Yes			
Coating		6	N	(Minor superficial corrosion at waterline and North, sidewall at Ring #2) P.R 6.
Corrosion By Soil (Y/N)	No			
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): 2438, Type: SP**)				
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	5	Buried in ice. 300mm silt and rock at 4 D/S rings.
Icing (Y/N)	Yes			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
Barrel General Rating		**8**	**N**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		E		East.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		7	N	Only top of bevel visible under ice. P.R 7.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		8	N	P.R 8.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **500**)				
Scour/Erosion		8	N	P.R 8.
Beavers (Y/N)	No			
Downstream End General Rating		**7**	**N**	

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)	1.2			No visible HWM.
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		**7**	**7**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2013	West embankment- 15m³ Cl.1 Place riprap @ erosion.				
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) (%)	**88.9/55.6**	**Sufficiency Rating (Last/Now) (%)**	**78.0/56.1**	Est. Repl. Yr	2036	Maint. Reqd. (Y/N)	Yes

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	26-Dec-2014	Previous Inspection Date	14-Jun-2011
Inspection Cycle (Default) (months)	21		
Comment			