Bridge Culvert Inspection

Bridge File Number	73068 -1 Bridge Culvert	Form Type	CUL1
Year Built	1981	Lot No.	1
Bridge or Town Name	RANFURLY	Inspector Name	Owen Salava
Located Over	2ND ORDER TRIBUTARY TO BIRCH LAKE, 6.5.18.3.5.1, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	16:26 L1 11.230;16:26 R1 11.228	Assistant Class	
Water Body Cl./Year		Inspection Date	18-Dec-2012
Navigabil. Cl./Year		Data Entry By	Marcia Chavez
Legal Land Location	SW SEC 13 TWP 51 RGE 12 W4M	Data Entry Date	03-Jan-2013
Longitude, Latitude	-111:39:07, 53:23:46	Reviewer Name	John O'Brien
Road Authority	Alberta Transportation (AIT)	Review Date	20-Dec-2012
Contract Main. Area	CMA14	Dept. Reviewer Name	Andrew Smikles
Clear Roadway/Skew	25 / 37 deg. (RHF)	Dept. Review Date	07-Jan-2013
AADT/Year	6,330 / 2011 (A)	Follow-Up By	
Road Classification	RFD-412.4-130		
Detour Length (km)	1		

Bridge Culvert Information

Number of Culverts	1

Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2155	1350	FP	96.2	68X13	4.2	ARCH

Special Features	VERT STEEL STRUTS
Special Features Comment	

Utilities (Located at)

Utility Attachments			
Telephone		Gas	
Power	3 wires 30m North of WBL c/l.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		5	5	Local road intersection over structure at Rge Rd 121. Blind crest curve 150m W with 4% grade to top.
Vertical Alignment		5	5	
Roadway Width (m)	25.000			
Embankment		7	7	Highway sideslopes are 5:1.
Sideslope (__:1)	3.0			
(Height of Cover(m) : **2.8**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**5**	**5**	

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	(Floor is rusting with salt stains. 17Dec2010) - Floor is ice covered.
Heaving (mm)	75			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	150			
Scour Protection		N	N	Snow covered.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	N	Snow covered.
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: MAIN, Span (mm): 2155, Rise (mm): 1350, Type: FP**)				
Barrel Last Accessible Date	18-Dec-2012			
Special Features				
Special Feature		6	6	Permanent steel struts; no distortion.
(Type : **VERT STEEL STRUTS**)				
Special Feature				
(Type :)				
Roof		2	2	Floor bulge not @ this location based on these numbers. Unable to measure due to ice; rating carried forward.
Measured Rise (mm)	1090			
Measured At Ring No.				6th post from South. (19.3%. 17Dec2010).
Sag (mm)	260			
Percent Sag	19			
Sidewall		5	5	6th post from South.
Measured Span (mm)	2300			
Measured At Ring No.				
Deflection (mm)	145			6.7%
Percent Deflection	7			
Floor		N	N	Ice covered.
Bulge (mm)	50			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	5	1st post from North.
Separation (mm)	60			
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		5	5	(Pitting on roof (3.0 m section) and floor. 17Mar2006) - Roof/floor pitting not seen at this time. Alkaline soil in area. Rust at crown. Floor showing rust at haunches.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	No			
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): 2155, Rise (mm): 1350, Type: FP**)				
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		5	5	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**4**	**4**	G.R. increased by 2 due to struts and carried forward.

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		N	6	Minor bend at SW. No problem.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		N	N	Willows at outlet. Snow covered.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	N	Snow covered.
Beavers (Y/N)	No			
Downstream End General Rating		**N**	**6**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		6	6	Flow along ditch for 100 m at NW grassed throughout. Small culvert under local access road, 80m d/s.
Bank Stability		7	7	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			D/S only.
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) (%)**	**51.2/52.0**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	No

Special Comments for Next Inspection	No action for sag since pipe is strutted. LRA emailed to Donald Saunders on 19Dec2012.	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	18-Sep-2014	Previous Inspection Date	17-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						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**44.4/44.4**	**Sufficiency Rating (Last/Now) (%)**	**51.2/52.0**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	No

Special Comments for Next Inspection	No action for sag since pipe is strutted. LRA emailed to Donald Saunders on 19Dec2012.	Department Comments	Currently programmed to be replaced in 2022

Maintenance Reviewed By	Andrew Smikles	Date	21-Jan-2013	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	18-Sep-2014	Previous Inspection Date	17-Dec-2010
Inspection Cycle (Default) (months)	21		
Comment			