Bridge Culvert Inspection

Bridge File Number	70869 -1 Bridge Culvert	Form Type	CUL1
Year Built	1998	Lot No.	4
Bridge or Town Name	STIRLING	Inspector Name	Jason Rusu
Located Over	ETZIKOM COULEE, 11.9, WATERCRS-ST	Inspector Class	BR CLS A
Located On	4:06 R1 0.981;4:06 L1 0.978	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	23-Mar-2013
Legal Land Location	SW SEC 4 TWP 7 RGE 19 W4M	Data Entry By	Lauren Korte
Longitude, Latitude	-112:31:57, 49:31:41	Data Entry Date	11-Apr-2013
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Garry Roberts
Contract Main. Area	CMA25	Review Date	07-Apr-2013
Clear Roadway/Skew	32.8 / 27 deg. (RHF)	Dept. Reviewer Name	Tim Davies
AADT/Year	3,990 / 2012 (A)	Dept. Review Date	22-Apr-2013
Road Classification	RAU-213-130	Follow-Up By	
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	-	3300	MP	142	125X26	3.5	ROUND

Special Features	STORM WATER DRAIN
Special Features Comment	

Utilities (Located at)

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

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	24.8m Hwy 4 lanes & East 8m service road over pipe. Located 1km North of Hwy 61 and Sterling.
Vertical Alignment		8	8	
Roadway Width (m)	32.800			
Embankment		8	8	
Sideslope (__:1)	4.0			
(Height of Cover(m) : **1.7**)				
Guardrail (Y/N)	Yes			East guardrail is on service road.
Approach Road / Embankment General Rating		**8**	**8**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		W		West.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		8	8	
Collar		8	8	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		N	N	Buried.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	800			
Scour Protection		8	8	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		8	8	
Beavers (Y/N)	No			
Upstream End General Rating		**8**	**8**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3300, Type: MP**)				
Barrel Last Accessible Date	23-Mar-2013			(400mm localized distortion @ roof. Under West shoulder of NBL.) Distortions @ roof appear the same.
Special Features				
Special Feature		N	7	
(Type : **STORM WATER DRAIN**)				
Special Feature				
(Type :)				
Roof		N	4	Roof sag is not below main travel lanes of Hwy 4. This is an as built deflection & not caused by traffic loads. 3220 span @ roof damaged area 12.1%. Local roof deflection. Construction damage. Estimate. 1.5m thick ice throughout.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	400			
Percent Sag	12			
Sidewall		N	8	Inward sidewall deflection. @ 1/2 length- middle of pipe.
Measured Span (mm)	3250			
Measured At Ring No.				
Deflection (mm)	80			
Percent Deflection	0			
Floor		N	N	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	8	
Separation (mm)	25			
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		N	7	Unable to confirm.
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): 3300, 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**	

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		8	8	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	800			
Scour Protection		8	8	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		8	8	
Beavers (Y/N)	No			
Downstream End General Rating		**8**	**8**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		5	5	Curves at both ends.
Bank Stability		6	6	
HWM (m below Top of Culvert)				No HWM visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**5**	**5**	

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) (%)	**33.3/44.4**	**Sufficiency Rating (Last/Now) (%)**	**57.0/61.9**	Est. Repl. Yr	2028	Maint. Reqd. (Y/N)	No

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	23-Dec-2014	Previous Inspection Date	16-Jun-2011
Inspection Cycle (Default) (months)	21		
Comment			