Bridge Culvert Inspection

Bridge File Number	01509 -1 Bridge Culvert	Form Type	CUL1
Year Built	1965	Lot No.	3
Bridge or Town Name	RAYMOND	Inspector Name	Jon Davies
Located Over	NINE MILE COULEE, 2.12.20.2.1, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	52:02 C1 1.337	Assistant Class	
Water Body Cl./Year		Inspection Date	28-Sep-2011
Navigabil. Cl./Year		Data Entry By	Alyssa Boynton
Legal Land Location	SE SEC 16 TWP 6 RGE 21 W4M	Data Entry Date	13-Oct-2011
Longitude, Latitude	-112:46:01, 49:27:54	Reviewer Name	Garry Roberts
Road Authority	Alberta Transportation (AIT)	Review Date	03-Oct-2011
Contract Main. Area	CMA25	Dept. Reviewer Name	Tim Davies
Clear Roadway/Skew	12 /	Dept. Review Date	28-Oct-2011
AADT/Year	2,010 / 2010 (A)	Follow-Up By	
Road Classification	RAU-211.8-110		
Detour Length (km)	8		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	2134	MP	34	68X13	4.2	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	@ North r/w & South ditch 4" conduit.	Gas	
Power	North row	Municipal	
Others	Fiber optics North row	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	7	Intersection to East. Crest curve east. No passing east bound lane.
Vertical Alignment		8	6	
Roadway Width (m)	12.000			
Embankment		7	7	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **2.8**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**8**	**6**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction				South invert.
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		5	5	Floor rust, otherwise o.k. Telus conduit over U/S bevel
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		6	6	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **400**)				
Scour/Erosion		6	6	
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: MAIN, Span (mm): , Rise (mm): 2134, Type: MP**)				
Barrel Last Accessible Date	19-Jan-2010			Not accessible due to high flow velocity.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	N	P.R. 7 viewed from South end. General shape is good.
Measured Rise (mm)	2065			
Measured At Ring No.	3			
Sag (mm)	69			
Percent Sag	3			
Sidewall		4	N	(Rust lower sidewall. Soil corrosion spots in R2 most at west sidewall) Jan 19 2010 P.R 4
Measured Span (mm)	2210			
Measured At Ring No.	2			
Deflection (mm)	76			
Percent Deflection	4			
Floor		N	N	High water. (Some large rocks in the pipe) Jan. 15/09
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		7	N	P.R 7
Separation (mm)	40			
Longitudinal Seams		6	N	Rivetted seams. P.R. 6
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	0			
Proper Lap (Y/N)	Yes			
Longitudinal Stagger (Y/N)	Yes			
Coating		4	N	(Corrosion flaking & pitting @ floor & haunches Some isolated pitting in the side walls Several soil corrosion spots in R2) Jan 19 2010. P.R 4
Corrosion By Soil (Y/N)	Yes			
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: MAIN, Span (mm): , Rise (mm): 2134, Type: MP**)				
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**4**	**4**	GR carried forward.

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction				North
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	(Flaking rust on lower half of the pipe) 2006/12/06
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			(Some rip rap in the bevel) 2006/12/06
Above/Below (mm)	100			
Scour Protection		6	6	Sparse Rock. Well in grown and natural.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **400**)				
Scour/Erosion		6	6	
Beavers (Y/N)	No			
Downstream End General Rating		**5**	**5**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		5	5	
Bank Stability		5	5	
HWM (m below Top of Culvert)	1.5			No visible HWM At up stream bevel end.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	AGGRADING			
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	2012	Remove drift U/S bevel South.				
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) (%)**	**50.7/50.4**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Monster alkali corrosion fro accelerated deterioration. May require liner or replacement sooner than 10 years.	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	28-Jun-2013	Previous Inspection Date	19-Jan-2010		
Inspection Cycle (Default) (months)	21				
Comment					