Bridge Culvert Inspection

Bridge File Number	00854 -1 Bridge Culvert	Form Type	CUL1
Year Built	1961	Lot No.	4
Bridge or Town Name	AIRDRIE	Inspector Name	Garry Roberts
Located Over	TRIBUTARY TO NOSE CREEK, 2.13.32.5, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	567:04 C1 3.436	Assistant Class	
Water Body Cl./Year		Inspection Date	25-Jul-2012
Navigabil. Cl./Year		Data Entry By	Lauren Korte
Legal Land Location	SW SEC 17 TWP 27 RGE 1 W5M	Data Entry Date	30-Aug-2012
Longitude, Latitude	-114:06:60, 51:18:01	Reviewer Name	Tom Carey
Road Authority	Alberta Transportation (AIT)	Review Date	07-Aug-2012
Contract Main. Area	CMA29	Dept. Reviewer Name	Tim Davies
Clear Roadway/Skew	9.2 / 45 deg. (RHF)	Dept. Review Date	06-Sep-2012
AADT/Year	2,240 / 2011 (A)	Follow-Up By	
Road Classification	RLU-209-110		
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	MAIN	2027	2241	SPE	43.9	152X51	3.0	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	South ditch.	Gas	
Power	North ROW.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Access road both sides of pipe. Hill to West.
Vertical Alignment		7	6	
Roadway Width (m)	9.200			
Embankment		7	7	
Sideslope (__:1)	2.0			
(Height of Cover(m) : **3**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**7**	**6**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		N		North.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		7	6	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		7	7	
Heaving (mm)	300			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	150			
Scour Protection		7	7	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		**7**	**6**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2027, Rise (mm): 2241, Type: SPE**)				
Barrel Last Accessible Date	25-Jul-2012			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		4	4	Roof distortion based on 100mm floor bulge not being @ mid. Rated 4 due to cracks in circumferential seams.
Measured Rise (mm)	2112			
Measured At Ring No.	8			
Sag (mm)	129			
Percent Sag	5			
Sidewall		6	6	Slight curve in barrel.
Measured Span (mm)	2125			
Measured At Ring No.	8			
Deflection (mm)	98			
Percent Deflection	4			
Floor		5	5	
Bulge (mm)	100			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		4	4	SEAMS #5 to #10 HAVE 1 CRACK AT TOP ROOF BOLT. Cracks appear to have stabilized.
Separation (mm)	0			
Longitudinal Seams		5	5	Loose bolts throughout crack at roof bolt in Ring 14 (appear to be installation damage). Crack bolts in circ seams not long seam. 1N stagger.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		5	5	Alkali and rust at bolt holes of lower seams only with minor scale buildup.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2027, Rise (mm): 2241, Type: SPE**)				
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 General Rating		**4**	**4**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		S		South.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		6	6	Only top is visible.
Bevel End		7	7	
Heaving (mm)	200			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		5	5	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		5	5	Minor rock lined scour @ SW.
Beavers (Y/N)	No			
Downstream End General Rating		**7**	**5**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		6	6	
Bank Stability		7	7	
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		**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) (%)**	**58.0/55.4**	Est. Repl. Yr	2025	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	25-Oct-2015	Previous Inspection Date	14-May-2009		
Inspection Cycle (Default) (months)	39				
Comment					