Bridge Culvert Inspection

Bridge File Number	77086 -1 Bridge Culvert	Form Type	CUL1
Year Built	1969	Lot No.	3
Bridge or Town Name	GRASSY LAKE	Inspector Name	Tom Carey
Located Over	SMR - IRRIGATION C, WATERCRS-IC	Inspector Class	BR CLS A
Located On	877:06 C1 6.438	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	14-Mar-2012
Legal Land Location	NW SEC 10 TWP 9 RGE 13 W4M	Data Entry By	Kelsey Roberts
Longitude, Latitude	-111:41:53, 49:43:39	Data Entry Date	08-Apr-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Garry Roberts
Contract Main. Area	CMA24	Review Date	25-Mar-2012
Clear Roadway/Skew	8.5 /	Dept. Reviewer Name	Tim Davies
AADT/Year	280 / 2011 (A)	Dept. Review Date	17-Apr-2012
Road Classification	RCU-209-110	Follow-Up By	
Detour Length (km)	5		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2134	1549	RPP	16.5	152X51	2.8	PIPE ARCH
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	West ditch.	Gas	
Power	4 wires East ditch and 4 lines crossing road 20m North	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Intersection 15m North.
Vertical Alignment		9	9	
Roadway Width (m)	8.000			
Embankment		N	7	
Sideslope (__:1)	2.5			
(Height of Cover(m) : **0.5**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**7**	**7**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		W		West 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		N	N	(Heaved due to neg camber.) 2005/10/18 Covered in dirt
Heaving (mm)	150			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		N	5	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	7	
Beavers (Y/N)	No			Bevel filled in with 1.5m high dirt
Upstream End General Rating		**3**	**5**	General rating carried forward

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2134, Rise (mm): 1549, Type: RPP**)				
Barrel Last Accessible Date	14-Mar-2012			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	5	(1 ring from U/S - 1530mm. Centerline - 1496mm. 1 ring from D/S - 1545mm.)
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	53			
Percent Sag	3			
Sidewall		N	4	
Measured Span (mm)	2160			Crimping at R2 at North at bottom corrugations.
Measured At Ring No.	5			
Deflection (mm)	26			
Percent Deflection	1			
Floor		N	N	300mm mud, ice and water
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	7	
Separation (mm)	0			
Longitudinal Seams		N	4	20mm gap at roof plates at R2. Not a typical seam crack. Minor 10mm long crack vertically up from one bolt at R2 at southside. Goes from bolt to plate edge. Roof is staggered. Sidewall has no stagger.
Total No. of Cracked Rings	1			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		N	5	
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	Yes			300mm.

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2134, Rise (mm): 1549, Type: RPP**)				
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		N	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		E		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		N	N	Covered in dirt at floor and up around sides 500mm deep.
Heaving (mm)	100			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		N	5	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	7	
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**4**	G.R. carried forward.

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	5	Aligns 90 degrees to pipe. No canal- is just used for ditch drainage now canal is filled in.
Bank Stability		N	7	
HWM (m below Top of Culvert)	1.0			No visible HWM (Feb. 16/09)
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**	**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	2013	Clean out dirt from ends if is to still be used as drainage pipe.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**44.4/44.4**	**Sufficiency Rating (Last/Now) (%)**	**62.0/56.4**	Est. Repl. Yr	2020	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Spoke with local farmer- peipe could be filled in, in future or just left as drainage pipe- in discussion with A.T. and MD 14 now. T. Carey Mar. 14/12	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	Tim Davies	Previous Assistant's Name			
Next Inspection Date	14-Jun-2015	Previous Inspection Date	16-Feb-2009		
Inspection Cycle (Default) (months)	39				
Comment					