

Bridge Culvert Inspection				
Bridge File Number	73538 -1 Bridge Culvert		Form Type	CULM
Year Built	1958		Lot No.	4
Bridge or Town Name	IRON SPRINGS		Inspector Name	Jason Rusu
Located Over	LNI - IRRIGATION C, WATERCRS-IC		Inspector Class	BR CLS A
Located On	25:02 C1 37.946		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	09-Dec-2011
Legal Land Location	SW SEC 28 TWP 11 RGE 20 W4M		Data Entry By	Anne Roberts
Longitude, Latitude	-112:40:41, 49:56:06		Data Entry Date	20-Jan-2012
Road Authority	Alberta Transportation (AIT)		Reviewer Name	Garry Roberts
Contract Main. Area	CMA25		Review Date	26-Dec-2011
Clear Roadway/Skew	11 / 30 deg. (RHF)		Dept. Reviewer Name	Tim Davies
AADT/Year	830 / 2010 (A)		Dept. Review Date	23-Jan-2012
Road Classification	RAU-211.8-110		Follow-Up By	
Detour Length (km)	3			

**Bridge Culvert Information**

Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	1829	1118	FP	36.6	68X13		ARCH
2	MAIN	-	1400	MP	36.6	68X13		ROUND
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone	West side	Gas	
Power		Municipal	
Others	Supernet West Row	Problem (Y/N)	No
Remarks			

**Approach Road / Embankment**

	Last	Now	Explanation of Condition
Horizontal Alignment	9	9	Several cracks across road in vicinity of pipes. sealed Entrance at northeast. Level over pipes then 3:1.
Vertical Alignment	8	8	
Roadway Width (m)	11.000		
Embankment	8	7	
Sideslope (__:1)	3.0		
(Height of Cover(m) : 1.2)			
Guardrail (Y/N)	No		
<b>Approach Road / Embankment General Rating</b>	<b>8</b>	<b>8</b>	

**Upstream End**

Culvert Component	Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>			
Direction	E		North culvert, East end.
End Treatment (Concrete, Steel, Others, None)	CONCRETE		
Headwall	7	N	Snow covered
Collar	7	N	Snow covered

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Wingwalls		7	N	
(Shape : )				
Cutoff Wall		N	N	
Bevel End		5	N	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		7	N	Concrete lined channel
(Type : <b>CONCRETE</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		7	N	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>5</b>	<b>N</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1829, Rise (mm): 1118, Type: FP)</b>				
Barrel Last Accessible Date	27-Feb-2001			North pipe Unable to enter due to water and ice depth and low clearance Viewed from both ends
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		N	4	8% estimated sag Worst sag appears to be at ring 3
Measured Rise (mm)	1020			
Measured At Ring No.	3			
Sag (mm)	98			Estimate
Percent Sag	8			
Sidewall		N	6	
Measured Span (mm)	1880			
Measured At Ring No.	3			
Deflection (mm)	20			Estimate
Percent Deflection	2			
Floor		N	5	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	5	Mid seam dirt infiltration minor
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)				

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1829, Rise (mm): 1118, Type: FP)					
Coating		N	5	Some pitting along floor and haunch area . Minor superficial corrosion at exterior roof and bevel	
Corrosion By Soil (Y/N)	No				
Corrosion By Water (Y/N)	Yes				
Camber POS/ZERO/NEG	NEG				
Ponding (Y/N)	No				
Fish Passage Adequacy		X	X		
Baffle		X	X		
(Type : )					
Waterway Adequacy		7	7		
Icing (Y/N)	No				
Silting (Y/N)	No				
Drift (Y/N)	No				
<b>Barrel General Rating</b>		<b>4</b>	<b>4</b>	GR carried forward	
Downstream End					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 1, Span Type: Primary Span)					
Direction		W		South culvert, West end.	
End Treatment (Concrete, Steel, Others, None)	CONCRETE				
Headwall		7	N	Snow covered	
Collar		7	N		
Wingwalls		7	N		
(Shape : )					
Cutoff Wall		N	N		
Bevel End		6	N		
Heaving (mm)	0				
Invert Above/Below Stream Bed	BELOW				
Above/Below (mm)	100				
Scour Protection		7	N	Concrete lined channel	
(Type : <b>CONCRETE</b> )					
(Avg. Rock Size(mm) : )					
Scour/Erosion		7	N		
Beavers (Y/N)	No				
<b>Downstream End General Rating</b>		<b>6</b>	<b>N</b>		
Upstream End					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Span Type: Secondary Span)					
Direction		E		South culvert - East end.	
End Treatment (Concrete, Steel, Others, None)	CONCRETE				
Headwall		5	N	(Wide cracking over pipe) 6-June-2010	
Collar		7	N		

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Wingwalls		7	N	
(Shape : )				
Cutoff Wall		N	N	
Bevel End		6	N	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		7	N	Concrete lined channel.
(Type : <b>CONCRETE</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		7	N	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>6</b>	<b>N</b>	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1400, Type: MP)</b>				
Barrel Last Accessible Date	09-Dec-2011			South Pipe
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		6	6	At Midspan
Measured Rise (mm)	1380			
Measured At Ring No.				
Sag (mm)	20			
Percent Sag	1			
Sidewall		6	6	Inward At Midspan
Measured Span (mm)	1390			
Measured At Ring No.				
Deflection (mm)				
Percent Deflection	1			
Floor		N	5	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		6	6	Mid seam dirt infiltration minor
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)				

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1400, Type: MP)					
Coating		6	5	Minor superficial rust haunch level	
Corrosion By Soil (Y/N)	No				
Corrosion By Water (Y/N)	Yes				
Camber POS/ZERO/NEG	ZERO				
Ponding (Y/N)	No				
Fish Passage Adequacy		X	X		
Baffle		X	X		
(Type : )					
Waterway Adequacy		7	7		
Icing (Y/N)	No				
Silting (Y/N)	No				
Drift (Y/N)	No				
<b>Barrel General Rating</b>		<b>6</b>	<b>6</b>		
Downstream End					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Span Type: Secondary Span)					
Direction		W		South culvert, West end.	
End Treatment (Concrete, Steel, Others, None)	CONCRETE				
Headwall		7	N	Snow covered	
Collar		7	N		
Wingwalls		7	N		
(Shape : )					
Cutoff Wall		N	N	buried	
Bevel End		6	N		
Heaving (mm)	0				
Invert Above/Below Stream Bed	BELOW				
Above/Below (mm)	100				
Scour Protection		7	N	Concrete lined channel.	
(Type : CONCRETE)					
(Avg. Rock Size(mm) : )					
Scour/Erosion		7	N		
Beavers (Y/N)	No				
<b>Downstream End General Rating</b>		<b>6</b>	<b>N</b>		
Structure Usage					
		Last	Now	Explanation of Condition	
<b>Channel (U/S and D/S)</b>					
Alignment		7	7	U/S CURVE Concrete lined canal.  At u/s and d/s of secondary.	
Bank Stability		7	7		

Structure Usage				
		Last	Now	Explanation of Condition
HWM (m below Top of Culvert)				Not visible
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	AGGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>7</b>	<b>7</b>	

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							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>44.4/44.4</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>58.6/57.7</b>	Est. Repl. Yr	2017	Maint. Reqd. (Y/N)	No
Special Comments for Next Inspection	Inspect in late Sept./Oct. after canal shutdown, but before winter to facilitate barrel access.		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	Jason Rusu		Previous Assistant's Name				
Next Inspection Date	09-Sep-2013		Previous Inspection Date	06-Jun-2010			
Inspection Cycle (Default) (months)	21						
Comment							