

Bridge Culvert Inspection			
Bridge File Number	01879 -1 Bridge Culvert	Form Type	CULM
Year Built	1957	Lot No.	3
Bridge or Town Name	NEVIS	Inspector Name	Jason Saly
Located Over	TRIBUTARY TO TAIL CREEK, 3.65.1, WATERCRS-ST	Inspector Class	BR CLS A
Located On	11:16 C1 37.510	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	13-Feb-2012
Legal Land Location	SE SEC 6 TWP 39 RGE 21 W4M	Data Entry By	Marcia Chavez
Longitude, Latitude	-113:00:50, 52:19:03	Data Entry Date	08-Mar-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	John O'Brien
Contract Main. Area	CMA20	Review Date	29-Feb-2012
Clear Roadway/Skew	11.3 / 0 deg.	Dept. Reviewer Name	Andrew Smikles
AADT/Year	2,280 / 2010 (A)	Dept. Review Date	09-Mar-2012
Road Classification	RAU-211.8-110	Follow-Up By	
Detour Length (km)	6		

**Bridge Culvert Information**

Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	1429	1575	SPE	42.7	152X51	2.8	ELLIPSE
2	MAIN	1429	1575	SPE	39.6	152X51	2.8	ELLIPSE
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone		Gas	
Power	6 wires 25m South of c/l.	Municipal	
Others		Problem (Y/N)	No
Remarks			

**Approach Road / Embankment**

	Last	Now	Explanation of Condition
Horizontal Alignment	6	6	Curve, railway crossing & intersection to East. Hill to the West, limited sight distance. No passing WB.
Vertical Alignment	6	6	
Roadway Width (m)	11.300		
Embankment	6	6	Some minor erosion near top of culverts South slope.
Sideslope (__:1)	3.0		
(Height of Cover(m) : 4.1)			
Guardrail (Y/N)	No		
<b>Approach Road / Embankment General Rating</b>	<b>6</b>	<b>6</b>	

**Upstream End**

Culvert Component	Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>			
Direction	S		East pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL		
Headwall	X	X	
Collar	X	X	
Wingwalls	X	X	
(Shape : )			

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Cutoff Wall		X	X	
Bevel End		7	7	Beaver protection on inlet.
Heaving (mm)	50			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	0			
Scour Protection		6	6	
(Type : <b>NATURAL</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		6	6	
Beavers (Y/N)	Yes			
<b>Upstream End General Rating</b>		<b>6</b>	<b>6</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1429, Rise (mm): 1575, Type: SPE)</b>				
Barrel Last Accessible Date	13-Feb-2012			
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		5	5	Could not measure rise due to ice.
Measured Rise (mm)	1490			
Measured At Ring No.	7			
Sag (mm)	85			
Percent Sag	6			
Sidewall		6	5	Minor perforation W sidewall at R9. Span at R7=1505=76mm=4.8%. Span at R12=1470=41mm.
Measured Span (mm)	1505			
Measured At Ring No.	7			
Deflection (mm)	76			4.8%
Percent Deflection	5			
Floor		5	N	Ice
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	5	Seam near D/S end has damage. Missing bolt.
Separation (mm)	10			
Longitudinal Seams		6	6	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Long stagger for S half of pipe; no stagger in N half.				

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 1429, Rise (mm): 1575, Type: SPE)				
Coating		4	4	Rust stains through lower seams.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	Yes			
Fish Passage Adequacy		5	4	Beaver protection at S end of pipe does not allow for fish passage.
Baffle		X	X	
(Type : )				
Waterway Adequacy		7	7	(Minor silt/rocks washed into barrel floor. 29Mar2010).
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>5</b>	<b>5</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		N		East barrel.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls (Shape : )		X	X	
Cutoff Wall		X	X	
Bevel End		6	6	
Heaving (mm)	25			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection (Type : <b>NATURAL</b> ) (Avg. Rock Size(mm) : )		6	6	
Scour/Erosion		6	6	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>6</b>	<b>6</b>	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		S		West barrel.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		3	3	Bevel projecting 0.6m from fill. Seam @ bevel is torn.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		4	4	Scour @ bevel sides.
(Type : <b>NATURAL</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		4	4	
Beavers (Y/N)	Yes			Beaver protection on inlet. Some blockage.
<b>Upstream End General Rating</b>		<b>3</b>	<b>3</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 1429, Rise (mm): 1575, Type: SPE)</b>				
Barrel Last Accessible Date	29-Mar-2010			Unable to access; water running btwn ice layers, shape appears adequate.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		5	5	0.4m ice.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				Estimate.
Percent Sag	5			
Sidewall		5	5	
Measured Span (mm)	1380			
Measured At Ring No.	7			
Deflection (mm)	49			(3.4%. 29Mar2010).
Percent Deflection	3			
Floor		N	N	Ice covered.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	N	
Separation (mm)	0			
Longitudinal Seams		5	N	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): 1429, Rise (mm): 1575, Type: SPE)				
Coating		5	5	
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		4	4	Beaver protection at S end does not allow fish passage.
Baffle		X	X	
(Type : )				
Waterway Adequacy		4	4	Inlet blocked by debris.
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
<b>Barrel General Rating</b>		<b>5</b>	<b>N</b>	GR was 5 from 29Mar2010.
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		N		West barrel.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		3	4	Left bevel damaged, constricts flow - no action required.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	400			
Scour Protection		4	4	
(Type : <b>NATURAL</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		4	4	Minor scour West bevel.
Beavers (Y/N)	Yes			
<b>Downstream End General Rating</b>		<b>3</b>	<b>4</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		6	6	
Bank Stability		7	7	
HWM (m below Top of Culvert)	1.5			(HWM 1.50m. 02/04/22) HWM not visible.
Drift (Y/N)	Yes			

Structure Usage				
		Last	Now	Explanation of Condition
Channel Bottom Degrading/Aggrading	AGGRADING			Beaver dam 15m D/S & 8m U/S at pond. Beaver house 50m from U/S end.
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>6</b>	<b>6</b>	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
SHOTCRETE REPAIRS							
PLACE ADDITIONAL RIP RAP	2012	20m3, Class 1 both ends West pipe scour.					
REMOVE DRIFT ACCUMULATION							
INSTALL CONCRETE/STEEL LINING							
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION	2012	Remove beaver dam and debris @ bevel ends.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>55.6/55.6</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>40.0/41.0</b>	Est. Repl. Yr	2017	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	No action required for torn seam at W pipe, S bevel.		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	Owen Salava	Previous Assistant's Name					
Next Inspection Date	13-Nov-2013	Previous Inspection Date	29-Mar-2010				
Inspection Cycle (Default) (months)	21						
Comment							