

Bridge Culvert Inspection			
Bridge File Number	71824 -1 Bridge Culvert	Form Type	CULM
Year Built/Lined	1966/1987	Lot No.	2
Bridge or Town Name	HINES CREEK	Inspector Name	Russel Vanderschaaf
Located Over	MONTAGNEUSE RIVER, 8.10.86, WATERCRS-ST	Inspector Class	BR CLS B
Located On	64:04 C1 16.476	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	03-Nov-2011
Legal Land Location	NW SEC 9 TWP 85 RGE 5 W6M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-118:44:17, 56:21:27	Data Entry Date	12-Dec-2011
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA04	Review Date	20-Nov-2011
Clear Roadway/Skew	10.3 /	Dept. Reviewer Name	Steve Pasquan
AADT/Year	920 / 2010 (A)	Dept. Review Date	10-Jan-2012
Road Classification	RAU-209-110	Follow-Up By	
Detour Length (km)	3		

**Bridge Culvert Information**

Number of Culverts	3							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	3800	4190	SPE	99.4	152X51	5.5	ELLIPSE
2	MAIN Partially Lined	3800	4190	SPE	99.4	152X51	5.5	ELLIPSE
3	MAIN PARTIAL LINER	-	3640	SP	66			ROUND
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone	Buried cable on North ditch.	Gas	
Power	3 wire o/h on South ditch	Municipal	
Others		Problem (Y/N)	No
Remarks			

**Approach Road / Embankment**

	Last	Now	Explanation of Condition
Horizontal Alignment	6	7	Limited site distance due to sag crest curves on both ends.
Vertical Alignment	5	5	
Roadway Width (m)	10.300		
Embankment	4	4	North embankment sluffing. Stepped slope both sides at 3 to 1. Ditch erosion minor on 4 corners along toe of sideslope. Slump above East pipe @u/s end.
Sideslope ( __:1)	3.0		
(Height of Cover(m) : 10)			
Guardrail (Y/N)	Yes		6 damaged posts, 1 broken, damage to N flexbeam.
<b>Approach Road / Embankment General Rating</b>	<b>5</b>	<b>5</b>	

**Upstream End**

Culvert Component	Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Secondary Span)</b>			
Direction	N		West pipe
End Treatment (Concrete, Steel, Others, None)	CONCRETE		
Headwall	X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Secondary Span)</b>				
Collar		4	4	Bottom area cracked and broken off.
Wingwalls (Shape : )		X	X	
Cutoff Wall		N	4	Separating from collar.
Bevel End		5	N	Rust hole at water level.
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			Covered with snow and ice..
Above/Below (mm)	750			
Scour Protection (Type : <b>RIP RAP</b> ) (Avg. Rock Size(mm) : <b>300</b> )		4	5	
Scour/Erosion		4	4	Ditch inlet and apron erosion NW.
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>4</b>	<b>4</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Secondary Span, Location Code: MAIN, Span (mm): 3800, Rise (mm): 4190, Type: SPE)</b>				
Barrel Last Accessible Date	23-Feb-2010			Could not access deep water with thin ice.
<b>Special Features</b>				
Special Feature (Type : )				
Special Feature (Type : )				
Roof		5	N	Approx. 200mm deflection-camber-23-Feb-2010
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		4	N	@ cl
Measured Span (mm)	4111			
Measured At Ring No.				
Deflection (mm)	311			
Percent Deflection	8			
Floor		N	N	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		5	N	
Separation (mm)				
Longitudinal Seams		3	N	Cracks on ring 14 lh, 16-21, 23-70mm (50mm remaining steel), 14 (70mm)-23-Feb-2010
Total No. of Cracked Rings	8			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)	50			1N Stagger
Proper Lap (Y/N)	Yes			
Longitudinal Stagger (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Secondary Span, Location Code: MAIN, Span (mm): 3800, Rise (mm): 4190, Type: SPE)				
Coating		4	N	Pitting rust in lower half. Alkaline deposit through bolts.-23-Feb-2010
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			approx 200mm-23Feb-2010
Ponding (Y/N)	No			
Fish Passage Adequacy		7	N	
Baffle		N	N	
(Type : )				
Waterway Adequacy		7	N	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>3</b>	<b>3</b>	GR carried over from 23-Feb-2010

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Secondary Span)				
Direction		S		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		5	N	Covered with snow. Under ice and snow.
Heaving (mm)	250			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		N	5	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 400)				
Scour/Erosion		N	5	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>4</b>	<b>5</b>	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Primary Span)				
Direction		N		east pipe
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		N	N	Lots of cracks on both sides.-29-Apr-2008 Snow covered.

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Primary Span)</b>				
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		N	N	
Bevel End		5	N	extension
Heaving (mm)	200			Under ice and snow
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	750			
Scour Protection		4	5	
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>300</b> )				
Scour/Erosion		4	4	Erosion around collar, grass and silt built up near inlet. Erosion on top of bevel end.
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>4</b>	<b>4</b>	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Primary Span, Location Code: MAIN, Span (mm): 3800, Rise (mm): 4190, Type: SPE)</b>				
Barrel Last Accessible Date	23-Feb-2010			(East pipe.) Deep water with thin ice. Shape appears adequate.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		6	N	Floor covered with silt.-23-Feb-2010
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		N	N	
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)				
Percent Deflection				
Floor		N	N	Floor covered with silt.-23-Feb-2010
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		5	N	
Separation (mm)	0			
Longitudinal Seams		5	N	
Total No. of Cracked Rings				
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	Yes			
Longitudinal Stagger (Y/N)	Yes			

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
<b>(Pipe # : 2, Primary Span, Location Code: MAIN, Span (mm): 3800, Rise (mm): 4190, Type: SPE)</b>					
Coating		5	N	Minor superficial corrosion above silt level.-23-Feb-2010	
Corrosion By Soil (Y/N)	Yes				
Corrosion By Water (Y/N)	No				
Camber POS/ZERO/NEG	NEG				
Ponding (Y/N)	Yes				
Fish Passage Adequacy		6	N		
Baffle		N	N		
<b>(Type : )</b>					
Waterway Adequacy		6	N		
Icing (Y/N)	No				
Silting (Y/N)	Yes				
Drift (Y/N)	No				
<b>Barrel General Rating</b>		<b>5</b>	<b>N</b>	GR was '5' on 23-Feb-2010	
Downstream End					
Culvert Component		Last	Now	Explanation of Condition	
<b>(Pipe # : 2, 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		
<b>(Shape : )</b>					
Cutoff Wall		X	X		
Bevel End		5	N	Covered with snow & ice.	
Heaving (mm)	250				
Invert Above/Below Stream Bed	BELOW				
Above/Below (mm)	400				
Scour Protection		4	5		
<b>(Type : RIP RAP)</b>					
<b>(Avg. Rock Size(mm) : 400)</b>					
Scour/Erosion		4	5		
Beavers (Y/N)	No				
<b>Downstream End General Rating</b>		<b>4</b>	<b>5</b>		
Upstream End					
Culvert Component		Last	Now	Explanation of Condition	
<b>(Pipe # : 3, Span Type: Secondary Span)</b>					
Direction		N		(East pipe)	
End Treatment (Concrete, Steel, Others, None)	CONCRETE				
Headwall		X	X		
Collar		X	N	Lots of cracks on both sides. Broken @ bottom of east side-23-Feb-2010	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 3, Span Type: Secondary Span)</b>				
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	750			
Scour Protection		X	X	
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>300</b> )				
Scour/Erosion		X	X	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>N</b>	<b>N</b>	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3640, Type: SP)</b>				
Barrel Last Accessible Date	23-Feb-2010			
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		5	N	2 construction bulges located approx. at cl, 2nd 23m from d/s end.-23-Feb-2010
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		4	N	Approx 16m from u/s end.-23-Feb-2010
Measured Span (mm)	3849			
Measured At Ring No.				
Deflection (mm)	209			
Percent Deflection	6			
Floor		N	N	Covered with silt.-23-Feb-2010
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		4	N	Circ. seams bent due to pressure of soil.-23-Feb-2010
Separation (mm)				
Longitudinal Seams		5	N	
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 # : 3, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3640, Type: SP)				
Coating		4	N	Alkaline and heavy corrosion through bolts. Minor superficial corrosion above silt level.-23-Feb-2010
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		6	6	
Baffle		N	N	
(Type : )				
Waterway Adequacy		5	N	
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>4</b>	<b>4</b>	GR carried over from 23-Feb-2010
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 3, Span Type: Secondary Span)				
Direction		S		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	N	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)	250			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	400			
Scour Protection		X	X	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 400)				
Scour/Erosion		X	X	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>N</b>	<b>N</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		4	5	Flow mainly into west pipe
Bank Stability		4	4	Silty banks, erosion throughout channel @ d/s end
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			Silt deposits 1.4m below top of culvert @ d/s end (east pipe) Drift at u/s end of East pipe. Covered with snow

Structure Usage				
		Last	Now	Explanation of Condition
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>4</b>	<b>4</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	2012	Repair guard rail posts					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>33.3/33.3</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>42.6/56.0</b>	Est. Repl. Yr	2015	Maint. Req. (Y/N)	Yes
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	Brian Pientsch		Previous Assistant's Name	Lisbeth Medina			
Next Inspection Date	03-Aug-2013		Previous Inspection Date	23-Feb-2010			
Inspection Cycle (Default) (months)	21						
Comment							