

Bridge Culvert Inspection			
Bridge File Number	78862 -1 Bridge Culvert	Form Type	CULM
Year Built	1978	Lot No.	1
Bridge or Town Name	NISKU	Inspector Name	Todd Warshawski
Located Over	TRIBUTARY TO BLACKMUD CREEK, 6.95.2.3, WATERCRS-ST	Inspector Class	BR CLS B
Located On	LOCAL ROAD	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	19-Apr-2013
Legal Land Location	SE SEC 14 TWP 50 RGE 25 W4M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-113:32:38, 53:18:32	Data Entry Date	01-May-2013
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA11	Review Date	29-Apr-2013
Clear Roadway/Skew	35.8 /	Dept. Reviewer Name	
AADT/Year	3,580 / 2008 (E)	Dept. Review Date	
Road Classification	RAU-210-110	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	-	1800	MP	75	75X25	2.8	ROUND
2	MAIN	-	1200	MP	75	68X13	2.8	ROUND
Special Features								
Special Features Comment								

**Utilities (Located at)**

Utility Attachments			
Telephone	N & S r/w.	Gas	Parallels culverts 45m east.
Power	3 lines OH North.	Municipal	
Others	Street lighting both sides.	Problem (Y/N)	No
Remarks	Inlet 30m east of median.		

**Approach Road / Embankment**

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Road width includes width of ramps.
Vertical Alignment		7	7	
Roadway Width (m)	35.800			
Embankment		3	3	Active erosion on South sideslope over pipes.
Sideslope (__:1)	5.0			
(Height of Cover(m) : 2.2)				
Guardrail (Y/N)	No			
<b>Approach Road / Embankment General Rating</b>		<b>3</b>	<b>3</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		3	2	Water is entering at 1st seam. Excessive heaving. Water flowing under bevel end. 1st section is detached.
Heaving (mm)	350			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	450			
Scour Protection		3	3	Some rock between pipe, not effective.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 500)				
Scour/Erosion		3	3	Scour SE corner. Scour behind bevel.
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>3</b>	<b>2</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1800, Type: MP)</b>				
Barrel Last Accessible Date	14-Jul-2008			Unstable ice, unable to access 75%. Viewed from ends, shape and condition appear ok.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		3	N	Roof dent D/S, approx 150mm. Six small holes @ 10 o'clock on first seam D/S. At 3rd section from U/S. U/S - 1771, D/S - 1874.-Jul-2008
Measured Rise (mm)	1614			
Measured At Ring No.				
Sag (mm)	186			
Percent Sag	10			
Sidewall		3	N	The last 3 rings D/S are distorted - photo 4. The rest of the pipe is very good.-Jul-2008 At 3rd section. U/S - 1812, D/S - 1749.
Measured Span (mm)	2056			
Measured At Ring No.				
Deflection (mm)	256			
Percent Deflection	14			
Floor		5	N	Gravel on floor from 3rd seam D/S to end.-Jul-2008
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		3	2	3rd seam from U/S 60mm, 3rd seam from D/S torn. -Jul-2008 First seam U/S pulled out of couplers and excessive heaving on bevel end U/S. Last seam on d/s close to failure.
Separation (mm)	180			
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)				
Coating		5	N	Corrosion of soil side exposed surfaces at end sections.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1800, Type: MP)</b>				
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		3	4	Heaved bevel end U/S. D/S srop structure.
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>3</b>	<b>2</b>	

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Direction		N		East pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		4	4	Poor repair of tears & dents. Lapped in opposite direction of flow.
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		6	6	100 - 1500mm.
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>500</b> )				
Scour/Erosion		6	6	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>4</b>	<b>4</b>	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Direction		S		West pipe.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Bevel End		X	X	It appears that this is an overflow pipe only.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	600			
Scour Protection		6	4	300 - 800mm rock is on top & sides of culvert. Streambed is natural. Not effective.
(Type : <b>RIP RAP</b> ) (Avg. Rock Size(mm) : <b>500</b> )				
Scour/Erosion		6	4	Small scour hole U/S end.
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>6</b>	<b>4</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP)</b>				
Barrel Last Accessible Date	14-Jul-2008			Not accessible due to ice.
<b>Special Features</b>				
Special Feature				
(Type : )				
Special Feature				
(Type : )				
Roof		7	N	D/S - 1200, U/S - 1200.-Jul-2008
Measured Rise (mm)	1200			
Measured At Ring No.				
Sag (mm)	0			
Percent Sag	0			
Sidewall		7	N	D/S - 1220, U/S - 1200.-Jul-2008  1.6%
Measured Span (mm)	1220			
Measured At Ring No.				
Deflection (mm)	20			
Percent Deflection	2			
Floor		6	N	Minor superficial rust.-Jul-2008
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		6	N	
Separation (mm)				
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)				
Coating		6	N	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP)				
Ponding (Y/N)	Yes			
Fish Passage Adequacy		4	4	overflow pipe
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>7</b>	<b>N</b>	GR was '7' from Jul-2008
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		N		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		6	5	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	600			
Scour Protection		5	5	100 - 1500mm.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 500)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>6</b>	<b>5</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		7	7	
Bank Stability		7	7	
HWM (m below Top of Culvert)	0.9			Ice levels in April 2013
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	AGGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
<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	2013						
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION	2013	Remove U/S & D/S bevel end of primary pipe. Re-install with clay seal backfill.					
OTHER ACTION	2013	Culvert assessment to determine strutting or steel lining of primary culvert, if not done.					
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>33.3/22.2</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>30.1/25.4</b>	Est. Repl. Yr	2025	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Inspect @ 24 month cycle until repaired/replaced or strutted. Complete Assessment before scheduling repairs. LRA issued on 25-Apr-2013 to Jeff Zhang.		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	Jacob Oresile		Previous Assistant's Name				
Next Inspection Date	19-Jan-2018		Previous Inspection Date	14-Jul-2008			
Inspection Cycle (Default) (months)	57						
Comment							