

Bridge Culvert Inspection			
Bridge File Number	72235 -1 Bridge Culvert	Form Type	CULE
Year Built	1960	Lot No.	2
Bridge or Town Name	MARLBORO	Inspector Name	Todd Warshawski
Located Over	2ND ORDER TRIBUTARY TO MCLEOD RIVER, 8.11.107.34.1, WATERCRS-ST	Inspector Class	BR CLS B
Located On	16:04 R1 35.551;16:04 L1 34.625	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	09-Aug-2012
Legal Land Location	NE SEC 6 TWP 53 RGE 19 W5M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-116:46:52, 53:33:09	Data Entry Date	21-Aug-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA13	Review Date	21-Aug-2012
Clear Roadway/Skew	25 / 30 deg. (RHF)	Dept. Reviewer Name	Brent Herrick
AADT/Year	6,080 / 2011 (A)	Dept. Review Date	22-Aug-2012
Road Classification	RAD-412.4-120	Follow-Up By	
Detour Length (km)	1		

Bridge Culvert Information

Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	U/S	-	1600	MP	30	68X13	2.8	ROUND
1	MAIN	-	1200	MP	48	68X13	2.8	ROUND
2	U/S	-	1600	MP	30	68X13	2.8	ROUND
2	MAIN	-	1200	MP	46	68X13	2.8	ROUND

Special Features	
Special Features Comment	Steel coupler transition 1600mm to 1210mm.

Utilities (Located at)

Utility Attachments			
Telephone	South & North r/w.	Gas	
Power	3 wires OH South r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks	(File tag in place. 09/Mar/2007)		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Culvert crosses intersection.
Vertical Alignment		7	7	
Roadway Width (m)	25.000			EBL 12.5, WBL 12.5.
Embankment		5	5	1:1 directly over inlet.
Sideslope (__:1)	2.0			3.0m wide bench on N side, with minor erosion gully.-photo
(Height of Cover(m) : 4.2)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		7	7	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		N		East pipe.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	It appears bevel end was removed by others.
Heaving (mm)	300			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	600			
Scour Protection		5	5	Riprap over inlet is falling into channel.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
Upstream End General Rating		5	5	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: U/S, Span (mm): , Rise (mm): 1600, Type: MP)				
Barrel Last Accessible Date	09-Aug-2012			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	6	Rise not measured due to gavel/silt on floor. Sag est at less than 4%.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		N	6	
Measured Span (mm)	1612			
Measured At Ring No.	2			
Deflection (mm)	12			
Percent Deflection	1			
Floor		N	N	500mm thick gravel for first 15m's 200mm thick silt for last 15m.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	5	Corrosion of outer couplers.
Separation (mm)	120			
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: U/S, Span (mm): , Rise (mm): 1600, Type: MP)				
Coating		N	5	Superficial rust lower 3/4.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		N	X	
(Type :)				
Waterway Adequacy		5	5	
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel Extension General Rating		N	6	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP)				
Barrel Last Accessible Date	17-Oct-2003			East pipe. Water 0.8m deep. Viewed from ends, shape and condition appear ok.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		N	N	(Near center. 2001/12/05)
Measured Rise (mm)	1120			
Measured At Ring No.				(8.2%. 2001/12/05)
Sag (mm)	100			
Percent Sag	8			
Sidewall		N	N	(Near center. 2001/12/05)
Measured Span (mm)	1280			
Measured At Ring No.				(4.9%. 2001/12/05)
Deflection (mm)	60			
Percent Deflection	5			
Floor		N	N	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	N	
Separation (mm)	120			
Longitudinal Seams		N	N	Riveted seams.-Oct, 2003
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): , Rise (mm): 1200, Type: MP)				
Coating		N	N	Superficial rust lower 3/4, view D/S.-19-Nov-2008
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	Hanging outlet.
Baffle		N	X	
(Type :)				
Waterway Adequacy		5	5	
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel General Rating		4	4	GR carried forward from 2003

Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		S		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		5	4	Bevel slightly twisted. Bevel section is 70% exposed for 5m length.
Heaving (mm)	150			
Invert Above/Below Stream Bed				
Above/Below (mm)				
Scour Protection		4	4	Grassed but not adequate to protect local scour around pipe D/S.
(Type : NATURAL)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		4	4	Loss of fill 5m back, 450mm deep.
Beavers (Y/N)	No			
Downstream End General Rating		4	4	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		N		West pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			Relief culvert.
Above/Below (mm)	1200			
Scour Protection		7	7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 300)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		7	7	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: U/S, Span (mm): , Rise (mm): 1600, Type: MP)				
Barrel Last Accessible Date	09-Aug-2012			West pipe.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	7	Measured 8m from transition.
Measured Rise (mm)	1573			
Measured At Ring No.	5			
Sag (mm)	27			
Percent Sag	2			
Sidewall		7	7	
Measured Span (mm)	1636			
Measured At Ring No.	5			
Deflection (mm)	36			
Percent Deflection	2			
Floor		7	7	Few rocks on floor.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		7	7	
Separation (mm)	30			
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: U/S, Span (mm): , Rise (mm): 1600, Type: MP)				
Coating		6	6	Superficial rust on floor, minor.
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	Overflow pipe
Baffle		X	X	
(Type :)				
Waterway Adequacy		8	8	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel Extension General Rating		7	7	

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP)					
Barrel Last Accessible Date	09-Aug-2012			West pipe.	
Special Features					
Special Feature					
(Type :)					
Special Feature					
(Type :)					
Roof		N	6		
Measured Rise (mm)	1150				
Measured At Ring No.	1				
Sag (mm)	60				
Percent Sag	5				
Sidewall		N	6		
Measured Span (mm)	1270				
Measured At Ring No.	1				
Deflection (mm)	60				
Percent Deflection	5				
Floor		N	N	Under water.	
Bulge (mm)					
Measured At Ring No.					
Abrasion (Y/N)					
Circumferential Seams		N	5	(Infiltration @ 2nd extension. 09/Mar/2007)	
Separation (mm)	120				
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): 1200, Type: MP)				
Coating		N	5	Superficial rust on floor.
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	Yes			Due to fill in d/s bevel
Fish Passage Adequacy		X	X	
Baffle		N	X	
(Type :)				
Waterway Adequacy		5	5	
Icing (Y/N)	Yes			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
Barrel General Rating		4	6	

Downstream End					
Culvert Component		Last	Now	Explanation of Condition	
(Pipe # : 2, Span Type: Secondary Span)					
Direction		S		West pipe.	
End Treatment (Concrete, Steel, Others, None)	STEEL				
Headwall		X	X		
Collar		X	X		
Wingwalls		X	X		
(Shape :)					
Cutoff Wall		X	X		
Bevel End		6	6	Buildup of silt in bevel.	
Heaving (mm)	0				
Invert Above/Below Stream Bed	ABOVE				
Above/Below (mm)	900				
Scour Protection		7	7		
(Type : NATURAL)					
(Avg. Rock Size(mm) :)					
Scour/Erosion		7	7		
Beavers (Y/N)	No				
Downstream End General Rating		7	6		

Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		6	6	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			

Structure Usage				
		Last	Now	Explanation of Condition
Channel Bottom Degrading/Aggrading	AGGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		6	7	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
SHOTCRETE REPAIRS							
PLACE ADDITIONAL RIP RAP	2013	Fill on embankment with clay and compact and 10m3 CL1 riprap at d/s.					
REMOVE DRIFT ACCUMULATION	2013	Remove debris from 1200 bevel.					
INSTALL CONCRETE/STEEL LINING							
INSTALL STRUTS							
INSTALL CONCRETE COLLAR/CUTOFF							
REPAIR SEAMS							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
Structural Condition Rating (Last/Now) (%)	44.4/44.4	Sufficiency Rating (Last/Now) (%)	49.3/49.9	Est. Repl. Yr	2025	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	Todd Warshawski		Previous Assistant's Name				
Next Inspection Date	09-May-2014		Previous Inspection Date	28-Sep-2010			
Inspection Cycle (Default) (months)	21						
Comment							