

Bridge Culvert Inspection				
Bridge File Number	78105 -1 Bridge Culvert		Form Type	CUL1
Year Built	1975		Lot No.	1
Bridge or Town Name	FORT MACKAY		Inspector Name	Wade Nanninga
Located Over	TRIBUTARY TO BEAVER RIVER, 8.11.29.1, WATERCRS-ST		Inspector Class	BR CLS A
Located On	63:12 R1 46.897;63:12 L1 46.901		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	15-Nov-2011
Legal Land Location	SE SEC 1 TWP 94 RGE 11 W4M		Data Entry By	Theresa Lacusta
Longitude, Latitude	-111:37:43, 57:07:13		Data Entry Date	23-Nov-2011
Road Authority	Alberta Transportation (AIT)		Reviewer Name	Eric Carcoux
Contract Main. Area	CMA07		Review Date	23-Nov-2011
Clear Roadway/Skew	13.6 /		Dept. Reviewer Name	Brent Herrick
AADT/Year			Dept. Review Date	15-Dec-2011
Road Classification	RAU-213.4-120		Follow-Up By	
Detour Length (km)	999			

Bridge Culvert Information

Number of Culverts	1							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	3495	3854	SPE	82.9	152X51	4.2	ELLIPSE
Special Features	VERT TIMBER STRUTS							
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone		Gas	
Power	4 wire East row	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Located with horizontal curve with crest over pipe.
Vertical Alignment		7	7	
Roadway Width (m)	13.600			
Embankment		4	5	Hole on NE embankment approx 10m from D/S bevel end; 1m x 2m x 1m - partially filled with rock.
Sideslope (___:1)	2.0			
(Height of Cover(m) : 8)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		7	7	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		W		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		5	5	
Collar		5	5	
Wingwalls		X	X	
(Shape :)				

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Cutoff Wall		N	N	
Bevel End		7	7	
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		5	5	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 450)				
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: MAIN, Span (mm): 3495, Rise (mm): 3854, Type: SPE)				
Barrel Last Accessible Date	15-Nov-2011			
Special Features				
Special Feature		4	5	(Struts are leaning, bottom of struts kicking out. Barrel is strutted from R8-13.
(Type : VERT TIMBER STRUTS)				
Special Feature				Top whaler minor split.
(Type :)				Pipe extended with 6 rings in 2008 at u/s.
Roof		3	3	
Measured Rise (mm)	3300			
Measured At Ring No.	9			
Sag (mm)	554			
Percent Sag	14			3-10mm perforations at 1 o'clock -5m from d.s.
Sidewall		2	2	
Measured Span (mm)	4110			
Measured At Ring No.	9			
Deflection (mm)	615			
Percent Deflection	18			
Floor		N	N	Ice along floor (Abrasion at both ends of culvert. 2003/03/12)
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		N	6	
Separation (mm)	0			
Longitudinal Seams		3	2	R 8,9,10,11,12,13,23 cracked @ 3 o'clock. R10 ~45mm steel
Total No. of Cracked Rings	7			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	45			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		9	5	At R8, pitting rust lower 1/4.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 3495, Rise (mm): 3854, Type: SPE)				
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		4	4	Outlet above streambed. .
Baffle		N	N	
(Type :)				
Waterway Adequacy		3	3	(Severe icing in 1990 sealed culvert & spring runoff built up to overflow ditch at SW.01/07-12)
Icing (Y/N)	Yes			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		2	3	Increased due to presence of struts.
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
Direction		E		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		5	5	Minor damage to edges.
Heaving (mm)	300			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	600			
Scour Protection		5	5	Large scour at outlet is 25m sq x 1.5m deep. Well rocked along bottom of scour.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 450)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
Downstream End General Rating		5	5	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		4	4	Enters on 60 deg. angle
Bank Stability		4	4	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		4	4	

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							
Structural Condition Rating (Last/Now) (%)	22.2/33.3	Sufficiency Rating (Last/Now) (%)	20.3/28.1	Est. Repl. Yr	2015	Maint. Req. (Y/N)	No
Special Comments for Next Inspection	Shorten inspection to 15 month cycle until repaired/replaced. Low rating advisory previously sent Dec 23, 2004.		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	Wade Nanninga		Previous Assistant's Name				
Next Inspection Date	15-Aug-2013		Previous Inspection Date	08-Mar-2010			
Inspection Cycle (Default) (months)	21						
Comment							