Bridge Culvert Inspection

Bridge File Number	77557 -1 Bridge Culvert	Form Type	CUL1
Year Built	1976	Lot No.	4
Bridge or Town Name	FORT MACKAY	Inspector Name	Wade Nanninga
Located Over	BEAVER RIVER, 8.11.29, WATERCRS-ST	Inspector Class	BR CLS A
Located On	63:12 C1 46.180	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	15-Nov-2011
Legal Land Location	NE SEC 36 TWP 93 RGE 11 W4M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-111:37:34, 57:06:50	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	13.5 / -15 deg. (LHF)	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	2905	3203	SPE	86	152X51	4.2	ELLIPSE

Special Features	
Special Features Comment	

Utilities (Located at)

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

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Long horizontal curve starts 200 m north. Blind crest curve 200 m to south. No passing SB.
Vertical Alignment		6	6	
Roadway Width (m)	13.500			
Embankment		6	6	
Sideslope (__:1)	2.0			
(Height of Cover(m) : **9.7**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		W		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		5	5	Slabs settled, South side. Rusted stirrups exposed.
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		N	N	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		6	6	
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	750			
Scour Protection		6	6	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **200**)				
Scour/Erosion		6	6	
Beavers (Y/N)	Yes			Beaver dam 2.0 m high 20 m U/S.
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): 2905, Rise (mm): 3203, Type: SPE**)				
Barrel Last Accessible Date	15-Nov-2011			1.4m from roof to ice.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	7	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		5	5	
Measured Span (mm)	3050			
Measured At Ring No.	10			
Deflection (mm)	145			
Percent Deflection	5			
Floor		N	N	(No bulge felt, under water where available. Rocks in floor some areas. 19/Aug/2006) Ice on floor.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		7	7	
Separation (mm)	0			
Longitudinal Seams		7	7	Only half visible
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			
Coating		6	6	Minor superficial rust lower 1/2.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2905, Rise (mm): 3203, Type: SPE**)				
Fish Passage Adequacy		7	7	
Baffle		N	N	
(Type :)				
Waterway Adequacy		6	6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**5**	**5**	

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	
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	800			
Scour Protection		4	4	Bevel unsupported. Projects from fill 2.0m.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **200**)				
Scour/Erosion		4	4	
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		6	6	Meanders D/S.
Bank Stability		6	5	Steep vertical banks
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			20m u/s.
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**6**	**5**	

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) (%)	**55.6/55.6**	**Sufficiency Rating (Last/Now) (%)**	**52.4/54.4**	Est. Repl. Yr	2022	Maint. Reqd. (Y/N)	No

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	Wade Nanninga	Previous Assistant's Name			
Next Inspection Date	15-Aug-2013	Previous Inspection Date	08-Mar-2010		
Inspection Cycle (Default) (months)	21				
Comment					