Bridge Culvert Inspection

Bridge File Number	77278 -1 Bridge Culvert	Form Type	CUL1
Year Built	1971	Lot No.	4
Bridge or Town Name	MUSKEG RIVER	Inspector Name	Russel Vanderschaaf
Located Over	SHAND CREEK, 8.10.58.31.8.2, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	40:32 C1 32.021	Assistant Class	
Water Body Cl./Year		Inspection Date	22-Aug-2012
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	SW SEC 15 TWP 56 RGE 4 W6M	Data Entry Date	24-Sep-2012
Longitude, Latitude	-118:31:05, 53:50:03	Reviewer Name	Eric Carcoux
Road Authority	Alberta Transportation (AIT)	Review Date	24-Sep-2012
Contract Main. Area	CMA05	Dept. Reviewer Name	Steve Pasquan
Clear Roadway/Skew	8.2 / 10 deg. (RHF)	Dept. Review Date	04-Jan-2013
AADT/Year	1,090 / 2011 (A)	Follow-Up By	
Road Classification	RCU-209-110		
Detour Length (km)	300		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	1724	1901	SPE	107.9	152X51	4.8	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	North r/w	Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		5	5	No passing west bound. In sag curve with curve at bottom. Steep hills (est 6%) on both sides.
Vertical Alignment		5	5	
Roadway Width (m)	8.200			
Embankment		4	4	2:1 slope near the bottom of the fill on east side. 1:1 at top due to road widening. Scour NW ditch 30m lx2mwx1md-vegetated.
Sideslope (__:1)	2.0			
(Height of Cover(m) : **17**)				
Guardrail (Y/N)	No			Guardrail currently removed for construction.
Approach Road / Embankment General Rating		**5**	**5**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		W		
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**
Cutoff Wall		X	X	
Bevel End		N	5	Water flowing through bolt holes of bevel. Missing 1 bolt in bevel end @ 5:00.
Heaving (mm)	250			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		N	5	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **200**)				
Scour/Erosion		N	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): 1724, Rise (mm): 1901, Type: SPE**)				
Barrel Last Accessible Date	22-Aug-2012			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	7	
Measured Rise (mm)	1844			
Measured At Ring No.	6			
Sag (mm)	57			
Percent Sag	3			
Sidewall		7	7	
Measured Span (mm)	1744			
Measured At Ring No.	6			
Deflection (mm)	20			
Percent Deflection	1			
Floor		6	6	
Bulge (mm)	0			
Measured At Ring No.	6			
Abrasion (Y/N)	No			
Circumferential Seams		5	4	7 nuts missing.
Separation (mm)				
Longitudinal Seams		3	3	Water is piping through bolt holes @ ring 2,5,9,11. 90mm of steel between cracks @ 5:00 @ rings 17 & 18.(photo)
Total No. of Cracked Rings	2			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)	90			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		5	4	Superficial rust on floor. Ring 23-25 perforations @ 7:00.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 1724, Rise (mm): 1901, Type: SPE**)				
Ponding (Y/N)	No			
Fish Passage Adequacy		4	4	Hanging outlet.-photo
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	Silting @ D/S end. Ring 27 to bevel.
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
Barrel General Rating		**3**	**3**	

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		N	4	Snow/ice/silt covered. Hanging outlet-rocked
Heaving (mm)	300			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	1000			
Scour Protection		N	4	Hanging outlet-rocked
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **500**)				
Scour/Erosion		N	4	Hanging outlet-rocked
Beavers (Y/N)	No			
Downstream End General Rating		**7**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		8	8	
HWM (m below Top of Culvert)	1.5			
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		**7**	**7**	

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) (%)	**33.3/33.3**	**Sufficiency Rating (Last/Now) (%)**	**44.4/41.1**	Est. Repl. Yr	2021	Maint. Reqd. (Y/N)	No

Special Comments for Next Inspection	Monitor cracks.	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	Russel Vanderschaaf	Previous Assistant's Name			
Next Inspection Date	22-May-2014	Previous Inspection Date	17-Nov-2010		
Inspection Cycle (Default) (months)	21				
Comment					