Bridge Culvert Inspection

Bridge File Number	75548 -1 Bridge Culvert	Form Type	CUL1
Year Built	1962	Lot No.	1
Bridge or Town Name	MALLAIG	Inspector Name	Wade Nanninga
Located Over	YELLING CREEK, 7.12.4.3, WATERCRS-ST	Inspector Class	BR CLS A
Located On	28:15 C1 17.963	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	10-Apr-2012
Legal Land Location	SE SEC 18 TWP 60 RGE 9 W4M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-111:20:10, 54:10:49	Data Entry Date	07-May-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA08	Review Date	17-Apr-2012
Clear Roadway/Skew	10.6 / 40 deg. (RHF)	Dept. Reviewer Name	Brent Herrick
AADT/Year	2,350 / 2011 (A)	Dept. Review Date	12-Jun-2012
Road Classification	RAU-211.8-110	Follow-Up By	
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2019	2226	SPE	76.8	152X51	3.5	ELLIPSE
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	South r/w.	Gas	
Power		Municipal	
Others		Problem (Y/N)	No
Remarks	BF tag installed top of North roof.		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Local road 200m East.
Vertical Alignment		6	6	Blind crest curves at 350 m West and 250 m East. No passing WB. Bottom of sag curve.
Roadway Width (m)	10.600			
Embankment		6	4	Erosion gulley @ SE - 1x1x20m-vegetated/stable.
Sideslope (__:1)	3.0			@ NE 1x2x20 filled with rock.
(Height of Cover(m) : **6.5**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		N		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		N	7	(Minor bends @ invert. 2003/07/09)
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		N	4	Scoured both sides 3m back, 1.5m wide, most likely from removing dam.
(Type : **NONE**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	4	
Beavers (Y/N)	Yes			Beaver stop at inlet - dam 50m u/s.
Upstream End General Rating		**4**	**4**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2019, Rise (mm): 2226, Type: SPE**)				
Barrel Last Accessible Date	23-Nov-1999			(Measured 2085 x 2160 near 1/3 L - 1999/11/23) Barrel not accessible, water too deep. Viewed from ends, looks good.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		5	N	Not measured due to 1.0m silt, drift & water.
Measured Rise (mm)				(3.3%. 1999/11/23) Estimated.
Measured At Ring No.				
Sag (mm)	100			
Percent Sag	5			
Sidewall		6	N	
Measured Span (mm)	2095			(3.3% 1999/11/23)
Measured At Ring No.				Estimated.
Deflection (mm)	76			
Percent Deflection	4			
Floor		N	N	1.0m silt, drift & water.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	N	
Separation (mm)	0			
Longitudinal Seams		N	N	Lower seams not visible. No cracks noticed where visible.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				1N stagger.
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		N	N	(Scaling and some pitting below waterline. 2003/07/09)
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): 2019, Rise (mm): 2226, Type: SPE**)				
Ponding (Y/N)	Yes			(800mm. 19/Apr/2005)
Fish Passage Adequacy		4	4	Blocked by beaver stops.
Baffle		X	X	
(Type :)				
Waterway Adequacy		5	5	(Icing prior to 2003/07/09)
Icing (Y/N)	Yes			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel General Rating		**5**	**5**	GR carried over from Nov 2009.

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		S		
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	Based on visible portions above water line.
Heaving (mm)	100			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		5	5	Settlement up to 450 along sides of bevel.
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		5	5	
Beavers (Y/N)	Yes			Drift caught at outlet & wire mesh.
Downstream End General Rating		**5**	**5**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		8	8	
Bank Stability		8	8	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	AGGRADING			
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**8**	**8**	

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	2012	Dewater & perform Level II barrel inspection @ next cycle. Barrel not thoroughly inspected since 1999.				
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**55.6/55.6**	**Sufficiency Rating (Last/Now) (%)**	**48.4/48.3**	Est. Repl. Yr	2027	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Monitor scour @ u/s end and in ditches.	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	Shane Hall	Previous Assistant's Name			
Next Inspection Date	10-Jan-2014	Previous Inspection Date	16-Jul-2010		
Inspection Cycle (Default) (months)	21				
Comment					