

Bridge Culvert Inspection				
Bridge File Number	70479 -1 Bridge Culvert		Form Type	CULM
Year Built	1990		Lot No.	1
Bridge or Town Name	MORRIN		Inspector Name	Owen Salava
Located Over	TRIBUTARY TO WEST MICHICHI CREEK, 3.35.2.4, WATERCRS-ST		Inspector Class	BR CLS A
Located On	27:10 C1 35.934		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	25-Oct-2012
Legal Land Location	SW SEC 14 TWP 31 RGE 20 W4M		Data Entry By	Marcia Chavez
Longitude, Latitude	-112:44:12, 51:38:56		Data Entry Date	08-Nov-2012
Road Authority	Alberta Transportation (AIT)		Reviewer Name	John O'Brien
Contract Main. Area	CMA20		Review Date	30-Oct-2012
Clear Roadway/Skew	9.5 / -45 deg. (LHF)		Dept. Reviewer Name	Andrew Smikles
AADT/Year	1,970 / 2011 (A)		Dept. Review Date	19-Nov-2012
Road Classification	RAU-210-110		Follow-Up By	
Detour Length (km)	6			

Bridge Culvert Information								
Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	3000	MP	45	125X26	3.5	ROUND
2	MAIN	-	3000	MP	45	125X26	3.5	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)			
Utility Attachments			
Telephone	South ditch.	Gas	Crosses 150m E.
Power		Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		9	9	1000m West of Hwy 56 jct.
Vertical Alignment		8	8	
Roadway Width (m)	9.500			
Embankment		8	8	ACP uneven & settled 50mm over pipes, has been patched. Starts at 4:1 then 3:1.
Sideslope (__:1)	3.0			
(Height of Cover(m) : 1.6)				
Guardrail (Y/N)	Yes			Both sides.
Approach Road / Embankment General Rating		8	8	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		N		West pipe
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
(Pipe # : 1, Span Type: Primary Span)				
Cutoff Wall		X	X	
Bevel End		6	6	Minor rusting on floor.
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		N	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 400)				
Scour/Erosion		N	N	Snow covered.
Beavers (Y/N)	No			
Upstream End General Rating		6	6	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3000, Type: MP)				
Barrel Last Accessible Date	24-Oct-2012			West pipe.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		3	3	Not able to measure rise due to ice. R3/4 seam 2320, est. 350mm ice ~2670.
Measured Rise (mm)	2670			
Measured At Ring No.	4			
Sag (mm)	330			
Percent Sag	11			
Sidewall		4	4	9.3%
Measured Span (mm)	3278			
Measured At Ring No.	3			
Deflection (mm)	278			
Percent Deflection	9			
Floor		5	5	Partially viewed.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	5	1st + 2nd seam from South not seating well. No infiltration.
Separation (mm)	70			
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)				
Coating		6	6	Minor corrosion lower wall.
Corrosion By Soil (Y/N)	No			
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): , Rise (mm): 3000, Type: MP)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		3	3	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary 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		4	4	Side & top of bevel bent. Average 250mm bends.
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		N	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 400)				
Scour/Erosion		N	N	Snow covered.
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		East pipe
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
(Pipe # : 2, Span Type: Secondary Span)				
Bevel End		5	5	Rust on lower floor.
Heaving (mm)	150			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection		N	N	(Some 800mm rock. 22Feb2008) - Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 400)				
Scour/Erosion		N	N	
Beavers (Y/N)	No			
Upstream End General Rating		5	5	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3000, Type: MP)				
Barrel Last Accessible Date	24-Oct-2012			East pipe.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		4	4	Not able to measure rise due to ice. 2380 to ice, est. 350mm ice ~2730.
Measured Rise (mm)	2710			
Measured At Ring No.	3			
Sag (mm)	290			
Percent Sag	10			
Sidewall		4	4	7.7%
Measured Span (mm)	3230			
Measured At Ring No.	3			
Deflection (mm)	230			
Percent Deflection	7			
Floor		N	N	Ice covered.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	5	No infiltration.
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)				
Coating		7	7	Minor corrosion on lower walls.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3000, Type: MP)				
Ponding (Y/N)	No			
Fish Passage Adequacy		7	7	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		4	4	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary 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		7	7	
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		N	N	Snow covered.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 400)				
Scour/Erosion		N	N	Snow covered.
Beavers (Y/N)	No			
Downstream End General Rating		7	7	
Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		6	6	Parallels hwy to SW.
Bank Stability		8	8	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading				Unknown.
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				
Channel General Rating		6	6	

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	2013	If required, both barrels.								
INSTALL CONCRETE COLLAR/CUTOFF										
REPAIR SEAMS										
OTHER ACTION	2013	Level 2 barrel inspection (not in winter) to confirm distortion.								
OTHER ACTION	2013	Straighten d/s bevel, W pipe.								
OTHER ACTION										
OTHER ACTION										
Structural Condition Rating (Last/Now) (%)	33.3/33.3	Sufficiency Rating (Last/Now) (%)	49.2/48.9	Est. Repl. Yr	2025	Maint. Req. (Y/N)	Yes	Estimated Total	0	
Special Comments for Next Inspection	Department Comments									
Maintenance Reviewed By	Date									
Proposed Long-Term Strategy	2004:04:09 Monitor normal BIM. Strut if required. Estimated Replacement Year 2030.									
On 3-Year Program (Y/N)										
Proposed Action										
Previous Inspector's Name	Owen Salava	Previous Assistant's Name								
Next Inspection Date	25-Jul-2014	Previous Inspection Date	20-Dec-2010							
Inspection Cycle (Default) (months)	21									
Comment										

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	2013	If required, both barrels.	Continue to monitor			
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2013	Level 2 barrel inspection (not in winter) to confirm distortion.	Defer			
OTHER ACTION	2013	Straighten d/s bevel, W pipe.	Next time on site			
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	33.3/33.3	Sufficiency Rating (Last/Now) (%)	49.2/48.9	Est. Repl. Yr	2025	Maint. Req. (Y/N)	Yes
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Special Comments for Next Inspection		Department Comments	Continue to monitor on regular BIM inspection cycles. Sag has been increasing when the culvert was measurable, because of it being newer, it is very likely to now be in a static state. Replacement programmed for 2022.
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Maintenance Reviewed By	Andrew Smikles	Date	20-Dec-2012	Estimated Total	0
Proposed Long-Term Strategy	2004.04.09 Monitor normal BIM. Strut if required. Estimated Replacement Year 2030.				
On 3-Year Program (Y/N)					
Proposed Action					
Previous Inspector's Name	Owen Salava	Previous Assistant's Name			
Next Inspection Date	25-Jul-2014	Previous Inspection Date	20-Dec-2010		
Inspection Cycle (Default) (months)	21				
Comment					