

Bridge Culvert Inspection				
Bridge File Number	76001 -1 Bridge Culvert		Form Type	CULM
Year Built	1982		Lot No.	1
Bridge or Town Name	FT MCMURRAY		Inspector Name	Wade Nanninga
Located Over	PRAIRIE CREEK, 8.11.39.1.2, WATERCRS-ST		Inspector Class	BR CLS A
Located On	63:11 L1 3.006;63:11 R1 3.000		Assistant Name	
Water Body Cl./Year			Assistant Class	
Navigabil. Cl./Year			Inspection Date	16-Nov-2011
Legal Land Location	NE SEC 22 TWP 88 RGE 9 W4M		Data Entry By	Theresa Lacusta
Longitude, Latitude	-111:20:19, 56:39:03		Data Entry Date	12-Dec-2011
Road Authority	Alberta Transportation (AIT)		Reviewer Name	Eric Carcoux
Contract Main. Area	CMA07		Review Date	23-Nov-2011
Clear Roadway/Skew	22 / -18 deg. (LHF)		Dept. Reviewer Name	Brent Herrick
AADT/Year	7,620 / 2010 (A)		Dept. Review Date	15-Dec-2011
Road Classification	RFD-412.4-120		Follow-Up By	
Detour Length (km)	1			

Bridge Culvert Information								
Number of Culverts	2							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2905	3203	SPE	130.5	152X51	4.0	ELLIPSE
2	MAIN	-	1200	MP	122	68X13	2.8	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)			
Utility Attachments			
Telephone	West r/w.	Gas	
Power	8 wires OH 10m East of NB lanes.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment				
		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Located in middle of a long horizontal curve. On sag vertical curve.
Vertical Alignment		7	7	
Roadway Width (m)	22.000			
Embankment		4	3	The west sideslope has a culvert drain taking road runoff down. Scoured around drain, and partially functioning. 2.5m deep within clear zone.-photo
Sideslope (__:1)	3.0			
(Height of Cover(m) : 7)				
Guardrail (Y/N)	Yes			NB only
<b>Approach Road / Embankment General Rating</b>		<b>7</b>	<b>3</b>	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Direction		E		South pipe.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		X	X	
Collar		6	6	
Wingwalls		X	X	
(Shape : )				

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Span Type: Primary Span)</b>				
Cutoff Wall		X	X	
Bevel End		6	6	
Heaving (mm)	100			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	500			
Scour Protection		7	3	~2.0m void under bevel-piping along SE corner.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 200)				
Scour/Erosion		7	3	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>6</b>	<b>3</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2905, Rise (mm): 3203, Type: SPE)</b>				
Barrel Last Accessible Date	16-Nov-2011			South barrel.-Barrel 1/4 full of ice/silt.
<b>Special Features</b>				
Special Feature				2 struts missing - 3 others knocked loose. (100mmx100mmx~3m) @ R1-3.-photo
(Type : )				
Special Feature				
(Type : )				
Roof		2	2	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag	20			Est @ R12
Sidewall		2	2	
Measured Span (mm)	3540			
Measured At Ring No.	12			
Deflection (mm)	635			
Percent Deflection	22			
Floor		N	N	Lower 500mm covered in rock.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		7	7	
Separation (mm)	0			
Longitudinal Seams		N	2	Rings 7 through 17 cracked 3 o'clock with 30mm of steel left at R15 - photo.
Total No. of Cracked Rings	10			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	30			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		5	4	Superficial rust along line of water flow. Pitting rust near inlet.
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): 2905, Rise (mm): 3203, Type: SPE)				
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	Yes			Ponding where sidewall "bellied" out, R7 - R17. 17
Fish Passage Adequacy		5	4	Drop at 2m in first 10 rings.
Baffle		N	X	
(Type : )				
Waterway Adequacy		5	5	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>3</b>	<b>2</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type: Primary Span)				
Direction		W		South barrel.
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	Edges pushed in 200mm.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	500			
Scour Protection		4	4	Erosion along embankment drain.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 250)				
Scour/Erosion		4	4	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>4</b>	<b>4</b>	
Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		E		North 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
<b>(Pipe # : 2, Span Type: Secondary Span)</b>				
Bevel End		7	7	
Heaving (mm)				
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	2000			
Scour Protection		5	5	
(Type : <b>RIP RAP</b> )				
(Avg. Rock Size(mm) : <b>200</b> )				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
<b>Upstream End General Rating</b>		<b>5</b>	<b>5</b>	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
<b>(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP)</b>				
Barrel Last Accessible Date	30-Apr-2008			North barrel.
<b>Special Features</b>				
Special Feature				Accessible up to 2/3 point - silted within 200mm @ d/s end.
(Type : )				
Special Feature				
(Type : )				
Roof		7	4	Dents in roof @ 1/3 and 1/2 way point.
Measured Rise (mm)	1150			
Measured At Ring No.				
Sag (mm)	50			
Percent Sag	4			
Sidewall		7	7	
Measured Span (mm)	1225			
Measured At Ring No.				
Deflection (mm)	25			
Percent Deflection	2			
Floor		N	5	Silted to 200mm of crown from 2/3 to outlet.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		N	5	At couplers.
Separation (mm)	25			
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	5	Superficial
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: MP)				
Ponding (Y/N)	No			
Fish Passage Adequacy		4	4	Above S.B. U/S. Heavy buildup of dirt D/S end.
Baffle		X	X	
(Type : )				
Waterway Adequacy		4	4	Provides overflow capacity and carries embankment run-off.
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
<b>Barrel General Rating</b>		<b>7</b>	<b>4</b>	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Span Type: Secondary Span)				
Direction		W		North pipe.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape : )				
Cutoff Wall		X	X	
Bevel End		N	N	(Bent up at crown, minor. Lock seam come undone for 500 mm. 17/Aug/2006) Buried in silt/ice.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	900			
Scour Protection		4	4	Scour along embankment drain.
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 250)				
Scour/Erosion		4	4	
Beavers (Y/N)	No			
<b>Downstream End General Rating</b>		<b>4</b>	<b>4</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel (U/S and D/S)</b>				
Alignment		5	3	Meanders u/s.-enters at angle due to brush and is piping for ~ 2.0m along bevel.
Bank Stability		4	4	Sloughing banks d/s.
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading				
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : NONE)				
(Fish Compensation Measure 2 : NONE)				

Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel General Rating</b>		4	3	

Maintenance Recommendations										
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #				
SHOTCRETE REPAIRS										
PLACE ADDITIONAL RIP RAP	2011	@ u/s end to W embankment.								
REMOVE DRIFT ACCUMULATION	2011	Brush at inlet to improve alignment.								
INSTALL CONCRETE/STEEL LINING										
INSTALL STRUTS										
INSTALL CONCRETE COLLAR/CUTOFF										
REPAIR SEAMS										
OTHER ACTION	2011	Re-weld loose struts - replace 2 missing 100x100x3.0m struts.								
OTHER ACTION	2011	Backfill W embankment scour and riprap.								
OTHER ACTION										
OTHER ACTION										
<b>Structural Condition Rating (Last/Now)</b>	<b>33.3/22.2</b>	<b>Sufficiency Rating (Last/Now)</b>	<b>32.5/14.0</b>	<b>Est. Repl. Yr</b>	<b>2020</b>	<b>Maint. Req. (Y/N)</b>	<b>Yes</b>			
Special Comments for Next Inspection	Monitor stirruts/deflection. Low advisory rating sent 29-March-2010		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	16-Aug-2013	Previous Inspection Date	09-Mar-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	2011	@ u/s end to W embankment.				
REMOVE DRIFT ACCUMULATION	2011	Brush at inlet to improve alignment.				
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION	2011	Re-weld loose struts - replace 2 missing 100x100x3.0m struts.				
OTHER ACTION	2011	Backfill W embankment scour and riprap.				
OTHER ACTION						
OTHER ACTION						
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>33.3/22.2</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>32.5/14.0</b>	Est. Repl. Yr	2020	Maint. Req. (Y/N) Yes
Special Comments for Next Inspection	Monitor sturts/deflection. Low advisory rating sent 29-March-2010		Department Comments	(May 30/12) Replacement tentative sched yr 2019		
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	16-Aug-2013	Previous Inspection Date	09-Mar-2010			
Inspection Cycle (Default) (months)	21					
Comment						