Bridge Culvert Inspection

Bridge File Number	70579 -1 Bridge Culvert	Form Type	CUL1
Year Built	1974	Lot No.	1
Bridge or Town Name	SHERWOOD PAR	Inspector Name	Kris Bosters
Located Over	216:04 L1 1.766;216:04 R1 1.782;UTIL-UN, OVER UT	Inspector Class	BR CLS A
		Assistant Name	
Located On	216:04 L1 1.766;216:04 R1 1.782	Assistant Class	
Water Body Cl./Year		Inspection Date	05-Apr-2011
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	NW SEC 4 TWP 53 RGE 23 W4M	Data Entry Date	18-Apr-2011
Longitude, Latitude	-113:20:39, 53:33:20	Reviewer Name	Arnold Assenheimer
Road Authority	Alberta Transportation (AIT)	Review Date	11-Apr-2011
Contract Main. Area	CMA09	Dept. Reviewer Name	Brent Herrick
Clear Roadway/Skew	43.4 /	Dept. Review Date	19-Apr-2011
AADT/Year	42,840 / 2009 (A)	Follow-Up By	
Road Classification	RAU-213.4-120		
Detour Length (km)	1		

Bridge Culvert Information

Number of Culverts	1

Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	2590	1880	RPP	123.7	152X51	3.5	PIPE ARCH

Special Features	
Special Features Comment	File tag @ u/s end 12 o'clock.

Posting Information

Required Vert. Clearance Posting (m)	UNDER: 216 L1 4.6m, 216 R1 4.6m
Posted Vertical Clearance (Y/N)	

Posted:	Lane	NB	On Bridge (m)		In Advance (Y/N)		Lane	SB	On Bridge (m)		In Advance (Y/N)	

Remarks	Not required.

Utilities (Located at)

Utility Attachments	UNKNOWN UTILITY

Telephone	20m south, runs East-West.	Gas	15m south, runs East-West.
Power	7 wires 30m east, runs North-South.	Municipal	
Others	Light standards.	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	Structure located 30m North of BF 77416. 3 lanes NB, 2 lanes SB, on ramp.
Vertical Alignment		9	8	
Roadway Width (m)	43.400			
Embankment		8	8	2.5 @ bottom, 5:1 @ top.
Sideslope (__:1)	2.5			
(Height of Cover(m) : **2.3**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**8**	**8**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		E		Acts as a drainage pipe as well.
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)				
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection		7	7	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Upstream End General Rating		**7**	**7**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2590, Rise (mm): 1880, Type: RPP**)				
Barrel Last Accessible Date	05-Apr-2011			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		4	N	U/S - 1880, D/S - 1865. Ring 27 missing bolt.
Measured Rise (mm)	1733			tOO MUCH ICE TO MEASURE RISE.
Measured At Ring No.	12			
Sag (mm)	147			
Percent Sag	8			
Sidewall		2	2	Small tear in North sidewall ring 1. U/S - 2549, ring 9 - 2627, D/S - 2579. Construction damage/modifications ring 14, South wall. Sidewall rating lowered due to cracks.
Measured Span (mm)	2676			
Measured At Ring No.	12			
Deflection (mm)	86			
Percent Deflection	3			
Floor		7	7	Lots of debris.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	7	Missing bolt ring 12.
Separation (mm)	0			
Longitudinal Seams		2	2	Cracked rings @ 9, 10, 11, 12, 13, 14, 15, 16, 19, 21, 23, 24, 25, & 26 3 o'clock. Rings 9 & 12 have 55mm steel left. Ring 14, 23 & 25 have 45mm steel left - photo.
Total No. of Cracked Rings	14			
Total No. of Rings with Two Cracked Seams	0			Sidewall not staggered, roof is.
Min. Remaining Steel Between Cracks (mm)	45			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2590, Rise (mm): 1880, Type: RPP**)				
Coating		4	4	Rusting at 10% bolt hole locations.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	Iced about 500mm at u/s end.
Icing (Y/N)	Yes			Lots of garbage and debris in pipe.
Silting (Y/N)	Yes			
Drift (Y/N)	No			
Barrel General Rating		**2**	**2**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		W		
End Treatment (Concrete, Steel, Others, None)	NONE			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		X	X	
Heaving (mm)				
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		7	7	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Downstream End General Rating		**7**	**7**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Grade Separation				
Road Alignment		X	X	
Roadway Surface		X	X	
(Type :)				
Icing (Y/N)	No			
Traffic Safety Features		X	X	
Type				

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Lighting		X	X	
Barrel Leakage (Y/N)	No			
Drainage		7	7	
Structure In Use (Y/N)	No			
Grade Separation 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	2011	Assess options plus Level 2 inspection, monitor, repair or replace options. Pipe does not appear to be used, possibly some drainage. Could be grouted in or lined with small culvert.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**22.2/22.2**	**Sufficiency Rating (Last/Now) (%)**	**44.3/44.1**	Est. Repl. Yr	2012	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Pipe is 40m North of BF 77416. 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	Shane Hall	Previous Assistant's Name			
Next Inspection Date	05-Jan-2013	Previous Inspection Date	24-Jun-2009		
Inspection Cycle (Default) (months)	21				
Comment					