

Bridge Culvert Inspection			
Bridge File Number	77416 -1 Bridge Culvert	Form Type	CUL1
Year Built	1974	Lot No.	1
Bridge or Town Name	CLOVERBAR	Inspector Name	Kris Bosters
Located Over	PETROLEUM WAY	Inspector Class	BR CLS A
Located On	216:04 L1 1.432;216:04 R1 1.447;RAMP 88-1 A	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	05-Apr-2011
Legal Land Location	SE SEC 8 TWP 53 RGE 23 W4M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-113:20:44, 53:33:31	Data Entry Date	18-Apr-2011
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Arnold Assenheimer
Contract Main. Area	CMA09	Review Date	11-Apr-2011
Clear Roadway/Skew	4.3 /	Dept. Reviewer Name	Brent Herrick
AADT/Year	2,000 / 2009 (E)	Dept. Review Date	19-Apr-2011
Road Classification	RAU-213.4-120	Follow-Up By	
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	11200	7400	RP	125.6	152X51	2.8	ARCH
Special Features								
Special Features Comment								

**Posting Information**

Required Vert. Clearance Posting (m)												
Posted Vertical Clearance (Y/N)	Yes											
Posted:	Lane	EB	On Bridge (m)	4.0	In Advance (Y/N)	Yes	Lane	WB	On Bridge (m)	4.0	In Advance (Y/N)	Yes
Remarks												

**Utilities (Located at)**

Utility Attachments	OTHER UTILITIES-OTHER LINES										
Telephone	At NE & SW.				Gas	E-W on North side of structure.					
Power	4 wires South, 7 wires 30m East. Lights through structure.				Municipal						
Others	Conduit on both walls for lights in structure. Light standards all 4 corners.				Problem (Y/N)	No					
Remarks	4 lights burnt out. 1 light hit and damaged - photo. Electrical conduit damaged - photo.										

**Approach Road / Embankment**

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	3 lanes (W to E): 8.5, 11, 23.9m.
Vertical Alignment		8	8	
Roadway Width (m)	43.400			
Embankment		5	5	Gullies on SE embankment, covered by grass. 5:1 @ top, 2.5:1 @ bottom.
Sideslope (__:1)	2.5			
(Height of Cover(m) : 1)				
Guardrail (Y/N)	Yes			Terminalend, 9 posts, 6 sections of rail damaged on W rail.-photo
<b>Approach Road / Embankment General Rating</b>		<b>8</b>	<b>8</b>	

**Upstream End**

Culvert Component		Last	Now	Explanation of Condition
Direction		W		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
Headwall		6	6	
Collar		5	5	Several vertical cracks. Wide cracks on both sides of collar/headwall interface. Wide transverse cracks at 2m intervals.
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		7	7	
(Type : <b>NATURAL</b> )				
(Avg. Rock Size(mm) : )				
Scour/Erosion		7	7	
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
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 11200, Rise (mm): 7400, Type: RP)				
Barrel Last Accessible Date	05-Apr-2011			
Special Features				
Special Feature				"8" Concrete Haunch Blocks x 10. Possible struts below road surface @ concrete block locations. Some heaving at ~25mm causing rough ride through structure. Worst at ring 17.
(Type : )				
Special Feature				"7" Concrete Footing/Curb Too much ice to view.
(Type : )				
Roof		2	2	Ring #10, #11 & 12 no bolts. Welded to roof. Ring 6, 8, 10, 12, 14, 15, 17, 18, cracking @ 12 o'clock < 50mm @ 15 & 17, could not verify. High load damage ring 4-12, worst @ 8 - photo ring 8. 4902 @ ring #21 @ road c/l. 5021 @ ring #1, @ road centerline.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		6	6	Sidewalls pushing inward for full length. Measured span 11950mm. 11050 @ ring #1.
Measured Span (mm)				
Measured At Ring No.	30			
Deflection (mm)	250			
Percent Deflection	2			
Floor		X	X	Bumps @ concrete haunch block locations in road.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		6	6	
Separation (mm)	0			

Bridge Culvert Barrel					
Culvert Component		Last	Now	Explanation of Condition	
<b>(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 11200, Rise (mm): 7400, Type: RP)</b>					
Longitudinal Seams		2	2	Rings 6, 8, 10, 12, 14, 15, 17, 18 cracked @ 12 o'clock.	
Total No. of Cracked Rings	8			Could not confirm remaining steel.  3N stagger.	
Total No. of Rings with Two Cracked Seams	0				
Min. Remaining Steel Between Cracks (mm)	36				
Proper Lap (Y/N)	No				
Longitudinal Stagger (Y/N)	Yes				
Coating		6	6	Efflorescence on roof in many locations.	
Corrosion By Soil (Y/N)	Yes				
Corrosion By Water (Y/N)	No				
Camber POS/ZERO/NEG	ZERO				
Ponding (Y/N)	No				
Fish Passage Adequacy		X	X		
Baffle		X	X		
(Type : )					
Waterway Adequacy		X	X		
Icing (Y/N)	No				
Silting (Y/N)	No				
Drift (Y/N)	No				
<b>Barrel General Rating</b>		<b>2</b>	<b>2</b>		
Downstream End					
Culvert Component		Last	Now	Explanation of Condition	
Direction		E			
End Treatment (Concrete, Steel, Others, None)	CONCRETE				
Headwall		5	5	Vertical cracks 0.3 mm wide @ 200 to 500 mm spacing with rust staining. Medium cracks at collar/headwall interface, typical both sides.	
Collar		6	6		
Wingwalls		X	X		
(Shape : )					
Cutoff Wall		X	X		
Bevel End		8	8		
Heaving (mm)	0				
Invert Above/Below Stream Bed					
Above/Below (mm)	0				
Scour Protection		7	7		
(Type : <b>NATURAL</b> )					
(Avg. Rock Size(mm) : )					
Scour/Erosion		7	7		
Beavers (Y/N)	No				
<b>Downstream End General Rating</b>		<b>5</b>	<b>5</b>		

Structure Usage				
		Last	Now	Explanation of Condition
<b>Grade Separation</b>				
Road Alignment		7	7	Curve East.
Roadway Surface		4	4	Bumps in road @ concrete haunch locations appear to be from heaving struts below ACP causing rough ridge through structure - photo.
(Type : ACP)				
Icing (Y/N)	No			
Traffic Safety Features		3	7	
Type	Lights			
Lighting		3	7	
Barrel Leakage (Y/N)	Yes			
Drainage		4	4	Wet soil behind guardrails - photo. (Ponding along gutters. 16/Jan/2006) Near zero grade.
Structure In Use (Y/N)	Yes			
<b>Grade Separation General Rating</b>		<b>3</b>	<b>4</b>	

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	Wash curbs and remove saturated gravel/mud from both curbs/haunch area.					
OTHER ACTION	2011	Assess high load damage.					
OTHER ACTION	2011	Repair guardrail.					
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>22.2/22.2</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>49.8/42.7</b>	Est. Repl. Yr	2030	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Monitor bumps in roadway caused by heaving struts. Monitor cracks in roof. Low rating advisory issued July 13, 2009. Low rating advisory sent to Rizwan Hussain and Brent Herrick-April 4, 2011.		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							