Bridge Culvert Inspection

Bridge File Number	01635 -1 Bridge Culvert	Form Type	CUL1
Year Built	1960	Lot No.	1
Bridge or Town Name	STONY PLAIN	Inspector Name	Todd Warshawski
Located Over	ATIM CREEK, 6.65.8, WATERCRS-ST	Inspector Class	BR CLS B
Located On	16A:14 L1 13.760;16A:14 R1 14.287	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	05-Jul-2012
Legal Land Location	SE SEC 6 TWP 53 RGE 27 W4M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-113:57:52, 53:32:28	Data Entry Date	10-Jul-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA11	Review Date	09-Jul-2012
Clear Roadway/Skew	34.6 /	Dept. Reviewer Name	Brent Herrick
AADT/Year	26,920 / 2011 (A)	Dept. Review Date	17-Jul-2012
Road Classification	RAD-616.6-130	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	1429	1575	SPE	76	152X51	3.5	ELLIPSE

Special Features	VERT STEEL STRUTS
Special Features Comment	

Utilities (Located at)

Utility Attachments			
Telephone	S r/w.	Gas	
Power		Municipal	
Others		Problem (Y/N)	
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	Intersection to east. 6 lane divided highway.
Vertical Alignment		8	8	
Roadway Width (m)	34.600			17.3 WBL, 17.3 EBL
Embankment		8	8	
Sideslope (__:1)	4.0			
(Height of Cover(m) : **2.8**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**8**	**8**	

Upstream 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	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		6	4	Wire mesh screen over inlet. Bevel top twisted and turned.
Heaving (mm)	150			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	100			
Scour Protection		5	5	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		5	5	
Beavers (Y/N)	No			
Upstream End General Rating		**5**	**4**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 1429, Rise (mm): 1575, Type: SPE**)				
Barrel Last Accessible Date	05-Jul-2012			Rings 1-15 not accessible.
Special Features				
Special Feature		6	6	Located 1/3L of D/S end. Steel 3" x 4" and 3" x 3" tubing.
(Type : **VERT STEEL STRUTS**)				
Special Feature				
(Type :)				
Roof		3	3	
Measured Rise (mm)	1480			
Measured At Ring No.	18			
Sag (mm)	95			
Percent Sag	6			
Sidewall		2	2	See longitudinal seam comment.
Measured Span (mm)	1467			
Measured At Ring No.	18			
Deflection (mm)	38			
Percent Deflection	3			
Floor		5	5	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		5	5	
Separation (mm)	0			
Longitudinal Seams		2	2	Rings 16, 18, 20 & 22 cracked. Ring 18, 20 & 22 cracked both sides with 25mm of steel between cracks. -photo
Total No. of Cracked Rings	4			
Total No. of Rings with Two Cracked Seams	3			R18 cracks at 2 o'clock and 8 o'clock.
Min. Remaining Steel Between Cracks (mm)	25			Rings 1-15 not inspected.
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	Yes			
Coating		4	4	Superficial rust on floor. Soil side corrosion d/s end.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 1429, Rise (mm): 1575, Type: SPE**)				
Fish Passage Adequacy		3	3	Perched outlet.
Baffle		X	X	
(Type :)				
Waterway Adequacy		4	4	Evidence pipe is too small due to scour hole @ D/S end.
Icing (Y/N)	No			Drift and debris caught in struts.
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel General Rating		**3**	**3**	General rating raised one point on account of struts.

Downstream 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	
Bevel End		4	4	Superficial corrosion.
Heaving (mm)	100			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	300			
Scour Protection		4	4	Bevel undermined about 1m.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **150**)				
Scour/Erosion		4	4	Scour hole approx 4 x 10 x 1m - photo.
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	5	Channel turns 45deg at inlet.
Bank Stability		4	5	Vertical cut bank.-Oct, 2010
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**4**	**5**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION	2012	Remove drift from barrel.				
INSTALL CONCRETE/STEEL LINING						
INSTALL STRUTS						
INSTALL CONCRETE COLLAR/CUTOFF						
REPAIR SEAMS						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**33.3/33.3**	**Sufficiency Rating (Last/Now) (%)**	**29.8/29.3**	Est. Repl. Yr	2015	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Genivar currently working on design for replacement.EDC-09-Jul-2012	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-Apr-2014	Previous Inspection Date	06-Oct-2010		
Inspection Cycle (Default) (months)	21				
Comment					