Bridge Culvert Inspection

Bridge File Number	70052 -1 Bridge Culvert	Form Type	CUL1
Year Built	1970	Lot No.	1
Bridge or Town Name	GIBBONS	Inspector Name	Kris Bosters
Located Over	STURGEON RIVER, 6.65, WATERCRS-ST	Inspector Class	BR CLS A
Located On	28A:03 R1 13.795;28A:03 L1 13.795	Assistant Name	Brian Cote
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	10-Apr-2012
Legal Land Location	SW SEC 14 TWP 56 RGE 23 W4M	Data Entry By	Lisa Fairhurst
Longitude, Latitude	-113:19:20, 53:50:23	Data Entry Date	25-Apr-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA09	Review Date	25-Apr-2012
Clear Roadway/Skew	30.2 / 40 deg. (RHF)	Dept. Reviewer Name	Brent Herrick
AADT/Year	4,220 / 2011 (A)	Dept. Review Date	04-May-2012
Road Classification	RAU-211.8-110	Follow-Up By	
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	7600	7600	AP	194.5			ARCH
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	East r/w.	Gas	
Power	2 lines east r/w.	Municipal	
Others		Problem (Y/N)	No
Remarks	Bridge plaque SW wingwall & NE corner of East headwall.		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Bermed area 25m wide on east side. Located on transition from 4 lane to 2 lane. 2 lanes from the south.
Vertical Alignment		7	7	
Roadway Width (m)	12.000			
Embankment		4	4	Upper 3:1 sidesleope and lower 2:1 on the west embankment. 5m on West, 7.5m on East. Ditch gully along NW bank has developed to 1.2m wide, 1.5m deep & 30m long approx over the years. Filled with grasses - photo (Ditch gullies along NW bank. (0.6m x 0.6m x 30m long . Concrete debris @ ditch drainage in SW corner stable.
Sideslope (__:1)	2.0			
(Height of Cover(m) : **5**)				
Guardrail (Y/N)	Yes			There is minor creasing along the flexbeam guardrail.
Approach Road / Embankment General Rating		**7**	**7**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		W		With steel rail at top.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		7	7	
Collar		X	X	
Wingwalls		6	6	Three medium cracks on SW corner. There is cracking at all wingwalls. Concrete spall SW wingwall & tie holes.
(Shape :)				
Cutoff Wall		N	N	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	600			
Scour Protection		7	7	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **450**)				
Scour/Erosion		7	7	
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): 7600, Rise (mm): 7600, Type: AP**)				
Barrel Last Accessible Date	23-Nov-2006			Water 1.2m deep. Viewed from ends. Shape looks good
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	N	
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	0			
Percent Sag				
Sidewall		N	N	(There is random vertical cracking along the sidewalls. There is leaching along some cracks - photo #1. Cracks range from hairline to medium. Most cracks are on South wall. Inspected 30m of U/S end. The rest was viewed and shape looks good. Efflorescence on South wall - photo 2.) 23Nov06
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		N	N	Covered with water.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		N	N	(Grout at construction joints (circumferential seams) has deteriorated - photo #2. Rings 2 & 3 North wall.-23-Nov-2006)
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		X	X	
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 7600, Rise (mm): 7600, Type: AP**)				
Fish Passage Adequacy		8	8	
Baffle		X	X	
(Type :)				
Waterway Adequacy		8	8	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**N**	**N**	Rated "5" on 23/Nov/2006.

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		E		With steel rail on top.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		7	7	Couple bullet holes in railing.
Collar		X	X	
Wingwalls		6	6	2 wide cracks on south wall. 1 wide crack on North wall.
(Shape :)				
Cutoff Wall		N	N	
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			Approx.
Above/Below (mm)	600			
Scour Protection		7	7	Very little rock, well grassed. Minor settlement along wingwalls. SE w/w -
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Downstream End General Rating		**6**	**6**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		5	5	(Lots of springs & minor slides. 08/Apr/2005)
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**)				
Channel General Rating		**5**	**5**	

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	2012	Level 2 inspection to inspect floor as per previous comments.-do if not done.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**55.6/55.6**	**Sufficiency Rating (Last/Now) (%)**	**65.9/65.8**	Est. Repl. Yr	2040	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	Monitor ditch erosion. Should check floor at low water to review condition, if not already done, to avoid a disaster similar to Weed Creek on Hwy 39. Consider Level 2 inspection 08/Apr/05	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	Arnold Assenheimer	Previous Assistant's Name			
Next Inspection Date	10-Jan-2014	Previous Inspection Date	22-Jun-2010		
Inspection Cycle (Default) (months)	21				
Comment					