Bridge Culvert Inspection

Bridge File Number	73879 W-1 Bridge Culvert	Form Type	CUL1
Year Built	1958	Lot No.	1
Bridge or Town Name	WHITECOURT	Inspector Name	Kris Bosters
Located Over	CHICKADEE CREEK, 8.11.110, WATERCRS-ST	Inspector Class	BR CLS A
		Assistant Name	
Located On	43:14 L1 22.939	Assistant Class	
Water Body Cl./Year		Inspection Date	04-Oct-2011
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	NW SEC 24 TWP 60 RGE 14 W5M	Data Entry Date	25-Oct-2011
Longitude, Latitude	-115:57:56, 54:12:33	Reviewer Name	Eric Carcoux
Road Authority	Alberta Transportation (AIT)	Review Date	22-Oct-2011
Contract Main. Area	CMA12	Dept. Reviewer Name	Brent Herrick
Clear Roadway/Skew	13 /	Dept. Review Date	26-Oct-2011
AADT/Year	6,030 / 2010 (A)	Follow-Up By	
Road Classification	RAD-412.4-120		
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	4300	4300	AP	66.1			ARCH
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	North r/w.	Gas	
Power	7 wires North r/w.	Municipal	
Others	BF cast into face of headwalls.	Problem (Y/N)	No
Remarks	Chickadee ck signs have fallen over		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		6	6	Limited sight distance. 7% grade on east side. Bottom of sag.
Vertical Alignment		6	6	
Roadway Width (m)	12.600			
Embankment		7	3	North end measured. Erosion Se of bevel is affecting embankment stability.-photo
Sideslope (__:1)	3.0			
(Height of Cover(m) : **6.3**)				
Guardrail (Y/N)	Yes			Minor bends/dents, functional. 9 posts and 9 rail sections (total) damaged at 3 locations.
Approach Road / Embankment General Rating		**6**	**6**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		N		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	
Collar		X	X	
Wingwalls		4	4	Both walls have wide vertical cracks & wingwalls are inwards 42mm at const joint (NW). Wingwalls have separated 30mm @ construction joints. 1.5mx0.2m chunk broken off at top of NW wingwall.
(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				
Above/Below (mm)	0			
Scour Protection		N	6	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		N	6	
Beavers (Y/N)	Yes			Dam 2m from u/s end.
Upstream End General Rating		**4**	**4**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 4300, Rise (mm): 4300, Type: AP**)				
Barrel Last Accessible Date	08-Apr-2008			Viewed from ends due to water depth. Shape and condition look good.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		6	6	Small crack @ start of barrel in roof & sidewall where bevel begins to flare out at D/S end and U/S end. Water stop visible NE corner.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	0			
Percent Sag				
Sidewall		6	6	(Due to ice levels accurate measurements could not be taken. Vertical cracking. 08/Apr/2008)
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		N	N	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	Yes			
Circumferential Seams		N	N	
Separation (mm)	30			
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			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 4300, Rise (mm): 4300, Type: AP**)				
Ponding (Y/N)	Yes			500mm deep
Fish Passage Adequacy		8	8	
Baffle		N	N	
(Type :)				
Waterway Adequacy		8	4	Drift level indicates pipe is quite undersized. Silt/drift visible from ends.
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	Yes			
Barrel General Rating		**N**	**N**	G.R. was "6" from 08/Apr/2008.

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		S		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	
Collar		X	X	
Wingwalls		5	5	Pulled away from bevel 50mm at top and bottom.
(Shape :)				
Cutoff Wall		N	N	
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		N	3	Rock added to sideslopes approx 15m D/S. Rock also in s/b creating pool at outlet. 10mx10mx3m scour or embankment SE of bevel vertical banks d/s.-photo
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		N	3	Scour to SE.
Beavers (Y/N)	No			
Downstream End General Rating		**5**	**3**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		6	6	
HWM (m below Top of Culvert)				Drift on N road embankment 1.5m down from shoulder elevation.-photo
Drift (Y/N)	Yes			
Channel Bottom Degrading/Aggrading	DEGRADING			Old dam visible upstream.
Beavers (Y/N)	Yes			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**6**	**6**	

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	Replace watercourse signage.				
OTHER ACTION	2011	Repair erosion SE of bevel and armour with Class II rock.				
OTHER ACTION	2011	Replace broken GR and posts.				
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**55.6/55.6**	**Sufficiency Rating (Last/Now) (%)**	**62.1/47.5**	Est. Repl. Yr	2029	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection		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	04-Jul-2013	Previous Inspection Date	30-Oct-2009
Inspection Cycle (Default) (months)	21		
Comment			