Bridge Culvert Inspection

Bridge File Number	07391 -1 Bridge Culvert	Form Type	CUL1
Year Built	1955	Lot No.	1
Bridge or Town Name	CARVEL	Inspector Name	Wade Nanninga
Located Over	KILINI CREEK, 6.65.19, WATERCRS-ST	Inspector Class	BR CLS A
Located On	16:12 R1 51.040;16:12 L1 51.058	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	07-Aug-2012
Legal Land Location	NE SEC 9 TWP 53 RGE 2 W5M	Data Entry By	Theresa Lacusta
Longitude, Latitude	-114:13:44, 53:34:13	Data Entry Date	21-Aug-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Eric Carcoux
Contract Main. Area	CMA11	Review Date	21-Aug-2012
Clear Roadway/Skew	22.6 /	Dept. Reviewer Name	Brent Herrick
AADT/Year	13,120 / 2011 (A)	Dept. Review Date	30-Aug-2012
Road Classification	RAD-412.4-120	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	2440	1750	RPP	51.8	152X51		PIPE ARCH
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	South r/w.	Gas	
Power	7 wires North r/w.	Municipal	Hwy lighting - both shoulders.
Others		Problem (Y/N)	No
Remarks	File tag U/S.		

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		6	6	SH 770 intersection 90m to East of structure.
Vertical Alignment		7	7	
Roadway Width (m)	22.600			
Embankment		7	7	3m berms each side.
Sideslope (__:1)	3.0			
(Height of Cover(m) : **1.2**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**6**	**6**	

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		N	N	(Extensive rust with perforations - photo. 25/Nov/2008) Covered by beaver dam.
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	0			
Scour Protection		N	5	
(Type : **NATURAL**)				
(Avg. Rock Size(mm) :)				
Scour/Erosion		N	5	
Beavers (Y/N)	Yes			1.5m high dam in inlet -
Upstream End General Rating		**N**	**5**	G.R. was "5" from 25/Nov/2008.

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2440, Rise (mm): 1750, Type: RPP**)				
Barrel Last Accessible Date	04-Dec-2001			Water too deep to enter pipe. Veed from S end.
Special Features				
Special Feature		2	2	(Struts are tilted but still in place. At R9 able to inspect 1/3L of pipe due to water level being too high. 04/Dec/2001) Pipe is no longer strutted.
(Type : **VERT TIMBER STRUTS**)				
Special Feature				
(Type :)				
Roof		N	N	Limited view. Roof appears to still have some curvature.
Measured Rise (mm)	1735			
Measured At Ring No.				
Sag (mm)	0			
Percent Sag				
Sidewall		N	N	Limited view, no issues visible.
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		N	N	
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		N	N	
Separation (mm)	0			
Longitudinal Seams		N	N	(Water too deep to inspect cracks. At least 5 cracked rings, water was too deep to inspect half the pipe, it does not appear the cracks have moved in many years '91 insp. 92/11/13) (What is visible has soil/superficial rust - rust stains from bolt holes. 22/Mar/2007) (Standing water 1.0m from roof. 00/04/18)
Total No. of Cracked Rings	5			
Total No. of Rings with Two Cracked Seams				
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		N	N	(Heavy corrosion up to mid rise of culvert. 22 Mar 07)
Corrosion By Soil (Y/N)				
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	Yes			1200mm deep.

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 2440, Rise (mm): 1750, Type: RPP**)				
Fish Passage Adequacy		6	4	Beaver dam @ inlet
Baffle		N	N	
(Type :)				
Waterway Adequacy		5	5	
Icing (Y/N)	No			
Silting (Y/N)	Yes			
Drift (Y/N)	No			
Barrel General Rating		**2**	**2**	Missing struts. GR carried forward

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		6	6	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	600			
Scour Protection		6	6	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **200**)				
Scour/Erosion		6	6	
Beavers (Y/N)	Yes			
Downstream End General Rating		**6**	**6**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		6	6	Makes 90 degree bend at U/S end.
Bank Stability		6	6	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	AGGRADING			Water is backed up from numerous dams.
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						
OTHER ACTION	2012	Review scheduled replacement date and if struts should be reinstalled.				
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**22.2/22.2**	**Sufficiency Rating (Last/Now) (%)**	**40.0/33.8**	Est. Repl. Yr	2012	Maint. Reqd. (Y/N)	Yes

Special Comments for Next Inspection	(level 2 completed in July 2003. Programmed for replacement. 07/June/2005) Low rating advisory sent to Rizwan Hussain Aug 20 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	Kris Bosters	Previous Assistant's Name			
Next Inspection Date	07-May-2014	Previous Inspection Date	08-Oct-2010		
Inspection Cycle (Default) (months)	21				
Comment					