Bridge Culvert Inspection

Bridge File Number	85017 -1 Bridge Culvert	Form Type	CUL1
Year Built	2004	Lot No.	4
Bridge or Town Name	ANTHONY HENDAY DRIVE	Inspector Name	Wade Nanninga
Located Over	WHITEMUD CREEK, 6.95, WATERCRS-ST;TRAIL-PED	Inspector Class	BR CLS A
		Assistant Name	
Located On	216:06 R1 4.991;216:06 L1 4.989	Assistant Class	
Water Body Cl./Year		Inspection Date	26-Feb-2013
Navigabil. Cl./Year		Data Entry By	Theresa Lacusta
Legal Land Location	SW SEC 25 TWP 51 RGE 25 W4M	Data Entry Date	13-Mar-2013
Longitude, Latitude	-113:33:47, 53:25:43	Reviewer Name	Eric Carcoux
Road Authority	Alberta Transportation (AIT)	Review Date	11-Mar-2013
Contract Main. Area	ANTHONY HENDAY DRIVE	Dept. Reviewer Name	Brent Herrick
Clear Roadway/Skew	55.6 / -5 deg. (LHF)	Dept. Review Date	20-Mar-2013
AADT/Year	49,240 / 2011 (A)	Follow-Up By	
Road Classification	RFD-412.4-110		
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	10200	16400	AP	84.9			ARCH

Special Features	SIDEWALK
Special Features Comment	

Posting Information

Required Vert. Clearance Posting (m)												
Posted Vertical Clearance (Y/N)				No								
Posted:	Lane	NB	On Bridge (m)		In Advance (Y/N)	No	Lane	SB	On Bridge (m)		In Advance (Y/N)	No
Remarks	Not required.											

Utilities (Located at)

Utility Attachments			
Telephone		Gas	
Power	Street lighting.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	8	On curve.
Vertical Alignment		9	9	
Roadway Width (m)	27.400			Road has frost heaved over culvert in EBL & WBL. Patched but bump is still noticeable. Wide racks in ACP over culvert WBL and EBL.
Embankment		8	8	Upper section to berm 6:1, lower section 1.5:1.
Sideslope (__:1)	1.0			
(Height of Cover(m) : **2.5**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**8**	**8**	

Upstream End

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

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Headwall		6	6	Medium shrinkage cracks average 300mm o/c.
Collar		7	7	Narrow shrinkage cracks average 300mm o/c.
Wingwalls		7	7	Narrow shrinkage cracks on top of wall average 300mm o/c. Wide cracks at transition from collar to wingwalls.
(Shape : **FLARE**)				
Cutoff Wall		N	N	
Bevel End		9	9	
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		9	9	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **450**)				
Scour/Erosion		9	9	
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): 10200, Rise (mm): 16400, Type: AP**)				
Barrel Last Accessible Date	26-Feb-2013			
Special Features				
Special Feature		7	X	
(Type : **SIDEWALK**)				
Special Feature				
(Type :)				
Roof		7	7	Concrete wall around skylight has medium cracks 300mm o/c.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag	0			
Sidewall		7	7	Narrow hairline shrinkage cracking at 10:00 & 2:00 o'clock every 250mm o/c under the open area. Cracking may be related to the change from true arch at ends to an arch with an open roof. 4 outside beams on each end are strutted with horizontal concrete beams. Beams have narrow cracks at 300mm o/c.
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)				
Percent Deflection	0			
Floor		9	9	Floor is open with riprap throughout and strutted with concrete beams that follow streambed and banks.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		X	X	
Separation (mm)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 10200, Rise (mm): 16400, Type: AP**)				
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		4	4	Few spots peeling, mostly around skylight.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	No			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		9	9	
Baffle		9	9	Concrete struts may provide some baffling effect though marginal.
(Type :)				
Waterway Adequacy		9	9	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**7**	**7**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		N		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		5	5	Wide shrinkage crack approx 300 on average o/c.
Collar		7	7	
Wingwalls		6	6	Lots of graffiti. Narrow shrinkage cracks on tops of walls at 300mm o/c. Wide crack at transition from collar to wingwall.
(Shape : **FLARE**)				
Cutoff Wall		N	N	
Bevel End		8	8	
Heaving (mm)	0			
Invert Above/Below Stream Bed				
Above/Below (mm)	0			
Scour Protection		9	9	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **500**)				
Scour/Erosion		9	9	
Beavers (Y/N)	No			
Downstream End General Rating		**5**	**5**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	
Bank Stability		7	7	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	NONE			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**7**	**7**	
Grade Separation				
Road Alignment		7	7	On curve.
Roadway Surface		9	9	
(Type : **CONCRETE**)				
Icing (Y/N)	No			
Traffic Safety Features		9	9	
Type	Railing			
Lighting		X	X	
Barrel Leakage (Y/N)	No			
Drainage		9	9	
Structure In Use (Y/N)	Yes			
Grade Separation General Rating		**7**	**7**	

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						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**77.8/77.8**	**Sufficiency Rating (Last/Now) (%)**	**78.6/78.6**	Est. Repl. Yr	2080	Maint. Reqd. (Y/N)	No

Special Comments for Next Inspection	Monitor cracks on d/s collar and skylight wall.	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	26-Nov-2014	Previous Inspection Date	29-Apr-2011		
Inspection Cycle (Default) (months)	21				
Comment					