

Bridge Culvert Inspection			
Bridge File Number	81758 -2 Bridge Culvert	Form Type	CULE
Year Built/Lined	1978/1980	Lot No.	3
Bridge or Town Name	ROBB	Inspector Name	Bryan Wai
Located Over	CHANCE CREEK, 8.11.107.33.19, WATERCRS-ST	Inspector Class	BR CLS B
Located On	40:24 C1 35.978	Assistant Name	Junaid Iqbal
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	04-Oct-2012
Legal Land Location	SW SEC 33 TWP 48 RGE 21 W5M	Data Entry By	Wayne Cappellani
Longitude, Latitude	-117:01:15, 53:10:56	Data Entry Date	29-Nov-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Wayne Cappellani
Contract Main. Area	CMA13	Review Date	29-Nov-2012
Clear Roadway/Skew	14.5 / 40 deg. (RHF)	Dept. Reviewer Name	Wayne Cappellani
AADT/Year	300 / 2011 (A)	Dept. Review Date	29-Nov-2012
Road Classification	RAU-213.4-120	Follow-Up By	
Detour Length (km)	50		

Bridge Culvert Information

Number of Culverts	5							
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN Partially Lined	-	3658	SP	129.2	152X51	3.5,4.3,3.5	ROUND
2	MAIN PARTIAL LINER	-	3000	MP	7	125X26	3.5	ROUND
3	MAIN PARTIAL LINER	3200	2950	SPE	30	152X51	3.5	ELLIPSE
4	MAIN PARTIAL LINER	3150	2850	MPE	40	152X51	4.2	ELLIPSE
5	MAIN PARTIAL LINER	-	3000	MP	19	125X26	3.5	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	South r/w.	Gas	
Power	South r/w, SW.	Municipal	
Others		Problem (Y/N)	No
Remarks	File tag on top headwall @ West/Inlet end - missing 1 bolt connection.		

Approach Road / Embankment

	Last	Now	Explanation of Condition
Horizontal Alignment	4	4	90 degree corner 30m West, turning South.
Vertical Alignment	6	6	
Roadway Width (m)	11.000		
Embankment	7	7	Partial snow covered but no sign of problems.
Sideslope (__:1)	3.0		
(Height of Cover(m) : 12)			
Guardrail (Y/N)	No		
Approach Road / Embankment General Rating	4	4	

Upstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Span Type:)				
Direction		W		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall			7	
Collar			7	
Wingwalls (Shape :)			X	
Cutoff Wall			7	Majority top portion visible.
Bevel End			7	
Heaving (mm)	200			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	200			
Scour Protection (Type : RIP RAP) (Avg. Rock Size(mm) : 500)			7	
Scour/Erosion			7	
Beavers (Y/N)	No			
Upstream End General Rating			7	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3658, Type: SP)				
Barrel Last Accessible Date	03-Oct-2012			Original 144" (3658mm) dia. x 424' (129.24 M) length; installed in 1978.
Special Features				
Special Feature (Type :)				U/S end visible - 17.87 M length with bevel. D/S end visible - 15.37 M length with bevel.
Special Feature (Type :)				
Roof			5	U/S end: Rise Span R1 3927 3377 R3 3475 3743 R4 3466 3729 Measured R37 from inlet or R1 from D/S end. U/S end R3 - reverse curvature @ S. sidewall/roof connections @ 1 o'clock.
Measured Rise (mm)	3913			
Measured At Ring No.	37			
Sag (mm)	255			
Percent Sag	7			
Sidewall			3	D/S end: Rise Span R1 3913 3190 R3 3432 3680 Rings counted from Outlet end. Measured R37 from inlet or R1 from D/S end. U/S end R1 - isolated perforations in N. sidewall @ 7 o'clock. R2 & R3 - severe perforations in S. sidewall @ 3 o'clock with isolated torn sections in S. sidewall/floor connections @ 5 o'clock.
Measured Span (mm)	3190			
Measured At Ring No.	37			
Deflection (mm)	468			
Percent Deflection	13			
Floor			3	R2 & R3 - isolated torn sections in S. sidewall/floor connections @ 5 o'clock.
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams			6	
Separation (mm)	0			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3658, Type: SP)				
Longitudinal Seams			5	U/S end R3 - reverse curvature @ S. sidewall/roof connections @ 1 o'clock. Measured R37 from inlet or R1 from D/S end. R37 - reverse curvature in N. sidewall @ 9 o'clock.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating			3	U/S end R1 - isolated perforations in N. sidewall @ 7 o'clock. R2 & R3 - severe perforations in S. sidewall @ 3 o'clock with isolated torn sections in S. sidewall/floor connections @ 5 o'clock.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			
Fish Passage Adequacy			5	
Baffle			X	
(Type :)				
Waterway Adequacy			6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating			3	
Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3000, Type: MP)				
Barrel Last Accessible Date	03-Oct-2012			3000mm dia. CSP x 7.0 M length near U/S end; installed in 2003.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof			7	Rise Span 2986 2966 2876 2973
Measured Rise (mm)	2976			
Measured At Ring No.				
Sag (mm)	24			
Percent Sag	1			
Sidewall			7	
Measured Span (mm)	2973			
Measured At Ring No.				
Deflection (mm)	27			
Percent Deflection	1			
Floor			N	Water level too deep
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams			5	
Separation (mm)	0			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 2, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3000, Type: MP)				
Longitudinal Seams			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			7	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy			5	
Baffle			X	
(Type :)				
Waterway Adequacy			6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating			7	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 3, Secondary Span, Location Code: MAIN, Span (mm): 3200, Rise (mm): 2950, Type: SPE)				
Barrel Last Accessible Date	03-Oct-2012			3050mm dia. SPCSP 5% Horiz. Ellipsed 3200 x 2950 mm x 30.0 M length & located 24.8 M from U/S end; installed in 1980.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof			3	Rise Span
Measured Rise (mm)	2629			2629 3266
Measured At Ring No.				2704 3220
Sag (mm)	321			2764 3234
Percent Sag	11			
Sidewall			6	
Measured Span (mm)	3266			
Measured At Ring No.				
Deflection (mm)	66			
Percent Deflection	2			
Floor			N	Water level too deep
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams			5	
Separation (mm)	0			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 3, Secondary Span, Location Code: MAIN, Span (mm): 3200, Rise (mm): 2950, Type: SPE)				
Longitudinal Seams			5	
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)				
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating			5	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy			5	
Baffle			X	
(Type :)				
Waterway Adequacy			6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating			3	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 4, Secondary Span, Location Code: MAIN, Span (mm): 3150, Rise (mm): 2850, Type: MPE)				
Barrel Last Accessible Date	03-Oct-2012			3000mm dia. CSP Tunnel Liner, 5% Horiz. Ellipsed 3150 x 2850 mm x 40.0 M length loacted mid section; installed in 1980.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof			3	Rise Span
Measured Rise (mm)	2414			2489 3129
Measured At Ring No.				2414 3212
Sag (mm)	436			2569 3116
Percent Sag	15			
Sidewall			5	
Measured Span (mm)	3212			
Measured At Ring No.				
Deflection (mm)	62			
Percent Deflection	2			
Floor			N	Water level too deep.
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams			5	
Separation (mm)	0			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 4, Secondary Span, Location Code: MAIN, Span (mm): 3150, Rise (mm): 2850, Type: MPE)				
Longitudinal Seams			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			5	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy			5	
Baffle			X	
(Type :)				
Waterway Adequacy			6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating			3	

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 5, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3000, Type: MP)				
Barrel Last Accessible Date	03-Oct-2012			3000mm dia. CSP Round Liner x 19.0 M length; located approx. 15.37 M from outlet D/S end; installed in 2003.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof			6	Rise Span
Measured Rise (mm)	2837			2837 2975
Measured At Ring No.				2948 2971
Sag (mm)	163			3000 2960
Percent Sag	5			
Sidewall			7	
Measured Span (mm)	2975			
Measured At Ring No.				
Deflection (mm)	25			
Percent Deflection	1			
Floor			N	Water level too deep
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams			5	
Separation (mm)	0			

Bridge Culvert Barrel				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 5, Secondary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3000, Type: MP)				
Longitudinal Seams			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			5	
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy			5	
Baffle			X	
(Type :)				
Waterway Adequacy			6	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating			6	
Downstream End				
Culvert Component		Last	Now	Explanation of Condition
(Pipe # : 5, Span Type:)				
Direction		E		
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall			X	
Collar			X	
Wingwalls			X	
(Shape :)				
Cutoff Wall			X	
Bevel End			7	
Heaving (mm)	300			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	200			
Scour Protection			7	
(Type : RIP RAP)				
(Avg. Rock Size(mm) : 500)				
Scour/Erosion			7	
Beavers (Y/N)	No			
Downstream End General Rating			7	

Structure Usage				
		Last	Now	Explanation of Condition
Channel (U/S and D/S)				
Alignment		5	5	45 degree bend near inlet.
Bank Stability		7	7	
HWM (m below Top of Culvert)				HWM not visible.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			D/S end only.
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	2013	Repair/installation of 1 bolt missing @ Bridge File Tag on top of concrete headwall @ West/Inlet end.					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
Structural Condition Rating (Last/Now) (%)	66.7/33.3	Sufficiency Rating (Last/Now) (%)	49.1/41.2	Est. Repl. Yr	2030	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection	Monitor perforations in R1 to R3 and damaged/torn sections in R2 & R3 in original 3658mm dia. SPCSP @ U/S end.		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	Eric Carcoux		Previous Assistant's Name				
Next Inspection Date	04-Jul-2014		Previous Inspection Date	08-Nov-2010			
Inspection Cycle (Default) (months)	21						
Comment							