Bridge Culvert Inspection

Bridge File Number	72424 -1 Bridge Culvert	Form Type	CULM
Year Built	1959	Lot No.	4
Bridge or Town Name	NANTON	Inspector Name	Jon Davies
Located Over	NANTON CREEK, 2.12.12.12.5, WATERCRS-ST	Inspector Class	BR CLS B
		Assistant Name	
Located On	2:10 R1 25.726;2:10 L1 25.654	Assistant Class	
Water Body Cl./Year		Inspection Date	18-Oct-2011
Navigabil. Cl./Year		Data Entry By	Erin Roberts
Legal Land Location	SE SEC 21 TWP 16 RGE 28 W4M	Data Entry Date	21-Nov-2011
Longitude, Latitude	-113:47:28, 50:21:39	Reviewer Name	Garry Roberts
Road Authority	Alberta Transportation (AIT)	Review Date	08-Nov-2011
Contract Main. Area	CMA27	Dept. Reviewer Name	Tim Davies
Clear Roadway/Skew	21.4 / 30 deg. (RHF)	Dept. Review Date	25-Nov-2011
AADT/Year		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	6100	3050	BP	53.3			RECTANGLE
Special Features		STORM WATER DRAIN						
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	At East r/w.	Gas	
Power		Municipal	
Others	Fiber optics East ROW	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		5	5	Curve 50 m South.
Vertical Alignment		8	8	
Roadway Width (m)	21.400			
Embankment		7	7	
Sideslope (__:1)	3.0			
(Height of Cover(m) : **2**)				
Guardrail (Y/N)	Yes			
Approach Road / Embankment General Rating		**5**	**5**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		W		West end.
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	Minor cracks and scaling
Collar		X	X	

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Wingwalls		6	5	Minor cracks. Walls have moved away at barrel jct - away 25mm and in 50 mm at SW. Moved inward 100mm and away 50mm at NW
(Shape : **FLARE**)				
Cutoff Wall		N	N	Silt covered
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed				At streambed.
Above/Below (mm)	0			
Scour Protection		6	6	INGROWN
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		6	6	
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): 3050, Rise (mm): 3050, Type: BP, Cell Sequence: 1**)				
Barrel Last Accessible Date	18-Oct-2011			South.
Special Features				
Special Feature		6	6	In Ring 2
(Type : **STORM WATER DRAIN**)				
Special Feature				
(Type :)				
Roof		6	6	Minor hairline long. cracks.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	0			
Percent Sag				
Sidewall		6	6	Some minor wide cracking near top of walls 1 to 1.5 mm.
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		N	N	600 mm water and silt on floor. Steel fence panels washed into R1
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		6	6	Efflorescence and minor leakage. 10mm vertical separation R2-R3
Separation (mm)	20			
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)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 3050, Rise (mm): 3050, Type: BP, Cell Sequence: 1**)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		5	5	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**6**	**6**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 3050, Rise (mm): 3050, Type: BP, Cell Sequence: 2**)				
Barrel Last Accessible Date	18-Oct-2011			North. Receives most of flow.
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		6	6	Minor long. hairline cracks.
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)	0			
Percent Sag				
Sidewall		6	6	Isolated cracks at U/S and D/S end. Up to 1mm wide at NE. Vertical & longitudinal
Measured Span (mm)				
Measured At Ring No.				
Deflection (mm)	0			
Percent Deflection				
Floor		N	N	0 to 400mm deep silt and water on floor. Steel fence panels washed into R1
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		6	6	Roof seam - box lower 15 mm from u/s end. Efflorescense and minor leakage.
Separation (mm)	20			
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)				

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 3050, Rise (mm): 3050, Type: BP, Cell Sequence: 2**)				
Camber POS/ZERO/NEG	ZERO			
Ponding (Y/N)	No			
Fish Passage Adequacy		6	6	
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	7	This cell takes the stream flow.
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**6**	**6**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		E		East end. Vegetated silt 600 mm high across outlet of South cell
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		6	6	Minor cracks
Collar		X	X	
Wingwalls		5	4	Wing moved away 60 mm and in 200 mm with loss of fill @ NE. 0.5m long x 0.2m wide x 0.8m deep
(Shape : **FLARE**)				
Cutoff Wall		N	N	Silt covered
Bevel End		X	X	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	300			
Scour Protection		7	7	In grown ROCK @ SOUTH
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **350**)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Downstream End General Rating		**5**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		5	5	Stream enters North cell RxR Bridge removed D/s abuts. still in place
Bank Stability		5	5	Steep cut @ NW
HWM (m below Top of Culvert)	2.0			Grass HWM @ u/s gates
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	AGGRADING			
Beavers (Y/N)	No			

Structure Usage			
	Last	Now	Explanation of Condition
(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						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**66.7/66.7**	**Sufficiency Rating (Last/Now) (%)**	**65.8/67.0**	Est. Repl. Yr	2035	Maint. Reqd. (Y/N)	No

Special Comments for Next Inspection	Monitor D/S wing wall movement. Appears stable this inspection but may require horizontal struts if movement continues. J Davies 25-Oct-2011	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	Garry Roberts	Previous Assistant's Name			
Next Inspection Date	18-Jul-2013	Previous Inspection Date	26-Jan-2010		
Inspection Cycle (Default) (months)	21				
Comment					