Bridge Culvert Inspection

Bridge File Number	78441 -1 Bridge Culvert	Form Type	CUL1
Year Built	1982	Lot No.	2
Bridge or Town Name	MONARCH	Inspector Name	Tom Carey
Located Over	LNI - IRRIGATION C, WATERCRS-IC	Inspector Class	BR CLS A
Located On	23:04 C1 7.479	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	18-Feb-2013
Legal Land Location	SW SEC 29 TWP 10 RGE 23 W4M	Data Entry By	Anne Roberts
Longitude, Latitude	-113:05:01, 49:50:48	Data Entry Date	17-Mar-2013
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Garry Roberts
Contract Main. Area	CMA25	Review Date	03-Mar-2013
Clear Roadway/Skew	13.4 / -37 deg. (LHF)	Dept. Reviewer Name	Tim Davies
AADT/Year	6,120 / 2011 (A)	Dept. Review Date	25-Mar-2013
Road Classification	RAU-213-130	Follow-Up By	
Detour Length (km)	3		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	7520	3850	RPA	39	152X51	4.0,5.0	ARCH
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone	At East r/w.	Gas	200m East & 120m South.
Power	1-Line crossing 300m S	Municipal	
Others	Fibre optics 5m West.	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	Intersection 100m South.
Vertical Alignment		7	7	Hills both sides. Flat over pipe.
Roadway Width (m)	13.400			
Embankment		7	7	
Sideslope (__:1)	5.0			
(Height of Cover(m) : **0.8**)				
Guardrail (Y/N)	Yes			Wrong lap at flare ends NE and NW
Approach Road / Embankment General Rating		**7**	**7**	

Upstream End

Culvert Component		Last	Now	Explanation of Condition
Direction		W		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		5	5	Horizontal medium width crack at lower 3rd.
Collar		5	5	
Wingwalls		5	5	Spalling @ top SW corner. Minor
(Shape :)				

Upstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Cutoff Wall		N	N	
Bevel End		6	6	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	600			
Scour Protection		6	6	300mm rock at North West. Class 1m at the rest.
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		6	6	
Beavers (Y/N)	No			
Upstream End General Rating		**5**	**5**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 7520, Rise (mm): 3850, Type: RPA**)				
Barrel Last Accessible Date	18-Feb-2013			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		7	7	Non-galvanized bolts in roof. Ice
Measured Rise (mm)				
Measured At Ring No.				
Sag (mm)				
Percent Sag				
Sidewall		7	7	
Measured Span (mm)	7550			
Measured At Ring No.	5			
Deflection (mm)	30			
Percent Deflection	1			
Floor		N	N	AVG 1.2 deep ice
Bulge (mm)				
Measured At Ring No.				
Abrasion (Y/N)				
Circumferential Seams		7	7	
Separation (mm)	0			
Longitudinal Seams		5	5	Some loose bolts ring 2 from U/S North sidewall, 2 bolts, 1 missing head off bolt.
Total No. of Cracked Rings	0			
Total No. of Rings with Two Cracked Seams	0			
Min. Remaining Steel Between Cracks (mm)	0			
Proper Lap (Y/N)	No			
Longitudinal Stagger (Y/N)	No			
Coating		6	6	Alkali stains at South sidewall. Minor superficial rust in sidewalls.
Corrosion By Soil (Y/N)	Yes			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	ZERO			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 7520, Rise (mm): 3850, Type: RPA**)				
Ponding (Y/N)	No			
Fish Passage Adequacy		X	X	
Baffle		X	X	
(Type :)				
Waterway Adequacy		9	9	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**5**	**5**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		E		
End Treatment (Concrete, Steel, Others, None)	CONCRETE			
Headwall		5	5	Crack following profile of pipe. Same as U/S. Some diag cracks, construction crack across, medium width.
Collar		4	4	Wide 25mm crack NE slope protection, 20mm crack SE slope protection. Cracks parallel to wing wall at top of collar.
Wingwalls		5	5	
(Shape :)				
Cutoff Wall		N	N	
Bevel End		6	6	
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	600			
Scour Protection		7	7	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **300**)				
Scour/Erosion		7	7	
Beavers (Y/N)	No			
Downstream End General Rating		**4**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		8	8	0.45 m dia CSP NW hwy ditch drain
Bank Stability		8	8	
HWM (m below Top of Culvert)	1.4			
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		**8**	**8**	

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	2014	Seal cracks at North East and South East collars.				
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**55.6/55.6**	**Sufficiency Rating (Last/Now) (%)**	**65.1/65.1**	Est. Repl. Yr	2031	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	Tom Carey	Previous Assistant's Name	
Next Inspection Date	18-Nov-2014	Previous Inspection Date	18-May-2011
Inspection Cycle (Default) (months)	21		
Comment			