Bridge Culvert Inspection

Bridge File Number	75214 -1 Bridge Culvert	Form Type	CUL1
Year Built	1960	Lot No.	3
Bridge or Town Name	DUCHESS	Inspector Name	Jon Davies
Located Over	EID - IRRIGATION C, WATERCRS-IC	Inspector Class	BR CLS B
Located On	36:08 C1 19.985	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	14-Jan-2012
Legal Land Location	NW SEC 30 TWP 21 RGE 14 W4M	Data Entry By	Alyssa Boynton
Longitude, Latitude	-111:56:30, 50:48:44	Data Entry Date	22-Feb-2012
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Garry Roberts
Contract Main. Area	CMA23	Review Date	20-Jan-2012
Clear Roadway/Skew	11.1 / -14 deg. (LHF)	Dept. Reviewer Name	Tim Davies
AADT/Year	1,450 / 2010 (A)	Dept. Review Date	24-Feb-2012
Road Classification	RAU-211.8-110	Follow-Up By	
Detour Length (km)	10		

Bridge Culvert Information

Number of Culverts		1						
Pipe #	Barrel	Span	Rise (or Dia.)	Type	Length	Corr. Profile	Pl./Slab Thickness	Shape
1	MAIN	-	1200	SSP	48.8		12.0	ROUND
Special Features								
Special Features Comment								

Utilities (Located at)

Utility Attachments			
Telephone		Gas	Crossing 500m North
Power	High voltage E., 3-wire, West	Municipal	
Others	Fiber optic cable East row.	Problem (Y/N)	No
Remarks			

Approach Road / Embankment

		Last	Now	Explanation of Condition
Horizontal Alignment		8	7	4:1 on east side, benched 3.0 m over barrel ends.
Vertical Alignment		7	7	
Roadway Width (m)	10.300			
Embankment		4	4	300mm DP erosion gully 5m long at D/S over pipe
Sideslope (__:1)	3.0			
(Height of Cover(m) : **4.5**)				
Guardrail (Y/N)	No			
Approach Road / Embankment General Rating		**7**	**7**	

Upstream End

Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		E		East end.
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		X	7	1800mm Bevel has been installed and grouted into the existing pipe
Heaving (mm)	0			
Invert Above/Below Stream Bed	BELOW			
Above/Below (mm)	100			
Scour Protection		8	7	
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **250**)				
Scour/Erosion		8	7	
Beavers (Y/N)	No			
Upstream End General Rating		**8**	**7**	

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: SSP**)				
Barrel Last Accessible Date	14-Jan-2012			
Special Features				
Special Feature				
(Type :)				
Special Feature				
(Type :)				
Roof		8	7	Has been lined with a 1200mm steel pipe
Measured Rise (mm)	1200			
Measured At Ring No.	3			
Sag (mm)	0			
Percent Sag	0			
Sidewall		8	7	
Measured Span (mm)	1200			
Measured At Ring No.	3			
Deflection (mm)	0			
Percent Deflection	0			
Floor		8	7	
Bulge (mm)	0			
Measured At Ring No.				
Abrasion (Y/N)	No			
Circumferential Seams		7	7	All foam sealed
Separation (mm)	70			
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		5	5	D/S bevel has isolated surface corrosion on roof only. No coating at liner minor corrosion with scaling throughout.
Corrosion By Soil (Y/N)	No			
Corrosion By Water (Y/N)	Yes			
Camber POS/ZERO/NEG	NEG			
Ponding (Y/N)	No			

Bridge Culvert Barrel				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
(Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1200, Type: SSP**)				
Fish Passage Adequacy		X	4	High flow rate evident with perched invert D/S.
Baffle		X	X	
(Type :)				
Waterway Adequacy		7	5	
Icing (Y/N)	No			
Silting (Y/N)	No			
Drift (Y/N)	No			
Barrel General Rating		**8**	**7**	

Downstream End				
Culvert Component		**Last**	**Now**	**Explanation of Condition**
Direction		W		West end.
End Treatment (Concrete, Steel, Others, None)	STEEL			
Headwall		X	X	
Collar		X	X	
Wingwalls		X	X	
(Shape :)				
Cutoff Wall		X	X	
Bevel End		8	7	New 1800mm bevel has been installed and grouted into the existing pipe
Heaving (mm)	0			
Invert Above/Below Stream Bed	ABOVE			
Above/Below (mm)	400			
Scour Protection		3	3	2m long x 0.5m x 0.5m scour at South side of bevel
(Type : **RIP RAP**)				
(Avg. Rock Size(mm) : **400**)				
Scour/Erosion		3	3	
Beavers (Y/N)	No			
Downstream End General Rating		**3**	**3**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel (U/S and D/S)				
Alignment		7	7	15m dia scour hole 30m u/s from steel pipe @ SE Some slumping u/s and d/s Concrete drop structure 50m u/s
Bank Stability		5	5	
HWM (m below Top of Culvert)	0.8			May 20/08 No visible HWM.
Drift (Y/N)	No			
Channel Bottom Degrading/Aggrading	DEGRADING			
Beavers (Y/N)	No			
(Fish Compensation Measure 1 : **NONE**)				
(Fish Compensation Measure 2 : **NONE**)				
Channel General Rating		**7**	**7**	

Maintenance Recommendations

Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #
SHOTCRETE REPAIRS						
PLACE ADDITIONAL RIP RAP	2012	3m3 rock and 2m3 clay at D/S erosion at bevel and embankment				
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) (%)	**88.9/77.8**	**Sufficiency Rating (Last/Now) (%)**	**77.1/57.8**	Est. Repl. Yr	2036	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	14-Oct-2013	Previous Inspection Date	22-Jun-2010
Inspection Cycle (Default) (months)	21		
Comment			