Bridge Inspection

Bridge File Number	77547 E-1 Bridge	Form Type	PSR
Year Built/Year Supstr	1974/1974	Lot No.	1
		Inspector Name	Garry Roberts
Bridge or Town Name	MIDNAPORE	Inspector Class	BR CLS A
Located Over	BOW RIVER, 2.13, WATERCRS-ST	Assistant Name	
Located On	22X:04 R1 2.534	Assistant Class	
Water Body Cl./Year		Inspection Date	28-Jan-2013
Navigabil. Cl./Year		Data Entry By	Erin Roberts
Legal Land Location	SE SEC 25 TWP 22 RGE 1 W5M	Data Entry Date	19-Feb-2013
Longitude, Latitude	-114:00:40, 50:53:37	Reviewer Name	Tom Carey
Road Authority	Alberta Transportation (AIT)	Review Date	06-Feb-2013
Contract Main. Area	DEERFOOT/STONEY	Dept. Reviewer Name	Tim Davies
Clear Roadway/Skew	12.2 /	Dept. Review Date	21-Feb-2013
AADT/Year	15,870 / 2011 (A)	Follow-Up By	
Road Classification			
Detour Length (km)	1		

Allowable Load (t):	Single	CS1 28	Semi	CS2 49	Train	CS3 62	---> On Critical Spans --->Critical Member
Design Loading:		HS25					---> Primary Span

Posting Information

Required Load Posting (t)			Single		Semi		Truck Train	
Posted Loading (t)			Single	30.0	Semi	47.0	Truck Train	63.0
Posted:	Lane	EB	At Junction (Y/N)	No	In Advance (Y/N)	No	At Bridge (Y/N)	Yes
Posted:	Lane	WB	At Junction (Y/N)	No	In Advance (Y/N)	No	At Bridge (Y/N)	No
Remarks	On temporary signs. Carries EB traffic only. Appears posting not required.							

Hazard Marker At Bridge (Y/N)	No
Remarks	
Other Sign Types	City file tag 3118 on P1.

Utilities (Located at)

Utility Attachments			
Telephone	In area.	Gas	
Power	Underground in area.	Municipal	Sewage forcemain at SW.
Others	Street lights.	Problem (Y/N)	No
Remarks			

Approach Road

		Last	Now	Explanation of Condition
Horizontal Alignment		7	7	
Vertical Alignment		6	6	
Roadway Width (m)	13.000			
Approach Bump		7	7	
Guardrail (Y/N)				Wrong lap at SW and NW. Accident damage to 1 w-beam and 1 post at NW.
Guardrail		8	3	
Length (m)	30.000			
Current Standard (Y/N)	Yes			
Termination Type	TURNED DOWN			
Drainage		8	7	
Approach Road General Rating		**7**	**6**	

Superstructure

Bridge Component		Last	Now	Explanation of Condition
(Primary Span : **VF, 6 Spans, Lengths(m): 36.6-36.6-36.6-36.6-30.5-30.5, A-Ident Number:**)				
Special Features				
Special Feature			7	Dwydag bars.
(Type : **EXT LATER POST TENS**)				
Special Feature			X	
(Type :)				
Wearing Surface/Deck Top Detail Ratings				
	N (%) / 1 (%) / 2 (%) / 3 (%)			
Last				
Now	10.0 / 0.0 / 0.0 / 0.0			
Wearing Surface		6	8	
(Material Type : **ACP**)				
(Thickness(mm) : **50**)				
Lateral Connection Problem (Y/N)	No			
Deck Top		N	N	
Deck Rideability		7	8	
Deck Joints			4	Sealed glands at abuts. Koch joints at all piers. Staining at abuts and piers may be previous to joint installments or may indicate joint leakage. Wide cracks in koch joints at P3 and P4. Pier gaps measured at sidewalk. A2=90mm.
Temperature (deg. C)	-1			
(Expansion Type : **ARMOURED GLAND (WABO UNDER FINGER OR SLIDING PLATES);GLAND (WABO-MAUER, TRANSFLEX, ETC)**)				
(Fixed Type :)				
Gap Size (mm)	Gap Location			
100	West abut			
50	P1			
45	P2			
80	P3			
50	P4			
45	P5			
Deck Drainage		8	4	Leaking deck joints and weep tubes causing erosion cracks.
Drains Clogged (Y/N)	No			
Curbs/Median		7	7	Parapets at North and South shoulder lane.
(Curb Type : **NEW JERSEY;Standard**)				
Scaling (Percent Area)	5			
Bridge Rail		8	8	Sidewalk rail has several A/B nuts with less then full thread. Several grout pads are spalled.
(Type : **GALVANIZED STEEL VERTICAL BAR**)				
Bridge Rail Posts		8	4	
(Type : **GALVANIZED POST STEEL**)				
Bridge Rail/Posts Coating		7	7	
(Type : **GALVANIZED**)				
Sidewalk		6	3	Heavy scaling. Span 1 south fascia is spalling over path and road. Also spalled at P4 and at SE.
Girder Detail Ratings				
	N (count) / 1 (count) / 2 (count) / 3 (count)			Span 3 and 4 not accessible for full inspection. Span 1 - G9 has high load damage with visible corroding strand and rebar.
Last				
Now	18 / 0 / 0 / 12			

Superstructure				
Bridge Component		**Last**	**Now**	**Explanation of Condition**
(Primary Span : **VF, 6 Spans, Lengths(m): 36.6-36.6-36.6-36.6-30.5-30.5, A-Ident Number:**)				
Girders		8	3	Corrosion cracks and heavy staining at NW underside from weep tubes. Wide vertical cracks at NW and at South over P3, P4, P5 exterior girders. Typical chamfer cracks extending into deck underside. Span 5- G1 wide cracks, G2 wide crack and spall, Span 6- G1 wide crack and spall, G2 wide crack, G8 and G9 high load damage with spalling at G9.
Cracking (Y/N)	No			
Spalling (Percent Area)	10			
(Number Of Girders : **54**)				
Diaphragms/Cross Frame		8	8	
Bearings		7	7	
Temperature (deg. C)	-1			
(Expansion Type : **REINFORCED NEOPRENE BEARING WITH TEFLON AND STAINLESS STEEL**)				
(Fixed Type :)				
Coating Adequate (Y/N)	Yes			
Functioning (Y/N)	Yes			
Deck Underside		7	7	
Stains (Percent Area)	0			
Span Alignment Problems				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
Superstructure General Rating		**5**	**3**	

Substructure				
Bridge Component		**Last**	**Now**	**Explanation of Condition**
Abutments				
Bearing Seats/Caps		6	4	Spall at NW from low cover rebar.
(Type : **CONCRETE**)				
Backwalls/Breastwalls		7	7	
Wingwalls		7	4	Minor spall at SW.
Piles		N	N	Buried.
Paint/Coating		3	5	
Abutment Stability		8	8	
Scour/Erosion		8	5	Minor erosion at SE headslope and wing.
Piers/Bents				
(Type : **PIER-SOLID**)				P2 and P3 are patched at North ends.
Bearing Seats/Caps		4	7	
(Type : **CONCRETE**)				
(Total Number of Bearing Piles : **0:0:0:0:0**)				Wide vertical settlement cracks in all shafts.
Pier Shaft/Piles		4	6	
Bracing/Struts/Sheathing		X	X	Minor spall at SW.
Nose Plate		5	7	
Paint/Coating		5	5	
(Colour Description :)				
(Colour Code :)				
Pier Stability		9	8	
Scour		N	N	Water too deep at P2, P3, P4. P1 and P5 are dry.

Substructure				
Bridge Component		**Last**	**Now**	**Explanation of Condition**
Debris (Y/N)	No			
Substructure General Rating		**4**	**4**	

Structure Usage				
		Last	**Now**	**Explanation of Condition**
Channel				
(U/S Direction : **N**)				Local roads and paths under span 1 and 6. Posted V.C. at 5.0 m.
(D/S Direction : **S**)				
Alignment		8	8	
Bank Stability		8	8	
HWM (m below Top of Curb)				No visible HWM.
Drift (Y/N)	No			
Slope Protection		8	8	
(Type : **RIP RAP; RIP RAP**)				
Guidebank/Spurs		X	X	
Adequacy of Opening		9	8	
(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 #
REPAIR/REPLACE BRIDGE RAIL	2013	1 post 1 rail at NW approach.				
GALVANIZE/PAINT BRIDGE RAIL						
SEAL CURBS	2013	Path South fascia approx 10m2.				
PATCH DECK						
SEAL DECK	2013	Epoxy sealer on sidewalk				
OVERLAY DECK						
REPAIR/REPLACE DECK JOINTS	2013	Seal koch joints P3, P4. Flood test all joints.				
RESET/ PAINT BEARINGS						
WASHING						
SHOTCRETE REPAIRS						
REPAIR ABUTMENT SCOUR/EROSION						
PLACE ADDITIONAL RIP RAP						
REMOVE DRIFT ACCUMULATION						
OTHER ACTION	2013	Level 2 girder inspection. Investigate and repair girder cracks and spalls. Repair high load damage at Sp 1 - G9, Sp 6- G8, G9.				
OTHER ACTION	2013	Install V.C. signs at SW and SE and in advance.				
OTHER ACTION	2013	Repair NW abutment spall approx 0.5m2.				
OTHER ACTION						
OTHER ACTION						

Structural Condition Rating (Last/Now) (%)	**50.0/38.9**	**Sufficiency Rating (Last/Now) (%)**	**72.4/51.0**	Est. Repl. Yr	2025	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	Keith Holliston	Previous Assistant's Name			
Next Inspection Date	28-Oct-2014	Previous Inspection Date	04-Dec-1987		
Inspection Cycle (Default) (months)	21				
Comment					