

Level 2 Inspection - Concrete Deck

Bridge File Number	76187 -1 Bridge	Form Type	CDK
Year Built/Year Supstr	1967/1967	Lot No.	
Bridge or Town Name	LETHBRIDGE	Inspector Name	Jason Saly
Located Over	3:09 R1 1.903;3:09 L1 1.911	Inspector Class	BR CLS A
Located On	14221:02 R1 0.195;14221:02 L1 0.195	Assistant Name	
Water Body Cl./Year		Assistant Class	
Navigabil. Cl./Year		Inspection Date	07-Sep-2012
Legal Land Location	NW SEC 1 TWP 9 RGE 22 W4M	Data Entry By	Jason Saly
Longitude, Latitude	-112:52:09, 49:42:29	Data Entry Date	22-Jan-2013
Road Authority	Alberta Transportation (AIT)	Reviewer Name	Paul Carter
Contract Main. Area	CMA25	Review Date	26-Feb-2013
Clear Roadway/Skew	12.8 /	Dept. Reviewer Name	Tim Davies
AADT/Year	800 / 2010 (E)	Dept. Review Date	25-Mar-2013
Road Classification	RLU-208-100	Follow-Up By	
Detour Length (km)	2	Visual Inspection?	Y
		CSE Testing?	Y
		Chloride Testing?	N

Allowable Load (t):	Single	Semi	Train	----> On Critical Spans ---->Critical Member
Design Loading:	HS20			----> Primary Span
(Primary Span : WG , Spans: 1,2 , Lengths(m): 28.9-28.9)				
(Total Length : 28.9-28.9 = 57.8)				

Concrete Deck Inspection

							Last	Now	Explanation of Condition		
Wearing Surface											
Polymer? (Y/N)							N				
ACP? (Y/N)							Y				
Chip Seal Coat? (Y/N)							N				
		Type			Year Installed		Avg. Total Thickness (mm)		Area (m²)		
ACP		ACP			2010		50		739.8		
Polymer Rating (% Area)											
		9-7	6/5	4	3	2/1	N/X				
Last											
Now		0	0	0	0	0	100				
ACP Rating (% Area)											
		9-7	6/5	4	3	2/1	N/X				
Last											
Now		0	100	0	0	0	0				
Chip Seal Coat Rating (% Area)											
		9-7	6/5	4	3	2/1	N/X				
Last											
Now		0	0	0	0	0	100				
Polymer Total Debonded /Lost Area (m²)									X		
ACP Total Debonded /Lost Area (m²)									0		
ACP Average Measured Depth (mm)									N		
ACP Crack Frequency (m/m²)									0		
Chip Seal Coat Total Lost Area (m²)									X		
<p>ACP is in good condition.</p> <p>Due to new ACP, no depths were taken.</p>											

Concrete Overlay											
Overlay? (Y/N)							N				

Deck											
(Span Type : WG)											
(Span Numbers : 1, 2)											
(Deck Type : CONCRETE (CLASS C))											

Concrete Deck Inspection						
		Last	Now	Explanation of Condition		
(Area(m ²) : 739.8)						
(Year Constructed : 1967)						
(Year Widened :)						
(Thickness(mm) : 150)						
(Average Cylinder Strength(MPa) :)						
	Type			Size	Design Cover (mm)	Spacing (mm)
Long. Reinforcing	REINFORCING STEEL					
Trans. Reinforcing	REINFORCING STEEL					
Deck Top Rating (% Area)						
	9-7	6/5	4	3	2/1	N/X
Last						
Now	0	5	0	0	0	95
Total Crack Length - Medium/Wide (m)						10
Total Scaled Area - Light (m ²)						0
Total Scaled Area - Moderate/Heavy/Severe (m ²)						0
Delaminated Area (m ²)						0.2
Spalled Area (m ²)						0
Patched Area (m ²)						0
Average Measured Cover Depth (mm)						77
Standard Deviation of Measured Cover Depth (mm)						14
Deck Underside Rating (% Area)						
	9-7	6/5	4	3	2/1	N/X
Last						
Now	75	25	0	0	0	0
Total Stained Area - Moderate (m ²)						2
Total Stained Area - Heavy/Severe (m ²)						0
Total Crack Length - Medium/Wide (m)						46
% of Medium/Wide Cracks Stained						90
Edge Elements						
Curbs? (Y/N)			Y			
Parapets? (Y/N)			N			
Medians? (Y/N)			Y			
Sidewalks? (Y/N)			N			
Curbs						
(Type : CONCRETE)						
(Total Length(m) : 115.6)						
(Height(mm) :)						
(Width(mm) :)						
(Average Cylinder Strength(MPa) :)						
Reinforcement Type		Size		Design Cover (mm)		Spacing (mm)

Transverse cracks.

Isolated delamination along the west paving lip.

Assuming 50mm of ACP.

Minor staining around the weep tubes.

Narrow to medium wide transverse cracking.

Concrete Deck Inspection						
		Last	Now	Explanation of Condition		
Curb Rating (% Length)						
	9-7	6/5	4	3	2/1	N/X
Last						
Now	0	99	1	0	0	0
Total Crack Length - Medium/Wide (m)				35		
Total Scaled Length - Light (m)				5		
Total Scaled Length - Moderate/Heavy/Severe (m)				0		
Delaminated Length (m)				0		
Spalled Length (m)				0.5		
Patched Length (m)				0		
Average Measured Cover Depth (mm)				103		
Standard Deviation of Measured Cover Depth (mm)				15		
Median						
(Type : Curb - CONCRETE)						
(Total Length(m) : 57.8)						
(Height(mm) :)						
(Width(mm) :)						
(Average Cylinder Strength(MPa) :)						
Reinforcement Type			Size	Design Cover (mm)	Spacing (mm)	
Median Rating (% Length)						
	9-7	6/5	4	3	2/1	N/X
Last						
Now	0	100	0	0	0	0
Total Crack Length - Medium/Wide (m)				19		
Total Scaled Area - Light (m ²)				0		
Total Scaled Area - Moderate/Heavy/Severe (m ²)				0		
Delaminated Area (m ²)				0		
Spalled Area (m ²)				0		
Patched Area (m ²)				0		
Average Measured Cover Depth (mm)				N		
Standard Deviation of Measured Cover Depth (mm)				N		
Removable concrete barriers.						
Not required to take measurements along median.						
Deck Joints						
(Type : FINGER PLATES)						
(Number of Joints : 1)						
(Expansion / Fixed? : EXPANSION)						
(Location : A1)						
% Inspected				100		
% Joints Leaks				50		
% Joint Length Leaks				100		
Superstructure Damage Rating				6		
Substructure Damage Rating				6		
Level 1 Joint Rating				5		
Upto 7mm vertical missalignmant at the shoulders. The north abutment leaks. No formal deck joint at the north abutment. The north abutment was stained.						
CSE Testing						
Testing Date		24-Jul-2012		Previous Testing Date		08-Jul-2008
Weather Information						
Temperature (°C)		23				
Conditions		Windy				
Equipment Information						
Test Equipment Make and Model		Corexco CDL - 200 EA/512				
Electrical Ground Location and Type		1DJ, south abutment deck joint along the east curb.				

CSE Testing

Measurement Locations Information

Origin for Data	Southeast		
	Number	Length of Each (m)	Length of Last (m)
X Increments (Length)	48	1.219	0.600
Y Increments (Width)	11	1.219	0.600

CSE Results

Span Numbers	1,2								
Span Type	WG								
Wearing Surface	ACP								
Testing Year	% Deck Area 0 to -0.1 V	% Deck Area < -0.1 to -0.2 V	% Deck Area < -0.2 to -0.3 V	% Deck Area < -0.3 to -0.4 V	% Deck Area < -0.4 V	Avg. Deck Reading (V)	Std. Dev. Deck Reading	Avg. Curb Reading (V)	Std. Dev. Curb Reading
2012	10.8	70.4	14.3	3.9	0.6	-0.172	0.085	-0.175	0.143
2008	72.0	18.0	8.0	2.0	0.0	-0.104	0.094	-0.182	0.135
CSE Prediction Model Optimum 5 year Rehab Start Year	2017								
Comments									

Maintenance Recommendations										
Inspector Recommendations	Year	Inspector Comments	Department Comments				Target Year	Est. Cost	Cat #	
SEAL CURBS										
PATCH DECK										
SEAL DECK										
OVERLAY DECK										
REPAIR/REPLACE DECK JOINTS										
WASHING										
OTHER ACTION										
CRACK REPAIRS/TREATMENT										
PATCH CURBS/PARPETS										
OTHER ACTION										
OTHER ACTION										
OTHER ACTION										
Structural Condition Rating (%)	66.7	Sufficiency Rating (%)	63.4		Est Repl Year		2031			
Level 1 Insp Date	01-Dec-2011	Next Level 1 Insp Date		01-Sep-2013	Current Level 1 Insp Cycle (Default) (Months)			21		
Special Comments for Next Insp										
Snooper? (Y/N)	No	Lift? (Y/N)	No	Traffic Control? (Y/N)	Yes	Boat? (Y/N)	No	Ladder? (Y/N)	No	
Other Special Requirements Comments										
Previous Level 2 Inspector's Name	Brian Cote			Previous Level 2 Insp Date	08-Jul-2008					
Next Level 2 Insp Date	07-Sep-2020			Discontinue Level 2 Insp? (Y/N)	No					
Level 2 Insp Previously Completed	2			Level 2 Insp Cycle (Default) (Months)	96					
Detailed Report/Diagram? (Y/N)	Yes									
Level 2 Insp Comments										
Next Level 2 Inspection/Test	Concrete Deck Insp? (Y/N)		Yes	CSE Testing? (Y/N)		Yes	Chloride Testing? (Y/N)		No	
Department Reviewer Comments										