

	GOVERNMENT OF NEWFOUNDLAND AND LABRADOR Department of Transportation and Infrastructure	<b>BRIDGE INSPECTION REPORT</b> <b>B11192021-1</b>	
<b>Date:</b> 10/22/2021	<b>Inspected By:</b> Mike Button	<b>Category:</b> Office - Bridge Office	
<b>BRIDGE INFORMATION</b>			
<b>Site:</b>	1-102 - CUSLETT RIVER BRIDGE		
<b>Route:</b>		<b>Overall Length:</b>	53.1 m
<b>Year Built:</b>	1974	<b>Est:</b> No	<b>Overall Width:</b> 9.5 m
<b>Year Last Rehab.:</b>		<b>Est:</b> No	<b>Roadway Width:</b> 8 m
<b>Region:</b>	AVALON PENINSULA	<b>Sidewalk Width:</b>	0 m
<b>Jurisdiction:</b>	Provincial	<b>Clearance to R.D. or N.W.L.:</b>	3 m
<b>Type of Structure:</b>	01 - AASH to Girder	<b>Max Depth of N.W.L.:</b>	0.4 m
<b>Purpose of Structure:</b>	04 - Over Non-Navigable Waters	<b>Spans:</b>	
<b>Type of Handrail:</b>	02 - Concrete Rail	<u>Span No.:</u>	<u>Length</u>
<b>Roadway Surface:</b>	02 - Asphalt	<u>Span No.:</u>	<u>Length</u>
<b>Alignment Vertical:</b>	01 - Good	1	42
<b>Alignment Horizontal:</b>	01 - Good	2	0
<b>Restrictions:</b>	No	3	0
		4	0
		5	0
		6	0
<b>BRIDGE PHOTOS</b>			
			
<b>SUBSTRUCTURE</b>			
<b>Condition:</b>	F1 - Fair	<b>Bearings:</b>	F1 - Fair
		<b>Bearing Seat:</b>	F1 - Fair
<b>Comments:</b>	- The north abutment has a medium vertical crack around the mid-transverse point. The northeast back wall corner has medium-severe cracking with efflorescence. - Northwest wingwall has moderate-severe map cracking with efflorescence with one wide crack propagating from the expansion joint gap. - Northeast wingwall/back wall corner has moderate to severe cracking with efflorescence. Heavy efflorescent deposits visible behind bearing seat diaphragms. Defects likely all caused by a leaking expansion joint/no chaulking through curb. - South abutment has several narrow leaking vertical cracks. Heavy efflorescent deposits visible behind bearing seat diaphragms. The southeast back wall corner has medium horizontal cracking with efflorescence. Defects likely all caused by leaking expansion joint/no chaulking through curb. Southwest wingwall has mild map cracking with efflorescence throughout. Substructure F1 in general with P3 locations.		
<b>SUPERSTRUCTURE</b>			
<b>Condition:</b>	F1 - Fair	<b>Expansion Joints:</b>	P3 - Poor

**Comments:** - Narrow-medium longitudinal cracks in the bottom flanges and end blocks of all 5 girders. Exposed vertical reinforcement in most girders in various locations, low cover issues from construction. Rust dot like staining on the bottom face of the bottom flange throughout most girders, likely corrosion chasing the support chairs. Isolated location of efflorescence at about 1/3 span from the north abutment on the downstream girder, likely from water dripping above through the deck/curb construction joint. - Hairline map cracking throughout all girder webs and end blocks. All expansion joints/curbs leaking and causing accelerated damage to other bridge elements, P3. - Superstructure F1 with P3 locations.

**DECK**

<b>Condition:</b>	F1 - Fair	<b>Curbs:</b>	F1 - Fair
<b>Hand Rail:</b>	F1 - Fair	<b>Roadway Condition:</b>	P3 - Poor
<b>Approach Rail:</b>	F1 - Fair		

**Comments:** - Asphalt around expansion joints has heavy cracking and pot holes. Numerous potholes across the deck and approaches, P3. - Concrete handrail in fair condition, F1. - Longitudinal and transverse cracks along roadway curbs, F1. - Approach/exit guiderails in fair condition, overgrown by alders on the southwest, no hazard markers, guiderails are not connected to end blocks and no extra energy dampening posts prior to end blocks. - Bottom of deck in fair condition. No visible leakage around girders on the north side. On the south side, there is light cracking with efflorescence over the bearing seat. - The southeast fascia/soffit has medium cracking with efflorescence. Defects on the south side likely caused by the south expansion joint leakage. - Both fascia's/exterior curb have light alligator cracking throughout. In some locations, the curb/deck construction joint is starting to open and is visible leaking. Northeast curb spalled around expansion joint. The east exterior curb at 1/3 span from the north abutment has a small spall under the concrete handrail. - Curb chaulking cracked though.

**HYDROLOGY**

<b>Water Velocity:</b>	0.3 m/s	<b>Ice Problem:</b>	N - No Problem
<b>Water Depth:</b>	0.5 m	<b>Scour Problem:</b>	N - No Problem
<b>Waterway:</b>	01 - Adequate	<b>Debris Problem:</b>	N - No Problem

**Comments:** - Rip rap migrating into channel.

**REPLACEMENT/REHABILITATION**

<b>Next Rehab. Date:</b>	2025	<b>Replacement Year:</b>	2035
<b>Antic. Rehab. Cost:</b>	\$80,000	<b>Replacement Cost:</b>	\$2,500,000

**Recommendations:** - Replace expansion joints. Chaulk expansion joints. Repair concrete defects on wingwalls and curbs around expansion joints. Resurface approaches and over structure. - Clear brush on southwest exit. Install hazard markers.

**OBSERVATIONS**

<b>Overall Condition:</b>	F1 - Fair	<b>Requires Further Inspection:</b>	No
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**Additional Observations:** - Hazards, mild traffic.

**LEGEND:**

<b>Condition Definitions:</b>			<b>Problem Definitions:</b>	<b>Category Definitions:</b>
1 - *Good - [discontinued code].	F2 - Fair.	C - Unsafe (Closed to Public).	N - No Problem.	Maint. - Maintenance.
2 - *Fair - [discontinued code].	F1 - Fair.	U - Uninspectable.	P - Possible Problem.	Eng. - Engineering.
3 - *Poor - [discontinued code].	P3 - Poor.	I - Inapplicable.	K - Known Problem.	Office - Bridge Office.
4 - *Unsafe - [discontinued code].	P1 - Poor.		NA - Not Applicable.	
G - Good.	P - Poor.			

**PHOTO GUIDELINES:**  
**Inspection Photos:**  
 Please provide photos using guidelines below:  
 • Any item which inspector feels should be documented by photograph  
 • All items noted above as being P3, P1, P, or C  
 • Any evidence of known ice, scour, debris, waterway problems

**INSPECTION PHOTOS**