

	GOVERNMENT OF NEWFOUNDLAND AND LABRADOR Department of Transportation and Infrastructure	<b>BRIDGE INSPECTION REPORT</b> <b>B11172021-1</b>	
<b>Date:</b> 10/19/2021	<b>Inspected By:</b> Mike Button	<b>Category:</b> Office - Bridge Office	
<b>BRIDGE INFORMATION</b>			
<b>Site:</b>	1-243 - HEART'S DELIGHT BROOK BRIDGE(NORTH)		
<b>Route:</b>		<b>Overall Length:</b>	14.8 m
<b>Year Built:</b>	1965	<b>Est: No</b>	<b>Overall Width:</b> 9.5 m
<b>Year Last Rehab.:</b>		<b>Est: No</b>	<b>Roadway Width:</b> 8.6 m
<b>Region:</b>	AVALON PENINSULA	<b>Sidewalk Width:</b>	0.45 m
<b>Jurisdiction:</b>	Provincial	<b>Clearance to R.D. or N.W.L.:</b>	2 m
<b>Type of Structure:</b>	02 - Double Tee	<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>	01 - Aluminum Rail	<b>Span No.:</b>	<b>Length</b>
<b>Roadway Surface:</b>	02 - Asphalt	<b>Span No.:</b>	<b>Length</b>
<b>Alignment Vertical:</b>	02 - Adequate	1	10.6
<b>Alignment Horizontal:</b>	02 - Adequate	2	0
<b>Restrictions:</b>	No	3	0
		4	0
		5	0
		6	0
<b>BRIDGE PHOTOS</b>			
			
<b>SUBSTRUCTURE</b>			
<b>Condition:</b>	P1 - Poor	<b>Bearings:</b>	U - Uninspectable
		<b>Bearing Seat:</b>	F1 - Fair
<b>Comments:</b>	- Northeast abutment corner has medium spalling and heavy efflorescent deposits from the exterior curb/double tee construction joint above. Bearing seats all in fair condition with light spalling to their exterior corners. - The northeast wingwall has extreme disintegration over its entire face. Water/chlorides migration between the curb/wingwall construction joint has caused a medium width deep void across the length of the wingwalls, suspect this void extends to the asphalt, P3. - The southeast wingwall has extreme disintegration over its entire face. The west wingwalls have medium-severe disintegration to the double tee end block vertical joint with the back wall, likely leaking through the curbs above. - Abutment faces have mild horizontal and vertical cracking, F1. The east abutment footing has mild scour throughout, F1.		
<b>SUPERSTRUCTURE</b>			
<b>Condition:</b>	F1 - Fair	<b>Expansion Joints:</b>	P3 - Poor
	- Northeast double tee, near the bearing seat, has moderate rust leaching from the curb/double tee construction		

**Comments:** joint and a medium wide longitudinal crack along the bottom of the web, F1. Monitor for a spall on future inspections. - Efflorescence observed between various double tee end block sections over the bearing seats. - No visible leakage between double tee precast sections under the bridge. - Rebar mat visible in several locations on the bottom of the double tee precast sections, F1. - Small area of delamination observed on the north double tee at mid span. - Double tee pre-cast sections generally in fair condition outside the notes above. - Both expansion joints leaking, P3.

**DECK**

<b>Condition:</b>	F1 - Fair	<b>Curbs:</b>	P1 - Poor
<b>Hand Rail:</b>	P3 - Poor	<b>Roadway Condition:</b>	F1 - Fair
<b>Approach Rail:</b>	P3 - Poor		
<b>Comments:</b>	- Approach/exit guiderail have sand built up to the bottom of the rail with moderate vegetation growth, P1. - No end blocks, or energy dampening posts prior to structure. - Asphalt has mild rutting and a wide transverse crack over the west expansion joint, F1. - Curbs on the structure are mostly buried in sand, P3. - On the northwest corner at road level, the curb has split through around a handrail post. There is an additional post on the southwest side which has a large section cracked on the fascia around the anchor bolts and is likely to spall. Other sections of handrail have minor dents, F1. - North and south exterior curb/fascia's have moderate to severe disintegration across the length of the structure, tying into the wingwall defects mentioned above. - The north side deck/double tee construction joint is heavily leaching efflorescent materials. Water/chlorides have found a path through this area and suspect damage to the top of the precast sections which cannot be quantified, P3.		

**HYDROLOGY**

<b>Water Velocity:</b>	1 m/s	<b>Ice Problem:</b>	N - No Problem
<b>Water Depth:</b>	0.5 m	<b>Scour Problem:</b>	K - Known Problem
<b>Waterway:</b>	01 - Adequate	<b>Debris Problem:</b>	N - No Problem
<b>Comments:</b>	- All gabions in fair condition with minor budging and in good position. East abutment has light scour.		

**REPLACEMENT/REHABILITATION**

<b>Next Rehab. Date:</b>	2024	<b>Replacement Year:</b>	2035
<b>Antic. Rehab. Cost:</b>	\$200,000	<b>Replacement Cost:</b>	\$1,500,000
<b>Recommendations:</b>	- Replace curbs. Possibly replace parts of the deck on the north side after curb removal. Patch wingwalls. Replace expansion joints. Patch sections of double tees. Repair scour under footings. A major rehab will extend the life of this structure.		

**OBSERVATIONS**

<b>Overall Condition:</b>	P3 - Poor	<b>Requires Further Inspection:</b>	No
<b>Additional Observations:</b>	- Hazards, fast flowing water, climbing gabions and traversing the west concrete footing.		

**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**