

	GOVERNMENT OF NEWFOUNDLAND AND LABRADOR Department of Transportation and Infrastructure	<b>BRIDGE INSPECTION REPORT</b> <b>B10072021-10</b>	
<b>Date:</b> 10/5/2021	<b>Inspected By:</b> Mike Button	<b>Category:</b> Office - Bridge Office	
<b>BRIDGE INFORMATION</b>			
<b>Site:</b>	TCH-012 - BLACK BROOK BRIDGE (TCH)		
<b>Route:</b>	1	<b>Overall Length:</b>	27.1 m
<b>Year Built:</b>	1964	<b>Est:</b> No	<b>Overall Width:</b> 17.5 m
<b>Year Last Rehab.:</b>	1992	<b>Est:</b> No	<b>Roadway Width:</b> 16 m
<b>Region:</b>	CENTRAL EAST	<b>Sidewalk Width:</b>	0 m
<b>Jurisdiction:</b>	Provincial	<b>Clearance to R.D. or N.W.L.:</b>	11 m
<b>Type of Structure:</b>	01 - AASH to Girder	<b>Max Depth of N.W.L.:</b>	1 m
<b>Purpose of Structure:</b>	04 - Over Non-Navigable Waters	<b>Spans:</b>	
<b>Type of Handrail:</b>	01 - Aluminum Rail	<u>Span No.:</u>	<u>Length</u>
<b>Roadway Surface:</b>	02 - Asphalt	1	15.2
<b>Alignment Vertical:</b>	01 - Good	2	0
<b>Alignment Horizontal:</b>	01 - Good	3	0
<b>Restrictions:</b>	No	<b>Span No.:</b>	<b>Length</b>
		4	0
		5	0
		6	0
<b>BRIDGE PHOTOS</b>			
			
<b>SUBSTRUCTURE</b>			
<b>Condition:</b>	P3 - Poor	<b>Bearings:</b>	U - Uninspectable
		<b>Bearing Seat:</b>	U - Uninspectable
<b>Comments:</b>	- North abutment west (20% of abutment width) extension in fair condition, F1. Main eastern section (80% of abutment width) has medium horizontal & vertical cracks throughout. Past rehabs placed a superficial patch to seal the cracks but they have re-opened. Bearing seat has mild spalling under three girders on the east side of structure, F1. Abutment face has medium rust staining just under the bearing seat, F1. At roughly the center line of abutment at the rover level, large constructed opening present, at least 2m wide by 2m high. Northeast abutment corner has medium-heavy spalling with heavy efflorescence. - South abutment has medium horizontal & vertical cracks throughout. Past rehabs placed a superficial patch to seal the cracks but they have re-opened, F1. - Southeast corner of abutment is heavily cracked with heavy-severe efflorescence. Many areas about to spall or delaminate, P3. Abutment face has medium rust staining just under the bearing seat, F1. - All abutment bearings and bearing seats too high for inspection. - Northeast retaining structure and its footing has heavy alligator cracking with medium-heavy efflorescence throughout. Top portion of wingwall is totally disintegrated with an area (2.5m wide x 1m high) of vertical and horizontal rebar exposed, P3. - Southeast retaining structure has two large-wide vertical cracks with medium alligator cracking with efflorescence throughout, P3. - Both		

western retaining structures have mild alligator cracking throughout, F1. - Both eastern wingwalls have heavy alligator cracking with efflorescence. Old Construction joint opening up with spalling between the top of wingwall and curb, P3. - Both western wingwalls in fair condition, F1.

**SUPERSTRUCTURE**

**Condition:** F1 - Fair **Expansion Joints:** P3 - Poor  
**Comments:** - Girders in fair condition with some leakage/efflorescence coming through the deck and running down the girder sides, indicating some cracking in the deck above. Bottom of deck has localized areas of spalling to exposed reinforcement, F1. - Efflorescence seen under and to the side of the south expansion joint from below. Suspect cracked seals or deteriorated concrete, P3. - Deck soffits have mild rust staining with minor cracking with efflorescence throughout.

**DECK**

**Condition:** F1 - Fair **Curbs:** F1 - Fair  
**Hand Rail:** F1 - Fair **Roadway Condition:** F1 - Fair  
**Approach Rail:** F1 - Fair  
**Comments:** - Asphalt and structural handrails in fair condition. - Approach/exit rails in fair condition complete with hazard markers and connected to end blocks. - Curbs have mild alligator cracking throughout, F1.

**HYDROLOGY**

**Water Velocity:** 1.0 m/s **Ice Problem:** N - No Problem  
**Water Depth:** Varies m **Scour Problem:** N - No Problem  
**Waterway:** 01 - Adequate **Debris Problem:** N - No Problem  
**Comments:** - Bedrock under north abutment should be monitored. Waterfall slamming into rock eroding rock and making cove like structures. May have been there since bridge was built.

**REPLACEMENT/REHABILITATION**

**Next Rehab. Date:** 2025 **Replacement Year:** 2030  
**Antic. Rehab. Cost:** \$100000 **Replacement Cost:** \$2500000  
**Recommendations:** - Superficial rehab only to chip out and repair bad concrete. Abutments and retaining structures need replacement within 5-10 years.

**OBSERVATIONS**

**Overall Condition:** P3 - Poor **Requires Further Inspection:** No  
**Additional Observations:** - Abutments and retaining structures, P3. F1 remainder. - Diversion for replacement will be challenging and likely expensive. Property on northwest side of structure. - Turn off onto route 204 and enter community and drive up Black Brook Drive and park off highway behind guiderail. Go down under structure on southeast corner. - Hazards, steep slopes, cliffs (leading edges, stay back 6 feet) and slippery rocks under structure.

**LEGEND:**

**Condition Definitions:**

- 1 - \*Good - [discontinued code].
- 2 - \*Fair - [discontinued code].
- 3 - \*Poor - [discontinued code].
- 4 - \*Unsafe - [discontinued code].
- G - Good.

- F2 - Fair.
- F1 - Fair.
- P3 - Poor.
- P1 - Poor.
- P - Poor.

- C - Unsafe (Closed to Public).
- U - Uninspectable.
- I - Inapplicable.

**Problem Definitions:**

- N - No Problem.
- P - Possible Problem.
- K - Known Problem.
- NA - Not Applicable.

**Category Definitions:**

- Maint. - Maintenance.
- Eng. - Engineering.
- Office - Bridge Office.

**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**