GOVERNMENT OF
NEWFOUNDLAND
AND LABRADOR
Department of Transportation and Infrastructure

BRIDGE INSPECTION REPORT
B11182021-2

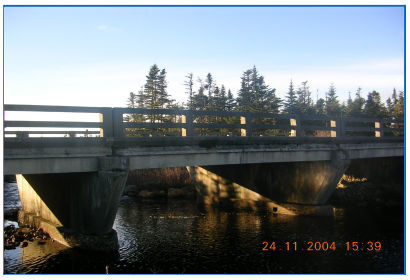
Date: 10/22/2021 **Inspected By:** Mike Button **Category:** Office - Bridge Office

BRIDGE INFORMATION

Site:	1-111 - SOUTHEAST BROOK BRIDGE		
Route:		**Overall Length:**	27.3 **m**
Year Built:	1972 **Est:** No	**Overall Width:**	10.2 **m**
Year Last Rehab.:	1972 **Est:** No	**Roadway Width:**	8.6 **m**
Region:	AVALON PENINSULA	**Sidewalk Width:**	0.8 **m**
Jurisdiction:	Provincial	**Clearance to R.D. or N.W.L.:**	1.8 **m**
Type of Structure:	02 - Double Tee	**Max Depth of N.W.L.:**	1.3 **m**
Purpose of Structure:	04 - Over Non-Navigable Waters	**Spans:**	
Type of Handrail:	02 - Concrete Rail		
Roadway Surface:	01 - Concrete		
Alignment Vertical:	01 - Good		
Alignment Horizontal:	01 - Good		
Restrictions:	No		

Span No.:	Length	Span No.:	Length
1	8.3	**4**	0
2	8.8	5	0
3	8.3	**6**	0

BRIDGE PHOTOS



SUBSTRUCTURE

Condition:	P3 - Poor	**Bearings:**	U - Uninspectable
		Bearing Seat:	P3 - Poor

Comments: - Pier 2 has moderate arch cracking with efflorescence over the concrete face and heavy wide map cracking to the footing. - Pier 1 has old efflorescent deposits on the faces, likely prior to asphalt plug joint replacement. The face also has light cracking with efflorescence and heavy wide map cracking to the downstream side of the footing. The nose has a small erosion scour hole at the footing/pier construction joint. - Both piers have moderate disintegration with moderate map cracking with efflorescence to the nose/tails outside the creep blocks. - Both abutments are heavily leaking efflorescent material through the vertical extension joint of the abutment. Efflorescent material is also leaking from the bearing seat. Abutment corners have mild spalling/disintegration, P3. - The sides of the north abutment has moderate spalling/disintegration undermining the creep blocks. On the northwest corner, spalling continues to the front face undermining the first exterior double tee, P3. - Wingwalls in fair condition overall, the northwest has moderate map cracking with efflorescence.

SUPERSTRUCTURE

Condition:	F1 - Fair	**Expansion Joints:**	P3 - Poor
Comments:	- Rubber seal expansion joints over both abutments heavily leaking. Plug joints over both piers in fair condition. - Double tees in fair condition. East side of the southern span has efflorescent leakage between precast sections indicating leakage through the deck above. Inspection under the middle span limited due to deep fast flowing water. However, no efflorescence was seen on the webs of any double tees looking from a distance.		

DECK

Condition:	F1 - Fair	**Curbs:**	F1 - Fair
Hand Rail:	F2 - Fair	**Roadway Condition:**	P3 - Poor
Approach Rail:	F2 - Fair		
Comments:	- No asphalt on structure or approaches. Some of the concrete deck is not visible due to heavy gravel build up on the deck, no visible spalls in the deck concrete but there is a lot of standing water on the structure. - Heavy gravel build up along the curbs which limits/blocks deck drains, P3. - Roadway curbs have longitudinal cracks with mild efflorescence, F1. - Severe potholes in the gravel on both approaches, P3. - Original concrete handrail in fair condition, F2. - Approach/exit guiderail in fair condition, and connected to end blocks. 3 of 4 hazard markers missing. No energy dampening posts prior to end blocks. - Upstream fascia/curb exterior has moderate moss growth on the middle span. The expansion joint area in the curb/fascia over pier 1 has mild spalling around the joint. The expansion joint in the curb over pier 2 has moderate vegetation growth out of an old spall. - The downstream fascia/curb exterior in pier 2's expansion joint area has mild spalling around the joint with vegetation growth. Adjacent to the expansion joint area just to the north, the fascia/curb has mild spalling and the construction is visibly leaking and opening up. Curb expansion gaps are not chaulked.		

HYDROLOGY

Water Velocity:	0.6 **m/s**	**Ice Problem:**	P - Possible Problem
Water Depth:	0.6 **m**	**Scour Problem:**	P - Possible Problem
Waterway:	01 - Adequate	**Debris Problem:**	P - Possible Problem
Comments:	- Medium slope erosion on all four corners of the structure continues. Small scour hole on pier footing joint		

REPLACEMENT/REHABILITATION

Next Rehab. Date:	2023	**Replacement Year:**	2030
Antic. Rehab. Cost:	$100,000	**Replacement Cost:**	$1,800,000
Recommendations:	- Replace both abutment expansion joints. Re-chaulk all expansion gaps. Install rip-rap on all four corners of structure. Install hazard markers. Remove all gravel from the bridge deck. - Both abutments are likely beyond effective repair means, could complete a superficial rehab as deck and double tees are still in decent condition. Repair concrete defects on piers. Consider replacement.		

OBSERVATIONS

Overall Condition:	P3 - Poor	**Requires Further Inspection:**	No
Additional Observations:	- Extension on this structure is upstream, downstream and vertical. Bridge is in a constant state of moisture due to ponding on the bridge deck. - Hazards, mild traffic, steep slopes and negotiating light brush.		

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