

	GOVERNMENT OF NEWFOUNDLAND AND LABRADOR Department of Transportation and Infrastructure	BRIDGE INSPECTION REPORT B02252025-5	
Date: 2/19/2025	Inspected By: T Upshall / M Button	Category: Eng. - Engineering	
BRIDGE INFORMATION			
Site: 1-111 - SOUTHEAST BROOK BRIDGE - R			
SUBSTRUCTURE			
Condition:	P3 - Poor	Bearings:	I - Inapplicable
		Bearing Seat:	P3 - Poor
Comments:	- Both abutments, and both piers have an extensions built vertically, east and west. Extension concrete has beach rock aggregates. - No visible bearings on abutments or piers. - South abutment extension joints are leaching severe efflorescent material onto the abutment face. There is also severe efflorescent leachate coming from the bearing area. - Abutment/wingwall corners have widespread hairline map cracks with light efflorescence and local areas of disintegration, P3. - Shallow/minor local spalls to bearing seat perimeter at the exterior corners, P3. Interior generally defect free, F1. - Wingwalls has light scaling throughout, F1. Wingwall/abutment corners P3 as mentioned above. - South abutment - P3 extension joints & abutment corners, F1 remainder. - Both the north and south pier nose/tail have widespread hairline map cracks with severe efflorescence. Local areas have disintegration, P3. - The south pier has four regularly spaced hoop like hairline cracks with light efflorescence. These cracks are reflected on both faces, F1 to P3. - The south piers extension joints are leaching light efflorescent material onto the pier face. F1 to P3. - Both south pier faces have isolated wide vertical cracks, P3. - Both south pier's tail extension faces have wide cracks propagating on an approximate 45° angle from the original pier upper corners through to the new bearing seat. - The south pier's exposed concrete footing has wide map cracks throughout, P3. - The south pier has vegetation growth between the curtain walls and the exterior double tees, P3. - Bearing seat perimeter has minor/shallow local spalls, F1. - South Pier - P3 extension joints, wide cracks through extension to bearing seat, nose/tail disintegration at the exterior bearing areas and circular cracks, F1 remainder. - The north pier's south side extension joints are leaching light efflorescent material onto the pier face. There is also light efflorescent leachate coming from the bearing area. - The north pier faces have isolated wide vertical cracks, P3. - The north pier has severe concrete erosion exposing reinforcement with severe corrosion located around the nose/tail construction joint to the footing and pier, P3. - Bearing seat perimeter intact and generally defect free, F1. - North Pier - P3 nose/tail top disintegration & erosion to concrete at footing/pier construction joint at the nose/tail. F1 remainder. - North abutment extension joints are leaching moderate efflorescent material onto the abutment face. There is also moderate efflorescent leachate coming from the bearing area. - North abutment northwest exterior bearing seat has a local spall undermining the exterior double tee, P3. - North abutment northeast exterior bearing seat has a large area of disintegration undermining the exterior double tee, P3. - Remaining concrete areas on the north abutment have no significant defects, F1. - Northwest wingwall has light scaling throughout with widespread narrow map cracks with light efflorescent leachate, F1 to P3. - Northeast wingwall has light scaling throughout with local hairline cracks, F1.		
SUPERSTRUCTURE			
Condition:	P3 - Poor	Expansion Joints:	P - Poor
Comments:	- West fascia construction joint between the precast and cast in place deck is leaching efflorescent material, P3. - Cast in place deck fascias have hairline map cracks throughout. - Suspected cast in place deck disintegration and cracking on all spans given the efflorescent leachate seen between double tee precast sections, P3. - South span double tee pre-cast sections deck soffits have local spalls due to low cover, F1 to P3, there is also a small spall around a deck drain exposing reinforcement with severe corrosion, F1 to P3. Middle longitudinal joints between precast sections have moderate efflorescent leachate, P3. Exterior joints have no visible leachate. The 7th double tee from the west side has a wide crack near the bearing area, likely caused from a corroding pre-stress cable, P3. The 8th double tee from the west side has a spall in the same area. All areas not mentioned above, F1. - Middle span double tee pre-cast sections deck soffits have numerous small spalls exposing reinforcement around leaking longitudinal joints, P3. Middle longitudinal joints between precast sections have moderate to severe efflorescent leachate, P3. Exterior joints have no visible leachate. Double tees have numerous shallow spalls due to low cover, F1 to P3. The western exterior double tee, bearing on the south pier, has a medium spall near the		

support exposing reinforcement, P3. All areas not mentioned above, F1. - North span double tee pre-cast sections deck soffits have local spalls exposing reinforcement with moderate corrosion, P3, and local cracks with efflorescent leachate, F1 to P3. Double tees have numerous shallow spalls due to low cover, F1 to P3. One double tee, 6th interior from the west side, has a wide crack with shallow spalls about 300mm long near mid-span, F1. Monitor on future inspections. Longitudinal joints between precast sections all have severe efflorescent leachate, P3. All areas not mentioned above, F1. - Structure expansion gaps all leaking and causing distress to other elements, P.

DECK

Condition:	P3 - Poor	Curbs:	F1 - Fair
Hand Rail:	P - Poor	Roadway Condition:	U - Uninspectable
Approach Rail:	F1 - Fair		
Comments:	*Assumed condition of deck top (covered in snow) based on condition of deck soffit below. - Curb tops covered in snow and not inspectable. - Exterior vertical faces of the curb have hairline cracks with light efflorescent deposits - Structure rail is original concrete rail. Post bearing areas for rails in poor condition. All rails can be moved, P. - Approach rail/guiderail mostly covered in snow, but no significant defects were observed. Guiderail not of type "Guiderail Structures". - Gravel road. Approach and structure covered in snow. Not inspectable. Roadway smooth ice covered. - All hazard markers missing.		

HYDROLOGY

Water Velocity:	Varies m/s	Ice Problem:	N - No Problem
Water Depth:	Varies m	Scour Problem:	P - Possible Problem
Waterway:	01 - Adequate	Debris Problem:	N - No Problem
Comments:	- Center channel much deeper than the abutment pier spans. Scour could not be checked due to ice conditions. - Erosion to pier concrete faces. - No scour on abutments or the south face of the south pier. Everything else had ice cover and could not be inspected.		

REPLACEMENT/REHABILITATION

Next Rehab. Date:	2026	Replacement Year:	2035
Antic. Rehab. Cost:	\$500,000	Replacement Cost:	\$0
Recommendations:	- Install hazard markers. - Upgrade guiderail to guiderail structures. - Pier nose repairs - Crack repairs - Install new curbs and structure rails - Install plug joints - Remove gravels and complete deck repairs. Waterproof structure, install protection and reinstate gravels - Could consider a superficial rehabilitation (rails only) until replacement. - If rehabilitated, replacement year will extend.		

OBSERVATIONS

Overall Condition:	P3 - Poor	Requires Further Inspection:	No
Additional Observations:	Bridge has numerous P3 elements and or P3 areas. Monitor double tees on future inspections.		