

	GOVERNMENT OF NEWFOUNDLAND AND LABRADOR Department of Transportation and Infrastructure	BRIDGE INSPECTION REPORT B09102021-13																	
Date: 8/26/2021	Inspected By: Mike Button	Category: Office - Bridge Office																	
BRIDGE INFORMATION																			
Site:	1-101 - LITTLE HARBOUR RIVER BRIDGE																		
Route:	90	Overall Length:	39.3 m																
Year Built:	1968	Est: Yes	Overall Width: 10.2 m																
Year Last Rehab.:	1992	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.: 4 m																
Type of Structure:	01 - AASH to Girder		Max Depth of N.W.L.: 3.8 m																
Purpose of Structure:	04 - Over Non-Navigable Waters		Spans:																
Type of Handrail:	01 - Aluminum Rail		<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Span No.:</u></th> <th style="text-align: left;"><u>Length</u></th> <th style="text-align: left;"><u>Span No.:</u></th> <th style="text-align: left;"><u>Length</u></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>29.7</td> <td>4</td> <td>0</td> </tr> <tr> <td>2</td> <td>0</td> <td>5</td> <td>0</td> </tr> <tr> <td>3</td> <td>0</td> <td>6</td> <td>0</td> </tr> </tbody> </table>	<u>Span No.:</u>	<u>Length</u>	<u>Span No.:</u>	<u>Length</u>	1	29.7	4	0	2	0	5	0	3	0	6	0
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1	29.7	4	0																
2	0	5	0																
3	0	6	0																
Roadway Surface:	02 - Asphalt																		
Alignment Vertical:	01 - Good																		
Alignment Horizontal:	02 - Adequate																		
Restrictions:	No																		
BRIDGE PHOTOS																			
																			
SUBSTRUCTURE																			
Condition:	P3 - Poor	Bearings:	F2 - Fair																
		Bearing Seat:	P3 - Poor																
Comments:	- Exterior bearing areas have cracked and have formed large failure wedges/future spalls on the south abutment. Suspect these areas to spall within a couple of years. However, there will be adequate bearing area left for the girder, P3. - Northeast exterior bearing has a medium-large spall from the corner to the bearing pad with more alligator cracking forming near the spall. Above issues caused by leaking expansion joints. -**Bearing pads that can be seen are in good condition. - South abutment face in fair condition, south-east face has medium-severe alligator cracking with efflorescence. - North abutment has large wide vertical cracks behind the northeast girder on the back wall and medium alligator cracking with efflorescence throughout the face.																		
SUPERSTRUCTURE																			
Condition:	P3 - Poor	Expansion Joints:	P1 - Poor																
Comments:	- Expansion joint seals leaking and expansion joint concrete around the seals on the deck have heavy cracking with disintegration likely contributing to leaking and damage below. Expansion joint concrete on the northeast																		

curb exterior has heavily disintegrated with exposed reinforcement, expansion joints P1 to P. - East sealed (old) deck drains leaking and causing staining on girders. - West girder has a medium spall at about 1/3 span from the south side (possible location of leaking old deck drain) with a longitudinal crack along most of the girder. Similar scenario happening at about 1/3 span from the north side but only a hairline longitudinal crack exists at this time. - All exterior girder end blocks have medium cracking with medium efflorescence causing accelerated deterioration caused by leaking expansion joints. - Southwest girder has a small area (300x150mm) of total disintegration to exposed reinforcement with medium corrosion. Southeast girder similar but the area of disintegration is only 100x100mm at this time, heavy cracking existing around this area. Girder issues P3. Interior girders in fair condition, F1 - Sporadic hairline cracking with efflorescence on the underside of deck.

DECK

Condition:	P3 - Poor	Curbs:	P3 - Poor
Hand Rail:	F2 - Fair	Roadway Condition:	P3 - Poor
Approach Rail:	F1 - Fair		
Comments:	- Asphalt has medium cracks and potholes throughout, many potholes down to deck concrete, P1. - Handrail F2. - Curbs have heavy cracking around expansion joints with near total disintegration in the area, P3. F1 elsewhere. - Approach/exit rail in fair condition but getting old and connected to end blocks, F1. - Hazard markers in brush. - End blocks have med-wide cracks with efflorescence throughout. - Deck soffit heavily cracked with efflorescence and near total disintegration around expansion joints, P3. Medium cracking with efflorescence seen sporadically on the soffit in other locations, F1.		

HYDROLOGY

Water Velocity:	Tidal m/s	Ice Problem:	N - No Problem
Water Depth:	Tidal m	Scour Problem:	N - No Problem
Waterway:	01 - Adequate	Debris Problem:	N - No Problem
Comments:	- No Comment.		

REPLACEMENT/REHABILITATION

Next Rehab. Date:	2024	Replacement Year:	2035
Antic. Rehab. Cost:	\$200000	Replacement Cost:	\$2000000
Recommendations:	- Repair all abutment exterior bearing areas with proper dowels and pour back techniques. - Replace expansion joints and deck concrete around expansion joints. Leakage causing heavy deterioration to girders and abutments below. - Trim back brush on approach/exit rails. - Re-seal old deck drains.		

OBSERVATIONS

Overall Condition:	P3 - Poor	Requires Further Inspection:	No
Additional Observations:	- F1 interior girders and underside of deck. P3 abutments, exterior bearing areas, deck soffit around expansion joints and exterior girder end blocks. P1 expansion joints. - Monitor exterior bearing areas, girder end blocks, and west girder longitudinal crack. - Hazards, traffic and steep slopes.		

LEGEND:

Condition Definitions:			Problem Definitions:	Category Definitions:
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