

	GOVERNMENT OF NEWFOUNDLAND AND LABRADOR Department of Transportation and Infrastructure	<b>BRIDGE INSPECTION REPORT</b> <b>B05272022-7</b>	
<b>Date:</b> 8/3/2021	<b>Inspected By:</b> Mike Button	<b>Category:</b> Eng. - Engineering	
<b>BRIDGE INFORMATION</b>			
<b>Site:</b>	1-391 - RUBY LINE OVERPASS WEST		
<b>Route:</b>	2	<b>Overall Length:</b>	34.138 m
<b>Year Built:</b>	1971	<b>Est: No</b>	<b>Overall Width:</b> 12.649 m
<b>Year Last Rehab.:</b>		<b>Est: No</b>	<b>Roadway Width:</b> 11.2 m
<b>Region:</b>	AVALON PENINSULA		<b>Sidewalk Width:</b> 0 m
<b>Jurisdiction:</b>	Provincial		<b>Clearance to R.D. or N.W.L.:</b> 0 m
<b>Type of Structure:</b>	04 - Rigid Frame		<b>Max Depth of N.W.L.:</b> 0 m
<b>Purpose of Structure:</b>	01 - Highway Grade Separation		<b>Spans:</b>
<b>Type of Handrail:</b>	02 - Concrete Rail		<b>Span No.:</b> <u>Length</u> <b>Span No.:</b> <u>Length</u>
<b>Roadway Surface:</b>	02 - Asphalt		1 19.8 4 0
<b>Alignment Vertical:</b>	01 - Good		2 0 5 0
<b>Alignment Horizontal:</b>	01 - Good		3 0 6 0
<b>Restrictions:</b>	No		
<b>BRIDGE PHOTOS</b>			
<b>SUBSTRUCTURE</b>			
<b>Condition:</b>	P1 - Poor	<b>Bearings:</b>	I - Inapplicable
		<b>Bearing Seat:</b>	I - Inapplicable
<b>Comments:</b>	This is 1-391, traffic heading west on structure. - Southeast corner of abutment/end wall joint - small spall with vertical reinforcement exposed (P3). - Northeast corner of abutment/end wall joint - Small spall with reinforcement just starting to show (P3). - Northwest corner of abutment/end wall joint - small spall with light deterioration of joint. No reinforcement showing (F1). - Southwest corner of abutment/end wall joint - Very severe hole/erosion of backfill & concrete. Concrete disintegrated. Hole ~1mx1m in plan view. Varies in depth. Hole exits (daylights) through joint (P1). - West abutment face has rebar staining coming through a crack. Possible water route from above. - Supports/legs/piers fair condition.(F1).		
<b>SUPERSTRUCTURE</b>			
<b>Condition:</b>	P3 - Poor	<b>Expansion Joints:</b>	U - Uninspectable
<b>Comments:</b>	This is 1-391, traffic heading west on structure. - Possible asphalt plug joints, not inspectable. - Underside of deck has rebar staining in a couple small areas, likely indicating leaks from above. Some locations have exposed rebar (F1). Otherwise, underside of deck is in good condition. - See note under "Deck" section of report location borders the two areas.		
<b>DECK</b>			
<b>Condition:</b>	P3 - Poor	<b>Curbs:</b>	P1 - Poor
<b>Hand Rail:</b>	F1 - Fair	<b>Roadway Condition:</b>	P1 - Poor
<b>Approach Rail:</b>	P1 - Poor		

**Comments:** This is 1-391, traffic heading west on structure. - Approach rail not up to code. Several posts missing/never installed to absorb an impact into the end blocks. Hazard markers missing (P1). - Several spalls on north parapet wall with exposed reinforcement. All spalls appear to be under the handrail connections, likely a dissimilar metals reaction (P1). (parapets grouped under curb in this inspection, handrail is top aluminum piece only). - South parapet wall in better condition. No spalls with rebar staining only (P3). - A lot of sand/salt build up on curbs with vegetation growing. - Handrail ok. Attached to parapet wall and in good condition (F1). Asphalt in good condition. Cracks evident at expansion joint. Minor other cracks seen across structure (F1). - South & north facias/exterior of parapet walls are weathered but in good condition. - Underside of deck transition with north parapet wall has 2 large spalls with 35M bars exposed. One is at mid-span and ~2.5m along and the other is a 1/4 span from the west abutment and ~1m long (P3).

**HYDROLOGY**

<b>Water Velocity:</b>	n/a m/s	<b>Ice Problem:</b>	NA - Not Applicable
<b>Water Depth:</b>	n/a m	<b>Scour Problem:</b>	NA - Not Applicable
<b>Waterway:</b>	03 - Not Applicable	<b>Debris Problem:</b>	NA - Not Applicable
<b>Comments:</b>			

**REPLACEMENT/REHABILITATION**

<b>Next Rehab. Date:</b>	2021	<b>Replacement Year:</b>	2040
<b>Antic. Rehab. Cost:</b>	\$200000	<b>Replacement Cost:</b>	\$2500000
<b>Recommendations:</b>	- This is 1-391, traffic heading west on structure. - Fix all abutment corners ASAP. Water likely the cause of abutment corner deteriorations. Structure has no deck drains, install drains ASAP to prevent the above. Extend expansion joints/seal out to end wall if possible. A lot of water is getting in here and causing the aforementioned issues. - Repair approach guard rails and spalls on parapet walls. - Remove sand/salt from structure. - Repair all concrete defects.		

**OBSERVATIONS**

<b>Overall Condition:</b>	P3 - Poor	<b>Requires Further Inspection:</b>	No
<b>Additional Observations:</b>	- This is 1-391, traffic heading west on structure. Inspection hazards: Traffic. Inspect deck from shoulders and median, travelling under the structure. Watch footing on steep slopes. If deck access is needed, you need traffic control.		