

Ontario Structure Inspection Manual – Inspection Form

MTO Site Number: **N/A**

Inventory Data:

Structure Name	Centennial Bridge (Leclair Road Bridge over Veuve River)		
Main Highway #	N/A	On <input type="checkbox"/> Under <input type="checkbox"/>	Service on Structure: <input type="checkbox"/> Navig. Water <input type="checkbox"/> Non-Navig. Water <input type="checkbox"/> Rail <input checked="" type="checkbox"/> Road <input type="checkbox"/> Ped. <input type="checkbox"/> Other
Location description	2.5 km East of Hwy 64	Service under	<input checked="" type="checkbox"/> Navig. Water <input type="checkbox"/> Non-Navig. Water <input type="checkbox"/> Rail <input type="checkbox"/> Road <input type="checkbox"/> Ped. <input type="checkbox"/> Other
Owner/Custodian	Municipality of West Nipissing	Latitude:	46.378097 Longitude: -80.089213
MTO Region	Northern	Heritage Designation:	<input type="checkbox"/> Not Cons. <input type="checkbox"/> Cons./not App. <input type="checkbox"/> List/not Desig <input type="checkbox"/> Desig./notList <input type="checkbox"/> Desig. & List
MTO District	Sudbury	Road Class:	Freeway <input type="checkbox"/> Arterial <input type="checkbox"/> Collector <input type="checkbox"/> Local <input checked="" type="checkbox"/>
Old County		Posted Speed	No. of Lanes 2
Township	Caldwell	AADT	500-999 % Truck
Structure Type	Steel Girder	Traffic Directional Bound	W-E
Structure Material	Concrete and Steel	Inspection Route Sequence	Bottom to Top
Total Deck Length	92.5 (m)	Inspection Duration	1 (hrs)
Overall Str. Width	10.43 (m)	Interchange Number	
Total Deck Area	946.8 (sq.m)	Interchange Structure Number	
Roadway Width	8.55 (m)	Min. Vertical Clearance	
Skew Angle	45 (Degree)	Detour Distance	(m)
No. of Spans	2	Fill on Structure	(km)
Span Lengths	45.9 m, 45.9 m (m)		

Historical Data:

Year Built	1967	Year of Last Minor Rehab	
Last Reg OSIM Inspection	October 2019	Year of Last Major Rehab.	
Last Enh. OSIM Inspection		Current Load Limit	(tonnes)

Work History (Date/Description)

Repair work done at/on expansion joint armouring (in 2010)

Scheduled Improvements:

Regional Priority Number

Programmed Work Year

Nature of Program Work:

Appraisal Indices:		Comments
Fatigue		
Seismic		
Scour		
Flood		
Barrier		
Curb		
Load Capacity		

Field Inspection Information:			
Date of Inspection:	November 09, 2021	Type of Inspection	<input checked="" type="checkbox"/> Reg. OSIM <input type="checkbox"/> Enh. OSIM
Inspected By:	Michael Colton, McIntosh Perry Consulting Engineers Ltd.		
Others in Party:	Mahmoud Abou Nijaj, EIT, McIntosh Perry Consulting Engineers Ltd.		
Enh. Access Equipment:	None		
Special Access Equipment:	None		
Weather:	Sunny	Temperature	0°C
Additional Investigations Required:		Priority	
		None	Normal
			Urgent
Material Condition Survey			
Detailed Deck Condition Survey:			
Non-destructive Delamination Survey of Asphalt-Covered Deck:			
Concrete Substructure Condition Survey:			
Detailed Coating Condition Survey:			
Detailed Timber Investigation			
Post-Tensioned Strand Investigation			
Underwater Investigation:			
Fatigue Investigation:			
Seismic Investigation:			
Structure Evaluation:			
Monitoring			
Deformations, Settlements and Movements:			
Crack Widths:			
RSS Horizontal movements of face:			
RSS Vertical movements of overall structure:			
RSS Local movements or deterioration of facing elements:			
RSS Horizontal movements within overall structure:			
RSS Vertical movements within overall structure:			
RSS Lateral earth pressure at the back of facing elements:			
Investigation Notes:			
Overall Structure Notes:			
Recommended Work on Structure:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Minor Rehab. <input type="checkbox"/> Major Rehab. <input type="checkbox"/> Replace		
Timing of Recommended Work:	<input type="checkbox"/> 1 to 5 years <input checked="" type="checkbox"/> 6 to 10 years		
Overall Comments:	Railing post has been knocked out of alignment and resulted in concrete spalling at the base of posts. Debris accumulating on bearing seats. Rust stains noted on soffit. Medium/Severe scaling on parapet walls. Medium/Severe corrosion with section loss on girders ends and abutment diaphragms. NW guiderail broken (to be replaced)		
Date of Next Inspection:	November 2023		

Suspected Performance Deficiencies

- | | | |
|--|---|--|
| 01 Load carrying capacity | 06 Bearing not uniformly loaded/unstable | 12 Slippery surfaces |
| 02 Excessive deformations (deflections & rotations) | 07 Jammed expansion joint | 13 Flooding/channel blockage |
| 03 Continuing settlement | 08 Pedestrian/vehicular hazard | 14 Undermining of foundation |
| 04 Continuing movements | 09 Rough riding surface | 15 Unstable embankments |
| 05 Seized bearings | 10 Surface ponding | 16 Other performance deficiencies |
| | 11 Deck/Wall drainage | |

Maintenance Needs

- | | | |
|---|-------------------------------------|---|
| 01 Lift and Swing Bridge Maintenance | 07 Structural Steel Repair | 13 Erosion Control at Bridges |
| 02 Bridge Cleaning | 08 Concrete Repair | 14 Concrete Sealing |
| 03 Railing System Repair | 09 Timber Repair | 15 Rout and Seal |
| 04 Painting Steel Bridge Structures | 10 Works for Modular bridges | 16 Works for Drainage System |
| 05 Bridge Deck Joint Repair | 11 Animal/Pest Control | 17 Scaling (Loose Concrete or ACR Steel) |
| 06 Bridge Bearing Maintenance | 12 Bridge Surface Repair | 18 Other Maintenance |

Element Data

Element Group:	Abutments	Length:	N/A			
Element Name:	Abutment Walls	Width:	14.7 m			
Location:	North and South	Height:	Average 2 m			
Material:	Concrete	Count:	2			
Element Type:	Cast-In-Place	Total Quantity:	58.8 m ²			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	N/A					Perform. Deficiencies
Condition Data:	Units <input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all	Exc.	Good	Fair	Poor*	
			52.8	3	3	00
Comments: Medium cracks. Debris accumulated on bearing seats. Erosion along West abutment's footing.						
Recommended Work:			Maintenance Needs: 02			
<input checked="" type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input checked="" type="checkbox"/> 6-10 years			<input type="checkbox"/> Urgent <input checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year			
			Clean bearing seats			

Element Group:	Abutments	Length:	N/A			
Element Name:	Ballast Walls	Width:	14.7 m			
Location:	North and South	Height:	1.5 m			
Material:	Concrete	Count:	2			
Element Type:	Cast-In-Place	Total Quantity:	44.1 m ²			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	N/A					Perform. Deficiencies
Condition Data:	Units <input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all	Exc.	Good	Fair	Poor*	
			40		4.1	01
Comments: Spalling witnessed at top of East ballast wall						
Recommended Work:			Maintenance Needs: 00			
<input checked="" type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input checked="" type="checkbox"/> 6-10 years			<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year			
Patch spalled areas						

Element Group:	Abutments	Length:	N/A			
Element Name:	Bearings	Width:	N/A			
Location:	North and South	Height:	N/A			
Material:	Rubber	Count:	10			
Element Type:	Elastomeric Pads	Total Quantity:	10			
Environment:	<input checked="" type="checkbox"/> Benign <input type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	N/A					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input type="checkbox"/> m ² <input type="checkbox"/> m <input checked="" type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all			10		00
Comments:						
Some rust on base plates. Splits at almost all elastomeric encapsulation						
Recommended Work:		<input checked="" type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input checked="" type="checkbox"/> 6-10 years		Maintenance Needs: 00		
Repair/replace elastomeric bearing pads				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Abutments	Length:	4.1 m			
Element Name:	Wingwalls	Width:	N/A			
Location:	North and South	Height:	Average 1.1 m			
Material:	Concrete	Count:	4			
Element Type:	Cast-In-Place	Total Quantity:	18.0 m ²			
Environment:	<input checked="" type="checkbox"/> Benign <input type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Limited <input type="checkbox"/>
Protection System:	N/A					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		18			00
Comments:						
Generally in good condition						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Municipality of West Nipissing – Bridge # 016

Element Group:	Deck	Length:	92.5 m			
Element Name:	Deck Top	Width:	10.43 m			
Location:		Height:	0.21 m			
Material:	Concrete	Count:	1			
Element Type:	Cast-In-Place	Total Quantity:	964.8 m ²			
Environment:	<input type="checkbox"/> Benign <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Severe		Inspected:			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Limited <input type="checkbox"/>
Protection System:	N/A					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		935.8	14	15	01
Comments:						
Small localized areas of spalled concrete and delamination at midspan						
Recommended Work:		<input checked="" type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input checked="" type="checkbox"/> 6-10 years		Maintenance Needs: 00		
Repair deck top				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Deck	Length:	2.0 m			
Element Name:	Soffit - Ends	Width:	10.43 m			
Location:		Height:	N/A			
Material:	Concrete	Count:	2 Ends			
Element Type:	Cast-In-Place	Total Quantity:	41.7 m ²			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	N/A					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		41.7			00
Comments:						
Generally in good condition.						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Municipality of West Nipissing – Bridge # 016

Element Group:	Deck	Length:	88.5 m			
Element Name:	Soffit – Exterior	Width:	2.69 m			
Location:		Height:	N/A			
Material:	Concrete	Count:	N/A			
Element Type:	Cast-In-Place	Total Quantity:	238.1 m ²			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	N/A					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		235.6	1	1.5	08
Comments:						
Concrete fascia defects at second railing was noted at SE of deck and North side at midspan.						
Recommended Work:		<input checked="" type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input checked="" type="checkbox"/> 6-10 years		Maintenance Needs: 00		
Repair concrete at slab fascia				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Deck	Length:	88.5 m			
Element Name:	Soffit – Interior	Width:	7.74 m			
Location:		Height:	N/A			
Material:	Concrete	Count:	N/A			
Element Type:	Cast-In-Place	Total Quantity:	685 m ²			
Environment:	<input checked="" type="checkbox"/> Benign <input type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	N/A					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		681	4		00
Comments:						
Rust stains and deposits at West span						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Municipality of West Nipissing – Bridge # 016

Element Group:	Beams/MLE's	Length:	2.0 m			
Element Name:	Girders - Ends	Width:	0.51 m			
Location:	West Span - End	Height:	0.9 m			
Material:	Steel	Count:	5			
Element Type:	I-Beam section	Total Quantity:	33.3 m ²			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	Paint					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		33.3			00
Comments:						
Generally in good condition						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Beams/MLE's	Length:	44.2 m			
Element Name:	Girders – Middle	Width:	0.51 m			
Location:	West Span - End	Height:	0.9 m			
Material:	Steel	Count:	5			
Element Type:	I-Beam section	Total Quantity:	735.9 m ²			
Environment:	<input checked="" type="checkbox"/> Benign <input type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	Paint					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		735.9			00
Comments:						
Generally in good condition						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Municipality of West Nipissing – Bridge # 016

Element Group:	Beams/MLE's	Length:	2.0 m			
Element Name:	Girders - Ends	Width:	0.51 m			
Location:	East Span - End	Height:	0.9 m			
Material:	Steel	Count:	5			
Element Type:	I-Beam section	Total Quantity:	33.3 m ²			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	Paint					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		33.3			00
Comments:						
Generally in good condition						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Beams/MLE's	Length:	44.2 m			
Element Name:	Girders – Middle	Width:	0.51 m			
Location:	East Span - End	Height:	1.2 m			
Material:	Steel	Count:	5			
Element Type:	I-Beam section	Total Quantity:	735.9 m ²			
Environment:	<input checked="" type="checkbox"/> Benign <input type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	Paint					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		735.9			00
Comments:						
Generally in good condition						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Beams/MLE's	Length:	2.74 m			
Element Name:	Diaphragms – End	Width:	0.19 m			
Location:	East and West abutments	Height:	0.46 m			
Material:	Steel	Count:	8 (4 per Abutment)			
Element Type:	W Section	Total Quantity:	8			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Limited <input type="checkbox"/>
Protection System:	Paint Coating					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input type="checkbox"/> m ² <input type="checkbox"/> m <input checked="" type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		8			00
Comments:						
Surface rust and paint peeling off						
Recommended Work:		<input checked="" type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input checked="" type="checkbox"/> 6-10 years		Maintenance Needs: 00		
Coat diaphragms				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Beams/MLE's	Length:	2.74 m			
Element Name:	Diaphragms – Intermediate	Width:	0.11 m			
Location:	Entire length of bridge	Height:	0.08 m			
Material:	Steel	Count:	44			
Element Type:	Angle	Total Quantity:	44			
Environment:	<input checked="" type="checkbox"/> Benign <input type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:						Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input type="checkbox"/> m ² <input type="checkbox"/> m <input checked="" type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		44			00
Comments:						
Generally in good condition						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Pier	Length:	1.2 m (approx.)			
Element Name:	Shafts	Width:	9.8 m (approx.)			
Location:	Midspan	Height:	4.0 m (approx.)			
Material:	Concrete	Count:	1			
Element Type:	Cast-In-Place	Total Quantity:	88 m ²			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	N/A					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		58	30		00
Comments:						
Medium scaling at water line						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Pier	Length:	N/A			
Element Name:	Bearing	Width:	N/A			
Location:	Midspan	Height:	N/A			
Material:	Steel	Count:	5			
Element Type:	Plates	Total Quantity:	5			
Environment:	<input checked="" type="checkbox"/> Benign <input type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:	N/A					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all			5		00
Comments:						
Inspected at a distance (limited inspection).						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Municipality of West Nipissing – Bridge # 016

Element Group:	Joints	Length:	14.7 m			
Element Name:	Armouring / Ret. Devices	Width:	N/A			
Location:	West and East abutments	Height:	N/A			
Material:	Steel	Count:	2			
Element Type:	Angle	Total Quantity:	29.4 m			
Environment:	<input type="checkbox"/> Benign <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Severe		Inspected:			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Limited <input type="checkbox"/>
Protection System:	Galvanized					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input type="checkbox"/> m ² <input checked="" type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		25.1	4.3		00
Comments:						
Abrasion at SE and NW armouring. Partially paved over concrete popping out at edges						
Recommended Work:		<input type="checkbox"/> Rehab <input checked="" type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input checked="" type="checkbox"/> 6-10 years		Maintenance Needs: 00		
Replace/Add seals				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Barriers	Length:	4.1 m			
Element Name:	Parapet Walls - Interior	Width:	N/A			
Location:	East and West Wingwalls	Height:	1.12 m			
Material:	Concrete	Count:	4			
Element Type:	Cast-in-Place	Total Quantity:	18.4 m ²			
Environment:	<input type="checkbox"/> Benign <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Severe		Inspected:			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Limited <input type="checkbox"/>
Protection System:						Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		9.2	9.2		00
Comments:						
Light to medium scaling noted throughout with coarse aggregates exposed						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Municipality of West Nipissing – Bridge # 016

Element Group:	Barriers	Length:	4.1 m			
Element Name:	Parapet Walls - Exterior	Width:	N/A			
Location:	East and West Wingwalls	Height:	1.12 m			
Material:	Concrete	Count:	4			
Element Type:	Cast-in-Place	Total Quantity:	18.4 m ²			
Environment:	<input type="checkbox"/> Benign <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Severe	Inspected:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Limited <input type="checkbox"/>			
Protection System:						Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input checked="" type="checkbox"/> m ² <input type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		9.2	9.2		00
Comments:						
Light to medium scaling noted throughout with coarse aggregates exposed						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 00		
				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Barriers	Length:	3.07 m			
Element Name:	Railing Systems	Width:	N/A			
Location:	North and South	Height:	1.07 m			
Material:	Steel	Count:	60 (30 per side)			
Element Type:	Bar	Total Quantity:	184.2 m			
Environment:	<input type="checkbox"/> Benign <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Severe	Inspected:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Limited <input type="checkbox"/>			
Protection System:	Galvanized					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input type="checkbox"/> m ² <input checked="" type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		176.2	4	4	00
Comments:						
Barrier railing bent where steel posts have been knocked out of alignment						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 18		
				<input type="checkbox"/> Urgent <input checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
				Replace deformed/damaged rails		

Municipality of West Nipissing – Bridge # 016

Element Group:	Barriers	Length:	0.20 m			
Element Name:	Posts	Width:	0.20 m			
Location:	North and South	Height:	1.1 m			
Material:	Steel	Count:	62 (31 per side)			
Element Type:	HSS Section	Total Quantity:	62			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Limited <input type="checkbox"/>
Protection System:	Galvanized					Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input type="checkbox"/> m ² <input type="checkbox"/> m <input checked="" type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		7	44	11	01/08
Comments:						
Two posts at SE quadrant are out of alignment with damaged deck connections. Post caps missing on several posts. Several posts are cracked along their height.						
Recommended Work:		<input type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years		Maintenance Needs: 03/08		
				<input checked="" type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		
				Repair post/deck connection. Replace missing post caps. Repair out of alignment railing posts		

Element Group:	Sidewalks / Curbs	Length:	100.7 m			
Element Name:	Sidewalks	Width:	0.94 m			
Location:	North and South	Height:	0.25 m			
Material:	Concrete	Count:	2			
Element Type:	Cast-in-Place	Total Quantity:	239.7 m ²			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Limited <input type="checkbox"/>
Protection System:						Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input type="checkbox"/> m ² <input checked="" type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		235.3	2.2	2.2	08
Comments:						
Spalled concrete observed on top of curb at dislocated guide rail post						
Recommended Work:		<input checked="" type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input checked="" type="checkbox"/> 6-10 years		Maintenance Needs: 00		
Patch spalled areas on concrete curb				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Municipality of West Nipissing – Bridge # 016

Element Group:	Coatings	Length:	2.0 m			
Element Name:	Structural Steel – Girder Ends	Width:	0.51 m			
Location:	East and West	Height:	0.9 m			
Material:	Paint	Count:	10			
Element Type:		Total Quantity:	66.6 m ²			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Limited <input type="checkbox"/>
Protection System:						Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input type="checkbox"/> m ² <input checked="" type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		56.6	5	5	00
Comments:						
Category 4 (very severe) rust noted along edges of top flange and localized areas of bottom flange.						
Recommended Work:		<input checked="" type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input checked="" type="checkbox"/> 6-10 years		Maintenance Needs: 00		
Coat girder ends				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:	Coatings	Length:	88.4 m			
Element Name:	Structural Steel – Girder Middle	Width:	0.51 m			
Location:	East and West	Height:	1.2 m			
Material:	Paint	Count:	5			
Element Type:		Total Quantity:	1472 m ²			
Environment:	<input type="checkbox"/> Benign <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe		Inspected:			Yes <input type="checkbox"/> No <input type="checkbox"/> Limited <input checked="" type="checkbox"/>
Protection System:						Perform. Deficiencies
Condition	Units	Exc.	Good	Fair	Poor*	
Data:	<input type="checkbox"/> m ² <input checked="" type="checkbox"/> m <input type="checkbox"/> each <input type="checkbox"/> % <input type="checkbox"/> all		1397	37.5	37.5	00
Comments:						
Category 4 (very severe) rust noted along edges of top flange and localized areas of bottom flange.						
Recommended Work:		<input checked="" type="checkbox"/> Rehab <input type="checkbox"/> Replace <input type="checkbox"/> 1-5 years <input checked="" type="checkbox"/> 6-10 years		Maintenance Needs: 00		
Coat girder ends				<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		



Photo 1: Structure Looking West



Photo 2: Structure Looking East



Photo 3: North Elevation



Photo 4: South Elevation



Photo 5: East Expansion Joint



Photo 6: West Expansion Joint



Photo 7: North Rail



Photo 8: South Rail



Photo 9: Wearing Surface at Structure



Photo 10: Potholes at Wearing Surface at Structure



Photo 11: NW Wingwall



Photo 12: NE Wingwall



Photo 13: SE Wingwall



Photo 14: SW Elevation



Photo 15: West Abutment



Photo 16: East Abutment



Photo 17: West Diaphragm



Photo 18: East Diaphragm



Photo 19: Pier - West Face



Photo 20: Pier - East Face



Photo 21: Crack at NW Fascia



Photo 22: Coating Peeling Off at Bottom of Girders Bolted Connection



Photo 23: Coating Peeling Off at Bottom of Girders



Photo 24: Rust Stains at midspan of Soffit



Photo 25: Split at North Rail Post



Photo 26: Missing Post Cap at Several Posts



Photo 27: Deflected Post at SE Quadrant



Photo 28: Damaged Guide Rail at NW Quadrant