

McBRIDE BRIDGE

Site Number 010037

LYNN VALLEY ROAD, WOODHOUSE

0.1 km W of E1/4 Line

Ontario Structure Inspection Manual - Inspection Form

Site Number:

Inventory Data:			
Structure Name <input type="text" value="McBride Bridge"/>			
Main Hwy/Road # <input type="text" value="LYNN VALLEY RD"/>	<input checked="" type="checkbox"/> On <input type="checkbox"/> Under	Crossing Type: <input type="checkbox"/> Rail <input type="checkbox"/> Ped. <input type="checkbox"/> Road <input type="checkbox"/> Other <input type="checkbox"/> Navig. Water <input checked="" type="checkbox"/> Non-Navig. Water	
Hwy/Road Name <input type="text" value="LYNN VALLEY ROAD, WOODHOUSE"/>			
Structure Location <input type="text" value="0.1km W of E114 Line"/>			
Latitude <input n"="" type="text" value="42d 49' 53"/>	Longitude <input type="text" value="80d 10' 02" w"=""/>		
Owner(s) <input type="text" value="Norfolk County"/>	Heritage Designation: <input checked="" type="checkbox"/> Not Cons. <input type="checkbox"/> Cons./not App.	<input type="checkbox"/> List/not Design. <input type="checkbox"/> Design./not List	<input type="checkbox"/> Desig. & List
MTO Region <input type="text" value="30"/> Southwestern	Road Class: <input type="checkbox"/> Freeway <input type="checkbox"/> Arterial <input type="checkbox"/> Collector <input checked="" type="checkbox"/> Local		
MTO District <input type="text" value="31"/> London / Stratford	Posted Speed <input type="text" value="80"/>	No. of Lanes <input type="text" value="2"/>	
Old County <input type="text" value="20"/> Norfolk	AADT <input type="text" value="190"/>	% Trucks <input type="text"/>	
Geographic Twp. <input type="text" value="215"/> Woodhouse	Inspection Route Sequence <input type="text"/>		
Structure Type <input type="text" value="11"/> Ellipse Culvert	Interchange Number <input type="text"/>		
Total Deck Length <input type="text" value="11"/> (m)	Interchange Structure Number <input type="text"/>		
Overall Str. Width <input type="text" value="18"/> (m)	Min. Vertical Clearance <input type="text" value="4.6"/> (m)		
Total Deck Area <input type="text" value="198"/> (m ²)	Special Route <input type="checkbox"/> Truck <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> School <input type="checkbox"/> Bicycle		
Roadway Width <input type="text" value="7"/> (m)	Detour Length Around Bridge <input type="text" value="10"/> (km)		
Skew Angle <input type="text" value="30"/> (Degrees)	Direction of Structure <input type="text" value="East / West"/>		
No. of Spans <input type="text" value="2"/>	Fill on Structure <input type="text" value="0.5"/> (m)		
Span Length <input type="text" value="2 @ '5.5"/>			

Historical Data:			
Year Built <input type="text" value="1978"/>	Year of Last Major Rehab. <input type="text"/>		
Last OSIM Inspection <input type="text" value="May 28, 2014"/>	Last Evaluation <input type="text"/>		
Last Enhanced OSIM Inspection <input type="text"/>	Current Load Limit <input type="text" value="/ /"/> (tonnes)		
Enhanced Access Equipment (ladder, boat, lift, etc.) <input type="text"/>	Load Limit By-Law # <input type="text"/>		
Last Underwater Inspection <input type="text"/>	By-Law Expiry Date <input type="text"/>		
Last Condition Survey <input type="text"/>			
Rehab History: (Date/description)			

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Field Inspection Information:		
Date of Inspection:	July 20, 2016	Type of Inspection: <input checked="" type="checkbox"/> OSIM <input type="checkbox"/> Enhanced OSIM
Inspector:	Ben Buchwald M.Eng., EIT, G. Douglas Vallee Ltd.	
Others in Party:	N/A	
Access Equipment Used:	Hammer, Binoculars, Measuring Tape, Camera, etc.	
Weather:	Sunny	
Temperature:	24 °C	

Additional Investigation Required:	Priority		
	None	Normal	Urgent
Material Condition Survey			
<input checked="" type="checkbox"/> Detailed Deck Condition Survey:		X	
<input checked="" type="checkbox"/> Non-destructive Delamination Survey of Asphalt-Covered Deck:	X		
<input checked="" type="checkbox"/> Concrete Substructure Condition Survey:	X		
<input checked="" type="checkbox"/> Detailed Coating Condition Survey:	X		
<input checked="" type="checkbox"/> Detailed Timber Investigation	X		
<input checked="" type="checkbox"/> Post-Tensioned Strand Investigation	X		
Underwater Investigation:	X		
Fatigue Investigation:	X		
Seismic Investigation:	X		
Structure Evaluation:	X		
Monitoring			
<input checked="" type="checkbox"/> Monitoring of Deformations, Settlements and Movements:	X		
<input checked="" type="checkbox"/> Monitoring Crack Widths:	X		
Investigation Notes: No hazard signs or barriers. Very low hydro line.			

Overall Structure Notes:	
Recommended Work on Structure:	<input type="checkbox"/> None <input type="checkbox"/> Minor Rehab. <input type="checkbox"/> Replace <input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Major Rehab.
Timing of Recommended Work:	<input type="checkbox"/> 1 to 5 years <input type="checkbox"/> 6 to 10 years
Overall Comments:	
Date of next Inspection:	July 20, 2018

Suspected Performance Deficiencies

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

Maintenance Needs

- | | | |
|--------------------------------------|---------------------------------|--|
| 01 Lift and swing bridge maintenance | 07 Repair to structural steel | 13 Erosion control at bridges |
| 02 Bridge cleaning | 08 Repair of bridge concrete | 14 Concrete sealing |
| 03 Bridge handrail maintenance | 09 Repair of bridge timber | 15 Rout and seal |
| 04 Painting steel bridge structures | 10 Bailey bridges - maintenance | 16 Bridge deck drainage |
| 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 |

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Element Data

Element Group:		1600 Approaches				Length:	30
Element Name:		1601 Wearing Surface (Approaches)				Width:	8
Location:		Top of Culvert				Height:	
Material:						Count:	1
Element Type:						Total Quantity:	240 sq.m
Environment:		Severe				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	sq.m	0	220	20	0		
Comments:							
Recommended Work:						Maintenance Needs:	
Rehab <input type="checkbox"/> Replace <input type="checkbox"/> Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>						<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

Element Group:		1200 Culverts				Length:	18
Element Name:		1203 Barrels				Width:	5.5
Location:		Inside				Height:	
Material:		14 Steel				Count:	2
Element Type:						Total Quantity:	622 sq.m
Environment:		Severe				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	sq.m	0	622	0	0		
Comments:							
Twin round soil steel structures. Minor corrosion at waterline.							
Recommended Work:						Maintenance Needs:	
Rehab <input type="checkbox"/> Replace <input type="checkbox"/> Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>						<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

Element Group:		1200 Culverts				Length:	5.5
Element Name:		1201 Inlet Components				Width:	
Location:						Height:	4.6
Material:		14 Steel				Count:	1
Element Type:						Total Quantity:	17.3 m
Environment:		Moderate				Limited Inspection:	X
Protection System:		Unknown				Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	m	0	16.3	0.5	0.5		
Comments:							
Inlet is protected with ice breaking nose between culverts. Ice breaking nose has minor cracking and efflorescence. Contains delamination around steel culvert and spalling at the water level. Inspection limited to above waterline & overgrowth.							
Recommended Work:						Maintenance Needs:	
Rehab <input type="checkbox"/> Replace <input type="checkbox"/> Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>						Repair of Bridge Concrete <input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input checked="" type="checkbox"/> 2 year	

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Element Data

Element Group:	1200 Culverts	Length:	5.5										
Element Name:	1202 Outlet Components	Width:											
Location:		Height:	4.6										
Material:	14 Steel	Count:	1										
Element Type:		Total Quantity:	17.3 m										
Environment:	Moderate	Limited Inspection:	X										
Protection System:	Unknown	Perform. Deficiencies											
Condition Data:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">Units</th> <th style="width: 10%;">Exc.</th> <th style="width: 10%;">Good</th> <th style="width: 10%;">Fair</th> <th style="width: 10%;">Poor</th> </tr> <tr> <td>m</td> <td>0</td> <td>16.3</td> <td>0.5</td> <td>0.5</td> </tr> </table>	Units	Exc.	Good	Fair	Poor	m	0	16.3	0.5	0.5		
Units	Exc.	Good	Fair	Poor									
m	0	16.3	0.5	0.5									
Comments: Contains delamination around steel culvert and spalling at the water level. Inspection limited to above waterline.													
Recommended Work: Rehab <input type="checkbox"/> Replace <input type="checkbox"/> Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>		Maintenance Needs: Repair of Bridge Concrete <input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input checked="" type="checkbox"/> 2 year											

Element Group:	1400 Embankments & Streams	Length:											
Element Name:	1402 Embankments	Width:											
Location:		Height:											
Material:		Count:	1										
Element Type:		Total Quantity:	1 All										
Environment:		Limited Inspection:											
Protection System:	Unknown	Perform. Deficiencies											
Condition Data:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">Units</th> <th style="width: 10%;">Exc.</th> <th style="width: 10%;">Good</th> <th style="width: 10%;">Fair</th> <th style="width: 10%;">Poor</th> </tr> <tr> <td>All</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> </tr> </table>	Units	Exc.	Good	Fair	Poor	All	0	1	0	0		
Units	Exc.	Good	Fair	Poor									
All	0	1	0	0									
Comments: No hazard signs.													
Recommended Work: Rehab <input type="checkbox"/> Replace <input type="checkbox"/> Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input type="checkbox"/>		Maintenance Needs: <input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year											



Figure 1 East Approach



Figure 2 West Approach



Figure 3 North Profile, Inlet



Figure 4 South Profile, Outlet



Figure 5 Upstream



Figure 6 Downstream



Figure 7 East Barrel



Figure 8 West Barrel



Figure 9 Breakwater at Inlet



Figure 10 Delamination and Spalling at Southwest Quadrant

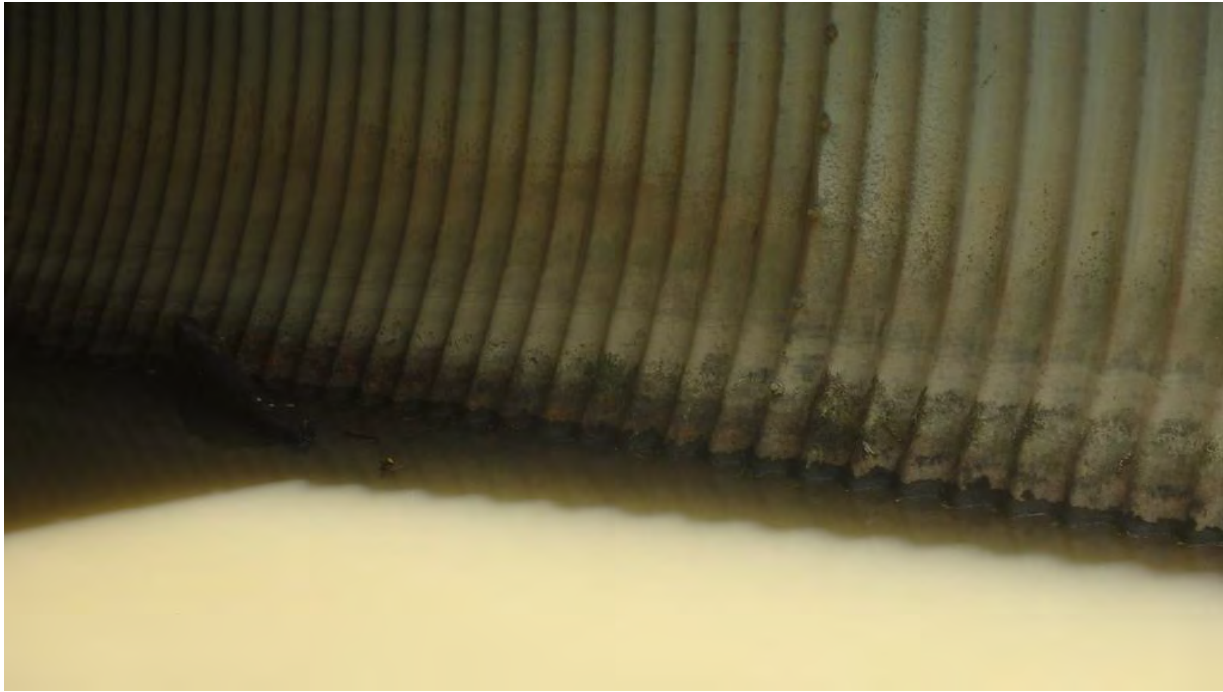


Figure 11 Typical Waterline Corrosion and Staining