

**CLOET ROAD BRIDGE**

Site Number 010084

**CLOET ROAD LOT 2-3 CONCESSION 12, TOWNSEND**

0.1km S of County Road 24

**Ontario Structure Inspection Manual - Inspection Form**

**Site Number:**

Inventory Data:			
Structure Name <input type="text" value="Cloet Road Bridge"/>			
Main Hwy/Road # <input type="text" value="CLOET RD"/>	<input checked="" type="checkbox"/> On <input type="checkbox"/> Under	Crossing Type: <input type="checkbox"/> Rail <input type="checkbox"/> Road <input type="checkbox"/> Navig. Water <input type="checkbox"/> Ped. <input type="checkbox"/> Other <input checked="" type="checkbox"/> Non-Navig. Water	
Hwy/Road Name <input type="text" value="CLOET ROAD, TOWNSEND"/>			
Structure Location <input type="text" value="0.1km S of County Road 24"/>			
Latitude <input n"="" type="text" value="42d 53' 01.3"/>	Longitude <input type="text" value="80d 18' 21.7" 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="32"/>	% Trucks <input type="text"/>	
Geographic Twp. <input type="text" value="125"/> Townsend	Inspection Route Sequence <input type="text"/>		
Structure Type <input type="text" value="10"/> Arch Culvert	Interchange Number <input type="text"/>		
Total Deck Length <input type="text" value="16.4"/> (m)	Interchange Structure Number <input type="text"/>		
Overall Str. Width <input type="text" value="3.5"/> (m)	Min. Vertical Clearance <input type="text" value="1.6"/> (m)		
Total Deck Area <input type="text" value="57.4"/> (m <sup>2</sup> )	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="6"/> (m)	Detour Length Around Bridge <input type="text" value="4"/> (km)		
Skew Angle <input type="text"/> (Degrees)	Direction of Structure <input type="text" value="East / West"/>		
No. of Spans <input type="text" value="1"/>	Fill on Structure <input type="text" value="0.4"/> (m)		
Span Length <input type="text" value="3.3"/> (m)			

Historical Data:			
Year Built <input type="text" value="1970"/>	Year of Last Major Rehab. <input type="text"/>		
Last OSIM Inspection <input type="text" value="June 9, 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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**Site Number:**

Field Inspection Information:		
Date of Inspection:	July 6, 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:	32 °C	

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

Overall Structure Notes:	
Recommended Work on Structure:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Minor Rehab. <input type="checkbox"/> Replace <input type="checkbox"/> Maintenance <input type="checkbox"/> Major Rehab.
Timing of Recommended Work:	<input type="checkbox"/> 1 to 5 years <input checked="" type="checkbox"/> 6 to 10 years
Overall Comments:	
Date of next Inspection:	July 1, 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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Rehabilitation Required:		Element	Priority				Estimated Construction Cost
Rehab	Replace		Urgent	Within 1 yr	1-5 yrs	6-10 yrs	
X		Wearing Surface (Approaches)				X	
		Barrels					
		Inlet Components					
		Embankments					
Total Cost							\$0

Associated Work:	Comments	Estimated Construction Cost
Additional Investigations		
Traffic Management		
Utilities		
Road Allowance		
Environmental Assessment		
Engineering		
Other		
Contingencies		
Total Cost		\$0

Justification:		
Notes:		Construction Cost: \$0
		Associated Work Cost: \$0
		TOTAL Estimated Cost: \$0

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**Element Data**

Element Group:	1600 Approaches					Length:	
Element Name:	1601 Wearing Surface (Approaches)					Width:	
Location:	Over Culvert					Height:	
Material:	2 Asphalt					Count:	1
Element Type:						Total Quantity:	1 Each
Environment:	Severe					Limited Inspection:	
Protection System:	Unknown					Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	Each	0	0	1	0		
Comments: No signs - no barrier.							
Recommended Work: Rehab <input checked="" type="checkbox"/> Replace <input type="checkbox"/>						Maintenance Needs:	
Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input type="checkbox"/> 6 - 10 yr <input checked="" type="checkbox"/>						<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year	

Element Group:	1200 Culverts					Length:	16.4
Element Name:	1203 Barrels					Width:	3.5
Location:						Height:	3.3
Material:	5 Corrugated Steel					Count:	1
Element Type:						Total Quantity:	54.1 sq.m
Environment:	Moderate					Limited Inspection:	
Protection System:	Unknown					Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor	Surface Corrosion at Waterline	
	sq.m	0	0	54.1	0		
Comments: Small deformation in top plate at East end. Monitor.							
Recommended Work: Rehab <input type="checkbox"/> Replace <input type="checkbox"/>						Maintenance Needs:	
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:	
Element Name:	1201 Inlet Components					Width:	3.5
Location:	North and South End					Height:	
Material:	5 Corrugated Steel					Count:	2
Element Type:						Total Quantity:	2 Each
Environment:	Moderate					Limited Inspection:	
Protection System:	Unknown					Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	Each	0	0	2	0		
Comments: Heavy brush growth at both culvert ends, brush needs to be removed.							
Recommended Work: Rehab <input type="checkbox"/> Replace <input type="checkbox"/>						Maintenance Needs: Erosion Control at Bridges	
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 checked="" type="checkbox"/> 2 year	

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**Element Data**

Element Group:	1400 Embankments & Streams					Length:	
Element Name:	1402 Embankments					Width:	
Location:						Height:	
Material:						Count:	1
Element Type:						Total Quantity:	1 Each
Environment:						Limited Inspection:	
Protection System:	Unknown					Perform. Deficiencies	
Condition Data:	Units Each	Exc. 0	Good 1	Fair 0	Poor 0		
Comments: Clear brush.							
Recommended Work:    Rehab <input type="checkbox"/> Replace <input type="checkbox"/>						Maintenance Needs:	
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	



Figure 1 North Approach



Figure 2 South Approach





Figure 3 East Profile, Inlet



Figure 4 West Profile, Outlet





Figure 5 Upstream



Figure 6 Downstream





Figure 7      Barrel



Figure 8      Minor Surface Corrosion