

**LOT 19 CONCESSION 14 ROAD**

Site Number 010043

**CONCESSION 14 ROAD, TOWNSEND**

2.98 km W of County Road 70

**Ontario Structure Inspection Manual - Inspection Form**

**Site Number:**

Inventory Data:			
Structure Name	<input type="text" value="Lot 19 Concession 14 Road"/>		
Main Hwy/Road #	<input type="text" value="CON 14 TOWNSEND"/>	<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="CONCESSION 14, TOWNSEND"/>		
Structure Location	<input type="text" value="2.98km W of County Road 70"/>		
Latitude	<input n"="" type="text" value="42d 52' 40.9"/>	Longitude	<input type="text" value="80d 10' 48.6" 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. & List <input type="checkbox"/> Design./not 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="1"/>
Old County	<input type="text" value="20"/> Norfolk	AADT	<input type="text" value="88"/> % Trucks <input type="text"/>
Geographic Twp.	<input type="text" value="125"/> Townsend	Inspection Route Sequence	<input type="text"/>
Structure Type	<input type="text" value="12"/> Rectangular Culvert	Interchange Number	<input type="text"/>
Total Deck Length	<input type="text" value="14"/> (m)	Interchange Structure Number	<input type="text"/>
Overall Str. Width	<input type="text" value="8.5"/> (m)	Min. Vertical Clearance	<input type="text" value="1.9"/> (m)
Total Deck Area	<input type="text" value="119"/> (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="6.3"/> (m)	Detour Length Around Bridge	<input type="text" value="10"/> (km)
Skew Angle	<input type="text"/> (Degrees)	Direction of Structure	<input type="text" value="North / South"/>
No. of Spans	<input type="text" value="2"/>	Fill on Structure	<input type="text" value="0"/> (m)
Span Length	<input type="text" value="4"/> (m)		

Historical Data:			
Year Built	<input type="text" value="2009"/>	Year of Last Major Rehab.	<input type="text"/>
Last OSIM Inspection	<input type="text" value="June 6, 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 7, 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:	28 °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 hazard signs. Bridge has been replaced with twin box culvert with rip rap protection and 3 post cable barriers.		

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 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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**Site Number:** 010043

**Element Data**

Element Group:		400 Barriers				Length:		40	
Element Name:		402 Railing System				Width:			
Location:						Height:			
Material:		14 Steel				Count:		2	
Element Type:		Wood Post and 3 Cable				Total Quantity:		80 Each	
Environment:		Severe				Limited Inspection:			
Protection System:		Unknown				Perform. Deficiencies			
Condition Data:	Units	Exc.	Good	Fair	Poor				
	Each	0	80	0	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:		100 Decks				Length:		14	
Element Name:		102 Deck Top				Width:		8.5	
Location:						Height:			
Material:		4 Cast-in-place Concrete				Count:		1	
Element Type:						Total Quantity:		119 sq.m	
Environment:		Moderate				Limited Inspection:			
Protection System:		Unknown				Perform. Deficiencies			
Condition Data:	Units	Exc.	Good	Fair	Poor				
	sq.m	0	119	0	0				
Comments: Approximately 3.5m exposed each end. Minor damage to north end surface. Installation damage. Minor loss of parging at northwest quadrant									
Recommended Work:					Maintenance Needs:				
Rehab <input type="checkbox"/> Replace <input type="checkbox"/>					Repair of Bridge Concrete				
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 checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year				

Element Group:		100 Decks				Length:		6.5	
Element Name:		101 Wearing Surface				Width:		8.5	
Location:						Height:			
Material:		6 Gravel				Count:		1	
Element Type:						Total Quantity:		50.5 Each	
Environment:		Severe				Limited Inspection:			
Protection System:		Unknown				Perform. Deficiencies			
Condition Data:	Units	Exc.	Good	Fair	Poor				
	Each	0	1	0	0				
Comments: No hazard signage at approach.									
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				

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**Element Data**

Element Group:		1600 Approaches				Length:		
Element Name:		1601 Wearing Surface (Approaches)				Width:		
Location:						Height:		
Material:		6 Gravel				Count:		1
Element Type:						Total Quantity:		1 Each
Environment:		Severe				Limited Inspection:		
Protection System:		None				Perform. Deficiencies		
Condition Data:	Units	Exc.	Good	Fair	Poor			
	Each	0	1	0	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:		1400 Embankments & Streams				Length:		
Element Name:		1401 Streams and Waterways				Width:		
Location:						Height:		
Material:						Count:		1
Element Type:						Total Quantity:		1 Each
Environment:						Limited Inspection:		
Protection System:		Unknown				Perform. Deficiencies		
Condition Data:	Units	Exc.	Good	Fair	Poor			
	Each	0	1	0	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		



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 Minor Loss of Parging at Northwest Quadrant

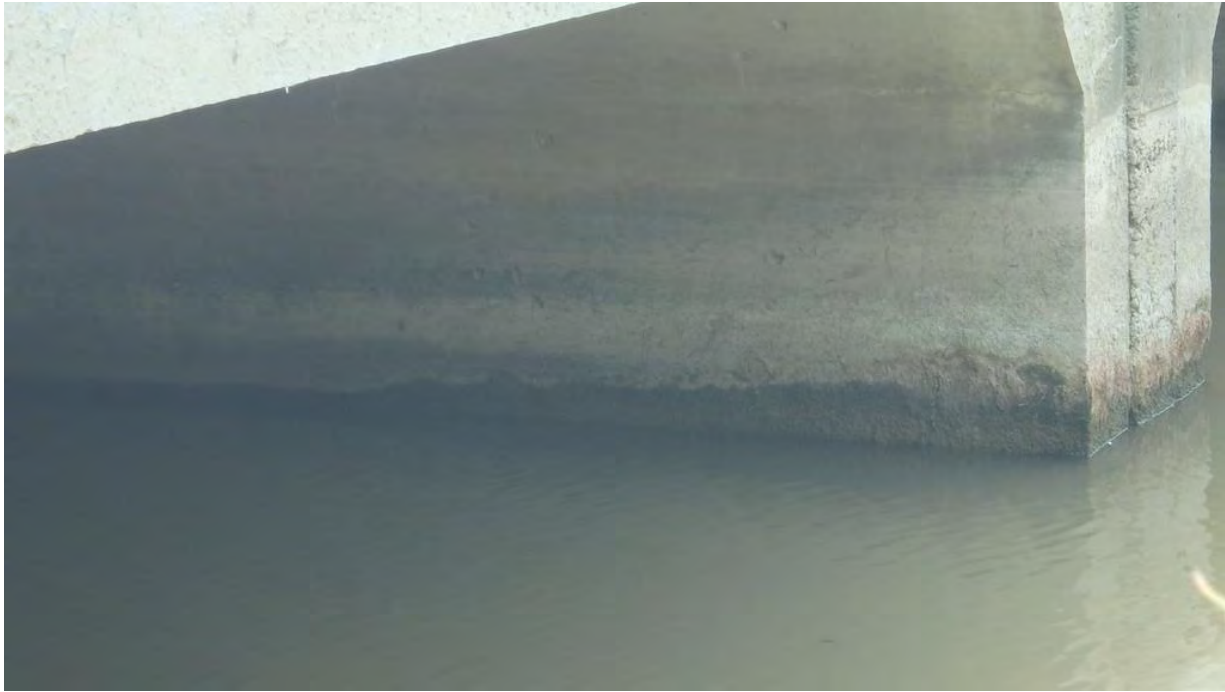


Figure 10 Typical Staining at Water Level