

CONCESSION 2 BRIDGE

Site Number 010056

CONCESSION 2 ROAD, TOWNSEND

1.61 km W of E1/4 Line Road

Ontario Structure Inspection Manual - Inspection Form

Site Number:

Inventory Data:			
Structure Name <input type="text" value="Concession 2 Bridge"/>			
Main Hwy/Road # <input type="text" value="CON 2 TOWNSEND"/>	<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="CONCESSION 2, TOWNSEND"/>			
Structure Location <input type="text" value="1.6 km W of E1/4 Line Road"/>			
Latitude <input n"="" type="text" value="43d 01' 13.6"/>	Longitude <input type="text" value="80d 14' 16.7" 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="177"/>	% Trucks <input type="text"/>	
Geographic Twp. <input type="text" value="125"/> Townsend	Inspection Route Sequence <input type="text"/>		
Structure Type <input type="text" value="15"/> Rigid Frame, Vertical Legs	Interchange Number <input type="text"/>		
Total Deck Length <input type="text" value="14.6"/> (m)	Interchange Structure Number <input type="text"/>		
Overall Str. Width <input type="text" value="8.2"/> (m)	Min. Vertical Clearance <input type="text" value="2.4"/> (m)		
Total Deck Area <input type="text" value="119.7"/> (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="7.4"/> (m)	Detour Length Around Bridge <input type="text" value="10"/> (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"/> (m)		
Span Length <input type="text" value="12.8"/> (m)			

Historical Data:			
Year Built <input type="text" value="1961"/>	Year of Last Major Rehab. <input type="text"/>		
Last OSIM Inspection <input type="text" value="May 26, 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:	June 29, 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:	John McMorrow	
Access Equipment Used:	Hammer, Binoculars, Measuring Tape, Camera, etc.	
Weather:	Sunny	
Temperature:	19 °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:	Recommend DCS/ Rehab to deck and rails. Utility cable attached to South fascia.		

Overall Structure Notes:			
Recommended Work on Structure:	<input type="checkbox"/> None <input type="checkbox"/> Maintenance	<input type="checkbox"/> Minor Rehab. <input checked="" type="checkbox"/> Major Rehab.	<input type="checkbox"/> Replace
Timing of Recommended Work:	<input checked="" type="checkbox"/> 1 to 5 years	<input type="checkbox"/> 6 to 10 years	
Overall Comments:			
Date of next Inspection:	June 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: 010056

Element Data

Element Group:		900 Abutments				Length:	8.2
Element Name:		903 Wingwalls				Width:	
Location:		East and West				Height:	2.4
Material:		4 Cast-in-place Concrete				Count:	2
Element Type:						Total Quantity:	39.4 m
Environment:		Moderate				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	m	0	31.36	0	8		
Comments: Includes 4 wingwalls . Cold joint on West abutment. Abutments show leakage at cracks. Deterioration at construction joints. Rehab underway in 2016.							
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 checked="" type="checkbox"/> 6 - 10 yr <input type="checkbox"/>					<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:		1600 Approaches				Length:	18.6
Element Name:		1604 Curb/Gutters				Width:	
Location:		North and South				Height:	
Material:						Count:	2
Element Type:						Total Quantity:	37.2 m
Environment:		Severe				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	m	0	0	0	37.2		
Comments: Replace curbs. Curbs severely deteriorated. Rehab underway in 2016.							
Recommended Work: Rehab <input type="checkbox"/> Replace <input checked="" type="checkbox"/>					Maintenance Needs:		
Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input checked="" type="checkbox"/> 6 - 10 yr <input type="checkbox"/>					<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:		1600 Approaches				Length:	
Element Name:		1601 Wearing Surface (app)				Width:	
Location:		Top of Road				Height:	
Material:						Count:	
Element Type:						Total Quantity:	1 Each
Environment:		Severe				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	Each	0	0.5	0.5	0		
Comments: Cracking on approaches. Deterioration at joints. Hazard signs are partially visible. Rehab underway in 2016.							
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		

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Site Number: 010056

Element Data

Element Group:		400 Barriers				Length:	18.6
Element Name:		401 Barrier/Parapet Walls				Width:	
Location:		North and South				Height:	
Material:						Count:	2
Element Type:						Total Quantity:	37.2 m
Environment:		Severe				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	m	0	0	0	37.2		
Comments: Barriers severely cracked and deteriorated. Reinforcement exposed throughout. Must be replaced. Metal tail strapped to North side. Evidence of recent fire. Rehab underway in 2016.							
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 checked="" type="checkbox"/> 6 - 10 yr <input type="checkbox"/>					<input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input type="checkbox"/> 2 year		

Element Group:		400 Barriers				Length:	
Element Name:		402 Railing System				Width:	
Location:						Height:	
Material:		14 Steel				Count:	1
Element Type:						Total Quantity:	274 m
Environment:		Severe				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	m	274					
Comments: Northwest guiderail 50m, Northeast guiderail 85m, Southwest guiderail 92m, Southeast Guiderail 47m.							
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:		100 Decks				Length:	
Element Name:		106 Drainage				Width:	
Location:		Through Deck				Height:	
Material:		11 Plastic				Count:	4
Element Type:		PVC Drain Pipes				Total Quantity:	4 Each
Environment:		Severe				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	Each	0	4	0	0		
Comments: Replace with deck rehabilitation. Drains are currently lined with plastic pipes. Rehab underway in 2016.							
Recommended Work: Rehab <input type="checkbox"/> Replace <input checked="" type="checkbox"/>					Maintenance Needs:		
Timing: Urgent <input type="checkbox"/> < 1yr <input type="checkbox"/> 1 - 5 yr <input checked="" 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:		100 Decks				Length:	12.8
Element Name:		103 Soffit Thin Slab				Width:	8.2
Location:		Underneath				Height:	
Material:		4 Cast-in-place Concrete				Count:	1
Element Type:						Total Quantity:	105 m
Environment:		Benign				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	m	0	55	41	8		
Comments: Long cracks(2). Showing efflorescence and leaking. Rehab underway in 2016.							
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 checked="" 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:	14.6
Element Name:		101 Wearing Surface				Width:	7.4
Location:		Top of Deck				Height:	
Material:		4 Cast-in-place Concrete				Count:	1
Element Type:						Total Quantity:	108 sq.m
Environment:		Severe				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	sq.m	0	0	54	54		
Comments: Random cracks and pot holes. Delamination at both ends of deck. Rehab recommended. Deterioration of deck at joints and cracks. Rehab underway in 2016.							
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 checked="" 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:		None				Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
	Each	0	1	0	0		
Comments: Limited Inspection- Not visible. Rehab underway in 2016.							
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		

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Site Number:

Element Data

Element Group:	1300 Foundations					Length:	
Element Name:	1301 Foundation (below ground level)					Width:	
Location:						Height:	
Material:						Count:	
Element Type:						Total Quantity:	
Environment:						Limited Inspection:	X
Protection System:	None					Perform. Deficiencies	
Condition Data:	Units	Exc.	Good	Fair	Poor		
Comments: Rehab underway in 2016.							
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 East Approach



Figure 2 West Approach