

**LOT 9 CONCESSION A-B OVERFLOW**

Site Number 002114

**CONCESSION A ROAD, SOUTH WALSINGHAM**

2.85 km W of County Highway 59

**Ontario Structure Inspection Manual - Inspection Form**

**Site Number:**

Inventory Data:			
Structure Name	<input type="text" value="Lot 9 Concession A-B"/>		
Main Hwy/Road #	<input type="text" value="CON A S WALS"/>	<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 A ROAD, SOUTH WALSINGHAM"/>		
Structure Location	<input type="text" value="2.85km W of County Highway 59"/>		
Latitude	<input type="text"/>	Longitude	<input type="text"/>
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="0"/> % Trucks <input type="text"/>
Geographic Twp.	<input type="text" value="585"/> South Walsingham	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="5.2"/> (m)	Interchange Structure Number	<input type="text"/>
Overall Str. Width	<input type="text" value="5"/> (m)	Min. Vertical Clearance	<input type="text" value="2.6"/> (m)
Total Deck Area	<input type="text" value="26"/> (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="4.9"/> (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="1"/>	Fill on Structure	<input type="text" value="0.3"/> (m)
Span Length	<input type="text" value="4.3"/> (m)		

Historical Data:			
Year Built	<input type="text" value="1919"/>	Year of Last Major Rehab.	<input type="text"/>
Last OSIM Inspection	<input type="text" value="June 10, 2014"/>	Last Evaluation	<input type="text"/>
Last Enhanced OSIM Inspection	<input type="text"/>	Current Load Limit	<input type="text" value="3"/> / / (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:** 002114

Field Inspection Information:		
Date of Inspection:	July 5, 2016	Type of Inspection: <input checked="" type="checkbox"/> OSIM <input type="checkbox"/> Enhanced OSIM
Inspector:	Matt Alderson, G. Douglas Vallee Ltd.	
Others in Party:	Andrew Vallee	
Access Equipment Used:	Hammer, Binoculars, Measuring Tape, Camera, etc.	
Weather:	Sunny	
Temperature:	25 °C	

Additional Investigation Required:	Priority		
	None	Normal	Urgent
<b>Material Condition Survey</b>			
<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	
<b>Monitoring</b>			
<input checked="" type="checkbox"/> Monitoring of Deformations, Settlements and Movements:	X		
<input checked="" type="checkbox"/> Monitoring Crack Widths:	X		
<b>Investigation Notes:</b>			
Given age of structure, replacement in 1-5 years recommended. No approach barriers. Gas pipe laying in water on South side is broken. Road is closed (big creek bridge 000110 is closed).			

Overall Structure Notes:			
Recommended Work on Structure:	<input type="checkbox"/> None	<input type="checkbox"/> Minor Rehab.	<input checked="" type="checkbox"/> Replace
	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Major Rehab.	
Timing of Recommended Work:	<input checked="" type="checkbox"/> 1 to 5 years	<input type="checkbox"/> 6 to 10 years	
Overall Comments:	Culvert is in-que for replacement along with adjacent structures.		
Date of next Inspection:	July 5, 2018		

**Suspected Performance Deficiencies**

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>01 Load carrying capacity</li> <li>02 Excessive deformations (deflections &amp; rotations)</li> <li>03 Continuing settlement</li> <li>04 Continuing movements</li> <li>05 Seized bearings</li> </ul> | <ul style="list-style-type: none"> <li>07 Bearing not uniformly loaded/unstable</li> <li>08 Jammed expansion joint</li> <li>09 Pedestrian/vehicular hazard</li> <li>10 Rough riding surface</li> <li>11 Deck drainage</li> </ul> | <ul style="list-style-type: none"> <li>12 Slippery surfaces</li> <li>13 Flooding/channel blockage</li> <li>14 Undermining of foundation</li> <li>15 Unstable embankments</li> <li>16 Other</li> </ul> |
|---|--|---|

**Maintenance Needs**

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>01 Lift and swing bridge maintenance</li> <li>02 Bridge cleaning</li> <li>03 Bridge handrail maintenance</li> <li>04 Painting steel bridge structures</li> <li>05 Bridge deck joint repair</li> <li>06 Bridge bearing maintenance</li> </ul> | <ul style="list-style-type: none"> <li>07 Repair to structural steel</li> <li>08 Repair of bridge concrete</li> <li>09 Repair of bridge timber</li> <li>10 Bailey bridges - maintenance</li> <li>11 Animal/pest control</li> <li>12 Bridge surface repair</li> </ul> | <ul style="list-style-type: none"> <li>13 Erosion control at bridges</li> <li>14 Concrete sealing</li> <li>15 Rout and seal</li> <li>16 Bridge deck drainage</li> <li>17 Scaling (Loose concrete or ACR steel)</li> <li>18 Other</li> </ul> |
|---|--|---|

Ontario Structure Inspection Manual - Inspection Form

Site Number: 002114

Rehabilitation Required:		Element	Priority				Estimated Construction Cost
Rehab	Replace		Urgent	Within 1 yr	1-5 yrs	6-10 yrs	
X		Wingwalls				X	
X		Barrier/Parapet Walls			X		
	X	Barrels			X		
		Foundation (below ground level)					
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 <hr style="width: 100px; margin-left: auto; margin-right: 0;"/> TOTAL Estimated Cost: \$0

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Site Number: 002114

Element Data

Element Group:		900 Abutments				Length:	4
Element Name:		903 Wingwalls				Width:	
Location:		Culvert Ends				Height:	2.6
Material:		4 Cast-in-place Concrete				Count:	4
Element Type:		Reinforced Concrete				Total Quantity:	41.6 sq.m
Environment:		Moderate				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition Data:	Units sq.m	Exc. 0	Good 0	Fair 40	Poor 1.6		
Comments: Cracking and spalls.							
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:		400 Barriers				Length:	7.85
Element Name:		401 Barrier/Parapet Walls				Width:	0.25
Location:		Each End				Height:	0.55
Material:		4 Cast-in-place Concrete				Count:	2
Element Type:						Total Quantity:	2.2 sq.m
Environment:		Severe				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition Data:	Units sq.m	Exc. 0	Good 0	Fair 2	Poor 0.2		
Comments: Load bearing deficient. Delamination and spalls at inlet and outlet fascia.							
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:		1200 Culverts				Length:	5.2
Element Name:		1203 Barrels				Width:	4.6
Location:						Height:	2
Material:		4 Cast-in-place Concrete				Count:	1
Element Type:		Arch				Total Quantity:	28 sq.m
Environment:		Moderate				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition Data:	Units sq.m	Exc. 0	Good 0	Fair 0	Poor 28		
Comments: Concrete in arch is in poor condition. Cracks longitudinally on walls and soffit.							
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:	1300 Foundations					Length:	
Element Name:	1301 Foundation (below ground level)					Width:	
Location:						Height:	
Material:						Count:	
Element Type:						Total Quantity:	m
Environment:						Limited Inspection:	<b>X</b>
Protection System:	Unknown					Perform. Deficiencies	
Condition Data:	Units m	Exc.	Good	Fair	Poor		
Comments: Limited inspection. Not visible.							
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



Figure 3 Soffit



Figure 4 South Profile





Figure 5      Upstream



Figure 6      Downstream



Figure 7 Deterioration of Walls



Figure 8 Deterioration of Corners