

WILBUR SMITH CULVERT

Site Number 974205

PORT ROWAN ROAD 42, SOUTH WALSINGHAM

1.35 km W of Regional Road 16

Ontario Structure Inspection Manual - Inspection Form

Site Number:

Inventory Data:			
Structure Name	<input type="text" value="Wilbur Smith Culvert"/>		
Main Hwy/Road #	<input type="text" value="LAKESHORE 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="PORT ROWAN ROAD 42, SOUTH WALSINGHAM"/>		
Structure Location	<input type="text" value="1.35 km W of Regional Road 16"/>		
Latitude	<input n"="" type="text" value="42d 39' 40"/>	Longitude	<input type="text" value="80d 25' 28.1" w"=""/>
Owner(s)	<input type="text" value="Norfolk County"/>	Heritage Designation:	<input checked="" type="checkbox"/> Not Cons. <input type="checkbox"/> List/not Design. <input type="checkbox"/> Desig. & List <input type="checkbox"/> Cons./not App. <input type="checkbox"/> Desig./not List
MTO Region	<input type="text" value="30"/> Southwestern	Road Class:	<input type="checkbox"/> Freeway <input type="checkbox"/> Arterial <input checked="" type="checkbox"/> Collector <input 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="1595"/> % 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="12"/> Rectangular Culvert	Interchange Number	<input type="text"/>
Total Deck Length	<input type="text" value="5.8"/> (m)	Interchange Structure Number	<input type="text"/>
Overall Str. Width	<input type="text" value="38.4"/> (m)	Min. Vertical Clearance	<input type="text" value="2.7"/> (m)
Total Deck Area	<input type="text" value="222.7"/> (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="8"/> (m)	Detour Length Around Bridge	<input type="text" value="9.6"/> (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="3"/> (m)
Span Length	<input type="text" value="5.2"/> (m)		

Historical Data:			
Year Built	<input type="text" value="2012"/>	Year of Last Major Rehab.	<input type="text"/>
Last OSIM Inspection	<input type="text" value="June 17, 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)			
Construction by Neil Montague Construction.			

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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:	23 °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: Precast box culvert installed July 2012.			

Overall Structure Notes:	
Recommended Work on Structure:	<input checked="" type="checkbox"/> None <input 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 type="checkbox"/> 6 to 10 years
Overall Comments:	
Date of next Inspection:	July 5, 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	
		Wearing Surface (Approaches)					
		Barrels					
		Inlet Components					
		Outlet 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:	<table style="margin-left: auto; margin-right: 0;"> <tr> <td>Construction Cost:</td> <td style="text-align: right;">\$0</td> </tr> <tr> <td>Associated Work Cost:</td> <td style="text-align: right;">\$0</td> </tr> <tr> <td>TOTAL Estimated Cost:</td> <td style="text-align: right;">\$0</td> </tr> </table>	Construction Cost:	\$0	Associated Work Cost:	\$0	TOTAL Estimated Cost:	\$0
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:		Top of Culvert				Height:	
Material:		2 Asphalt				Count:	1
Element Type:						Total Quantity:	1 All
Environment:		Severe				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	All	0	1	0	0		
Comments: Guiderail cables are slightly loose.							
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:	39.2
Element Name:		1203 Barrels				Width:	5.2
Location:						Height:	3.05
Material:		12 Precast Concrete				Count:	1
Element Type:						Total Quantity:	443 sq.m
Environment:		Severe				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	sq.m	0	443	0	0		
Comments: Riprap built up at outlet. Parent streambed material through out culvert.							
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:	5.8
Element Name:		1201 Inlet Components				Width:	0.3
Location:						Height:	3
Material:		12 Precast Concrete				Count:	1
Element Type:						Total Quantity:	3.4 sq.m
Environment:		Severe				Limited Inspection:	
Protection System:		Unknown				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	sq.m	0	3.4	0	0		
Comments:							
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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Element Data

Element Group:	1200 Culverts	Length:	5.8										
Element Name:	1202 Outlet Components	Width:	0.3										
Location:		Height:	3										
Material:	12 Precast Concrete	Count:	1										
Element Type:		Total Quantity:	3.4 sq.m										
Environment:	Severe	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>sq.m</td> <td>0</td> <td>3.4</td> <td>0</td> <td>0</td> </tr> </table>	Units	Exc.	Good	Fair	Poor	sq.m	0	3.4	0	0		
Units	Exc.	Good	Fair	Poor									
sq.m	0	3.4	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:	1402 Embankments	Width:											
Location:		Height:											
Material:		Count:	4										
Element Type:		Total Quantity:	4 Each										
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>Each</td> <td>0</td> <td>4</td> <td>0</td> <td>0</td> </tr> </table>	Units	Exc.	Good	Fair	Poor	Each	0	4	0	0		
Units	Exc.	Good	Fair	Poor									
Each	0	4	0	0									
Comments:													
Well protected with riprap.													
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 Riprap Build Up at Outlet



Figure 7 Barrel, Looking North



Figure 8 Barrel, Looking South



Figure 9 Parging Failing at Interior Joints



Figure 10 Parging Failing at Joints



Figure 11 Precast Stamp