

JAMES BERRY DRAIN, LOT 2 CONCESSION A-1

Site Number 002106

1ST CONCESSION ROAD, SOUTH WALSINGHAM

0.9km W of Highway 59

Ontario Structure Inspection Manual - Inspection Form

Site Number:

Inventory Data:			
Structure Name	<input type="text" value="James Berry Drain, Lot 2 Concession A-1"/>		
Main Hwy/Road #	<input type="text" value="1ST CON 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="1ST CONCESSION ROAD, SOUTH WALSINGHAM"/>		
Structure Location	<input type="text" value="0.9km W of Highway 59"/>		
Latitude	<input n"="" type="text" value="42d 37' 09.6"/>	Longitude	<input type="text" value="80d 29' 37.3" 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="463"/> % 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="15"/> Rigid Frame, Vertical Legs	Interchange Number	<input type="text"/>
Total Deck Length	<input type="text" value="4.3"/> (m)	Interchange Structure Number	<input type="text"/>
Overall Str. Width	<input type="text" value="20"/> (m)	Min. Vertical Clearance	<input type="text" value="3.3"/> (m)
Total Deck Area	<input type="text" value="86"/> (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="9"/> (m)	Detour Length Around Bridge	<input type="text" value="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="0.8"/> (m)
Span Length	<input type="text" value="3.6"/> (m)		

Historical Data:			
Year Built	<input type="text" value="1959"/>	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="/ /"/> (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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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:	N/A	
Access Equipment Used:	Hammer, Binoculars, Measuring Tape, Camera, etc.	
Weather:	Sunny	
Temperature:	27 °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:			

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:	No barrier or hazard signs. Clear vegetation.
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 |

Rehabilitation Required:		Element	Priority				Estimated Construction Cost
Rehab	Replace		Urgent	Within 1 yr	1-5 yrs	6-10 yrs	
		Wearing Surface (Approaches)					
		Inlet Components					
		Outlet Components					
		Streams and Waterways					
		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
	TOTAL Estimated Cost:	\$0

Ontario Structure Inspection Manual - Inspection Form

Site Number: 002106

Element Data

Element Group:		1600 Approaches				Length:		
Element Name:		1601 Wearing Surface (Approaches)				Width:		
Location:		Top of Fill				Height:		
Material:		Tar & Chip				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:								
Includes: slopes stable, no signs, no barriers. Minor alligator cracking along edges. Minor rutting.								
Recommended Work:				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"/>		
Maintenance Needs:				<input type="checkbox"/>		Urgent <input type="checkbox"/>		
				<input type="checkbox"/>		1 year <input type="checkbox"/>		
				<input type="checkbox"/>		2 year <input type="checkbox"/>		

Element Group:		1200 Culverts				Length:		3.6
Element Name:		1201 Inlet Components				Width:		
Location:		North				Height:		3.3
Material:						Count:		1
Element Type:						Total Quantity:		11.9 sq.m
Environment:		Moderate				Limited Inspection:		
Protection System:		Unknown				Perform. Deficiencies		
Condition	Units	Exc.	Good	Fair	Poor			
Data:	sq.m	0	0	11.9	0			
Comments:								
Stream banks are straight and stable. This is a municipal drain (J. Berry). Vegetation growing throughout. Minor honeycombing throughout culvert footing.								
Recommended Work:				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"/>		
Maintenance Needs:				<input type="checkbox"/>		Urgent <input type="checkbox"/>		
				<input type="checkbox"/>		1 year <input type="checkbox"/>		
				<input type="checkbox"/>		2 year <input type="checkbox"/>		

Element Group:		1200 Culverts				Length:		3.6
Element Name:		1202 Outlet Components				Width:		
Location:		South				Height:		3.3
Material:						Count:		1
Element Type:						Total Quantity:		11.9 sq.m
Environment:						Limited Inspection:		
Protection System:		Unknown				Perform. Deficiencies		
Condition	Units	Exc.	Good	Fair	Poor			
Data:	sq.m	0	0	11.9	0			
Comments:								
Minor deterioration at footing at outlet.								
Recommended Work:				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"/>		
Maintenance Needs:				<input type="checkbox"/>		Urgent <input type="checkbox"/>		
				<input type="checkbox"/>		1 year <input type="checkbox"/>		
				<input type="checkbox"/>		2 year <input type="checkbox"/>		

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Element Data

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:	<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 style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table>	Units	Exc.	Good	Fair	Poor	Each	0	1	0	0		
Units	Exc.	Good	Fair	Poor									
Each	0	1	0	0									
Comments: Drain blockage at inlet. Clear vegetation. Weeping holes appear blocked.													
Recommended Work: 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"/>		Maintenance Needs: Bridge Cleaning <input type="checkbox"/> Urgent <input checked="" type="checkbox"/> 1 year <input type="checkbox"/> 2 year											

Element Group:	1300 Foundations	Length:	2.5										
Element Name:	1301 Foundation (below ground level)	Width:	1										
Location:		Height:	1										
Material:		Count:	2										
Element Type:	Spread	Total Quantity:	5 m										
Environment:	Benign	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>m</td> <td style="text-align: center;">0</td> <td style="text-align: center;">5</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table>	Units	Exc.	Good	Fair	Poor	m	0	5	0	0		
Units	Exc.	Good	Fair	Poor									
m	0	5	0	0									
Comments: The footings are visible throughout - the waterbed is 0.6m below top of footings. Minor deterioration and standing water on footings (2014). Minor deterioration at joint between wall and footing.													
Recommended Work: 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"/>		Maintenance Needs: Repair of Bridge Concrete <input type="checkbox"/> Urgent <input type="checkbox"/> 1 year <input checked="" type="checkbox"/> 2 year											



Figure 1 East Approach



Figure 2 West Approach



Figure 3 Barrel, Looking North



Figure 4 South Profile



Figure 5 Upstream



Figure 6 Downstream



Figure 7 West Barrel Wall



Figure 8 Barrel Wall



Figure 9 Honeycombing on Footing and Walls



Figure 10 Spall on Footing at Southwest Corner



Figure 11 Weeping Holes Plugged with Debris