

TISDALE ROAD CULVERT

Site Number 000201

TISDALE ROAD, DELHI

0.30km N of Scott Street Gilbertsville

Ontario Structure Inspection Manual - Inspection Form

Site Number:

Inventory Data:			
Structure Name <input type="text" value="Tisdale Road Culvert"/>			
Main Hwy/Road # <input type="text" value="TISDALE SDRD"/>	<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="TISDALE ROAD, DELHI"/>			
Structure Location <input type="text" value="0.30km N of Scott Street Gilbertsville"/>			
Latitude <input n"="" type="text" value="42d 49' 20.2"/>	Longitude <input type="text" value="80d 29' 23.6" 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./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="107"/>	% Trucks <input type="text"/>	
Geographic Twp. <input type="text" value="123 Middleton"/>	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="3.7"/> (m)	Interchange Structure Number <input type="text"/>		
Overall Str. Width <input type="text" value="17.3"/> (m)	Min. Vertical Clearance <input type="text" value="1.6"/> (m)		
Total Deck Area <input type="text" value="64.01"/> (m ²)	Special Route <input type="checkbox"/> Truck <input type="checkbox"/> Emergency <input type="checkbox"/> School <input type="checkbox"/> Bicycle		
Roadway Width <input type="text" value="9.5"/> (m)	Detour Length Around Bridge <input type="text"/> (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="0.4"/> (m)		
Span Length <input type="text" value="3.7"/> (m)			

Historical Data:			
Year Built <input type="text" value="1980"/>	Year of Last Major Rehab. <input type="text"/>		
Last OSIM Inspection <input type="text" value="June 27, 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 21, 2016	Type of Inspection: <input checked="" type="checkbox"/> OSIM <input type="checkbox"/> Enhanced OSIM
Inspector:	Jason Timmermans, B.Eng., EIT, 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:	<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 signs or barriers.		

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 21, 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					
		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 <hr style="width: 50%; margin-left: auto; margin-right: 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 Fill				Height:	
Material:		Tar and Chip				Count:	1
Element Type:						Total Quantity:	1 Each
Environment:		Moderate				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	Each	0	1	0	0		
Comments: Road slopes - good. No signs, no barriers.							
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:	17.3
Element Name:		1203 Barrels				Width:	3.7
Location:						Height:	
Material:		5 Corrugated Steel				Count:	1
Element Type:						Total Quantity:	64 sq.m
Environment:		Moderate				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	sq.m	0	59	0	5		
Comments: Rust area 300mm wide, 10 - 15m long on South side. 60% average section loss. Similar rust area 2.0m x 300mm area on North side also.							
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:	
Element Name:		1201 Inlet Components				Width:	
Location:						Height:	
Material:		5 Corrugated Steel				Count:	1
Element Type:						Total Quantity:	1 Each
Environment:		Moderate				Limited Inspection:	
Protection System:		None				Perform. Deficiencies	
Condition	Units	Exc.	Good	Fair	Poor		
Data:	Each	0	1	0	0		
Comments: Two short galvanized steel wingwalls for scour protection in good condition.							
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:		
Element Name:		1202 Outlet Components				Width:		
Location:						Height:		
Material:		5 Corrugated Steel				Count:		1
Element Type:						Total Quantity:		1 Each
Environment:		Moderate				Limited Inspection:		
Protection System:		None				Perform. Deficiencies		
Condition	Units	Exc.	Good	Fair	Poor			
Data:	Each	0	1	0	0			
Comments:								
Two short galvanized steel wingwalls for scour protection in good condition.								
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:		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	Units	Exc.	Good	Fair	Poor			
Data:	Each	0	1	0	0			
Comments:								
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:		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	Units	Exc.	Good	Fair	Poor			
Data:								
Comments:								
Limited Inspection - Not visible.								
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"/>		



Figure 1 North Approach



Figure 2 South Approach



Figure 3 East Profile



Figure 4 West Profile



Figure 5 Upstream (Looking East)



Figure 6 Downstream (Looking West)



Figure 7 Barrel

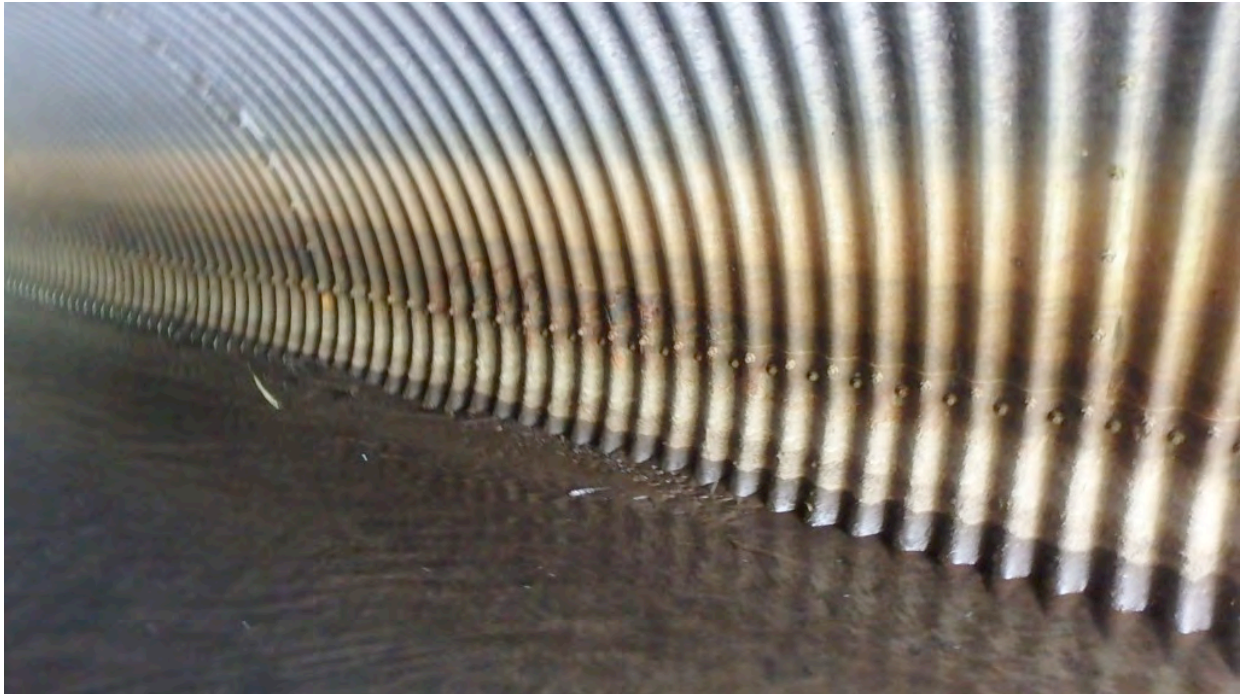


Figure 8 Corrosion at North Wall



Figure 9 Corrosion at South Wall



Figure 10 Retaining Walls at All Quadrants



Figure 11 Wearing Surface