MTO Site Number 011-0106

Inventory Data:							
Structure Name	#6 Lost Channel Br	idge, Lo	ot 8 Conc V/VI,	Hungerford			
Main Hwy/Road#	37 On X	Unde	r Crossing Type	Water Road	Non-Navig. Ped.	Water Other	
Hwy/Road Name	Lost Channel Road						
Structure Location	2.70 km E of highway #	±37					
Latitude	44.421603°N		Longitude	77.3065	35°W		
Owner(s)	Municipality of Tweed		Heritage M Designation:	Not Cons. X Desig./r	Cons./not not List	App. Lis Desig. & Li	t/not Desig. st
MTO Region	Eastern		Road Class: H	Freeway	Arterial	Collector	Local X
MTO District	Kingston		Posted Speed	80 km/h	No, of	Lanes 1	
Old County			AADT		% Truc	:ks	
Geographic Twp.			Inspection Route S	Sequence			
Structure Type	T-Beam		Interchange Numb	ber			
Total Deck Length	53.8	(m)	Interchange Struct	ure Number			
Overall Str. Width	5.7	(m)	Min. Vertical Clea	rance			(m)
Total Deck Area	307	(sq.m)	Special Routes	Transit	Truck	School	Bicycle
Roadway Width	4.5	(m)	Detour Length Arc	ound Bridge	8		(km)
Skew Angle	0	(Deg.)	Direction of Struct	ture	East-W	est	
No. of Spans	4		Fill on Structure		0		(m)
Span Lengths	12, 12, 12, 12						(m)

Historical Data:				
Year Built	1920	Last Evaluation		
Last Biennial Inspection	2020-09-23	Current Load Limit	15-25-35	(tonnes)
Last BridgeMaster Inspection		Load Limit By-Law#	2020-61]
Last Condition Survey		By-Law Expiry Date]
Last Underwater Inspection				

011-0106

Rehab History: (Date/description) - Misc. repairs to the piers, girder a	and abutment have been prev	iously completed	
Scheduled Improvements:			
Regional Priority Number		Programmed Work Year	
Nature of Program Work:			

Appraisal Indices:	Comments
Fatigue	
Seismic	
Scour	
Flood	
Geometrics	
Barrier	
Curb	
Load Capacity	

Field Inspection Info	rmation:
Date of Inspection:	May 12, 2022
Inspector:	Abdul Rahman Stott
Others in Party:	Cody Chambers
Equipment Used:	Camera and hand tools
Weather:	Sunny
Temperature:	23°C

Additional Investigations Required:	Priority					
	None	Normal	Urgent			
Detailed Deck Condition Survey:	Х					
Non-destructive Delamination Survey of Asphalt-Covered Deck:	Х					
Substructure Condition Survey:	Х					
Detailed Coating Condition Survey:	Х					
Underwater Investigation:	Х					
Fatigue Investigation:	Х					
Seismic Investigation:	Х					
Structure Evaluation:		X				
Monitoring of Deformations, Settlements and Movements:	Х					

The structure is generally in poor condition on account of extensive structural deterioration

Recommended actions:

- Unclog deck drains as part of regular maintenance .
- Clean bridge deck as part of regular maintenance
- Replace approach guiderail and install guiderail on southwest quadrant (NOW)
- Replace Maximum Tonnes signs with those that display correct load posting (NOW)
- Complete major rehabilitation, consisting of the following: (1-5 yrs)
 - Remove and replace barrier wall with code compliant barrier system 0
 - Remove and replace deck slab 0
 - Remove and replace T-Beams with new beams 0
 - Reface/patch abutments, piers, and foundations 0
 - Reinstate approaches 0
 - Reinstate embankments and provide slope protection 0

BCI (2020): 21.12

BCI (2022): 19.95 Next Detailed Visual Inspection: 2024 Suspected Performance Deficiencies 00 None 06 Bearing not uniformly loaded/unstable 12 Slippery surfaces 01 Load carrying capacity 07 Jammed expansion joint 13 Flooding/channel blockage 02 Excessive deformations (deflections & rotations) 08 Pedestrian/vehicular hazard 14 Undermining of foundation

- 03 Continuing settlement 04
- Continuing movements 05 Seized bearings

Maintenance Needs

Lift and Swing Bridge Maintenance 01

02 Bridge Cleaning

- 03 Bridge Handrail Maintenance
- 04 Painting Steel Bridge Structures
- 05 Bridge Deck Joint Repair
- Bridge Bearing Maintenance 06

- - Rough riding surface 09
 - 10 Surface ponding
 - 11 Deck drainage
 - 07 Repair of Structural Steel
 - 08 Repair of Bridge Concrete
 - 09 Repair of Bridge Timber
 - 10 Bailey bridges - Maintenance
 - Animal/Pest Control 11
 - 12 Bridge Surface Repair

- Unstable embankments
- 15 16 Other
- 13 Erosion Control at Bridges 14 Concrete Sealing
- 15 Rout and Seal
- Bridge Deck Drainage 16
- 17 Other

Width		1.0						
		4.9m	4.9m					
Height		2.45m						
Count		2						
Total Qua	intity:	24m ²						
Limited In	nspection							
			Perform.	Maint.				
Good	Fair	Poor*	Deficiencies	Needs				
0	4.5	19.5	00					
ling, honeycombin	ng, and disir	ntegration. West sup	perstructure has shif	ted. Very				
lamination								
Recommended Work: Complete patch repairs/refacing to abutment walls None 6-10 years 1-5 years X <1 year								
	Count Total Qua Limited In Good 0 ling, honeycombination None 6-10	Count Total Quantity: Limited Inspection Good Fair 0 4.5 ling, honeycombing, and disir lamination None 6-10 years 1	Count 2 Total Quantity: 24m ² Limited Inspection □ Good Fair Poor* 0 4.5 19.5 ling, honeycombing, and disintegration. West sur lamination None 6-10 years 1-5 years X <1	Count 2 Total Quantity: 24m ² Limited Inspection Perform. Good Fair Poor* 0 4.5 19.5 00 ling, honeycombing, and disintegration. West superstructure has shif lamination				

Element Data

Element Grou	p:	Abutments	Length		1m			
Element Name	e:	Wingwalls		Width		N/A		
Location:		All four quadra	ants	Height		3m		
Material:		Cast-in-place (Concrete	Count		4		
Element Type	:			Total Quar	ntity:	12m ²		
Environment:		Moderate		Limited In	spection			
Protection Sys	stem:	None					Perform.	Maint.
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs
Data:		m ²			70	30	00	
Comments: W wingwalls. Lig	Comments: Wide horizontal cracks at northwest and southwest wingwalls. Appears to have shifted. Erosion through the wingwalls. Light scaling							
Recommended Work: Complete patch None 6-10 years 1-5 years X <1 year							ent	

Element Group	p:	Piers	Length						
Element Name	::	Shafts/Column	s/Pile Bents	Width		7.7m			
Location:		All four quadra	ants	Height		2.5m			
Material:		Cast-in-place (Concrete	Count		3			
Element Type:	:	Concrete Shaft	ts, Pier Walls	Total Qua	ntity:	115.5m ²			
Environment:		Benign	Limited I	nspection					
Protection Sys	tem:	None					Perform.	Maint.	
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs	
Data:		m ²	0	0	50.5	65	00		
Comments: Ex	tensive	delamination and	l spalling. Wic	lespread wid	e cracking	with efflorescence. S	Severe erosion and u	indermining	
along the wate	rline. Pa	tching is evident	on the piers						
Recommended Work: Complete patch None 6-10 years 1-5 years X <1 year						ent			

Element Group	o:	Approaches	Length		6m			
Element Name	:	Wearing Surfa	Width		4.5m			
Location:		Either end of d	Height					
Material:		Gravel		Count		2		
Element Type:				Total Qua	intity:	54m ²		
Environment:		Severe		Limited In	nspection			
Protection Syst	tem:	None				Perform.	Maint.	
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs
Data:	-	m ²	0	26	20	8	08/09	
Comments: Ex	tensive	potholes and une	ven riding sur	face. Erosior	n at shoulde	ers.		
Recommended Work: Rehabilitate None 6-10 years 1-5 years					1-5 years \mathbf{X} <	l year Urge	ent	

Element Group	p:	Approaches		Length		10m			
Element Name	::	Barriers		Width					
Location:		Along approac	h edges	Height					
Material:		Steel		Count		3			
Element Type:		Steel Flex Bear	m on Wood	Total Qua	ntity:	30m			
		Post							
Environment:		Severe			spection				
Protection Syst	Protection System: None						Perform.	Maint.	
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs	
Data:		m	0	10	0	20	08		
Comments: Ex	Comments: Extensive deformation with posts rotating outwards. Posts are damaged.								
Recommended Work: Replace approach guiderail and provide guiderail at southwest quadrant as per current standards None 6-10 years 1-5 years <1 year									

Element Group	Barriers		Length		53.8m				
Element Name	Name: Barrier/Parapet Wall				Width 0.2		0.24m		
Location:	Along deck edges			Height		1.15m			
Material:		Cast-in-place C	Concrete	Count		2			
Element Type:		Parapet Wall w	vithout railing	Total Qua	intity:	273.3m ²			
Environment:		Severe		Limited I	nspection				
Protection Sys	ection System: None						Perform.	Maint.	
Condition		Units	Good	Fair	Poor*	Deficiencies	Needs		
Data:		m ²	0	0	163.3	110	00		
Comments: Ex southeast post. separatory crac	Comments: Extensive medium to severe scaling. Severe localized spalls and disintegration along base of walls. Wide cracks in southeast post. Large area of disintegration and delamination at the southwest end with exposed and corroded rebar. Wide separatory cracking at northeast end.								
Recommended Work: Remove and replace with code compliant barrier system as part of major rehabilitation None 6-10 years 1-5 years X <1 year							ent		

MTO Site Number 011-0106

Element Group	p:	Beams/MLEs	5	Length		12.1m			
Element Name	:	Girders		Width		0.5m			
Location:		Underside of d	leck	Height		0.82m			
Material:		Cast-in-place Concrete		Count		16			
Element Type:	:	Т-Туре	Total Qua	ntity:	414.3m ²				
Environment:		Benign	Limited Ir	spection					
Protection Sys	tem:	None					Perform.	Maint.	
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs	
Data:		m ²	0	0	185	229.3			
Comments: Se	vere sca	ling, large spalls.	, localized del	amination, ex	tensive eff	lorescence. Girders	are actively disinteg	rating, Wide	
cracking and d	lelaminat	tion throughout.	Full length wi	de longitudin	al cracking	. Narrow to medium	n shear cracking at v	vest interior	
girder. Localiz	ed sever	e scaling with ex	posed and co	roded rebar.					
Recommended Work: Remove t-beams and None 6-10 years 1-5 years X <1 year Urgent Urgent									
0.20									

Element Group	p:	Decks		Length		N/A				
Element Name	e:	Drainage Syste	m	Width		N/A				
Location:		Through deck	Height		N/A					
Material:		Steel		Count		32				
Element Type:	:	Metal Drain Pipes		Total Quantity:		32				
Environment:		Severe	Limited In	spection						
Protection Sys	tem:	None					Perform.	Maint.		
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs		
Data:		Each	0	0	0	32	00	16		
Comments: De	eck drain	s are clogged					· · · ·			
Recommended Work: Unclog drains as part None 6-10 years 1-5 years <1 year X Urgent of regular maintenance										

Element Group	ement Group: Decks			Length		53.8m			
Element Name		Deck Top - Th	in Slab	Width		5.7m			
Location:		Spanning between abutments		Height					
Material:		Cast-in-place Concrete		Count		1			
Element Type:				Total Quar	ntity:	307m ²			
Environment:		Severe		Limited Inspection					
Protection Syst	em:	None					Perform.	Maint.	
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs	
Data:		m ²	0	0	202	105	00		
Comments: As	per con	dition of soffit					A		
Recommended Work: Remove and replace None 6-10 years 1-5 years X <1 year Urgent deck									

MTO Site Number 01

Element Grou	p:	: Decks		Length		53.8m				
Element Name	e:	Soffit - Thin S	lab	Width		5.7m				
Location:		Underside of d	Height							
Material:		Cast-in-place Concrete		Count		1				
Element Type	:			Total Qua	ntity:	307m ²				
Environment:		Benign		Limited Ir	Limited Inspection					
Protection Sys	stem:	None					Perform.	Maint.		
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs		
Data:		m ²	0	28	178	103	00			
Comments: Lo	ocalized	spalling and dela	mination with	exposed and	corroded i	rebar. Narrow to wic	le cracks with exten	sive		
efflorescence a	and stala	ctite formation. N	Moisture accur	mulation and	corrosion	staining. Medium sc	aling, localized med	lium		
honeycombing	ζ,									
Recommended	Recommended Work: Remove and replace None 6-10 years 1-5 years V <1 year Urgent									
deck										

Element Group	ement Group: Decks		Length		53.8m				
Element Name	×	Wearing Surfa	ce	Width		5.7m			
Location:		Covering deck 1		Height					
Material:		Asphalt		Count		1			
Element Type:	be:		Total Qua	intity:	307m ²				
Environment:		Severe	Limited In	nspection					
Protection System: None						Perform.	Maint.		
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs	
Data:		m ²	0	40	210	57	00		
Comments: Full width medium to wide cracks. Extensive pothole formation. Light to medium wheel track rutting and significant accumulation of gravel debris									
Recommended Work: Clean bridge deck as None 6-10 years 1-5 years <1 year X Urgent part of regular maintenance									

Element Group	roup: Embankments & Streams		Length		N/A				
Element Name	:	Embankments		Width		N/A	2:		
Location:		Side slopes and in front of		Height		N/A			
		abutments							
Material:				Count		4			
Element Type:	:		Total Qua	ntity:	4				
Environment:			Limited In	Limited Inspection					
Protection Syst	tem:	None				Perform.	Maint.		
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs	
Data:		Each	0	0	0	4	00		
Comments: Sev	vere ero	sion on all emba	nkments which	is encroach	ing onto sh	oulders			
Recommended Work: Reinstate None 6-10 years 1-5 years X <1 year Urgent embankments and provide slope protection Urgent									

MTO	Site	Number	011	-0
MIO	Sile	Number	011	

011-0106

Element Group:	Embankmen	Embankments & Streams		Length			
Element Name:	nt Name: Streams and Waterways		Width		N/A		
Location:	Below struct	Below structure			N/A		
Material:					N/A		
Element Type:	ement Type:		Total Quantity:		All		
Environment:			Limited Inspection				
Protection System	: None				Perform.	Maint.	
Condition	Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs
Data:	All		All			00	
Comments: Water	course flows south						
Recommended W	ork:	None	X 6-10	years	1-5 years	<1 year Urge	ent

Element Group) :	Foundations		Length		N/A			
Element Name		Foundation (be	low grnd lvl)	Width		N/A			
Location:		Buried substru	Height		N/A				
Material:				Count		N/A			
Element Type:	nt Type:		Total Quantity:		N/A				
Environment:			Limited Ir	spection	X				
Protection Syst	tem:	None					Perform.	Maint.	
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs	
Data:		N/A					00		
Comments: Pie	er footin	gs exhibit severe	erosion and cr	acking					
Recommended Work: Reface and patch None 6-10 years 1-5 years X <1 year Urgent Urgent									

Element Group	p:	Accessories		Length		N/A				
Element Name	: :	Signs		Width		N/A				
Location:		All four quadrants		Height		N/A				
Material:		Steel		Count		6				
Element Type	:	Hazard Marker and Maximum Tonnes Signs		Total Quantity: 6						
Environment:		Severe	Limited Inspection							
Protection System: None							Perform.	Maint.		
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	Needs		
Data:		Each	0	5	0	1	00			
Comments: Deformation on southwest and northwest hazard signs. Both max tonnes signs display higher than acceptable traffic loads that predate the 2020 by-law Recommended Work: Remove and replace the Maximum Tonnes signs with the correct										
load-posting	load-posting									

BRIDGE PHOTOGRAPHS

Owner: Municipality Of Tweed Hwy/Road Name: Lost Channel Road Structure Name: Lost Channel Bridge Location: 2.70 km east of Highway 37



Photo 1: East Approach and Deck Top Looking West



BRIDGE PHOTOGRAPHS

Owner: Municipality Of Tweed Hwy/Road Name: Lost Channel Road Structure Name: Lost Channel Bridge Location: 2.70 km east of Highway 37



Photo 3: South Exterior Barrier Wall, Fascia, and T-Beam Looking East



BRIDGE PHOTOGRAPHS

Owner: Municipality Of Tweed Hwy/Road Name: Lost Channel Road

Structure Name: Lost Channel Bridge Location: 2.70 km east of Highway 37



Photo 5: Cracking and Efflorescence on West Span Inter T-Beams and Soffit



BRIDGE PHOTOGRAPHS

Owner: Municipality Of Tweed Hwy/Road Name: Lost Channel Road Structure Name: Lost Channel Bridge Location: 2.70 km east of Highway 37



Photo 7: Erosion, Scaling and Cracking on East Abutment Wall



BRIDGE PHOTOGRAPHS

Owner: Municipality Of Tweed Hwy/Road Name: Lost Channel Road Structure Name: Lost Channel Bridge Location: 2.70 km east of Highway 37



Photo 9: Spalling on Southeast Barrier Post



BRIDGE PHOTOGRAPHS

Owner: Municipality Of Tweed Hwy/Road Name: Lost Channel Road Structure Name: Lost Channel Bridge Location: 2.70 km east of Highway 37



Photo 11: Scaling, Erosion, and Cracking with Efflorescence on West Pier South Face



BRIDGE PHOTOGRAPHS

Owner: Municipality Of Tweed Hwy/Road Name: Lost Channel Road Structure Name: Lost Channel Bridge Location: 2.70 km east of Highway 37



Photo 13: Scaling on South Interior Barrier Wall



BRIDGE PHOTOGRAPHS

Owner: Municipality Of Tweed Hwy/Road Name: Lost Channel Road Structure Name: Lost Channel Bridge Location: 2.70 km east of Highway 37



Lost Channel Bridge Location



2/8/2023, 3:22:53 PM

Civic Addresses

Property Information



Hastings County, Province of Ontario, Ontario MNR, Esri Canada, Esri, HERE, Garmin, INCREMENT P. USGS, EPA, USDA, AAFC, NRCan

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Lost Channel Bridge Detour



8/29/2023, 3:15:49 PM

Property Information



Hastings County, Province of Ontario, Ontario MNR, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA, AAFC,

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