

### **Summary Action Report**

MTO Site Number: Unknown Structure ID: S-0005

Structure Name:	Townline Trail Bridge	Bhage Co	indition index (BCI): 36.2
Road Name:	Keppel-Sarawak Townline		
Location:	Lot 34 Conc. 14 Keppel Lot 28 Conc. 1 Sarawak	Inspection Date:	06/12/2024
Structure Type:	Steel & Concrete Girder Bridge	Inspected By:	David Debour, E.I.T.
No. of Spans:	Single Span	Spans Lengths:	14.55m
Road Width:	2.7m	Overall Structure Width:	3.23m
Year of Construction:	Unknown	Current Load Limit:	N/A
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**Overall Comments:** 

It appears that a steel girder superstructure was installed over the original structure to allow the bridge to remain open as part of a multi-use trail. There is a concern that the new steel superstructure including the wood deck top and guiderail barrier system do not have the required structural capacity to support full traffic loading. It is recommended that the structure be closed prior to the end of 2024 or a structural load evaluation be completed to establish an appropriate load posting limit. If permitted to remain open, rehabilitation of the deck top and barrier system will be required.

Estimated Costs for Rehabilitation								
Construction Project Type	Urgent, Within 1 Year	1 to 5 Years	6 to 10 Years	Associated Costs	Cont. and Eng. Costs	Total		
Rehabilitation	\$60,000			\$25,000	\$27,500	\$112,500		
Removal		\$150,000		\$75,000	\$60,000	\$285,000		



Inventory Data:							
Structure Name	Townline Trail Bridge						
Main Hwy/Road #		□ On □ Under	Crossing Type:	□ Navig. Water 区 Rail □ Road	Non-Navig. Water 🗆		
Hwy/Road Name	Keppel-Sarawak Towr	nline					
Structure Location	Lot 34 Conc. 14 Keppel, Lot 28 Conc. 1 Sarawak – 30m north of Conc. Road 14 / Church SDRD W						
Latitude:	44.668398	Longitude:	-80.960931				
Owner(s):	The Township of Georgian Bluffs	Heritage Designation:	⊠ Not Cor	ns. 🗆 Cons./not Ap	p. □List/not Desig. Desig. & List		
MTO Region:	30	Road Class:	□ Freeway □ Arterial □ Collector ⊠ Local				
MTO District:	33	Posted Speed:	50km/h	No. of Lanes:	1		
Old County:	County of Grey	AADT:		% Trucks:			
Geographic Twp.:	Keppel/Sarawak	Inspection Route	e Sequence:				
Structure Type:	Steel/Conc. Girder	Inter	change No.:				
Total Deck Length:	14.55m	Interchange St	ructure No.:				
Overall Str. Width:	3.23m	Min Vertica	l Clearance:				
Total Deck Area:	47m <sup>2</sup>	Special Routes:	🗆 Tran	isit □Truck □Sc	hool 🗆 Bicycle		
Roadway Width:	2.7m	Detour Length Arc	ound Bridge:	6.3km			
Skew Angle:	0°	Direction	of Structure:	N-S			
No. of Spans:	1	Fill c	on Structure:	N/A			
Span Lengths:	13.95m						

### Historical Data:

Year Built:	Unknown	Year of Last Major Rehab:	Unknown
Last OSIM Inspection:	2024	Last Load Evaluation:	N/A
Last Enhanced OSIM Inspection:	Unknown	Current Load Limit:	N/A
Enhanced Access Equipment (ladder, boat, lift, etc.):	None	Load Limit By-Law #:	N/A
Last Underwater Inspection:	N/A	By-Law Expiry Date:	N/A
Last Condition Survey:	N/A		

Rehab History (Date and Description): No rehabilitation history provided by Township.



Field Inspection Informat	ion:					
Date of Inspection:	06/12/2024	Type of Inspection	: × 0	SIM 🗆 En	hanced OS	SIM
Inspector:	David Deboer, E.I.T.					
Others in Party:	Tyson Weppler, C. Tech	l.				
Access Equipment Used:	N/A					
Weather:	18°C					
				Estimated		
Additional Investigations	Required:		None	Normal	Urgent	Cost
Material Condition Survey			Х			
Detailed Deck Condition S	Survey:	Х				
Non-destructive Delam. S	urvey of Asphalt-Covered	Х				
Concrete Substructure Co	Х					
Detailed Coating Condition Survey:						
Detailed Timber Investigat	Х					
Post-Tensioned Strand Inv	estigation		Х			
Underwater Investigation:			Х			
Fatigue Investigation:			Х			
Seismic Investigation:			Х			
Structure Evaluation:					Х	\$7,500
Monitoring (deformations	settlements, movement	s, crack widths)	Х			
Load Posting – Estimated Loa	d			1	fotal Cost	\$7,500
Investigation Notes: Investiga recommended to verify the ap still be using the bridge.	ation Notes: If structure is opropriate load posting fo	not closed before th r the structure as ma	ne end of 2 aintenance	024, a load o e vehicles ar	evaluation Id snow gro	is pomers may
Overall Structure Notes:						
Overall Comments:	It appears that a steel girde bridge to remain open as pa including the wood deck to to support full traffic loadin or a structural load evaluat permitted to remain open,	er superstructure was in art of a multi-use trail. p and guiderail barrier ag. It is recommended t ion be completed to es rehabilitation of the de	nstalled ove There is a co system do r hat the stru stablish an a ck top and l	er the original oncern that th not have the re- icture be clos appropriate lo parrier system	structure to ne new steel equired stru ed prior to tl nad posting l ns will be red	allow the superstructure ctural capacity he end of 2024 imit. If quired.
Date of Next Inspection:	2026					

#### **Suspected Performance Deficiencies**

- 01 Load carrying capacity
- 02 Excessive deformations (deflections & rotations)
- **03** Continuing settlement
- 04 Continuing movements05 Seized bearings

### Maintenance Needs

- 01 Lift and Swing Bridge Maintenance
- 02 Bridge Cleaning
- 03 Bridge Handrail Maintenance04 Painting Steel Bridge Structures
- **05** Bridge Deck Joint Repair
- **06** Bridge Bearing Maintenance

- **06** Bearing not uniformly loaded/unstable
- 07 Jammed expansion joint
- 08 Pedestrian/vehicular hazard
- 09 Rough riding surface
- **10** Surface ponding
- 11 Deck drainage
- 07 Repair to Structural Steel
- 08 Repair of Bridge Concrete
- 09 Repair of Bridge Timber
- **10** Bailey bridges Maintenance
- 11 Animal/Pest Control
- 12 Bridge Surface Repair

- 12 Slippery surfaces
- 13 Flooding/channel blockage
- **14** Undermining of foundation
- 15 Unstable embankments
- 16 Other
- 13 Erosion Control at Bridges
- 14 Concrete Sealing
- 15 Rout and Seal
- 16 Bridge Deck Drainage
- 17 Scaling (Loose Concrete or ACR Steel)
- 18 Other

PEL Project No. 24017 The Township of Georgian Bluffs



Element Group:	ap: Abutments		Length:		0.87m		
Element Name:	Abutment Walls		Width:		3.6m		
Location:	Each End (Upper Stru	ucture)	Height:		0.5m		
Material:	Precast Concrete		Count:		2		
Element Type:	Concrete Block		Total Qu	uantity:	5.34m <sup>2</sup>		
Environment:	Benign / Moderate /	Severe	Limited	Inspection	x		
Protection System:							Perform.
Condition	Units	Exc.	Good	Fa	nir	Poor	Deficiencies
Data: m²/	m/each/%/all		3.34	2.	0		None
Comments: North end ab	utment was not visible	e at time of review. So	outh abutm	ent wall app	ears to be	in overall good 1	to fair condition with
extensive light scaling not	ed at exposed surface	s. North abutment w	all assume	d to be in a s	imilar coi	ndition.	
Recommended Work:	🗆 Rehab 🛛	Replace		Maintenan	ce Needs	: None	
🗆 Urgent 🛛 1-5 years 🖓 6-10 years 🗵 None				🗆 Urgent	□ 1 year	🗆 2 year	
	-						
Element Group:	Abutments		Length:				
Element Name:	Abutment Walls		Width:		6.80m		
Location:	Each End (Lower Stru	ucture)	Height:		1.07m		
Material:	CIP Concrete		Count:		2		
Element Type:	Conventional Closed	ł	Total Qu	uantity:	14.55m	2	
Environment:	Benign / Moderate /	Severe	Limited	Inspection			
Protection System:							Perform.
Condition	Units	Exc.	Good	Fa	nir	Poor	Deficiencies
Data: m²/	m/each/%/all			11.	55	3.0	None
Comments: Abutment wa	Ills appear to be in ove	rall fair condition give	en noted de	eficiencies ar	nd anticip	ated age. Cracki	ng with
efflorescence noted in no	rtheast, southeast and	l southwest quadran	t. 0.1m² sp	all located in	northeas	st quadrant.	
Recommended Work:	🗵 Rehab 🛛	Replace		Maintenan	ce Needs	: None	
🗆 Urgei	nt 🗵 1-5 years 🗆 6-7	10 years 🛛 None		🗆 Urgent	🗆 1 year	🗆 2 year	
If bridge structure is perm	anently closed, recom	mend removing orig	inal				
structure.							
Element Group:	Abutments		Length:				
Element Name:	Ballast Walls		Width:		4.0m		
Location:	Each End (Lower Stru	ucture)	Height:		0.41m		
Material:	CIP Concrete		Count:		2		
Element Type:	Reinforced Concrete		Total Qu	uantity:	3.28m <sup>2</sup>		
Environment:	Benign / <b>Moderate</b> /	Severe	Limited	Inspection			
Protection System:							Perform.
Condition	Units	Exc.	Good	Fa	nir	Poor	Deficiencies
Data: m²/	m/each/%/all		1.64	1.6	64		None
Comments: Ballast walls	appear to be in overall	good to fair conditio	n.				
				r			
Recommended Work:	🗵 Rehab 🛛	Replace		Maintenan	ce Needs	: None	
🗆 Urgei	nt 🗵 1-5 years 🗌 6-7	10 years 🛛 None		🗆 Urgent	🗆 1 year	🗆 2 year	
If bridge structure is perm	anently closed, recom	nmend removing orig	inal				
structure.							



Element Group:	Abutments		Length:		2.8m			
Element Name:	Wing Walls		Width:		0.45m			
Location:	Each Quadrant (Low	er Structure)	Height:		1.6m			
Material:	CIP Concrete		Count:		4			
Element Type:	Reinforced Concrete		Total Qu	antity:	22.64m	2		
Environment:	Benign / Moderate /	Severe	Limited	Inspection				
Protection System:								Perform.
Condition	Units	Exc.	Good	Fa	ir	Po	or	Deficiencies
Data: m²/	m/each/%/all			2.	9	19.	.74	None
Comments: Entire south	east quadrant appears	to be broken off. Rem	naining sec	ctions of sou	theast wi	ngwall a	re severe	ly delaminated.
Northeast guadrant has 2	2.0m <sup>2</sup> of severe spalling	, delaminations and e	efflorescer	nce througho	out. North	west qu	adrant ha	as 0.25m <sup>2</sup> of spalling
and 1.0m <sup>2</sup> of delamination	ns. Remaining wingwa	ll portions are in overa	all fair con	dition.		·		
Recommended Work:	🗵 Rehab 🛛	Replace		Maintenan	ce Needs	3:	None	
□ Urge	nt 🗵 1-5 vears 🗌 6-7	I0 vears □ None		Urgent	□ 1 vear	□ 2 ve	ar	
If bridge structure is pern	anently closed recom	mend removing origin	าลไ	8				
structure.			iat					
Element Group:	Accessories		Length:					
Element Name:	Signs		Width:					
Location:	Each Quadrant		Height:					
Material:	Steel		Count:		7			
Element Type:			Total Qu	antity:	7			
Environment:	Benign / Moderate /	Severe	Limited	Inspection				
Protection System:								Perform.
Condition	Units	Exc.	Good	Fa	ir	Po	or	Deficiencies
Data: m <sup>2</sup> /	m/each/%/all	EXO	7	14				None
Comments: All hazard si	gns have minor damag	e and coating loss. Ac	, Iditional si	gnage is reco	ommende	ed such a	as "SLOV	V DOWN"
"NARBOW BRIDGE" and	or vield to oncoming tr	affic signage	annonacoi	61060101000	Similar	50 50011		bount,
Recommended Work:	Rehab	Renlace		Maintenand	ce Needs		None	
	$\square$ nonus $\square$	Nopers Nope					or	
				Consider of	dditional	oignogo	if robobil	itation is proferred
				alternative	uunionai	Signage	Πιεπαριί	itation is preferred
				attornativo.				
Element Group:	Approaches		Length:		10m			
Element Name:	Wearing Surface		Width:		2.7m			
Location:	Each Side		Height:					
Material:	Gravel		Count:		2			
Element Type:			Total Qu	antity:	54.0m <sup>2</sup>			
Environment:	Benign / Moderate /	Severe	Limited	Inspection				
Protection System:	0				_			Perform.
								Doficionaica
Condition	Units	Exc.	Good	Fa	ir	Po	or	Denciencies
Condition Data: m²/	Units m/each/%/all	Exc.	Good	Fa	ir 0	Po 27	or 0	08
Condition Data: m <sup>2</sup> /	Units m / each / % / all are excessively steep y	Exc.	Good	Fa 27 bicles and m	ir .0 av increa	Po 27 ase the c	or '.0 hance of	08 vehicular
Condition Data: m²/ Comments: Approaches	Units m / each / % / all are excessively steep v	Exc.	Good sight for ve	Fa 27 hicles and m	ir .0 nay increa	Po 27 ase the c	or .0 hance of	08 vehicular
Condition Data: m²/ Comments: Approaches accidents. Material is in c	Units m / each / % / all are excessively steep v overall good condition v	Exc. which reduces line of s	Good sight for ve	Fa 27 hicles and m	ir .0 nay increa	Po 27 ase the c	or 2.0 hance of	08 vehicular
Condition Data: m <sup>2</sup> / Comments: Approaches accidents. Material is in o	Units m / each / % / all are excessively steep v overall good condition v	Exc. which reduces line of s vith minor tire rutting.	Good sight for ve	Fa 27 hicles and m	ir .0 hay increa	Po 27 ase the c	or .0 hance of	08 vehicular
Condition Data: m²/ Comments: Approaches accidents. Material is in o Recommended Work:	Units m / each / % / all are excessively steep v overall good condition v E Rehab	Exc. which reduces line of s with minor tire rutting. Replace	Good sight for ve	Fa 27 hicles and m Maintenan	ir .0 nay increa ce Needs	Po 27 ase the c ::	hance of	08 vehicular
Condition Data: m²/ Comments: Approaches accidents. Material is in o Recommended Work: If rehebilitation is account	Units m / each / % / all are excessively steep v overall good condition v E Rehab	Exc.	Good	Fa 27 hicles and m Maintenan	ir .0 nay increa ce Needs □ 1 year	Po 27 ase the c :: 2 yea	or 2.0 hance of None ar	08 vehicular
Condition Data: m²/ Comments: Approaches accidents. Material is in o Recommended Work: If rehabilitation is conside	Units m / each / % / all are excessively steep v overall good condition v Rehab ent 1-5 years 6	Exc.	Good sight for ve -grading	Fa 27 hicles and m Maintenan	ir .0 nay increa ce Needs 0 1 year	Po 27 ase the c s: 2 yea	or 2.0 hance of None ar	08 vehicular



	Barriers     Length:     0.2m							
Element Name:	Posts		Width:		0.2m			
Location:	Each Side (Upper Str	ucture)	Height:		1.1m			
Material:	Wood		Count:		20			
Element Type:	Wood Post and Cont	inuous Rail	Total Qu	antity:	20			
Environment:	Benign / Moderate /	Severe	Limited	Inspection				
Protection System:	_							Perform.
Condition	Units	Exc.	Good	Fa	ir	Po	oor	Deficiencies
Data: m <sup>2</sup> /	m/ <b>each</b> /%/all	-				2	20	01
Comments: Material of b	arrier posts appear to	be in overall good con	dition, but	the installat	tion meth	od of th	e posts d	oes not appear to be
structurally adequate to r	esist traffic loading. Po	ests are unstable and e	exhibit mo	vement whe	n laterally	loaded	. If the br	idge structure is to
remain open, the design	of the barrier system sh	nould be evaluated an	d adjusted	for the live l	oading ar	proved	in the fut	ure.
Recommended Work	Behab 🛛	Benlace	,	Maintenan	ce Needs	:	None	
	ont $\Box$ 1-5 years $\Box$ 6-1			□llroent	□ 1 vear		ar	
If rehabilitation is conside	ared as the preferred al	ternative reconstruct	harriar			⊔ <b>∠</b> y0		
system Costed Under ra	iling system		Damei					
System. Costed Onder la	iting system.							
Flement Group:	Barriers		Length		14 55m			
Element Name:	Bailing Systems		Width		0.08m			
Location:	Fach Side (Linner Str		Height		0.00m			
Material:	Steel beam	ucture)	Count:		2			
Flement Type:	Elex Beam on Wood	Poete	Total Or	antity:	$\frac{2}{20.10m^2}$			
Environmont:	Bonign / Moderate /	Sovere	limited	Increation	29.1011			
Drote etien Susteme	Let Din Columniairer	Severe	Linned	Inspection				Daufauna
Protection System:	Hot Dip Gatvanizing	<b>E</b> ve	Cood		.:	De		Deficiencies
		EXC.	Good	Fa	lir	PC	bor	Deliciencies
Data: m²/	m/each/%/all					29	.10	01
Comments: Material of s	teel beam guiderail ba	rrier appears to be in o	overall god	a condition,	but the s	puce co	nnection	s do not appear to
pe code compliant at lou		remer colice composi	منسمما مسم					vehieles Miner
ourfood corregion noted t	r locations. Due to imp	roper splice connecti	ons, barrie	er does not p	rovide ad	equates	safety for	vehicles. Minor
surface corrosion noted t	hroughout.	roper splice connection	ons, barrie	er does not p	rovide ad	equate :	safety for	vehicles. Minor
surface corrosion noted t Recommended Work:	hroughout.	Replace	ons, barrie	Maintenan	ce Needs	equate s	safety for None	vehicles. Minor
surface corrosion noted t Recommended Work: Urge	hroughout. Rehab Market Control Rehab	roper splice connecti Replace 10 years 🗆 None	ons, barrie	er does not p Maintenan	rovide ad ce Needs □ 1 year	equate s :: 2 ye	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work: ⊠ Urge If rehabilitation is conside	hroughout. Rehab ent 1-5 years 6-1 ered as the preferred al	roper splice connecti Replace 10 years 🗆 None ternative, reconstruct	ons, barrie barrier	er does not p Maintenan Urgent	ce Needs	equates: :: 2 ye	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work: If rehabilitation is conside system.	r locations. Due to imp hroughout. Rehab ent 1-5 years 6-7 ered as the preferred al	roper splice connecti Replace 10 years 🗆 None ternative, reconstruct	ons, barrie barrier	er does not p Maintenan Urgent	rovide ad ce Needs 1 year	equate : :: □ 2 ye	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work: If rehabilitation is conside system.	r locations. Due to imp hroughout. Rehab ent 1-5 years 6-7 ered as the preferred al	roper splice connecti Replace 10 years	barrier	er does not p Maintenan Urgent	ce Needs	equate : :: □ 2 ye	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work: If rehabilitation is conside system.	hroughout. Rehab ⊠ ant 1-5 years 6-7 ared as the preferred al Bracing	roper splice connecti Replace 10 years 🗆 None ternative, reconstruct	barrier	er does not p Maintenan Urgent	ce Needs	equate s ∷ □ 2 ye	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work: Urge If rehabilitation is conside system. Element Group: Element Name:	r locations. Due to imp hroughout. □ Rehab ⊠ ent □ 1-5 years □ 6-1 ered as the preferred al Bracing Bracing	roper splice connecti Replace 10 years I None ternative, reconstruct	barrier barrier Length: Width:	er does not p Maintenan □ Urgent	ce Needs 1 year 14.55m 0.12m	equate : ∷ □ 2 ye	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work:	r locations. Due to imp hroughout. □ Rehab ⊠ ent □ 1-5 years □ 6-1 ered as the preferred al Bracing Bracing Exterior (Upper Struct	roper splice connecti Replace 10 years I None ternative, reconstruct	barrier barrier Length: Width: Height:	er does not p Maintenan Urgent	ce Needs 1 year 14.55m 0.12m	equate s	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work:	r locations. Due to imp hroughout. □ Rehab ⊠ ent □ 1-5 years □ 6- <sup>-1</sup> ered as the preferred al Bracing Bracing Exterior (Upper Struct Steel	roper splice connecti Replace 10 years	barrier barrier Length: Width: Height: Count:	Maintenan	rovide ad ce Needs 1 year 14.55m 0.12m 0.22m 2	equate :	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work:	r locations. Due to imp hroughout. □ Rehab ent □ 1-5 years □ 6-7 ered as the preferred al Bracing Bracing Exterior (Upper Struct Steel C-Channel	roper splice connecti Replace 10 years	barrier Length: Width: Height: Count: Total Qu	Maintenan	rovide ad ce Needs 1 year 14.55m 0.12m 0.22m 2 20.37m	equate s :: 2 ye	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work:	r locations. Due to imp hroughout. □ Rehab ⊠ ent □ 1-5 years □ 6-7 ered as the preferred al Bracing Bracing Exterior (Upper Struct Steel C-Channel Benign / Moderate /	roper splice connecti Replace 10 years  None ternative, reconstruct sture) Severe	barrier barrier Length: Width: Height: Count: Total Qu Limited	Maintenan	rovide ad ce Needs □ 1 year 14.55m 0.12m 0.22m 2 20.37m ×	equate s :: □ 2 ye 2	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work:	r locations. Due to imp hroughout. □ Rehab ⊠ ent □ 1-5 years □ 6-1 ered as the preferred al Bracing Bracing Exterior (Upper Struct Steel C-Channel Benign / Moderate /	roper splice connecti Replace 10 years  None ternative, reconstruct sture) Severe	barrier barrier Width: Height: Count: Total Qu Limited	Aaintenan	rovide ad ce Needs □ 1 year 14.55m 0.12m 0.22m 2 20.37m ×	2 equate s	safety for None ar	vehicles. Minor
surface corrosion noted t Recommended Work:	I locations. Due to imp hroughout. Rehab ⊠ ent □ 1-5 years □ 6-1 ered as the preferred al Bracing Exterior (Upper Struct Steel C-Channel Benign / Moderate / Units	roper splice connecti Replace 10 years	barrier barrier Width: Height: Count: Total Qu Limited Good	Maintenan	rovide ad ce Needs □ 1 year 0.12m 0.22m 2 20.37m x iir	equate : :: □ 2 ye 2 Pc	safety for None ar	vehicles. Minor Perform. Deficiencies
surface corrosion noted t Recommended Work: If rehabilitation is conside system. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/	r locations. Due to imp hroughout. □ Rehab ⊠ ent □ 1-5 years □ 6-1 ered as the preferred al Bracing Bracing Exterior (Upper Struct Steel C-Channel Benign / Moderate / Units m / each / % / all	roper splice connecti Replace 10 years  None ternative, reconstruct sture) Severe Exc.	barrier barrier Uength: Width: Height: Count: Total Qu Limited Good 15.0	Maintenan Maintenan Urgent Inspection Fa	rovide ad ce Needs □ 1 year 14.55m 0.12m 0.22m 2 20.37m × ir 37	2 Pc	Safety for None ar	vehicles. Minor Perform. Deficiencies None
surface corrosion noted t Recommended Work: If rehabilitation is conside system. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Exterior long	r locations. Due to imp hroughout. □ Rehab ⊠ ent □ 1-5 years □ 6-1 ered as the preferred al Bracing Bracing Exterior (Upper Struct Steel C-Channel Benign / Moderate / Units m / each / % / all tudinal bracing appear	roper splice connecti Replace 10 years  None ternative, reconstruct sture) Severe Exc. In Severe In Severee In Severe In Severee In Severee In Severee In Severee In S	barrier barrier Uength: Width: Height: Count: Total Qu Limited Good 15.0 to fair co	Maintenan	ir rovide ad ce Needs 1 year 14.55m 0.12m 0.22m 2 20.37m 37 extensive	2 Light to	safety for None ar ar Door medium s	vehicles. Minor Perform. Deficiencies None surface corrosion
surface corrosion noted t Recommended Work: I rehabilitation is conside system. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Exterior long noted throughout.	I locations. Due to imp hroughout. Rehab ⊠ ent □ 1-5 years □ 6-7 ered as the preferred al Bracing Bracing Exterior (Upper Struct Steel C-Channel Benign / Moderate / Units m / each / % / all tudinal bracing appear	roper splice connecti Replace 10 years  None ternative, reconstruct  ture)  Severe  Exc.  rs to be in overall good	barrier barrier Length: Width: Height: Count: Total Qu Limited Good 15.0 I to fair co	Aaintenan Maintenan Urgent uantity: Inspection Fa 5.3 ndition with	irr rovide ada ce Needs 1 year 14.55m 0.12m 0.22m 2 20.37m × ar 37 extensive	2 Proventional contract of the second	None ar Door medium s	Vehicles. Minor Perform. Deficiencies None surface corrosion
surface corrosion noted t Recommended Work: I rehabilitation is conside system. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Exterior long noted throughout.	I locations. Due to imp hroughout. Rehab ⊠ ent □ 1-5 years □ 6-1 ered as the preferred al Bracing Bracing Exterior (Upper Struct Steel C-Channel Benign / Moderate / Units m / each / % / all tudinal bracing appear	roper splice connecti Replace 10 years  None ternative, reconstruct sture) Severe Exc. In Severe	barrier barrier Uength: Width: Height: Count: Total Qu Limited Good 15.0 Ito fair co	Aaintenan	ir arvide ad ce Needs 1 year 14.55m 0.12m 0.22m 2 20.37m x arvite 37 extensive	2 Provide to	safety for None ar oor medium s	vehicles. Minor Perform. Deficiencies None surface corrosion
surface corrosion noted t Recommended Work: If rehabilitation is conside system.         Element Group:         Element Name:         Location:         Material:         Element Type:         Environment:         Protection System:         Condition Data:         Materior Long noted throughout.	I locations. Due to imp         hroughout.         Rehab       ⊠         ent       1-5 years       6-7         ered as the preferred al         Bracing         Exterior (Upper Struct         Steel         C-Channel         Benign / Moderate /         Units         m / each / % / all         tudinal bracing appear	roper splice connecti Replace 10 years None ternative, reconstruct sture) Severe Exc. rs to be in overall good Replace	barrier barrier Width: Height: Count: Total Qu Limited Good 15.0	Aaintenan	ir ce Needs 1 year 14.55m 0.12m 0.22m 20.37m 2 20.37m x extensive ce Needs	2 Provide the second se	safety for None ar Door medium s	vehicles. Minor Perform. Deficiencies None surface corrosion
surface corrosion noted t Recommended Work: ⊠ Urge If rehabilitation is conside system. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Exterior long noted throughout. Recommended Work: □ Urge	I locations. Due to imp hroughout. □ Rehab ⊠ ent □ 1-5 years □ 6-1 ered as the preferred al Bracing Bracing Exterior (Upper Struct Steel C-Channel Benign / Moderate / Units m / each / % / all tudinal bracing appear □ Rehab □ nt □ 1-5 years □ 6-1	roper splice connecti  Replace  I0 years  None  ternative, reconstruct  sture)  Severe  Exc.  rs to be in overall good  Replace 0 years  None	barrier barrier Width: Height: Count: Total Qu Limited Good 15.0 I to fair co	Aaintenan Urgent Hainteran Urgent Hantity: Inspection Fa 5.3 Indition with Maintenan Urgent	rovide ad ce Needs 1 year 14.55m 0.12m 0.22m 2 20.37m 2 20.37m x ar ar ar ar ar ar ar br ce Needs ar ar ar ar ar ar ar ar ar ar	equate s : 2 Pc light to :: 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	safety for None ar oor medium s None ar	Vehicles. Minor Perform. Deficiencies None surface corrosion
surface corrosion noted t Recommended Work: If rehabilitation is conside system. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Exterior long noted throughout. Recommended Work: Urge	r locations. Due to imp hroughout. □ Rehab ⊠ ent □ 1-5 years □ 6-1 ered as the preferred al Bracing Bracing Exterior (Upper Struct Steel C-Channel Benign / Moderate / Units m / each / % / all tudinal bracing appear □ Rehab □ nt □ 1-5 years □ 6-1	roper splice connecti  Replace  I0 years  None  ternative, reconstruct  sture)  Exc.  Fxc.  Fx to be in overall good  Replace 0 years  None	barrier barrier Length: Width: Height: Count: Total Qu Limited Good 15.0 I to fair co	Aaintenan Maintenan Urgent uantity: Inspection Fa 5.3 ndition with o Maintenan Urgent	rovide ad ce Needs □ 1 year 14.55m 0.12m 0.22m 2 20.37m 2 20.37m x ar ar ar ce Needs □ 1 year	equate s :: 2 2 light to :: 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	safety for None ar oor medium s None ar	Vehicles. Minor Perform. Deficiencies None surface corrosion



Element Group:	Beams/MLE's		Length:		14.55m		
Element Name:	Girders		Width:		0.12m		
Location:	Interior (Upper Struc	ture)	Height:		0.5m		
Material:	Steel	-	Count:		2		
Element Type:	l-beams		Total Qu	uantity:	39.6m <sup>2</sup>		
Environment:	Benign / Moderate /	Severe	Limited	Inspection	×		
Protection System:				•			Perform.
Condition	Units	Exc.	Good	Fa	ir	Poor	Deficiencies
Data: m²/r	m/each/%/all		30	7.	6	2.0	None
Comments: Interior beam	is appear to be in over	all god to fair conditio	n Bottom	flange exhib	oiting mod	erate corrosion	with ± 5% section
loss. 0.5m2 of moderate co	orrosion at midspan o	f east girder.					
Recommended Work:	Rehab	Replace		Maintenan	ce Needs	: None	
□Urøen	$\square 1-5$ vears $\square 6-1$	0 vears 🖾 None		Urgent	1 vear	2 vears	
Element Group:	Beams/MI F's		Length.		0.05m		
Element Name:	Stringers		Width:		2.5m		
Location:			Height		0.15m		
Material:	Steel		Count		42		
Flement Type:	CChannels		Total Or	iantity:	47 25m <sup>2</sup>	2	
Environment:	Benign / Moderate /	Severe	Limited	Inspection	¥7.25m		
Protection System:	Demgir/ Piouerate/	Severe	Linneu	mspection			Porform
Condition	Unito	Evo	Cood	Ea	ir	Poor	Deficiencies
Dete: $m^2/r$		EXC.	25	Fa 10	25	FUUI	None
Data. III-7	n/each/%/au		JJ an Minar	12.		~	NOTIE
Recommended Work:	□ Rehab □ nt □ 1-5 years □ 6-1	Replace 0 years ⊠ None		Maintenan	ce Needs □ 1 year	None 2 years	
Flement Group:	Bracing		l ength:		0.7m		
Element Name:	Bracing		Width <sup>.</sup>		0.711		
Location:	Upper Structure		Height				
Material:	Steel		Count		18		
Flement Type	Steel Angles (1 52x52	v9 5)	Total Or	iantity.	18		
Environmont:	Bonign / Moderate /	Sovere	Limited	Inonaction			
Brotaction System:	Demgir/ Piouerate/	Severe	Linneu	Inspection			Dorform
Protection System.	Linita	Гур	Cood		.ir	Deer	Deficiencies
		EXC.	40	Fa	\III \	P001	Deficiencies
Data: m-7 m	n/eacn/%/au		12		) 		
Comments: Diagonal brac	ing appears to be in g	bod to fair condition v	lith minor	corrosion no	ited throu	gnout.	
Recommended Work:	🗆 Rehab 🛛	Replace		Maintenan	ce Needs	:	
Recommended Work:	□ Rehab □ nt □ 1-5 years □ 6-1	Replace 0 years ⊠ None		Maintenan	ce Needs	:	
Recommended Work:	☐ Rehab ☐ nt ☐ 1-5 years ☐ 6-1	Replace 0 years ⊠ None		Maintenan	ce Needs □ 1 year	: 2 years	



Element Name	Beams/MLE's	Length:		9.5m			
Etomone Name.	Girders		Width:		0.41m		
Location:	Exterior (Lower Struct	ure)	Height:		0.41m		
Material:	CIP Concrete		Count:		2		
Element Type:	Rectangular Beam		Total Qu	antity:	23.37m <sup>2</sup>	1	
Environment:	Benign / Moderate /	Severe	Limited	Inspection			
Protection System:							Perform.
Condition	Units	Exc.	Good	Fa	air	Poor	Deficiencies
Data: m²/	m/each/%/all			11.	68	11.69	None
Comments: Concrete gi	rders appear to be in ove	erall fair to poor condi	tion Bott	om face of g	irder is spa	alled along lengt	h of beams with
exposed reinforcing.					ind of to opt		
Recommended Work:	🗵 Rehab 🛛 F	Replace	Maintenance Needs: None				
□ Urgent 🗵 1-5 years 🗆 6-10 years 🗆 None				🗆 Urgent	🗆 1 year	🗆 2 year	
If bridge structure is pern	nanently closed, recomr	mend removing origin	al				
structure.							
Element Group:	Beams/MLE's		Length:		9.5m		
Element Name:	Girders		Width:		0.41m		
Location:	Interior (Lower Structu	ure)	Height:		0.41m		
Material:	CIP Concrete		Count:		2		
Element Type:	Rectangular Beam		Total Qu	antity:	23.37m <sup>2</sup>	2	
Environment:	Benign / Moderate / S	Severe	Limited	Inspection			
Protection System:							Perform.
Condition	Units	Exc.	Good	Fa	air	Poor	Deficiencies
Data: m²/	m/each/%/all			11.	68	11.69	None
Comments: Concrete gi	ders appear to be in ove	erall fair to poor condi	tion. Bott	om face of g	irder is spa	alled along lengt	h of beams with
exposed reinforcing. Vert	ical cracking noted at st	irrup locations.					
Recommended Work:	🗵 Rehab 🗆 F	Replace		Maintenan	ce Needs:	None	
🗆 Urge	nt 🗵 1-5 vears 🗌 6-1	• •					
		0 years 🗌 None		Urgent	🗆 1 year	2 year	
If bridge structure is pern	nanently closed, recomm	0 years UNone	al	Urgent	🗆 1 year	2 year	
If bridge structure is pern structure.	nanently closed, recomm	0 years UNone	al	Urgent	🗆 1 year	2 year	
If bridge structure is pern structure.	nanently closed, recomr	0 years ⊔ None mend removing origin	al	Urgent	□ 1 year	2 year	
If bridge structure is pern structure. Element Group:	Decks	0 years U None mend removing origin	al Length:	Urgent	□ 1 year 10.3m	2 year	
If bridge structure is pern structure. Element Group: Element Name:	Decks	0 years ⊔ None mend removing origin	al Length: Width:	Urgent	□ 1 year 10.3m 6.2m	□ 2 year	
If bridge structure is perm structure. Element Group: Element Name: Location:	Decks Lower Structure	0 years ⊔ None mend removing origin	al Length: Width: Height:	Urgent	□ 1 year 10.3m 6.2m	2 year	
If bridge structure is perm structure. Element Group: Element Name: Location: Material:	Decks Lower Structure CIP Concrete	0 years ⊔ None mend removing origin	Length: Width: Height: Count:	Urgent	□ 1 year 10.3m 6.2m 1	□ 2 year	
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type:	Decks Deck Top Lower Structure CIP Concrete Reinforced Concrete	0 years 🗆 None mend removing origin	al Length: Width: Height: Count: Total Qu	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup>	□ 2 year	
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type: Environment:	Decks Deck Top Lower Structure CIP Concrete Reinforced Concrete Benign / Moderate /	0 years U None mend removing origin	al Length: Width: Height: Count: Total Qu Limited	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup> ×	☐ 2 year	
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System:	Decks Deck Top Lower Structure CIP Concrete Reinforced Concrete Benign / Moderate /	0 years 🗆 None mend removing origin	Length: Width: Height: Count: Total Qu Limited	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup> ≍	2 year	Perform.
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	Decks Deck Top Lower Structure CIP Concrete Reinforced Concrete Benign / Moderate /	0 years mend removing origin	Length: Width: Height: Count: Total Qu Limited	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup> ⊠	2 year	Perform. Deficiencies
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m <sup>2</sup> /	Decks Deck Top Lower Structure CIP Concrete Reinforced Concrete Benign / Moderate / Units m / each / % / all	0 years mend removing origin	Length: Width: Height: Count: Total Qu Limited Good	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup> × sir 86	2 year	Perform. Deficiencies
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Limited insp	Decks Deck Top Lower Structure CIP Concrete Reinforced Concrete Benign / Moderate / Units m / each / % / all action due to installation	0 years 🗆 None mend removing origin	Length: Width: Height: Count: Total Qu Limited Good	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup> x x x x x x x x x x x x x	□ 2 year Poor	Perform. Deficiencies
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Limited insp	Decks Deck Top Lower Structure CIP Concrete Reinforced Concrete Benign / Moderate /  Units m / each / % / all action due to installation	0 years 🗆 None mend removing origin Severe Exc. n of upper steel super	Length: Width: Height: Count: Total Qu Limited Good	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup> x sir 86 ppears to I	2 year     Poor     Poor     in overall fair	Perform. Deficiencies condition. Minor
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Limited insp scaling noted throughout	Decks Deck Top Lower Structure CIP Concrete Benign / Moderate / Units m / each / % / all ection due to installation.	0 years 🗆 None mend removing origin Severe Exc.	al Length: Width: Height: Count: Total Qu Limited Good	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup> x air 86 ppears to 1	2 year     Poor     Poor	Perform. Deficiencies condition. Minor
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Limited insp scaling noted throughout	Decks Deck Top Lower Structure CIP Concrete Reinforced Concrete Benign / Moderate /  Units m / each / % / all ection due to installation .	0 years    None mend removing origin Severe Exc. n of upper steel super	al Length: Width: Height: Count: Total Qu Limited Good structure	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup> × iir 86 ppears to 1 ce Needs	2 year     2 year     Poor     pe in overall fair o     None	Perform. Deficiencies condition. Minor
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Limited insp scaling noted throughout Recommended Work:	Decks Deck Top Lower Structure CIP Concrete Benign / Moderate /  Units m / each / % / all action due to installation .   Rehab	0 years □ None mend removing origin Severe Exc. n of upper steel super Replace	Length: Width: Height: Count: Total Qu Limited Good	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup> × sir 86 ppears to l cce Needs: □ 1 year	2 year     2 year     Poor     De in overall fair     None     2 year	Perform. Deficiencies condition. Minor
If bridge structure is perm structure. Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments: Limited insp scaling noted throughout Recommended Work:	Decks Deck Top Lower Structure CIP Concrete Benign / Moderate / Units m / each / % / all ection due to installation .	0 years □ None mend removing origin Severe Exc. n of upper steel super Replace 0 years □ None	al Length: Width: Height: Count: Total Qu Limited Good	Urgent	□ 1 year 10.3m 6.2m 1 63.86m <sup>2</sup> × * * * * * * * * * * * * *	2 year     2 year     Poor     in overall fair     None     2 year	Perform. Deficiencies condition. Minor



Element Group:	Decks		Length:		9.5m			
Element Name:	Soffit – Thin Slab		Width:		0.25m			
Location:	Exterior (Lower Struc	ture)	Height:		0.22m			
Material:	CIP Concrete		Count:		2			
Element Type:	Reinforced Concrete		Total Qu	iantity:	8.93m <sup>2</sup>			
Environment:	Benign / Moderate /	Severe	Limited	Inspection				
Protection System:								Perform.
Condition	Units	Exc.	Good	Fa	air	Poc	or	Deficiencies
Data: m²/	m/each/%/all			4.4	47	4.4	7	None
Comments: Soffit appea	rs to be in overall fair to	poor condition. Th	ree location	s of 0.1m2 s	oalling with	i expose	d reinfo	rcing noted.
Recommended Work:	🗵 Rehab 🛛	Replace		Maintenan	ce Needs:		None	
🗆 Urgent 🛛 1-5 years 🛛 6-10 years 🗌 None				🗆 Urgent	🗆 1 year	🗆 2 yea	r	
If bridge structure is perm structure.	anently closed, recom	imend removing orig	ginal					
Element Group:	Decks		Length:		9.5m			
Element Name:	Soffit – Thin Slab		Width:		1.0m			
Location:	Interior (Lower Struct	ture)	Height:					
Material:	CIP Concrete		Count:		4			
Flement Type:	Reinforced Concrete	1	Total Or	antity:	38m <sup>2</sup>			
Environment:	Benign / Moderate /	Severe	Limited	Inspection				
Protection System:	Boingh / Housiate /	000010	Linited	паресноп				Perform
Condition	Unite	Evo	Good	Fa	air	Por	)r	Deficiencies
Data: m <sup>2</sup> /	m / oach / % / all	LXC.	000u	10	111	22.2	27	Deficicites
Comments: Portions of s Interior soffit beyond abu	offit adjacent to abutm tment walls appears to	nent walls are in ove be in fair condition	rall poor co with honey	ndition with s combing not	spalling and ed through	d expose iout.	ed rebar	noted throughout.
Recommended Work:	🗵 Rehab 🛛	Replace		Maintenan	ce Needs:		None	
🗆 Urge	nt 🗵 1-5 years 🗆 6-1	I0 years 🛛 None		🗆 Urgent	🗆 1 year	🗆 2 yea	r	
If bridge structure is perm structure.	anently closed, recom	imend removing orig	ginal					
Element Group:	Decks		l ength:		1/1 55m			
Element Name:	Wearing Surface		Width:		3 23m			
Location:			Height		0.2011			
Material:	Wood		Count		1			
Flement Type:	Wood Planks		Total Or	antity.	1 17m <sup>2</sup>			
Environment:	Benign / Moderate /	Severe	Limited	Inspection				
Brotaction System:	Demgin / Houerate /		Liniteu	Inspection				Dorform
Condition	Linito	Evo	Cood	E	vir	Boo		Deficiencies
Data: m <sup>2</sup> /		EXC.	Good	25	25	11 7	7E	Nono
				35.		11./	/5	
throughout deck. Wide ga	ps between boards no	ted measuring up to	0.03m.	uue to rotte	n boards. N	vans pot	oping ou	t nom boards
Recommended Work:	🗆 Rehab 🛛 🗵	Replace		Maintenan	ce Needs:		None	
x   Irop	nt 1-5 vears 6-1	I0 vears		Urgent	1 vear	2 vea	r	
If rehabilitation is conside deck.	ered as the preferred al	ternative, reconstru	ct bridge		,	,		



Element Group:					1		
	Sidewalks/ Curbs		Length:		12.4m		
Element Name:	Curbs		Width:		0.45m		
Location:	Each Side		Height:		0.28m		
Material:	CIP Concrete		Count:		2		
Element Type:			Total Qu	uantity:	25m <sup>2</sup>		
Environment:	Benign / Moderate /	Severe	Limited	Inspection			
Protection System:							Perform.
Condition	Units	Exc.	Good	Fa	air	Poor	Deficiencies
Data: m <sup>2</sup> /	m/each/%/all		10	14	85	0.15	
Comments: Curbs appe	ar to be in overall good	to fair condition Mod	erate scali	ing noted thr	roughout I	Minor snalls a	at previous barrier post
locations Southeast corr	er has severe snalling	noted 2 0m medium	cracking a	at southeast	corner		
	ioi nuo oovoro opuung		ordoning		0011101.		
Recommended Work:	🛛 Rehah 🗌	Benlace		Maintenar	nce Needs		
			I				
it bridge structure is perif	lanently closed, recom	imena removing origin	าลเ				
structure.							
Flammant Onesing		····	1				
Element Group:	Embankments and S	treams	Length:				
Element Name:	Embankments						
Location:	Each Quadrant		Height:		<u> </u>		
Material:	Soil		Count:		4		
Element Type:			Iotal Qu	iantity:	4		
Environment:	Benign / Moderate /	Severe	Limited	Inspection			
Protection System:							Perform.
Condition	Units	Exc.	Good	Fa	air	Poor	Deficiencies
Data: m <sup>2</sup> /	m / <b>each</b> / % / all		4				None
Comments: Embankmer	its appear to be stable	. All quadrants are hea	avily veget	ated.			
Recommended Work:	🗆 Rehab 🛛	Replace		Maintenar	nce Needs:	: Non	e
Recommended Work:	□ Rehab □ nt □ 1-5 years □ 6-1	Replace 0 years 🗵 None		Maintenar	nce Needs: □ 1 year	: Non □2 year	е
Recommended Work:	□ Rehab □ nt □ 1-5 years □ 6-1	Replace 0 years ⊠ None		Maintenar	nce Needs 1 year	Non 2 year	e
Recommended Work:	□ Rehab □ nt □ 1-5 years □ 6-1	Replace IO years 🗵 None		Maintenar	nce Needs: □ 1 year	Non 🗆 2 year	e
Recommended Work:	□ Rehab □ nt □ 1-5 years □ 6-1	Replace 0 years ⊠ None		Maintenar	nce Needs: □ 1 year	: Non □ 2 year	e
Recommended Work:	☐ Rehab ☐ nt ☐ 1-5 years ☐ 6-1 	Replace 0 years ⊠ None itreams	Length:	Maintenar	nce Needs: □ 1 year	: Non □ 2 year	e
Recommended Work:	☐ Rehab ☐ nt ☐ 1-5 years ☐ 6-1 Embankments and S Streams and Waterw	Replace 0 years ⊠ None treams ays	Length: Width:	Maintenar	nce Needs:	∷ Non □ 2 year	e
Recommended Work: Urge Element Group: Element Name: Location:	☐ Rehab ☐ nt ☐ 1-5 years ☐ 6-1 Embankments and S Streams and Waterw N/A	Replace 10 years ⊠ None itreams rays	Length: Width: Height:	Maintenar	nce Needs:	≥ Non ⊇2 year	e
Recommended Work: Urge Element Group: Element Name: Location: Material:	□ Rehab □ nt □ 1-5 years □ 6-1 Embankments and S Streams and Waterw N/A Other	Replace 10 years 🗵 None itreams rays	Length: Width: Height: Count:	Maintenar	1 year	2 year	e
Recommended Work:	☐ Rehab ☐ nt ☐ 1-5 years ☐ 6-1 Embankments and S Streams and Waterw N/A Other Unknown	Replace 10 years 🗵 None :treams /ays	Length: Width: Height: Count: Total Qu	Maintenar	1 year	2 year	e
Recommended Work:	□ Rehab □ nt □ 1-5 years □ 6-1 Embankments and S Streams and Waterw N/A Other Unknown Benign / Moderate /	Replace 10 years 🗵 None itreams /ays	Length: Width: Height: Count: Total Qu	Maintenar	1 year	2 year	e
Recommended Work:	☐ Rehab ☐ nt ☐ 1-5 years ☐ 6-1 Embankments and S Streams and Waterw N/A Other Unknown Benign / <b>Moderate</b> /	Replace 10 years 🗵 None itreams /ays Severe	Length: Width: Height: Count: Total Qu Limited	Maintenar	1 year	2 year	e Perform
Recommended Work:	Rehab         nt       1-5 years       6-1         Embankments and S         Streams and Waterw         N/A         Other         Unknown         Benign / Moderate /	Replace I0 years IN None Itreams In None Itreams In None Itreams In None Itreams Itrea	Length: Width: Height: Count: Total Qu Limited	Maintenar	air Needs:	2 year	e Perform.
Recommended Work:         Urge         Element Group:         Element Name:         Location:         Material:         Element Type:         Environment:         Protection System:         Condition         Data:         material	□ Rehab       □         nt       □ 1-5 years       □ 6-1         Embankments and S       Streams and Waterw         N/A       Other         Unknown       Benign / Moderate /         Units       m (each / % / all)	Replace I0 years INone Itreams rays Severe Exc.	Length: Width: Height: Count: Total Qu Limited	Maintenar	air Needs:	2 year	e Perform. Deficiencies
Recommended Work:         Urge         Element Group:         Element Name:         Location:         Material:         Element Type:         Environment:         Protection System:         Condition         Data:       m²/	□ Rehab       □         nt       □ 1-5 years       □ 6-1         Embankments and S       Streams and Waterw         N/A       Other         Unknown       Benign / Moderate /         Units       m / each / % / all         vated approximately Effect	Replace I0 years ⊠ None itreams /ays Severe Exc. Dm down stroom of st	Length: Width: Height: Count: Total Qu Limited Good 1	Maintenar	air	Poor	e Perform. Deficiencies None
Recommended Work:         Urge         Element Group:         Element Name:         Location:         Material:         Element Type:         Environment:         Protection System:         Condition         Data:         m²/         Comments: Beaver dam	Rehab         nt       1-5 years       6-1         Embankments and S         Streams and Waterw         N/A         Other         Unknown         Benign / Moderate /         Units         m / each / % / all         noted approximately 50	Replace I0 years ⊠ None itreams /ays Severe Exc. Dm down stream of st	Length: Width: Height: Count: Total Qu Limited Good 1 ructure.	Maintenar	air	Poor	e Perform. Deficiencies None
Recommended Work:         Urge         Element Group:         Element Name:         Location:         Material:         Element Type:         Environment:         Protection System:         Condition         Data:       m²/         Comments: Beaver dam	Rehab         nt       1-5 years       6-1         Embankments and S         Streams and Waterw         N/A         Other         Unknown         Benign / Moderate /         Units         m / each / % / all         toted approximately 50	Replace I0 years ⊠ None I0 years ⊠ None I0 years Exc. Dm down stream of st	Length: Width: Height: Count: Total Qu Limited Good 1 ructure.	Maintenar	air Needs:	2 year	e Perform. Deficiencies None
Recommended Work:         Urge         Element Group:         Element Name:         Location:         Material:         Element Type:         Environment:         Protection System:         Condition         Data:       m²/         Comments: Beaver dam         Paccommended Work:	Rehab         nt       1-5 years       6-1         Embankments and S         Streams and Waterw         N/A         Other         Unknown         Benign / Moderate /         Units         m / each / % / all         noted approximately 50	Replace I0 years ⊠ None I0 years ⊠ None Itreams rays Severe Exc. Dm down stream of st Paplace	Length: Width: Height: Count: Total Qu Limited Good 1 ructure.	Maintenar	air	Poor	e Perform. Deficiencies None
Recommended Work:         Urge         Element Group:         Element Name:         Location:         Material:         Element Type:         Environment:         Protection System:         Condition         Data:       m²/         Comments:       Beaver dam f         Recommended Work:	Rehab         nt       1-5 years       6-1         Embankments and S         Streams and Waterw         N/A         Other         Unknown         Benign / Moderate /         Units         m / each / % / all         noted approximately 50	Replace I0 years ⊠ None itreams rays Severe Exc. Dm down stream of st Replace	Length: Width: Height: Total Qu Limited Good 1 ructure.	Maintenar	air air ance Needs:	Poor ■ 2 year	e Perform. Deficiencies None e
Recommended Work:         Urge         Element Group:         Element Name:         Location:         Material:         Element Type:         Environment:         Protection System:         Condition         Data:       m²/         Comments:       Beaver dam f         Recommended Work:       Urge	Rehab         nt       1-5 years       6-1         Embankments and S         Streams and Waterw         N/A         Other         Unknown         Benign / Moderate /         Units         m / each / % / all         noted approximately 50         Rehab         nt       1-5 years	Replace I0 years ⊠ None itreams /ays Severe Exc. Dm down stream of st Replace 0 years ⊠ None	Length: Width: Height: Total Qu Limited Good 1 ructure.	Maintenar	air air ance Needs:	Non □ 2 year Poor Poor □ 2 year	e Perform. Deficiencies None e
Recommended Work:	Rehab         nt       1-5 years       6-1         Embankments and S         Streams and Waterw         N/A         Other         Unknown         Benign / Moderate /         Units         m / each / % / all         noted approximately 50         Rehab         nt       1-5 years       6-1	Replace I0 years ⊠ None itreams /ays Severe Exc. Dm down stream of st Replace 0 years ⊠ None	Length: Width: Height: Count: Total Qu Limited Good 1 ructure.	Maintenar	air air ance Needs:	E Non ☐ 2 year Poor E Non ☐ 2 year	e Perform. Deficiencies None e



Element Group:		Foundation		Length:						
Element Name:			Foundation (Below Grade)		Width:					
Location:		Each End (Lower Structure)		Height:						
Material:			CIP Concrete		Count:		2			
Element Type:			Reinforced Concrete		Total Qu	uantity:	2			
Environment:		Benign / Moderate / Severe		Limited	Limited Inspection					
Prot	rotection System:						Perform.			
	Condition		Units Exc.		Good	d Fair F		or	Deficiencies	
	Data:	m²/	m / <b>each</b> / % / all		2				None	
Comments: Foundations not visible at time of inspection. Appear stable and assumed to be in good condition.										
Recommended Work:						Maintenan	e Needs: None			
🗆 Urgent 🛛 1-5 years 🖓 6-10 years 🗵 None						🗆 Urgent 🗆 1 year 🗆 2 year				



Performance Deficiencies									
Element Group		Element Name	Performance Deficiency						
Approach		Wearing Surface	08 (Pedestrian/Vehicle Hazard)						
Barrier		Post	01 (Load Carrying Capacity)						
Barrier		Railing System	01 (Load Carrying Capacity)						
Maintenance Needs									
Element Group		Element Name	Maintenance Needs						
Accessories		Signs	Install Addition	nstall Additional Signage					
Permanent Bridge Removal									
		Priority	Cost Estimate						
Permanent Removal of Bridge	Structure (Upper and Lov	wer)	1-5 Years	\$150,000					
Repair/Rehabilitation			-						
Element Group	Element Name	Repair/Rehabilitation	Priority	Cost Estimate					
Approach	Wearing Surface	Re-grade Approaches	Urgent	\$10,000					
Barrier	Railing Systems	Replace Damages Barrier	Urgent	\$30,000					
Deck	Wearing Surface	Replace Wood Deck Top	Urgent	\$20,000					
		Total Repair/Rehab	ilitation Cost:	\$60,000					
Associated Work									
	C	comments	Rehabilitation	Removal					
Site Mob./Demob.			\$10,000	\$20,000					
Traffic Control	F	ull Road Closure with Detour	\$10,000	\$10,000					
Approaches	Ir	nstall Dead End Road Barricades		\$20,000					
Utilities									
Right-of-way									
Background Studies	E	IS, Excess Soil Management, etc.		\$15,000					
Environmental Assessment	A	ssume Schedule 'A' (Exempt)							
Worksite Isolation and Dewate	ering								
Environmental Protection			\$5,000	\$10,000					
Other									
		Contingencies (15%):	\$12,500	\$30,000					
		Engineering (15%):	\$15,000	\$30,000					
	Iotal Associated Work Cost:	\$25,000	\$75,000						
	I \$112.500	\$285.000							

#### Justification:

Repairs to the approaches, deck top and barriers are recommended to increase the useful service life of the structure, while also increasing public safety. It appears that the bridge structure is utilized as a multi-use trail. However, no signage has been installed limiting traffic access and no load evaluation has been completed on the structure. Township should consider completing a load evaluation to verify load posting requirements for the structure if it is to remain open.

Considering the installation of the steel superstructure, no recommendations for rehabilitation have been provided for the original concrete structure. The original structure should be monitored through the biennial OSIM inspections and when necessary, the structure should be fully removed to avoid impacts to the watercourse below. If the original structure is scheduled for removal, we recommend that the steel superstructure installed above also be removed and the crossing permanently closed to all traffic. The Township may elect to consider the installation of a pedestrian / recreational vehicle bridge structure in the future, but this option has not been included within this inspection report.

PEL Project No. 24017 The Township of Georgian Bluffs



# **PHOTO REPORT**

Township of Georgian Bluffs S-0005: Keppel-Sarawak Townline Bridge PROJECT NO. 24017



Photo 1 - View of Structure Facing North.



Photo 2 - View of Structure Facing East.



Photo 3 - View of Deck Top (Upper Structure) Facing South.



Photo 4 - View of Rotten Deck boards (typ.).

Date of Photos: June 12, 2024

Inspector: David Debour, E.I.T.



## **PHOTO REPORT**

Township of Georgian Bluffs S-0005: Keppel-Sarawak Townline Bridge PROJECT NO. 24017



Photo 5 - View of Barrier System (typ.).



Photo 6 - View of Improper Barrier Lap Splice (typ.).



Photo 7 - View Upper Structure Abutment Wall.

Date of Photos: June 12, 2024

Inspector: David Debour, E.I.T.

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Photo 8 - View of Exposed Portion of Lower Structure Deck Top and Curb.



### **PHOTO REPORT**

Township of Georgian Bluffs S-0005: Keppel-Sarawak Townline Bridge PROJECT NO. 24017



Photo 9 - View of Extensize Light to Medium Corrosion of Steel Stringers.



Photo 10 - View of Underside of Lower Structure.



Photo 11 - View of Exposed Reinforcing Below Exterior Concrete Girder.

Date of Photos: June 12, 2024

Inspector: David Debour, E.I.T.

Photo 12 - View of Broken Section of Southeast Wingwall.



### **PHOTO REPORT**

Township of Georgian Bluffs S-0005: Keppel-Sarawak Townline Bridge PROJECT NO. 24017



Photo 13 - View of Deteriorated Wingwall at Northeast.



Photo 15 - View of Steep Gravel Approach.



Inspector: David Debour, E.I.T.



Photo 14 - Evidence of Water Penetration Through Original Deck Top.



Photo 16 - View of Exposed Reinforcing at Interior Soffit.