Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

Photo No. 1: Overall view from abutment 1. (Taken: 24-Jan-2018)

Photo No. 2: Left hand side view from abutment 1. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

Photo No. 3: Right hand side view from abutment 1. (Taken: 24-Jan-2018)

Photo No. 4: Left hand side wingwall at abutment 1. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

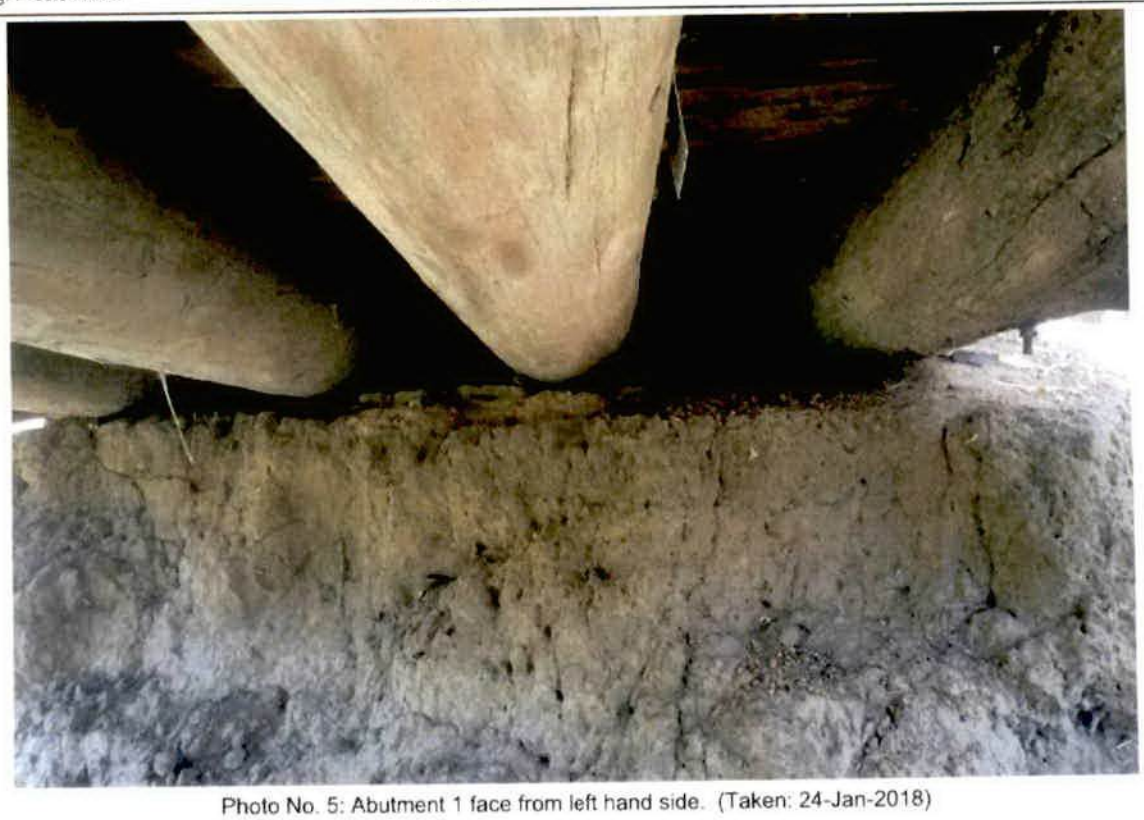


Photo No. 5: Abutment 1 face from left hand side. (Taken: 24-Jan-2018)

Photo No. 6: Right hand side wingwall at abutment 1. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

Photo No. 7: Left hand side wingwall at abutment 2. (Taken: 24-Jan-2018)

Photo No. 8: Abutment 2 face from left hand side. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

Photo No. 9: RIght hand side wingwall at abutment 2. (Taken: 24-Jan-2018)

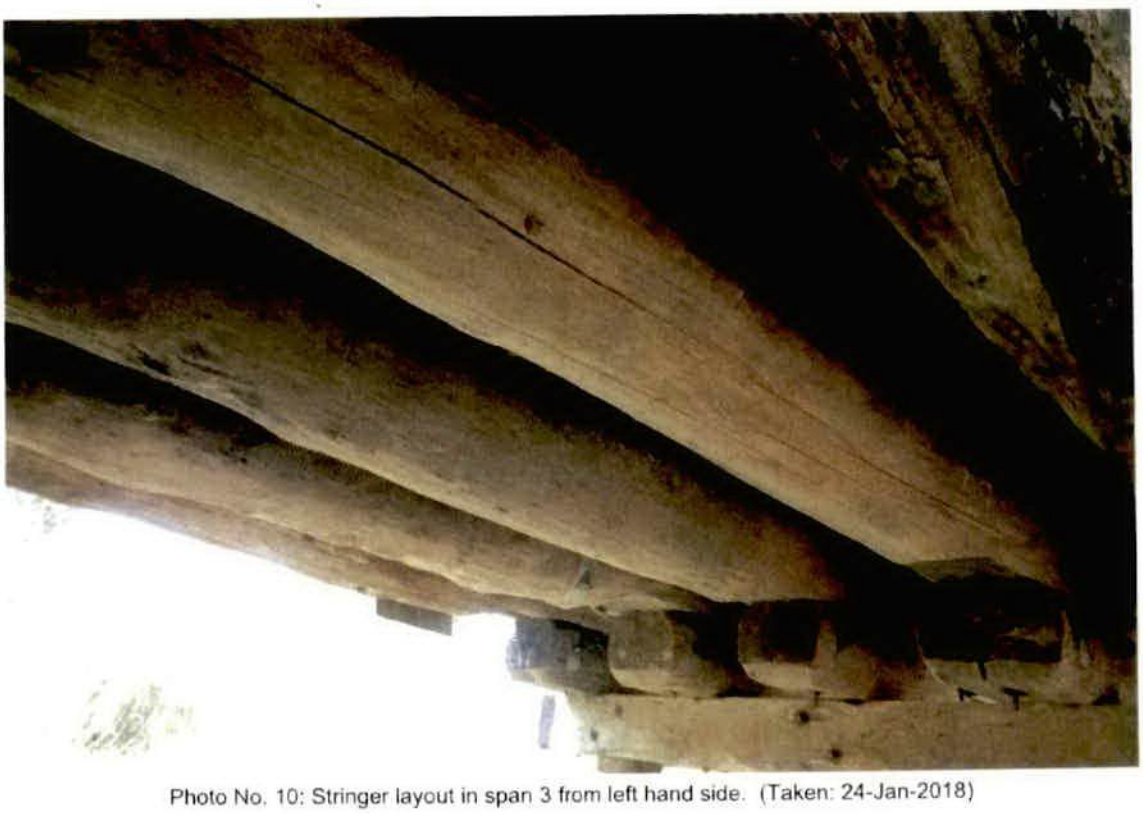


Photo No. 10: Stringer layout in span 3 from left hand side. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

Photo No. 11: Pier 2 layout from left hand side. (Taken: 24-Jan-2018)

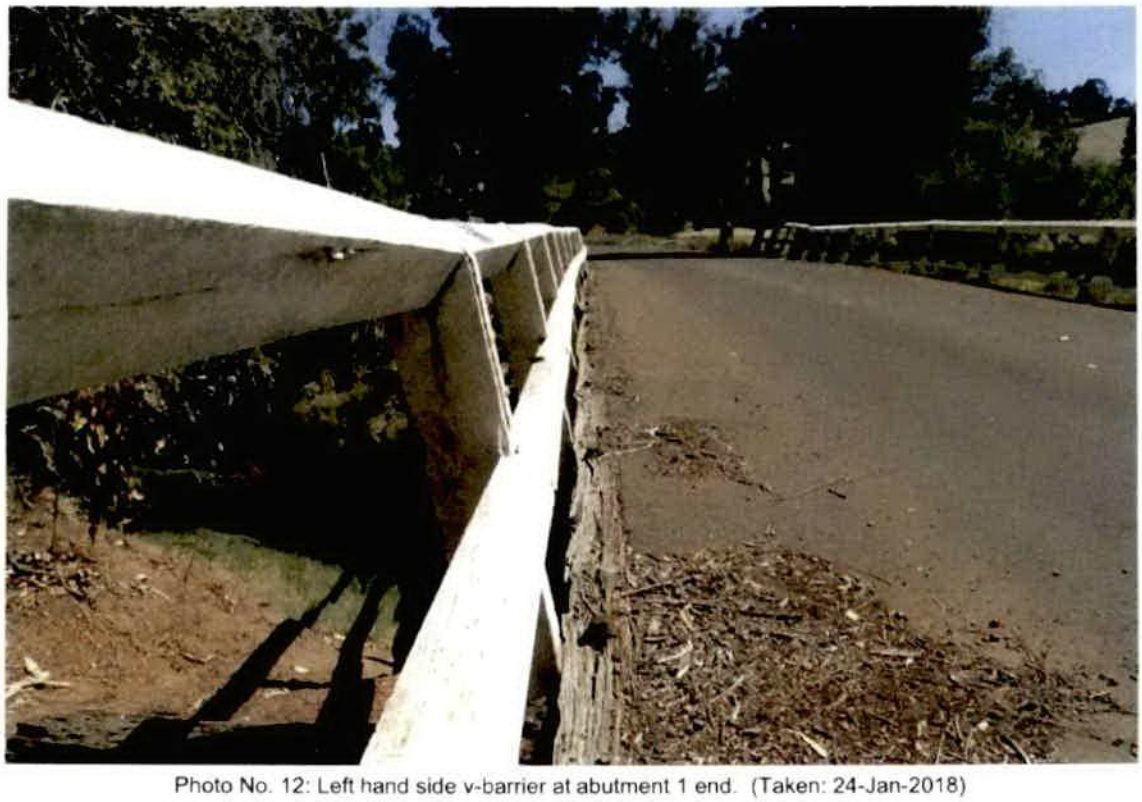


Photo No. 12: Left hand side v-barrier at abutment 1 end. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

Photo No. 13: Right hand side v-barrier at abutment 1 end. (Taken: 24-Jan-2018)

Photo No. 14: Bitumen seal cracking along kerb line from abutment 1. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

Photo No. 15: Right hand side v-barrier from abutment 1 wingwall. (Taken: 24-Jan-2018)

Photo No. 16: Abutment 2 right hand side barrier, broken. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

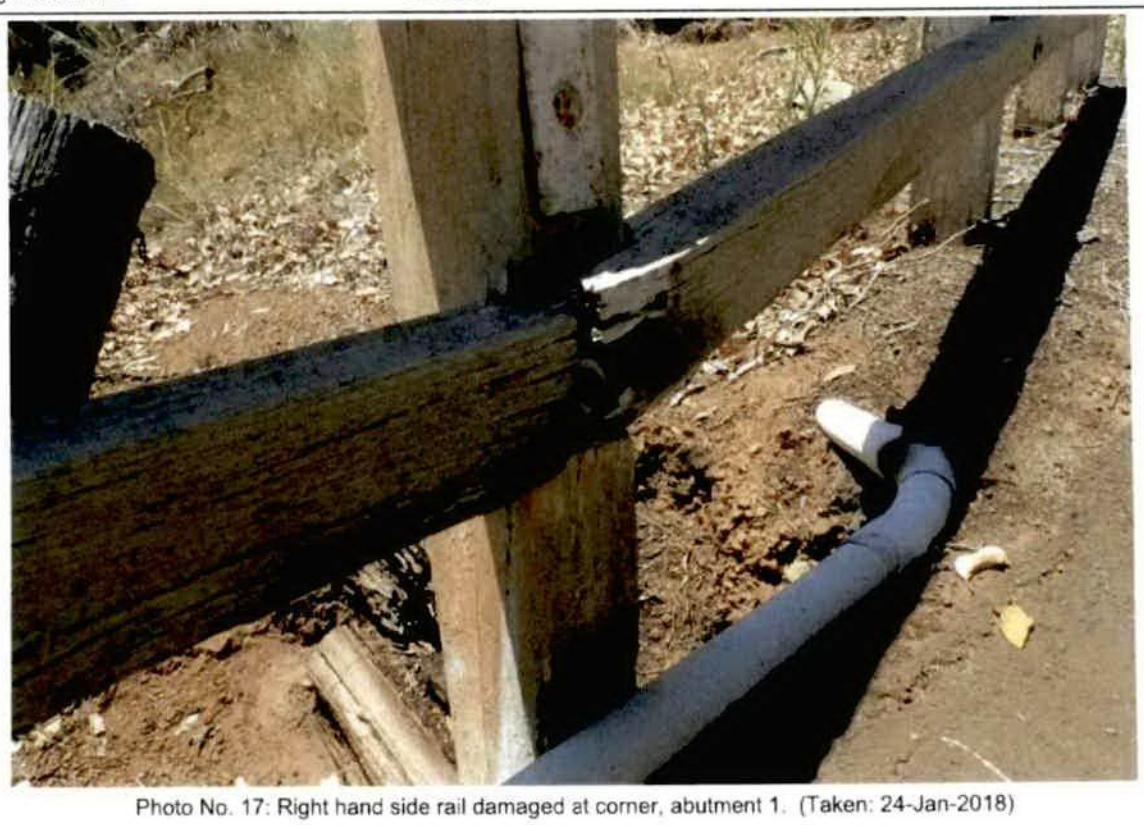


Photo No. 17: Right hand side rail damaged at corner, abutment 1. (Taken: 24-Jan-2018)

Photo No. 18: Right hand side top rail, above pier 1 damaged. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

Photo No. 19: Right hand side bottom rail, abutment 2 end damaged. (Taken: 24-Jan-2018)

Photo No. 20: Termite nest in base of tree at abutment 2 right hand side, at barrier termination. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 24-Jan-2018
Crossing: Preston River	SLK: 0.69	Inspector: Jarrod Pink

Photo No. 21: Span 3, 6 unsound deck ends from pier 3 towards abutment 2. (Taken: 24-Jan-2018)

Structure No: 3643 - PHOTO SHEET

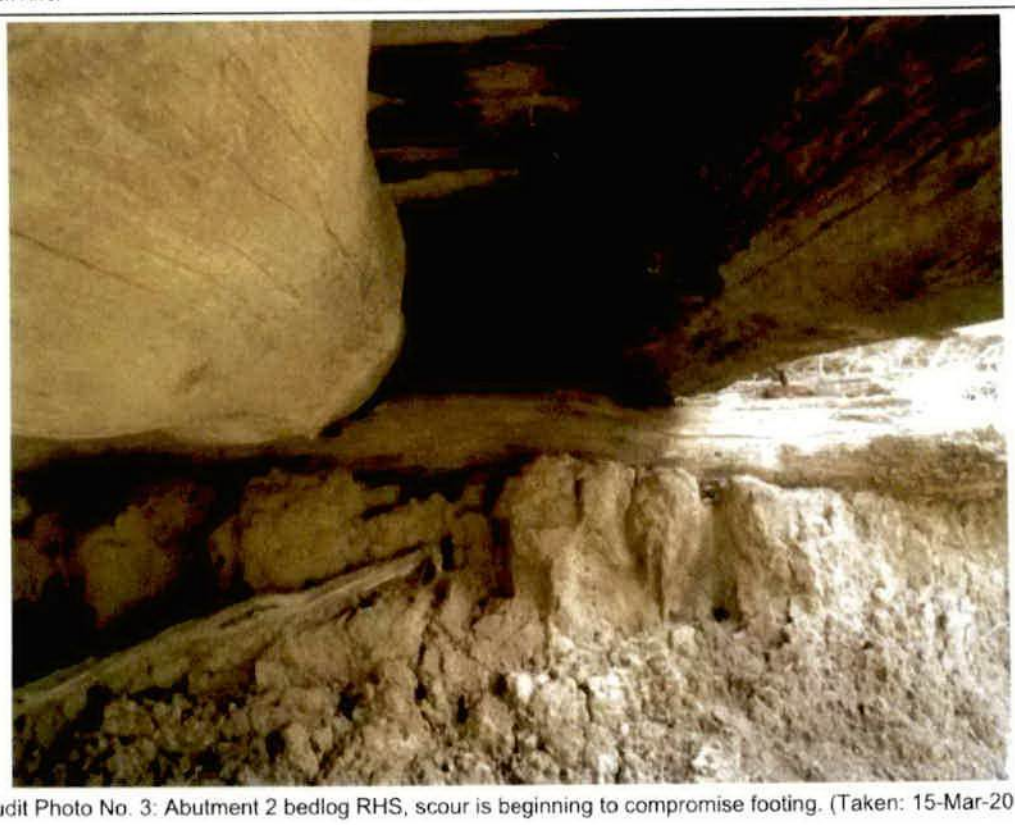
Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 15-Mar-2018
Crossing: Preston River	SLK: 0.69	Inspector: Paul Olsen

Audit Photo No. 1: Span 1 LHS, deck ends U/S. (Taken: 15-Mar-2018)

Audit Photo No. 2: Span 1 RHS, deck ends intermittently U/S. (Taken: 15-Mar-2018)

Structure No: 3643 - PHOTO SHEET

Road Name: Trevena Rd	LGA: Donnybrook - Balingup	Inspection Date: 15-Mar-2018
Crossing: Preston River	SLK: 0.69	Inspector: Paul Olsen



Audit Photo No. 3: Abutment 2 bedlog RHS, scour is beginning to compromise footing. (Taken: 15-Mar-2018)

File: **04/4520**
To: **Engineer Bridge Loading**
Subject: **Bridge Number: 3643**

---

1. Having recently completed an assessment of routine and specific maintenance work required on this bridge, I am of the opinion that the condition of certain structural components has deteriorated to such an extent that the load carrying capacity of the bridge may have been affected.

2. In accordance with the requirements of the procedure for Heavy Loads Assessment, Document number 3912/01-7, this bridge is referred for a detailed structural assessment of the bridge in its present condition.

Paul Olsen
Engineering Associate
20 March 2018

Span 1 str 5
Bridge is scheduled for replacement in late 2018

mainroads
WESTERN AUSTRALIA

ABN: 50 860 676 021

Enquiries: Gavin Johnston on 9323 4431
Our Ref: 04/4520
Your Ref:

ASSET MANAGER STRUCTURES
SOUTH WEST REGION

Structure No.:	3643
Over:	Preston River
On:	Trevena Rd (2170045)
SLK:	0.69
LGA:	Shire of Donnybrook - Balingup

1. Please find enclosed a copy of the Detailed Inspection Report for the above Local Authority structure.

2. Attached is a schedule of maintenance items that are required to be undertaken in order to maintain structural integrity and extend the life of the Structure.

3. The maintenance items have been entered into IRIS for programming purposes.

4. Preliminary examination has indicated that the load carrying capacity of this Structure may have been affected by the deterioration of structural components as listed in the attached report. We are in the process of determining its current load capacity and will advise you accordingly when our assessment is completed.

5. This report details all components inspected. Some components have not been inspected due to inaccessibility.

Gavin Johnston
BRIDGE CONDITION MANAGER
5/7/18

Enc

Don Aitken Centre, Waterloo Crescent, East Perth or PO Box 6202 EAST PERTH Western Australia 6892
Telephone: (08) 9323 4111 Facsimile: (08) 9323 4138 TTY: (08) 9428 2230
Email: dac@mainroads.wa.gov.au Website: www.mainroads.wa.gov.au

WORK ITEMS - TIMBER BRIDGES
BRIDGE No: 3643

ITEM NO	ITEM DESCRIPTION	WORK REQD	PRIORITY CODE	COMMENTS
(A) GENERAL MAINTENANCE				
G005	Bridge - Durability Survey (L3)			
G009	Bridge - Load Rating	Y	0	Span 1 Stringers
G010	Bridge - Monitor Defect	Y	1	Abut 2 Bedlog - Scour
(B) PREVENTATIVE MAINTENANCE				
P101	Bridge - Seal Timber	Y	1	
P102	Bridge - Maintain Fastener			
P103	Bridge - Fungicide Treatment	Y	1	
(C) ROUTINE MAINTENANCE				
	Bearing - Maintain			
	Bridge - Remove Graffiti			
	Bridge - Repair Scour (Minor)			
	Bridge - Eradicate Termites	Y	1	
	Bridge - Clear Debris and Vegetation	Y	1	vegetation
	Deck Joint - Maintain			
	Deck Surface - Maintain	Y	1	spans 1 to 3 LHS & RHS
	Drainage - Maintain			
	Expansion Joint - Maintain			
	Fence - Remove			
	Fence - Repair (Control of Access)			
	Guardrail Maintain/Repair	Y	0	spans 1 to 3 LHS & RHS
	Kerb - Repair (Minor) - Non Structural			
	Lighting - Maintain			
	Sign - Maintain	Y	1	widthmarker a1 RHS
(D) SPECIFIC MAINTENANCE				
S315	Bridge - Replace Fastener <1.5m			
S350	Bridge - Repair Scour (Major)	Y	2	abutment 2
S366	Bridge - Access - Improve	Y	2	spans 1 & 3
S413	Deck - Repair			
S437	Decking - Repair (Timber)	Y	2	spans 1 & 2 LHS, spans 1 to 3 RHS
S449	Drainage - Repair			
S455	Expansion Joint - Repair			
S461	Footpath - Repair			
S501	Abutment - Reconstruct			
S504	Abutment - Repair (Non timber)			
S507	Bedlog - Repair	Y	2	wingwalls a1 & a2 LHS & RHS
S510	Bedlog - Shim			
S522	Corbel - Bolt			
S525	Corbel - Repair			
S528	Corbel - Shim			
S537	Footpath Railing - Repair			
S540	Fullcap - Repair			
S543	Halfcap - Improve Bearing			
S546	Halfcap - Pack			
S549	Halfcap - Repair			
S558	Pier - Repair			
S561	Pile - Band			
S564	Pile - Repair			
S570	Sheeting - Repair			
S582	Waler - Replace			
S607	Bearer - Repair			
S643	Joist - Repair			
S655	Stringer - Bolting	Y	2	span 2 strs 2 & 5
S661	Stringer - Repair			
S667	Stringer - Shim			

PRIORITY CODE

0 -Critical Safety Deficiency : EMERGENCY action required (Immediate or within 6 months)
1 - Very High Priority (Within 3 years)
2 - Medium Priority (Within 4 years)
3 - Low Priority (Within 5 years-assess again at next Detailed Inspection)

MRWA Ref: 04/4520

DETAILED TIMBER BRIDGE INSPECTION SUMMARY

Bridge No:	3643	Region:	SOUTH WEST REGION
River Name:	Preston River	SLK:	0.69
Road:	Trevena Rd	Road No:	2170045
LGA:	Shire of Donnybrook - Balingup		

1.0 General

Bridge no. 3643 located on Trevena Rd in the Shire of Donnybrook - Balingup is a three span bridge crossing the Preston River. The structure requires significant maintenance in particular the timber decking is beginning to fail in multiple locations and scour is beginning to compromise the abutment 2 bedlog. The structure has been recommended for load rating due to an element that has returned poor drilling results.

2.0 Preventative Maintenance

Preventative maintenance to be undertaken on a 5 year periodic basis. Areas of concern have been identified below.
Sealing of timber elements in accordance with Specification 850 is required.
Fungicide treatment of all timber elements in accordance with Specification 850 is required.

3.0 Routine Maintenance

Undertake termite inspection and treatment as required in accordance with specification 850.93.09.
Vegetation and Debris clearing shall be undertaken as outlined in report in accordance with specification 850.93.08.
Correct road surface on bridge deck and approaches as outlined in report.
Undertake guardrail maintenance as outlined in report.
Replace signs and lights as outlined in report.

4.0 Specific Maintenance

4.1 Substructure

Undertake scour repairs as outlined in report.
(abutment 2)
Undertake works to improve access for elements not inspected.
(spans 1 & 3)

4.2 Superstructure

Undertake timber decking repairs as outlined in report.
(spans 1 & 2 LHS, spans 1 to 3 RHS)
Undertake bedlog repairs as outlined in report.
(wingwalls a1 & a2 LHS & RHS)
Bolt and or seal stringers as outlined in report in accordance with specification 850.29/850.30
(span 2 strs 2 & 5)

5.0 BCI

68.4

6.0 Load Rating

Span 1 str 5

Paul Olsen
Engineering Associate Bridges

March 20 2018

DETAILED VISUAL (LEVEL 2) TIMBER BRIDGE INSPECTION REPORT
BRIDGE CONDITION INDEX (BCI)

mainroads WESTERN AUSTRALIA

Bridge Number 3643

In conjunction with the Detailed Level 2 Bridge Inspection Report (as dated below), a Bridge Condition Index (BCI) has been calculated for this Bridge. The BCI assigns a numerical value to a bridge that is indicative of its condition and provides a relative condition in comparison with other timber bridges (BCI calculation is only applicable for timber bridges). The BCI rating system is a tool to provide a systematic approach for the determination of bridge condition by bridge inspection alone.

The process for determining the BCI is outlined in the Timber Bridge Condition Index User Guide. The BCI is primarily calculated utilising Condition States which are assigned based on the Level 2 Bridge Inspection Report (see attached).

A summary of the condition states and the calculated BCI for this bridge is provided below.

Condition States from Detailed Inspection Report conducted on 24-01-2018

		Condition State - Distribution (%)					
LOCATION	Weighting	CS1	CS2	CS3	CS4	Ave AGR	BCI
Condition State Weighting		1	3	9	11		
Stringers	11	17.4	18.3	3.0	61.3	45.6	68.4
Pier Piles	11	65.5	34.5	0.0	0.0		
Abutment Piles	11	0.0	0.0	0.0	0.0		
Halfcaps	11	0.0	100.0	0.0	0.0		
Corbels	6	0.0	100.0	0.0	0.0	22.8	
Timber Decking	6	0.0	80.0	0.0	20.0		
Wing Piles	3	6.2	0.0	0.0	93.8	20.1	
Abutment Sheeting	3	0.0	100.0	0.0	0.0		

Descriptor	BCI Range
Very Good	
Good	20 - 39
Fair	40 - 55
Poor	56 - 100
Severe	

BCI Descriptor Range (Refer Table 5.1 Doc No. 6706/02/2232)

Comments:
Numerous elements have not been inspected due to low headroom

Prepared by: P Olsen

Date: 28/02/2018

TIMBER BRIDGE DETAILED INSPECTION REPORT

mainroads WESTERN AUSTRALIA

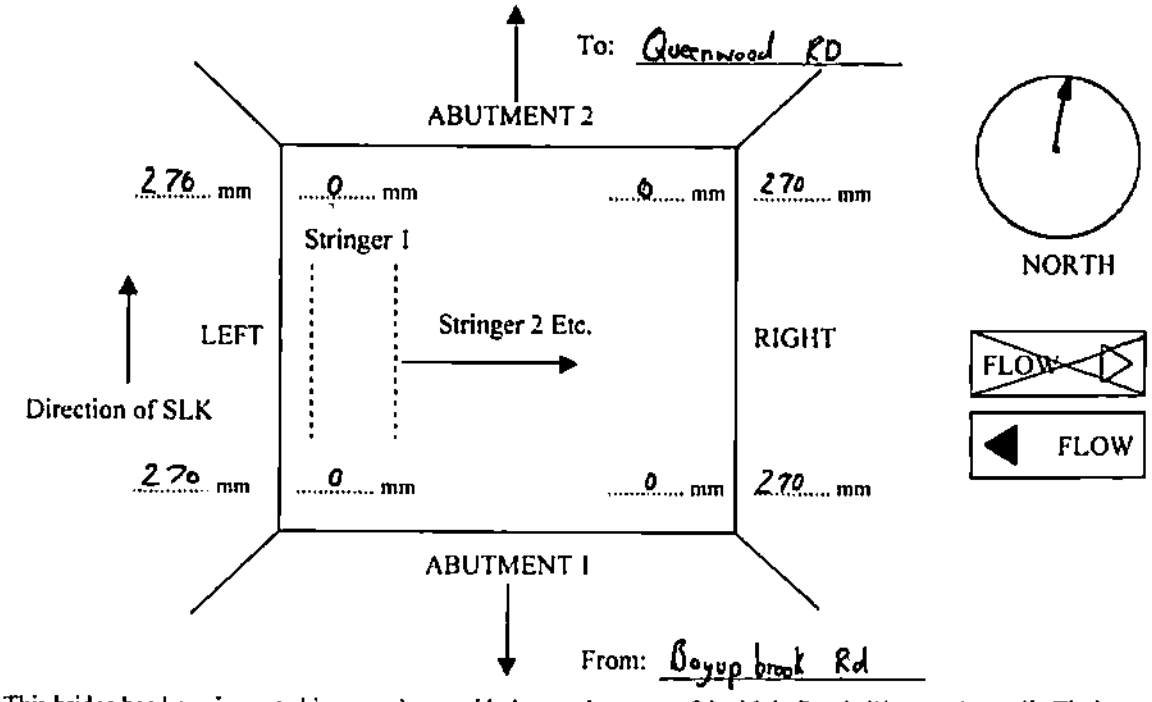
GENERAL INFORMATION - SHEET 1

Bridge No.: 3643

Region:	South West	Latitude (S):	-33.54048
		Longitude (E):	115.92275
Road Name:	Trevena Rd	Road No.:	2170045
Local Government:	Donnybrook - Balingup	Owner:	Local Authority
Crossing Name:	Preston River	SLK:	0.69
Number of Lanes:	1	Length (m):	18.45
Total Width (m): Inc Footpath	4.45	Max. Head Room (m): 3.40	Min. Head Room (m):
No. of Spans:	3	Width between Kerbs (m): 4.15	Concrete Overlay (Y/N): N

Piers are numbered along the bridge in ascending order from ABUTMENT 1 to ABUTMENT 2.
Piles are numbered across the bridge in ascending order from LEFT to RIGHT.
Stringers are numbered across the bridge in ascending order from LEFT to RIGHT.

Inside and outside kerb depths noted in corners of sketch.
Exposed Deck Ends (RCO only): LHS [ ] RHS [ ]



This bridge has been inspected in accordance with the requirements of the Main Roads Western Australia Timber Bridge Detailed Inspection Guidelines.

Inspected by: LW JP — Checked by: [illegible]
Date: 24/1/18 — Date: 15-3-18
Drilled by: JP

SITE CONDITIONS
Bridge No: 3643

mainroads WESTERN AUSTRALIA

DRIVE THROUGH	Visible Line of Sight from Abut. 1: 60 mtrs Visible Line of Sight from Abut. 2 90 mtrs
TRAFFIC CONTROL *(Describe if different to the generic TMP)*	Abut. 1 end: Abut. 2 end: } 1 mtr on shoulder
PARKING POSITION	> 3 m ☐ Position: 1.2 to 3 m ☐ Position: 0 to 1.2 m ☑ Position: A1 LHS
ACCESS TO ABUTMENTS *(Describe access conditions at each wing)*	Abutment 1: LHS RHS } down steep banks Abutment 2: LHS RHS } as above Vegetation: Long grass
ACCESS TO PIERS *(Describe access conditions along each side of the structure)*	LHS: RHS: } in water Vegetation: ok
POTENTIAL HAZARDS	Railing/Posts: Bolts: Services: Asbestos: Other: steep banks low hanging flashing
FENCES	Timber ☐ Location: none Wire/Mesh: ☐ Location: Electrified: ☐ Location: Barbed Wire: ☐ Location: Other (Specify): ☐ Location:
WATER	Depth (m): .3 Flow Rate: slow Algae: no (Access may be restricted by toxic algae) Tide: no Location: span 2
POWERLINES	Side of bridge: none Horizontal distance from edge of deck (m): Estimated vertical height above deck (m):

Signature

24/11/18
Date

TIMBER BRIDGE DETAILED INSPECTION REPORT

mainroads WESTERN AUSTRALIA

GUARDRAIL INFORMATION

Bridge No.: 3643

	Approach 1			On Bridge			Approach 2		
Barrier Type	LHS	Median	RHS	LHS	Median	RHS	LHS	Median	RHS
None									
RHS Rails No of Rails (on bridge).									
Thriebeam									
W Beam									
Trio-Bloc Concrete Barrier									
Reinforced Concrete Barrier (Type F)									
Constant Slope Concrete Barrier									
Other Concrete Profiles									
Post Type									
None									
Concrete									
Timber	X		X	X		X	X		X
Steel Type: _____									
[Types. C-Section (C), I Section (I), RHS (R), Square Hollow Section SHS (S), Tubular (T), Steel PFC (PFC), Steel Channel (Chl)]									
Off bridge									
Number of Posts off Bridge	3		3	[redacted]			3		3
Length of Barrier off Bridge (m)	4.6		4.6				4.6		4.7

	Approach 1			On Bridge			Approach 2		
Visibility Barrier	LHS	Median	RHS	LHS	Median	RHS	LHS	Median	RHS
Timber No of Rails (on bridge):	X		X	X		X	X		X
Steel Pipe(s) No of Pipes (on bridge)									
Guide Posts									
Balustrade									
Top Rails									
Steel Pipe									
Steel RHS/Channel									
Steel C Section									
Timber	X		X	X		X	X		X

	Approach 1			On Bridge	Approach 2		
End Terminals	LHS	Median	RHS		LHS	Median	RHS
Approved End Terminal Types				[redacted]			
WAMELT							
SKT-350							
ET-2000							
X Tension							
TAU II Crash Cushion							
Other							
Other End Terminal Types							
None	X		X	[redacted]	X		X
Turn-down							
Bullnose							
Fishtail							
Other							

Structural problem found? (Y/N) Y If yes, comment below.

L+RHS V/Barrier is leaning outwards : See photo + A2 RHS Barrier is broken : See photo

RHS is [illegible]

TIMBER BRIDGE DETAILED INSPECTION REPORT

mainroads WESTERN AUSTRALIA

ROUTINE INFORMATION

Bridge No.: 3643

SCUPPERS LOCATION, TYPE & CONDITION (R204)	None ☐ LHS ☑ RHS ☑	Box ☐ PVC pipe ☐ Hole in deck ☐ Through Deck ☐ Through Kerb ☑	note old holes thru Timber Kerb not in use due to Road been Sealed
FLASHING TYPE & CONDITION (R208)	None ☑	PVC pipe ☐	PGI ☐
BOLT TIGHTENING REQUIRED (P102)	Yes ☐	No ☑	
TERMITES (R204)	Active ☑	Not Active ☐	@ Large tree A2 RHS AT Barrier termination TREAT
PREVENTATIVE FUNGICIDE (P105)	Treated ☑	Not Treated ☐	SCRAPE & FULL TREATMENT
ATTACHED FENCES & OTHER WATERWAY OBSTRUCTIONS (R210)	old trees piece 1 RHS Rust Clumps		
ROAD SURFACE & KERBING CONDITION (R207) — ON BRIDGE	Road Surface:	Bitumen seal Cracking along both sides A1 to A2 : See photo	
	Kerbing:	Timber : Rotted	
APPROACHES	Road Surface:	Asphalt : minor wear	
	Kerbing:	none	
VEGETATION (R205)	Requires Clearing : LHS ☑	Abut 1 ☑	RHS ☑ Abut 2 ☑ Large trees & small trees Long grass.
STREAM BED CONDITION (General comments and details of location, depth & extent of scour, undermining and silt build up.) (R203)	Rocky / sandy		

SERVICES (Type, Size & Location)	Type	Size (mm)	Location
	Telstra	50	A1 To A2 RHS

BRIDGE CONDITION	Priority for Engineering Assessment			
	Low ☐	Medium ☑	High ☐	Urgent ☐

Comments: Timber Kerb has started to lean outwards Resulting in both sides of the V/barrier Leaning outwards
Repair Required

TIMBER BRIDGE
DETAILED INSPECTION REPORT

mainroads WESTERN AUSTRALIA

GENERAL INFORMATION - SHEET 2

Bridge No.: 3643

Bridge Status	Built/In Use	X	Not Used	
Date Built	16/06/1964	**Skew (angle)** ____	**Skewed Width (m)** ____	

Widening Left Hand side [ ] Width (m) ____ Date ____ Right Hand side [ ] Width (m) ____ Date ____

Surface Type	Unsurfaced		Bitumen Seal	X	Asphalt	
	Rubberised Seal		Tiles		Steel Plate	
Pavement Type	Unpaved		Gravel		Material Unknown	

Footpath Left	Left Kerb (m) 0.15	Path (m)	Right Kerb (m)	
Footpath Right	Left Kerb (m)	Path (m)	Right Kerb (m) 0.15	
Median	Left Kerb (m)	Median (m)	Right Kerb (m)	

Bridge Function 1	Road Bridge	X	Rail Bridge		Pedestrian Bridge	
Bridge Function 2	Over Water	X	Over Road		Over Rail	
	Over Road & Rail		Over Road & Water		Over Rail & Water	
	Stock Underpass		Pedestrian Underpass			

SIGNAGE

Load Limits Abutment 1 End [Tonne] Abutment 2 End [Tonne]

Width Markers Abutment 1 LHS [2] RHS [4] Abutment 2 LHS [2] RHS [3]

Is position of Width Markers a true indication of the bridge width? (Y/N) [N] – [illegible]

* [illegible]

Other Signs

No Overtaking or Passing	Abutment 1	LHS	RHS		Abutment 2	LHS	RHS	
No Overtaking on Bridge	Abutment 1	LHS	RHS		Abutment 2	LHS	RHS	
One Lane Bridge	Abutment 1	LHS	RHS		Abutment 2	LHS	RHS	
Low Clearance ....m	Abutment 1	LHS	RHS		Abutment 2	LHS	RHS	
Narrow Bridge Sign	Abutment 1	LHS 2	RHS		Abutment 2	LHS	RHS 2	
Give Way	Abutment 1	LHS	RHS		Abutment 2	LHS	RHS	

Crossing Sign: ____

Other ____	Abutment 1	LHS	RHS	Abutment 2	LHS	RHS
	Abutment 1	LHS	RHS	Abutment 2	LHS	RHS

Signage Condition Legend *Good* [1] *Poor* [3] *Not Required* [ ] *Fair* [2] *None (missing)* [4]

note A1 LHS has a Small Type W/marker

TIMBER BRIDGE DETAILED INSPECTION REPORT

mainroads WESTERN AUSTRALIA

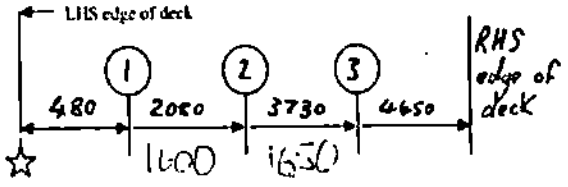
ELEMENT SPACING SHEET 2

Bridge No.: 3643

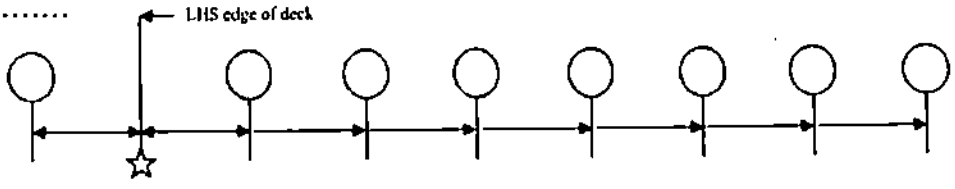
All measurements (cumulative) are taken from the reference point as indicated by the star ☆

Pier Pile Centres Mark in RHS edge of deck and dimension last pile to RHS edge of deck

PIER No. 1, typical



PIER No. .....



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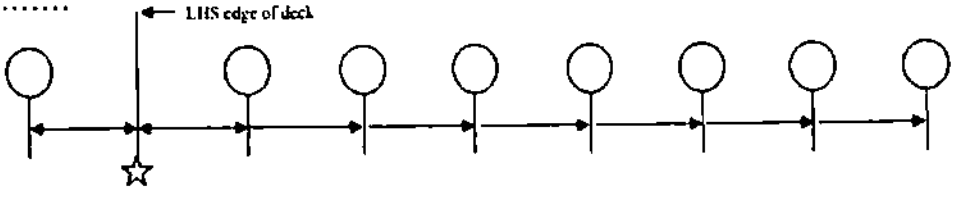
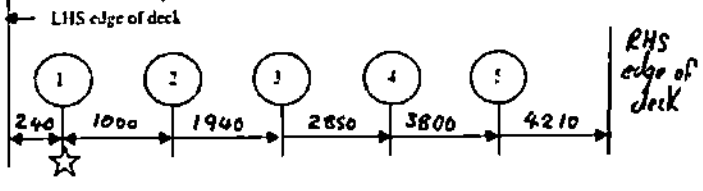


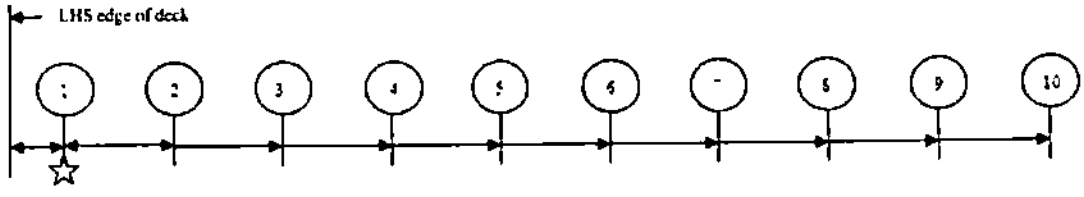
Typical Stringer Spacing Mark in RHS edge of deck and dimension last stringer to RHS edge of deck

Note: Stringer spacings must be measured in every span with additional stringers Use additional sheets as required

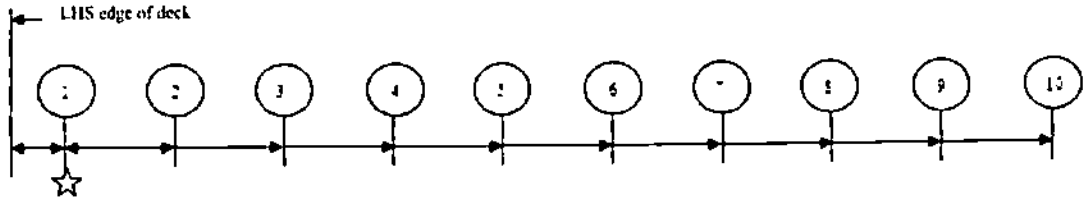
SPAN No. 1, typical



SPAN No. .....



SPAN No. .....

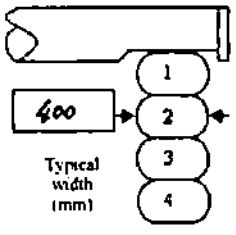


TIMBER BRIDGE DETAILED INSPECTION REPORT

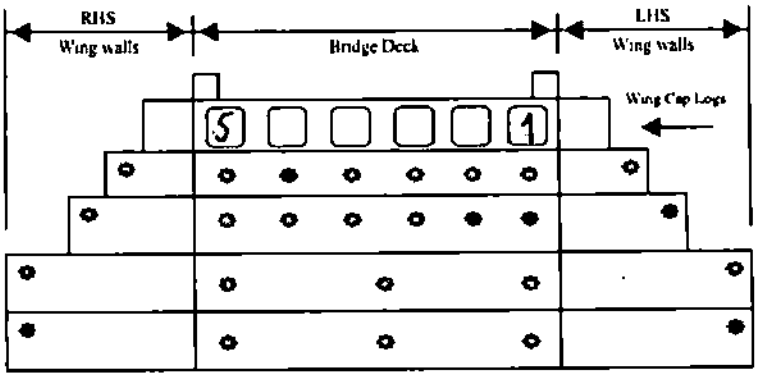
mainroads WESTERN AUSTRALIA

BEDLOG ABUTMENTS

Abutment No. 1 **Bridge No: 3643**



View from LHS



⊙ = Drill Location

Bedlog	Vert (mm)	Mat Type	Drilling (mm)	BELOW STRINGER NUMBER											Condition State	Bolt reqd
				1	2	3	4	5	6	7	8	9	10	11		
1	340	JAR	Solid (Front)	*	*	*	*	*								
			Rot/Pipe													
			Solid (Rear)													

Bedlog No	LHS					CENTRE LINE				RHS			
	Face	Solid	Rot	Pipe	Bolt reqd	Solid	Rot	Pipe	Bolt reqd.	Solid	Rot	Pipe	Bolt reqd
3	Front												
	Rear												
4	Front												
	Rear												
5	Front												
	Rear												
6	Front												
	Rear												
7	Front												
	Rear												
8	Front												
	Rear												

Bedlog - Wing Walls: LHS: Bed Log 1 is u/s Rotten

RHS: Bed Log 1 is u/s Bed Log 2 is so to back

Saturated Bedlogs:

Sheeting: LHS:

CENTRE LINE:

RHS:

Comments: * Unable to drill due to Low H/room.

Heavy Mossing A1 end

TIMBER BRIDGE DETAILED INSPECTION REPORT

mainroads WESTERN AUSTRALIA

PIER No: 1 **Bridge No:** 3643

Pile No	Circ (mm)	Dia (mm)	Timber Drilling (mm)			Extent of Rot (m)			Splits		Blaze Markings			Halfcaps Bearing (mm)		Pile Circ (mm) below H/C (5m*)	Mat Type	Cond State
			Solid	Rot	Pipe	Drill Location from top H/C	Below	Above	Location	Requires Band	Marking (from)	Height Top H/C to Blaze (m)	Height Blaze to GL (m)	A1	A2			
1	1300	410	205						H1		20	.7	1.6	160	160		JAR	2
2	1410	450	225						H1		20	.7	1.6	160	150		JAR	2
3	1300	410	205						H1		20	.7	1.6	160	160		JAR	2
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Total Number of Corbels: 5 Typical Corbel Height (mm): LHS 380 RHS 380

Corbel No:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Material Type:	JAR	JAR	JAR	JAR	JAR									
Requires Bolting: A1/A2 End		all	bolted											
Condition State: A1/A2 End	2/2	2/2	2/2	2/2	2/2									

Ironwork Condition: minor rust Tightening Required: No

Walers Size V x H

Bracing Size V x H

Saturated Piles:

LHS Halfcaps Size V 350 H 160 Length 4600 No. of 2 Gap between H/Caps 160

Top of H/Caps to underside of Deck 730 H/Cap Material T

RHS Halfcaps Size V H Length No. of Gap between H/Caps

Top of H/Caps to underside of Deck H/Cap Material

Are there more than 2 sets of halfcaps or sill beams (~~YES~~/NO) NO (If yes record details on comments sheet)

Comments: Both H/Caps have numerous G/Veins T/out

Pile No.:	Pile No.:	Pile No.:	Pile No.:
A2	A2	A2	A2
LHS RHS	LHS RHS	LHS RHS	LHS RHS
A1	A1	A1	A1

TIMBER BRIDGE DETAILED INSPECTION REPORT

mainroads WESTERN AUSTRALIA

PIER No: 2 **Bridge No:** 3643

Pile No	Circ (mm)	Dia (mm)	Timber Drilling (mm) Solid	Rot	Pipe	Extent of Rot (m) Drill Location from top HC	Below	Above	Splits Location	Requires Band	Blaze Markings Marking (ft m)	Height Top HC to Blaze (m)	Height Blaze to GL (m)	Halfcaps Bearing (mm) A1	A2	Pile Circ (mm) below HC (5m+)	Mat Type	Cond State
1	1100	350	175						11		21	.7	1.8	100	130		JAR	2
2	1210	390	195						2		21	.7	1.8	140	120		JAR	2
3	1100	350	175						11		21	.7	1.8	120	160		JAR	2
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Total Number of Corbels: 5 Typical Corbel Height (mm): LHS 380 RHS 380

Corbel No:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Material Type	JAR	JAR	JAR	JAR	JAR									
Requires Bolting A1/A2 End	0		bo	bo										
Condition State: A1/A2 End	2 2	2 2	2 2	2 2	2 2									

Ironwork Condition: minor rust Tightening Required: No

Walers Size V x H

Bracing Size V x H

Saturated Piles:

LHS Halfcaps Size V 350 H 160 Length 4600 No. of 2 Gap between H/Caps 160

Top of H/Caps to underside of Deck 730 H/Cap Material S

RHS Halfcaps Size V H Length No. of Gap between H/Caps

Top of H/Caps to underside of Deck H/Cap Material

Are there more than 2 sets of halfcaps or sill beams (~~YES~~/NO) No (If yes record details on comments sheet)

Comments both H/Caps have numerous G/Veins T/out

Minor plot rock

Pile No	Pile No	Pile No	Pile No
A2	A2	A2	A2
LHS RHS	LHS RHS	LHS RHS	LHS RHS
A1	A1	A1	A1

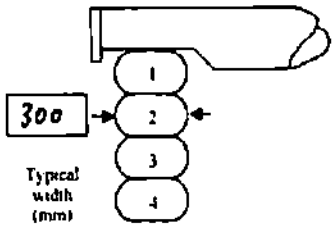
TIMBER BRIDGE DETAILED INSPECTION REPORT

mainroads WESTERN AUSTRALIA

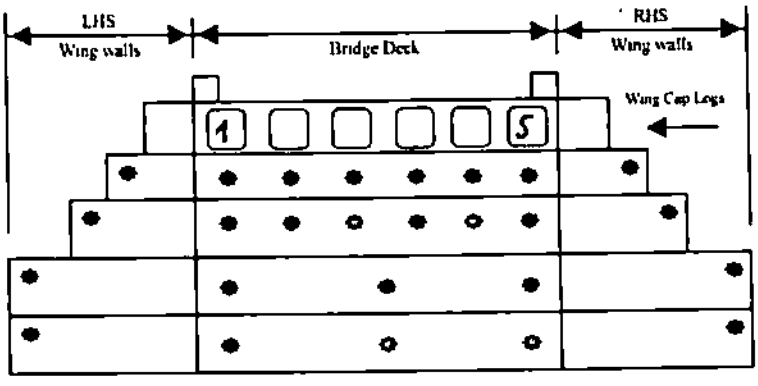
BEDLOG ABUTMENTS

Abutment No. 2

Bridge No: 3643



View from RHS



● = Drill Location

Bedlog	Vert (mm)	Mat Type	Drilling (mm)	BELOW STRINGER NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	Condition State
1	300	JAR	Solid (Front)	✱	✱	✱	✱	110								2
			Rot/Pipe					To Back								
			Solid (Rear)					0								

Bedlog No	LHS Face	LHS Solid	LHS Rot	LHS Pipe	LHS Bolt reqd.	CENTRE LINE Solid	CENTRE LINE Rot	CENTRE LINE Pipe	CENTRE LINE Bolt reqd	RHS Solid	RHS Rot	RHS Pipe	RHS Bolt reqd
3	Front												
	Rear												
4	Front												
	Rear												
5	Front												
	Rear												
6	Front												
	Rear												
7	Front												
	Rear												
8	Front												
	Rear												

Bedlog - Wing Walls. LHS: Bedlog 1 is u/s Bedlog 2 is 60 To back

RHS Bedlog 1 is u/s

Saturated Bedlogs: None

Sheeting: LHS

CENTRE LINE.

RHS.

Comments: both W/Wall Bedlogs are in poor Condition

Heavy Scouring of face

POSSIBLE MOVEMENT IN ABUTMENT 2 BEARER SUPPORT IS

POOR RHS - SCOUR PRONE

TIMBER BRIDGE DETAILED INSPECTION REPORT

mainroads WESTERN AUSTRALIA

DETAIL SHEET

Span No: 1 Bridge No: 3643

Stringer No:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Material Type:	JAR	JAR	JAR	JAR	JAR									

Abutment 1 End

H Diameter (mm)		400	420	400	470	380									
V Measurement (mm)		350	350	350	350	350									
Drill Vertical	Solid (B)	*	*	*	*	*									
	Rot	120				150									
	Pipe														
	Rot														
	Solid (T)														
Drill Horiz	Left	80				90									
	Right	200				110									
Split V	Bolt Rqd														
Split H	Bolt Rqd														
Propped															
Condition State		3	—	—	—	4									

Mid Span

H Diameter (mm)		400	440	400	470	380									
V Measurement (mm)		500	420	450	430	500									
Drill Vertical	Solid (B)	480	180	450	430	480									
	Rot														
	Pipe		80												
	Rot														
	Solid (T)		160												
Drill Horiz	Left														
	Right														
Split V	Bolt Rqd														
Split H	Bolt Rqd														
Propped															
Condition State		1	2	1	1	1									

All Results Given at 480 mm bit size

Abutment 2 End

H Diameter (mm)		450	480	400	470	380									
V Measurement (mm)		350	350	350	350	350									
Drill Vertical	Solid (B)	180	170	130	140	110									
	Rot														
	Pipe	60	80	120	60	100									
	Rot														
	Solid (T)	110	100	100	150	140									
Drill Horiz	Left														
	Right														
Split V	Bolt Rqd														
Split H	Bolt Rqd														
Propped															
Condition State		2	2	2	2	2									

Cond. of Spiking Plank Not Applicable [✓] Size V [—] Condition S [—] R [—] %

Cond. of Decking (Solid/Rot) S [90] R [10] % Cond. of Deck Ends S [80] R [20] %

Decking Size (mm) V [100] x H [226] Decking Timber Type [JAR]

Span Length from Centreline Supports (m) [5.71] Clear Span Length [4.82] Saturated stringers: [5]

Deck Condition State Percentage: Condition 1 [ ] Condition 2 [10] Condition 3 [ ] Condition 4 [10] Spiral Grain Stringers: [4]

Comments: Str 1 A1 drilled 1st from the face. * Unable to drill due to Low H/room

DECK ENDS U/S NO LEVELS - SEE POINT PHOTO 1

DECK ENDS U/S ATTACHMENT SHT - SEE SPLIT PHOTO 2

REPAIR BRSTRS

TIMBER BRIDGE DETAILED INSPECTION REPORT

mainroads WESTERN AUSTRALIA

DETAIL SHEET

Span No: 2 Bridge No: 3643

Stringer No:	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Material Type:	JAR	JAR	JAR	JAR	JAR									

Abutment 1 End

H Diameter (mm)		420	410	400	490	390									
V Measurement (mm)		350	350	350	350	350									
Drill Vertical	Solid (B)	350	170	350	350	120									
	Rot					90									
	Pipe		60												
	Rot														
	Solid (T)		120			140									
Drill Horiz	Left														
	Right														
Split V	Bolt Rqd														
Split H	Bolt Rqd														
Propped															
Condition State		1	2	1	1	2									

Mid Span

H Diameter (mm)		420	410	450	480	450									
V Measurement (mm)		500	450	430	500	460									
Drill Vertical	Solid (B)	220	220	430	480	180									
	Rot														
	Pipe	60	30			160									
	Rot														
	Solid (T)	200	200			200									
Drill Horiz	Left					160									
	Right					170									
Split V	Bolt Rqd		✓			✓									
Split H	Bolt Rqd		✓			✓									
Propped															
Condition State		2	2	1	1	2									

Abutment 2 End

H Diameter (mm)		480	480	400	550	470									
V Measurement (mm)		350	350	350	350	350									
Drill Vertical	Solid (B)	350	200	350	350	140									
	Rot		60												
	Pipe					To Top									
	Rot														
	Solid (T)		90			0									
Drill Horiz	Left					110									
	Right					180									
Split V	Bolt Rqd				—										
Split H	Bolt Rqd														
Propped															
Condition State		1	2	1	1	2									

Cond. of Spiking Plank Not Applicable / Size V — Condition S — R — %

Cond. of Decking (Solid/Rot) S 90 R 10 % Cond. of Deck Ends S 70 R 30 %

Decking Size (mm) V 100 x H 220 Decking Timber Type JAR

Span Length from Centreline Supports (m) 6.13 Clear Span Length 4.67 Saturated stringers:

Deck Condition State Percentage: Condition 1 | Condition 2 70 | Condition 3 | Condition 4 10 Spiral Grain Stringers:

Comments:

DECK ENDS INTERMITTENTLY W/S RAILS - REPAIR

TIMBER BRIDGE DETAILED INSPECTION REPORT

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DETAIL SHEET

Span No: 3 Bridge No: 3643

Stringer No:			1	2	3	4	5	6	7	8	9	10	11	12	13	14
Material Type.			JAR	JAR	JAR	JAR	JAR									
Abutment 1 End	H Diameter (mm)		540	470	530	530	460									
	V Measurement (mm)		350	350	350	350	350									
	Drill Vertical	Solid (B)	140	160	350	350	160									
		Rot														
		Pipe	100	50			To Top									
		Rot														
		Solid (T)	110	140			>0									
	Drill Horiz	Left					180									
		Right					120									
	Split	V Bolt Rqd		✓		—										
		H Bolt Rqd		✓												
	Propped															
	Condition State		2	2	1	1	2									
Mid Span	H Diameter (mm)		430	420	490	490	440									
	V Measurement (mm)		480	440	470	500	480									
	Drill Vertical	Solid (B)	480	160	470	480	270									
		Rot					50									
		Pipe		70												
		Rot														
		Solid (T)		210			160									
	Drill Horiz	Left														
		Right														
	Split	V Bolt Rqd		✓												
		H Bolt Rqd		✓												
	Propped															
	Condition State		1	2	1	1	2									
Abutment 2 End	H Diameter (mm)		400	400	470	480	420									
	V Measurement (mm)		350	350	350	350	350									
	Drill Vertical	Solid (B)	*	*	*	*	*									
		Rot	130													
		Pipe														
		Rot														
		Solid (T)														
	Drill Horiz	Left	150				420 F									
		Right	120													
	Split	V Bolt Rqd														
		H Bolt Rqd														
	Propped															
	Condition State		3	—	—	—	2									

Cond. of Spiking Plank Not Applicable [✓] Size V [—] Condition S — R — %

Cond. of Decking (Solid/Rot) S 90 R 10 % Cond. of Deck Ends S 70 R 30 %

Decking Size (mm) V 100 x H 220 Decking Timber Type JAR

Span Length from Centreline Supports (m) 5.75 Clear Span Length 4 80 Saturated stringers: ______

Deck Condition State Percentage: Condition 1 [ ] Condition 2 [90] Condition 3 [ ] Condition 4 [10] Spiral Grain Stringers: ______

Comments: note deck board ends from pier 3 are u/s 6 in total
* Unable to drill due to Low H/room
DECK [illegible] U/S RHS
[illegible]