



Appendix E Component/ Activities Mapping



**Queensland
Government**

Department of
Main Roads

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1 Introduction

Appendix E provides guidance on maintenance activities relevant to each standard bridge inspection component. This section is also programmed into the BIS such that, when a defective component is identified, the relevant maintenance activities are displayed.

2 Standard Component / Activities Mapping

2.1 Bituminous Wearing Surface (10)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
10	Bituminous wearing surface	Programmed	Patch pot holes with asphalt	105
		Programmed	Surface correction with Premix or Asphalt	110
		Programmed	Fill Cracks	120
		Programmed	Excavate & replace asphalt (full depth)	157
		Programmed	Storage of timber bridge materials and components at Site	7190
		RMPC	Routine bridge servicing (clear blocked scuppers)	100M11
		Programmed	Provide new scuppers	100M6

2.2 Timber Barrier (2T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
2T	Timber Barrier	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Paint or repaint timber	100T4
		RMPC or Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Replace timber post	2T1
		Programmed	Replace timber rail	2T2
		Programmed	Replace timber barrier with steel bridge rail	2T3

2.3 Steel Barrier (2S)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
2S	Steel Barrier	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Spot clean & paint steelwork	100S1
			Clean & paint bolts, nuts & washers	100S2
		Programmed	Clean & paint steelwork	100S3
		Programmed	Repair cracked weld	110S1
		RMPC or Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Replace anchor bolts (if damaged)	120S3
		Programmed	Replace steel bridge rail &/or	2S1
			Replace steel post	2S2
		Programmed	Relocate steel rail	2S3
		Programmed	Increase barrier height	2S4
		Programmed	Place post packer	2S5
Programmed	Replace timber post	2T1		

2.4 Guide Posts (2T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
2T, 2S	Guide posts	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Spot clean & paint steelwork	100S1
		Programmed	Clean & paint bolts, nuts & washers	100S2
		Programmed	Clean & paint steelwork	100S3
		Programmed	Paint or repaint timber	100T4
		Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Replace anchor bolts	120S3
		Programmed	Replace steel post	2S2
		Programmed	Replace timber post	2T1

2.5 Approach Guardrail (72S)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
72S	Steel Approach Guardrail	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Clean & paint steelwork	100S3
		Programmed	Replace guardrail section	72S1
		Programmed	Add posts	72S2
		Programmed	Install guardrail	72S3
		Programmed	Provide connections to end post or rail	72S4

2.6 Timber Kerbs (3T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
3T	Timber Kerbs	Programmed	Hardwood kerbs, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long	7001
		Programmed	Plywood kerbs, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long	7002
		Programmed	Hardwood kerbs, transport to Site, ex Works/Stockpile [location], ([width] mm wide, [thickness] mm thick), [length] metres long	7101
		Programmed	Plywood kerbs, transport to Site, ex Works /Stockpile [location], ([width] mm wide, [thickness] mm thick), [length] metres long	7102
		Programmed	Storage of timber bridge materials and components at site	7190
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Paint or repaint timber	100T4
		Programmed	Poison termite nest or trails	110T2
		RMPC or Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Replace kerb in hardwood	3T1
		Programmed	Replace kerb in ply	3T2

2.7 Concrete Kerbs (3C)

Appendix E

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
3C	Concrete Kerbs	Programmed	Hardwood kerbs, supply on Site ([width] mm wide, [thickness] mm thick), [length] metres long	7001
		Programmed	Plywood kerbs, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long	7002
		Programmed	Hardwood kerbs, transport to Site, ex Works/Stockpile [location], ([width] mm wide, [thickness] mms thick), [length] metres long	7101
		Programmed	Plywood kerbs, transport to Site, ex Works/Stockpile [location] mm thick), [length] metres long	7102
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Break back cracked concrete	100C1
		Programmed	Patch concrete	100C3
		RMPC or	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Clean corroded reinforcing	140S1
		Programmed	Replace kerb in concrete	3C1
		Programmed	Replace kerb in hardwood	3T1
		Programmed	Replace kerb in ply	3T2

2.8 Timber Plank Deck (29T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
29T	Timber Plank Deck (Hard wood)	Programmed	Hardwood decking, supply on Site, ([thickness] mm thick), [length] metres long	7003
		Programmed	Plywood deck sheets, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long	7004
		Programmed	Plywood deck sheets including coating, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long	7005
		Programmed	Hardwood end spiking plank, supply on Site, ([width] mm wide, [thickness] mm thick)	7007
		Programmed	Hardwood distributor planks, supply on Site, ([width] mm wide, [thickness] mm thick)	7019
		Programmed	Hardwood running planks, supply on Site, ([width] mm wide, [thickness] mm thick)	7020
		Programmed	Steel bridge decking, supply on Site, ([depth] mm deep, [thickness] mm thick), [length] metres long	7050
		Programmed	Steel kerb, supply on Site, ([depth] mm deep, [thickness] mm thick), [length] metres long	7051
		Programmed	Precast prestressed concrete bridge decking, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long, [hand] clockwise / anticlockwise skew/square delete as appropriate), [degrees] degrees skew	7080
		Programmed	Hardwood decking, transport to Site, ex Works/Stockpile [location] ([thickness] mm thick), [length] metres long	7103
		Programmed	Plywood deck sheets, transport to Site, ex Works/Stockpile [location], ([width] mm wide, [thickness] mm thick), [length] metres long	7104
		Programmed	Plywood deck sheets including coating, transport to site, ex Works/Stockpile [location], ([width] mm wide, [thickness] mm thick), [length] metres long	7105
		Programmed	Hardwood end spiking planks, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7107
		Programmed	Hardwood distributor planks, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7119
Programmed	Hardwood running planks, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7120		
Programmed	Steel bridge decking, transport to Site, ex Works/Stockpile [location], ([depth] mm deep, [thickness] mm thick), [length] metres long	7150		

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
29T	Timber Plank Deck (Hard wood) (cont.)	Programmed	Steel kerb, transport to Site, ex Works/Stockpile [<i>location</i>], (<i>depth</i>) mm deep, (<i>thickness</i>) mm thick, (<i>length</i>) metres long	7151
		Programmed	Precast prestressed concrete bridge decking, transport to Site ex Works/Stockpile [<i>location</i>], (<i>width</i>) mm wide, (<i>thickness</i>) mm thick, (<i>length</i>) metres long, (<i>hand</i>) clockwise/anticlockwise skew/square (delete as appropriate), (<i>degrees</i>) degrees skew	7180
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Recamber girders	100M1
		Programmed	Clean and paint steelwork	100S3
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Apply preservative grease to member ends	100T2
		RMPC or Programmed	Tighten existing bolts	120S1
		RMPC or Programmed	Replace or install bolts	120S2
		Programmed	Install distributor planks (HW)	120T1
		Programmed	Replace & retighten distributor planks (HW)	120T2
		Programmed	Install distributors (steel)	130S3
		Programmed	Replace distributors (Steel)	130S4
		Programmed	Replace deck planks in ply	20T2
		Programmed	Replace longitudinal deck planks in ply	20T3
		Programmed	Replace crossbeam	28T1
		Programmed	Replace deck planks in PSC	29P3
		Programmed	Replace hardwood deck planks	29T1
		Programmed	Replace end spiking plank	29T2
		Programmed	Replace & retighten running planks	29T3
		Programmed	Replace longitudinal deck planks in timber or	29T4
Programmed	Splice hardwood deck planks	29T5		
Programmed	Replace deck planks in steel	30S3		

2.9 Plywood Sheet Deck (20T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
20T	Plywood Sheet	Programmed	Fill cracks in WS	120
		Programmed	Excavate & replace asphalt full depth	157
		Programmed	Plywood deck sheets, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long	7004
		Programmed	Plywood deck sheets including coating, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long	7005
		Programmed	Hardwood distributor planks, supply on Site, ([width] mm wide, [thickness] mm thick)	7019
		Programmed	Plywood deck sheets, transport to Site, ex Works/Stockpile [location], ([width] mm wide, [thickness] mm thick), [length] metres long	7104
		Programmed	Plywood deck sheets including coating, transport to Site, ex Works/Stockpile [location], ([width] mm wide, [thickness] mm thick), [length] metres long	7105
		Programmed	Hardwood distributor planks, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7119
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Clean and paint steelwork	100S3
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Apply end sealant	100T5
		RMPC or Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Install large washers	120S4
		Programmed	Install distributor planks (HW)	120T1
		Programmed	Replace and retighten distributors planks (HW)	120T2
		Programmed	Install channel tie-downs	130S1
		Programmed	Install distributors (Steel)	130S3
		Programmed	Replace distributors (steel)	130S4
		Programmed	Replace ply sheet	20T1

2.10 Concrete Slab Deck (20C)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
20C	Concrete Slab Deck	Programmed	Fill cracks (in WS) or	120
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Break back cracked concrete	100C1
		Programmed	Fill cracks with epoxy	100C2
		Programmed	Patch concrete	100C3
		Programmed	Clean corroded reinforcing	140S1
		Programmed	Replace reinforcing	140S2

2.11 Prestressed Concrete Plank (29P)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
29P	Prestressed Concrete Plank	Programmed	Precast prestressed concrete bridge decking, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long, [hand] (clockwise/anticlockwise/skew/square delete as appropriate), [degrees] degrees skew	7080
		Programmed	Precast prestressed concrete bridge decking, transport to Site ex Works/Stockpile [location], ([width] mm wide, [thickness] mm thick), [length] metres long, [hand] clockwise/anticlockwise skew/square (delete as appropriate), [degrees] degrees skew	7180
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Fill cracks with epoxy	100C2
		Programmed	Patch concrete	100C3
		RMPC or Programmed	Tighten existing bolts	120S1
		RMPC or Programmed	Replace or install bolts	120S2
		Programmed	Replace distributors (Steel)	130S4
		Programmed	Clean corroded reinforcing	140S1
		Programmed	Replace PSC plank	29P1
Programmed	Reseat PSC plank	29P2		

2.12 Steel Trough Decking (30S)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
30S	Steel Trough Decking	Programmed	Patch potholes with asphalt	105
		Programmed	Fill cracks in AC	120
		Programmed	Excavate & replace asphalt infill (1) or	157
		Programmed	Steel bridge decking, supply on Site, ([<i>depth</i>] mm deep, [<i>thickness</i>] mm thick) [<i>length</i>] metres long	7050
		Programmed	Steel kerb, supply on Site, ([<i>depth</i>] mm deep, [<i>thickness</i>] mm thick), [<i>length</i>] metres long	7051
		Programmed	Steel bridge decking, transport to Site, ex Works/Stockpile [<i>location</i>], ([<i>depth</i>] mm deep, [<i>thickness</i>] mm thick), [<i>length</i>] metres long	7150
		Programmed	Steel kerb, transport to Site, ex Works/Stockpile [<i>location</i>], ([<i>depth</i>] mm deep, [<i>thickness</i>] mm thick), [<i>length</i>] metres long	7151
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Break back cracked concrete	100C1
		Programmed	Place emergency propping	100M9
		Programmed	Clean and paint steelwork (at joints)	100S3
		Programmed	Repair cracked weld	110S1
		Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Install channel tie downs	130S1
		Programmed	Replace channel tie downs	130S2
		Programmed	Remove & replace steel trough decking	30S1
		Programmed	Strengthen steel troughing	30S2
		Programmed	Place reinforced concrete infill	30S4
		Programmed	Replace tap screws	30S5
Programmed	Place reinforced concrete slab	30S6		

2.13 Timber Crossbeams (28T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
28T	Timber Crossbeams	Programmed	Storage of timber bridge materials and components	7190
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Apply preservative grease to member ends	100T2
		Programmed	Tighten existing bolts	120S1
		Programmed	Remove, replace or install bolts	120S2
		Programmed	Replace crossbeam	28T1
		Programmed	Place additional crossbeams	28T2

2.14 Steel Crossbeams (28S)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
28S	Steel Crossbeams	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Spot clean & paint steelwork	100S1
		Programmed	Clean & paint steelwork	100S3
		Programmed	Repair cracked weld	110S1
		Routine or Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Replace crossbeam	28S1

2.15 Concrete Overlay Deck (20C)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
20C	Concrete Overlay Deck	Programmed	Temporary pavement repairs	142
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Fill cracks with epoxy (severe cracks only)	100C2
		Programmed	Patch concrete	100C3
		RMPC	Routine bridge servicing (remove vegetation)	100M11
		Programmed	Provide new scuppers	100M6
		Programmed	Apply seal coating (Contact Structures Division to determine if extra mass from surfacing is acceptable of if other procedures available)	118
		Programmed	Clean corroded reinforcing	140S1
		Programmed	Replace reinforcing	140S2
		Programmed	Remove and replace cracked overlay (full depth)	20C1

2.16 Stress-Laminated Timber Deck (20T)

Appendix E

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
20T	Stress Laminated Timber Deck	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Clean & paint bolts, nuts & washers	100S2
		Programmed	Clean & paint stressing bars	100S4
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Replace anchor bolts	120S3
		Programmed	Replace laminates	20T10
		Programmed	Check stressing bars	20T4
		Programmed	Sleeve bolts	20T5
		Programmed	Restress deck	20T6
		Programmed	Replace stressing bars	20T7
		Programmed	Sleeve stressing bars	20T8
		Programmed	Replace anchor plates	20T9

2.17 Footway - Timber Surface - HW Planks (4T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
4T	Footway (timber surface) Hardwood Planks	Programmed	Hardwood decking, supply on Site, ([thickness] mm thick), [length] metres long	7003
		Programmed	Hardwood distributor planks, supply on Site, ([width] mm wide, [thickness] mm thick)	7019
		Programmed	Hardwood decking, transport to Site, ex Works/Stockpile [location] ([thickness] mm thick), [length] metres long	7103
		Programmed	Hardwood distributor planks, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7119
		Programmed	Storage of timber bridge materials and components at site	7190
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Apply preservative grease to member ends	100T2
		Programmed	Tighten footpath fasteners	120S6
		Programmed	Replace footpath fasteners	120S7
		Programmed	Replace timber planks	4T1
		Programmed	Reposition / Reseat timber planks	4T2

2.18 Footway - Timber Surface - Ply Sheets (4T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
4T	Footway (timber surface) Ply Sheets	Programmed	Hardwood decking, supply on Site, ([thickness] mm thick), [length] metres long	7003
		Programmed	Hardwood distributor planks, supply on Site, ([width] mm wide, [thickness] mm thick)	7019
		Programmed	Hardwood decking, transport to Site, ex Works/Stockpile [location] ([thickness] mm thick), [length] metres long	7103
		Programmed	Hardwood distributor planks, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7119
		Programmed	Storage bridge materials/components at site	7190
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Apply preservative grease to member ends	100T2
		Programmed	Tighten footpath fasteners	120S6
		Programmed	Replace footpath fasteners	120S7
		Programmed	Replace timber planks	4T1
Programmed	Reposition / Reseat timber planks	4T2		

2.19 Footway - Asphalt Surface - Steel Trough (4O)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
4O	Footway - asphalt surface	Programmed	Patch pot holes with asphalt	105
		Programmed	Fill cracks in surfacing	120
		Programmed	Excavate & replace asphalt	157
		Programmed	Steel bridge decking, supply on Site, ([depth] mm deep, [thickness] mm thick), [length] metres long	7050
		Programmed	Steel bridge decking, transport to Site, ex Works/Stockpile [location], ([depth] mm deep, [thickness] mm thick), [length] metres long	7150
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Spot clean & paint steelwork	100S1
		Programmed	Clean & paint steel work	100S3
		Programmed	Repair corroded plate	110S2

2.20 Timber Spiking Plank (33T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
33T	Timber Spiking Plank	Programmed	Hardwood spiking planks, supply on Site, ([width] mm wide, [thickness] mm thick)	7006
		Programmed	Hardwood spiking planks, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7106
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Tighten existing bolts & monitor	120S1
		Programmed	Replace spiking plank	33T1

2.21 Timber Girders (22T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
22T	Timber Girders	Programmed	Hardwood girders, round, supply on Site, ([diameter] mm diameter), [length] metres long	7008
		Programmed	Hardwood girders, octagonal, supply on Site, ([width] mm wide), [length] metres long	7009
		Programmed	Hardwood girders, round, transport to Site, ex Works/Stockpile [location] ([diameter] mm diameter, [length] metres long	7108
		Programmed	Hardwood girders, octagonal, transport to Site, ex Works/Stockpile [location] ([width] mm wide), [length] meters long	7109
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Apply chemical preservative to timber (check restrictions)	100T1
		Programmed	Apply preservative grease to girder ends.	100T2
		Programmed	Drill & inject termicide poison into timber	110T1
		RMPC	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Replace girder with approved alternative girder	22O1
		Programmed	Replace timber girder with steel girder	22S4
		Programmed	Strengthen split or sniped girder	22T1
		Programmed	Replace timber girder	22T2
		Programmed	Place supplementary member	22T3

2.22 Steel Girders (22S)

Appendix E

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
22S	Steel Girders	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Spot clean & paint steelwork	100S1
		Programmed	Clean & paint bolts, nuts & washers	100S2
		Programmed	Clean & paint steelwork	100S3
		Programmed	Repair cracked weld	110S1
		Programmed	Replace or install bolts	120S2
		Programmed	Replace rivets	120S5
		Programmed	Strengthen steel girder (may require replacement girder)	22S1
		Programmed	Install top flange restraints	22S2
		Programmed	Straighten steel girder	22S3
		Programmed	Replace buckle area	22S5

2.23 Timber Corbels (27T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
27T	Timber Corbels	Programmed	Hardwood corbels, round, supply on Site, ([<i>diameter</i>] mm diameter), [<i>length</i>] metres long	7010
		Programmed	Hardwood corbels, octagonal, supply on Site ([<i>width</i>] mm wide), [<i>length</i>] metres long	7011
		Programmed	Hardwood corbels, round, transport to Site, ex Works/Stockpile [<i>location</i>] ([<i>diameter</i>] mm diameter), [<i>length</i>] metres long	7110
		Programmed	Hardwood corbels, octagonal, transport to Site, ex Works/Stockpile [<i>location</i>] ([<i>width</i>] mm wide), [<i>length</i>] metres long	7111
		Programmed	Storage of timber bridge materials and components at Site	7190
		RMPC or Programmed	Apply chemical preservative to timber	100T1
		Programmed	Apply preservative grease to corbel ends	100T2
		RMPC or Programmed	Drill & inject termicide poison into timber (also adjacent areas)	110T1
		RMPC	Tighten existing bolts	120S1
		RMPC or Programmed	Replace or install bolts	120S2
		Programmed	Strengthen corbel	27T1
		Programmed	Replace timber corbel	27T2

2.24 Concrete Corbels (27C)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
27C	Concrete Corbels	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Break back cracked concrete	100C1
		Programmed	Patch concrete	100C3
		Programmed	Clean & paint bolts, nuts & washers	100S2
		Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Clean corroded reinforcing	140S1

2.25 Timber Headstocks (54T)

Appendix E

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
54T	Timber Headstocks	Programmed	Hardwood headstocks, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long	7012
		Programmed	Hardwood headstocks, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick), [length] meters long	7112
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Place emergency propping	100M9
		RMPC	Apply chemical preservative to timber	100T1
		RMPC	Apply preservative grease	100T2
		RMPC	Replace or provide metal caps to member ends	100T3
		RMPC	Drill & inject termicide poison into timber	110T1
		RMPC	Poison termite nest or trails	110T2
		RMPC	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Replace timber headstock with steel	54S4
		Programmed	Place supplementary member	54T1
		Programmed	Reconstruct splice	54T2
		Programmed	Relocate headstocks	54T3
		Programmed	Jack girder or headstock to level	54T4
		Programmed	Replace headstock in timber	54T5
		Programmed	Splice in new headstock section	54T6

2.26 Steel Headstocks (54S)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
54S	Steel Headstocks	Programmed	Storage bridge materials / components at Site	7190
		Programmed	Spot clean & paint steelwork	100S1
		Programmed	Clean and paint bolts, nuts & washers	100S2
		Programmed	Clean & paint steelwork	100S3
		Programmed	Repair cracked weld	110S1
		RMPC or Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Relocate headstocks	54S1
		Programmed	Replace steel headstock(Struct Div approval req)	54S2
		Programmed	Strengthen steel headstock	54S3
		Programmed	Jack girders or headstock to level	54S5

2.27 Concrete Headstocks (54C)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
54C	Concrete Headstocks	Programmed	Storage bridge materials and components at Site	7190
		Programmed	Break back cracked concrete	100C1
		Programmed	Fill cracks with epoxy	100C2
		Programmed	Patch concrete	100C3
		Programmed	Strengthen bearing area	100C4
		Programmed	Clean corroded reinforcing	140S1
		Programmed	Replace reinforcing	140S2
		Programmed	Strengthen headstock	54C1

2.28 Concrete Packer (54C, 54P)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
54C	Concrete Packer	Programmed	Storage bridge materials and components at Site	7190
		Programmed	Break back cracked concrete	100C1
		Programmed	Fill cracks with epoxy	100C2
		Programmed	Patch concrete	100C3
		Programmed	Strengthen bearing area	100C4
		Programmed	Clean corroded reinforcing	140S1
		Programmed	Replace reinforcing	140S2

2.29 Timber Piles (56T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
56T	Timber Piles	Programmed	Hardwood piles, supply on Site, ([<i>diameter</i>] mm diameter), [<i>length</i>] metres long	7013
		Programmed	Hardwood struts and fenders, round, supply on Site, ([<i>diameter</i>] mm diameter), [<i>length</i>] metres long	7017
		Programmed	Hardwood struts and fenders, rectangular, supply on Site, ([<i>width</i>] mm wide, [<i>thickness</i>] mm thick), [<i>length</i>] metres long.	7018
		Programmed	Hardwood piles, transport to Site, ex Works/Stockpile [<i>location</i>], ([<i>diameter</i>]), [<i>length</i>] metres long	7113
		Programmed	Hardwood struts and fenders, round, transport to Site, ex Works/Stockpile [<i>location</i>], ([<i>diameter</i>] mm diameter), [<i>length</i>] metres long	7117
		Programmed	Hardwood struts and fenders, rectangular, transport to Site, ex Works/Stockpile [<i>location</i>], ([<i>width</i>] mm wide, [<i>thickness</i>] mm thick), [<i>length</i>] metres long.	7118
		Programmed	Storage of timber bridge materials and components at Site	7190
		RMPC or Programmed	Place / reinstate relieving props	100M10
		RMPC	Apply chemical preservative to timber	100T1
		RMPC	Apply preservative grease	100T2
		RMPC	Replace or provide metal cap to pile tops	100T3
		RMPC or Programmed	Drill & inject termicide poison into timber	110T1

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
56T	Timber Piles (cont.)	Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Place new steel pile	56S2
		Programmed	Replace timber pile	56T1
		Programmed	Splice timber pile	56T2
		Programmed	Place supplementary member	56T3
		Programmed	Provide banding	56T4
		Programmed	Replace braces / wales	57T1
		Programmed	Add new braces / wales	57T2
		Programmed	Add new braces / wales (steel)	57S2
		Programmed	Remove & replace braces / wales	57T3

2.30 Steel Piles (56S)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
56S	Steel Piles	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Clean & paint bolts, nuts & washers	100S2
		Programmed	Clean & paint steelwork	100S3
		Programmed	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Strengthen steel pile	56S1
		Programmed	Place new steel pile	56S2
		Programmed	Add new braces / wales - steel	57S2
		Programmed	Add new braces / wales - timber	57T2

2.31 Concrete Piles (56P)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
56P	Concrete Piles (Reinforced concrete, driven piles)	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Break back cracked concrete	100C1
		Programmed	Fill cracks with epoxy	100C2
		Programmed	Patch concrete	100C3
		Programmed	Clean corroded reinforcing	140S1
		Programmed	Replace reinforcing	140S2
		Programmed	Place concrete encasement	56P1

2.32 Timber Wing Piles (60T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
60T	Timber Wing Piles	Programmed	Hardwood piles, supply on Site, (<i>diameter</i>) mm diameter), [<i>length</i>] metres long	7013
		Programmed	Hardwood piles, transport to Site, ex Works/Stockpile [<i>location</i>], (<i>diameter</i>), [<i>length</i>] metres long	7113
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Repair scour	100M3
		RMPC	Apply chemical preservative to timber	100T1
		RMPC	Apply preservative grease	100T2
		RMPC	Replace or provide metal cap to pile tops	100T3
		RMPC or Programmed	Drill & inject termicide poison into timber	110T1
		Programmed	Place new steel pile	56S2
		Programmed	Splice timber pile	56T2
		Programmed	Place supplementary member	56T3
		Programmed	Replace timber wing pile	60T1
		Programmed	Stabilise wing pile	60T2

2.33 Timber Bracing (57T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
57T	Timber Bracing	Programmed	Hardwood wales and braces, supply on Site, ([width] mm wide, [thickness] mm thick)	7014
		Programmed	Hardwood struts and fenders, round, supply on Site, ([diameter] mm diameter), [length] metres long	7017
		Programmed	Hardwood struts and fenders, rectangular, supply on Site, ([width] mm wide, [thickness] mm thick), [length] metres long.	7018
		Programmed	Hardwood wales and braces, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7114
		Programmed	Hardwood struts and fenders, round, transport to Site, ex Works/Stockpile [location], ([diameter] mm diameter), [length] metres long	7117
		Programmed	Hardwood struts and fenders, rectangular, transport to Site, ex Works/Stockpile [location], ([width] mm wide, [thickness] mm thick), [length] metres long	7118
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Apply preservative grease to ends of wales	100T2
		Programmed	Replace or provide metal caps to wale ends	100T3
		RMPC	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Add new steel braces / wales	57S2
		Programmed	Replace braces / wales	57T1
		Programmed	Add new braces / wales	57T2
		Programmed	Splice wales	57T4
		Programmed	Replace struts & fenders	57T5

2.34 Steel Bracing (57S)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
57S	Steel Bracing	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Clean & paint bolts, nuts & washers	100S2
		Programmed	Clean & paint steelwork	100S3
		Programmed	Repair cracked weld	110S1
		RMPC	Tighten existing bolts	120S1
		Programmed	Replace or install bolts	120S2
		Programmed	Replace rivets	120S5
		Programmed	Replace steel braces / wales	57S1
		Programmed	Add new steel braces / wales	57S2

2.35 Timber Still (59T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
59T	Timber sill	Programmed	Hardwood sill, round, supply on Site, ([<i>diameter</i>] mm diameter), [<i>length</i>] metres long	7015
		Programmed	Hardwood sill, rectangular, supply on Site, ([<i>width</i>] mm wide, [<i>thickness</i>] mm thick), [<i>length</i>] metres long	7016
		Programmed	Hardwood sill, round, transport to Site, ex Works/Stockpile [<i>location</i>] ([<i>diameter</i>] mm diameter), [<i>length</i>] metres long	7115
		Programmed	Hardwood sill, rectangular, transport to Site, ex Works/Stockpile [<i>location</i>] ([<i>width</i>] mm wide, [<i>thickness</i>] mm thick), [<i>length</i>] metres long	7116
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Place / reinstate relieving props	100M10
		Programmed	Repair scour	100M3
		Programmed	Replace sill in concrete	59C1
		Programmed	Partially replace sill in concrete	59C2
		Programmed	Replace sill in timber	59T1
		Programmed	Partially replace sill in timber	59T2
		Programmed	Replace pile connections	59T3

2.36 Concrete Sill (59C)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
59C	Concrete Sill (Timber Bridges)	Programmed	Storage bridge materials and components at Site	7190
		Programmed	Break back cracked concrete	100C1
		Programmed	Fill cracks with epoxy	100C2
		Programmed	Patch concrete	100C3
		Programmed	Repair scour	100M3
		Programmed	Clean corroded reinforcing	140S1
		Programmed	Replace reinforcing	140S2
		Programmed	Replace pile connections	59C3

2.37 Concrete Abutment (50C)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
50C	Concrete Abutment (Timber Bridges)	Programmed	Storage bridge materials and components at Site	7190
		Programmed	Break back cracked concrete	100C1
		RMPC or Programmed	Fill cracks with epoxy	100C2
		RMPC or Programmed	Patch concrete	100C3
		RMPC or Programmed	Strengthen bearing area	100C4
		Programmed	Reinstate backfill	100M2
		Programmed	Repair scour	100M3
		RMPC or Programmed	Clean corroded reinforcing	140S1
		Programmed	Replace reinforcing	140S2
		Programmed	Reconstruct ballast wall	50C1
		Programmed	Strengthen headstock. Seek structural advice on repair methods	54C1

2.38 Masonry Abutment (500)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
500	Masonry Abutment	Programmed	Storage bridge materials and components at Site	7190
		Programmed	Reinstate backfill	100M2
		Programmed	Repair scour	100M3
		Programmed	Repair mortar	5001

2.39 Abutment Sheeting - Timber Planks

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
52T	Abutment sheeting	Programmed	Hardwood ballast boards, supply on Site, ([width] mm wide, [thickness] mm thick)	7021
		Programmed	Hardwood cover boards, supply on Site, ([width] mm wide, [thickness] mm thick)	7022
		Programmed	Hardwood backing slabs, supply on Site, ([width] mm wide, [thickness] mm thick)	7023
		Programmed	Hardwood ballast boards, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7121
		Programmed	Hardwood cover boards, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7122
		Programmed	Hardwood backing slabs, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7123
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Reinstate backfill	100M2
		Programmed	Apply chemical preservatives to timber	100T1
		Programmed	Replace sheeting planks	52T1
		Programmed	Splice sheeting planks	52T2
		Programmed	Reposition sheeting	52T3

2.40 Abutment Sheeting - Concrete Planks (52P)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
52P	Abutment sheeting - Concrete planks	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Reinstate backfill	100M2
		Programmed	Replace concrete planks	52P1
		Programmed	Reposition concrete planks	52P2

2.41 Abutment Infill - Concrete (52C)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
52C	Abutment Infill - Concrete	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Break back cracked concrete	100C1
		Programmed	Patch concrete	100C3
		Programmed	Reinstate backfill	100M2
		Programmed	Repair scour	100M3
		Programmed	Provide weepholes	100M4
		Programmed	Clean out weepholes	100M5
		Programmed	Seal gaps - concrete	52C1
		Programmed	Stabilise wall	52C2

2.42 Abutment Infill - Rock Fill (52O)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
52O	Abutment Infill - Rock Fill	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Reinstate backfill	100M2
		Programmed	Repair scour	100M3
		Programmed	Place additional rock fill	52O1
		Programmed	Patch grouted surface	52O2

2.43 Abutment Infill - Masonry (52O)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
52O	Abutment Infill - Masonry	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Repair mortar	5001

2.44 Timber Sill Abutment (52T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
52T	Timber Sill Abutment	Programmed	Hardwood sill, round, supply on Site, ([<i>diameter</i>] mm diameter), [<i>length</i>] metres long	7015
		Programmed	Hardwood sill, rectangular, supply on Site, ([<i>width</i>] mm wide, [<i>thickness</i>] mm thick), [<i>length</i>] metres long	7016
		Programmed	Hardwood sill, round, transport to Site, ex Works/Stockpile [<i>location</i>] ([<i>diameter</i>] mm diameter), [<i>length</i>] metres long	7115
		Programmed	Hardwood sill, rectangular, transport to Site, ex Works/Stockpile [<i>location</i>] ([<i>width</i>] mm wide, [<i>thickness</i>] mm thick, [<i>length</i>] metres long	7116
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Apply chemical preservative to timber	100T1
		Programmed	Place / replace relieving props	100M10
		Programmed	Reinstate backfill	100M2
		Programmed	Replace abutment log	52T4

2.45 Wing Walls - Timber Plank (51T)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
51T	Wing Walls - Timber planks	Programmed	Hardwood backing slabs, supply on Site, ([width] mm wide, [thickness] mm thick)	7023
		Programmed	Hardwood backing slabs, transport to Site, ex Works/Stockpile [location] ([width] mm wide, [thickness] mm thick)	7123
		Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Replace sheeting planks	52T1
		Programmed	Splice sheeting planks	52T2
		Programmed	Reposition sheeting	52T3
		Programmed	Stabilise wing pile	60T2
		Programmed	Apply chemical preservatives to timber	100T1
		Programmed	Reinstate backfill	100M2

2.46 Wing Walls - Concrete Plank (51P)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
51P	Wing walls - Concrete plank	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Replace concrete planks	52P1
		Programmed	Reposition concrete planks	52P2
		Programmed	Reinstate backfill	100M2
		Programmed	Stabilise wing piles	60T2

2.47 Wing Walls - Concrete (51C)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
51C	Wing Walls - Concrete	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Stabilise wall	**52C2
		Programmed	Break back cracked concrete	100C1
		Programmed	Patch concrete	100C3
		Programmed	Repair scour	100M3
		Programmed	Clean corroded reinforcing	140S1
		Programmed	Seal gaps - concrete	52C1

2.48 Wing Walls - Masonry (51O)

Defect / Activity Matrix				
Component		Maintenance Category	Activities	
No.	Type		Action	No.
51O	Wing Walls - Masonry	Programmed	Storage of timber bridge materials and components at Site	7190
		Programmed	Stabilise wall	52C2
		Programmed	Break back cracked concrete	100C1
		Programmed	Patch concrete	100C3
		Programmed	Repair scour	100M3
		Programmed	Repair mortar	5001
		Programmed	Seal gaps - concrete	52C1