

5. MAINTENANCE REQUIREMENTS

- 5.1 Maintenance..... 1
 - 5.1.1 General principles of maintenance 1
 - 5.1.2 Maintenance considerations during the design phase..... 1
 - 5.1.3 Maintenance effectiveness..... 1
 - 5.1.4 Issues and challenges..... 2
- 5.2 Key references..... 2

5 MAINTENANCE REQUIREMENTS

5.1 Maintenance

5.1.1 General principles of maintenance

Maintenance is the recurrent day-to-day, periodic, or scheduled work required to preserve or restore a fauna structure to ensure its effectiveness. It includes work to prevent damage or deterioration that may otherwise be more costly to restore, and if left unchecked would eventually progress to structural damage.

Fauna structures often require special types of maintenance. Nevertheless, in some cases regular standardised maintenance techniques can reduce the effectiveness of fauna structures. Below are general maintenance requirements for fauna structures. More detailed information on maintenance requirements for specific fauna structures may be found in Section 6 - Measures to achieve fauna sensitive roads.

5.1.2 Maintenance considerations during the design phase

Maintenance of fauna structures is important. Poorly maintained structures are less effective and cause safety risks. Fauna structures whose maintenance requirements are considered during the design phase may lower maintenance burdens and decrease the probability of poor maintenance in the future.

Things to consider during the design phase:

- Are there other equally effective fauna structures that have lower maintenance requirements?
 - Consider maintenance requirements during the design and construction phases. Design fauna structures to minimise the need for maintenance and decrease maintenance financial liability.
 - For example, floppy top fencing is effective at excluding koalas. However, floppy top fences require larger clear zones than standard TMR's fauna exclusion fencing. Thus in areas with no koala populations standard fauna exclusion fencing should be used due to reduced maintenance requirements, whilst effectively excluding the majority of fauna groups from the road corridor.
- Will the proposed fauna structure require special maintenance?
 - May incur increased maintenance costs.
 - May require specialist skill sets that need to be programmed or sourced externally.
- Is the proposed fauna structure easy to access for maintenance?
 - Fauna structures need to allow access for maintenance crews. This must occur even if the fauna structure is not regularly maintained.

5.1.3 Maintenance effectiveness

There are many factors to consider in order to ensure effective maintenance of fauna structures. Things to consider:

- Plan and budget for ongoing maintenance prior to the project completion.
- Ensure fauna structures are easily accessible for maintenance work, ensuring minimal disruption to traffic.
- Need for regular inspection to ensure correct maintenance works are being undertaken.
- Minimise the need for inspections, especially those requiring traffic control.
- Communicate special maintenance requirements to maintenance crews on completion of the project.
- Incorporate feedback mechanisms into monitoring and inspection reports for maintenance processes.
- Maintenance requirement may be different across Queensland.
 - For example: maintenance requirements may be higher in tropical areas due to different weather patterns (cyclones, floods, etc) and increased fungal activity caused by higher humidity levels.

5.1.4 Issues and challenges

Ineffective maintenance of fauna structures can result from (but is not limited to):

- Conflicting maintenance priorities.
 - For example, some fauna structures and associated vegetation may be more effective if not maintained (resulting in better integration into the surrounding environment), but safety is the highest priority and clearing may be required for safety reasons.
- Lack of communication between designers and maintenance workers, which can result in inappropriate maintenance of fauna structures.

5.2 Key references

Department of Main Roads (2002) *Asset Maintenance Guidelines*. Brisbane, Queensland.

Department of Main Roads (2008) *Bridge/Culvert Servicing Manual*. Brisbane, Queensland.