

Presented by Tori Harvey
April 2018

Green and Golden Frog (*Litoria raniformis*) Management Guideline



Overview



- Species: habitat, distribution, legislation
- Management issues; frogs and roads-unlikely bedfellows
- Creation of the guidelines
- Application: Perth to Bredalbane Duplication
- Lessons learnt

Love affair begins at an early age....

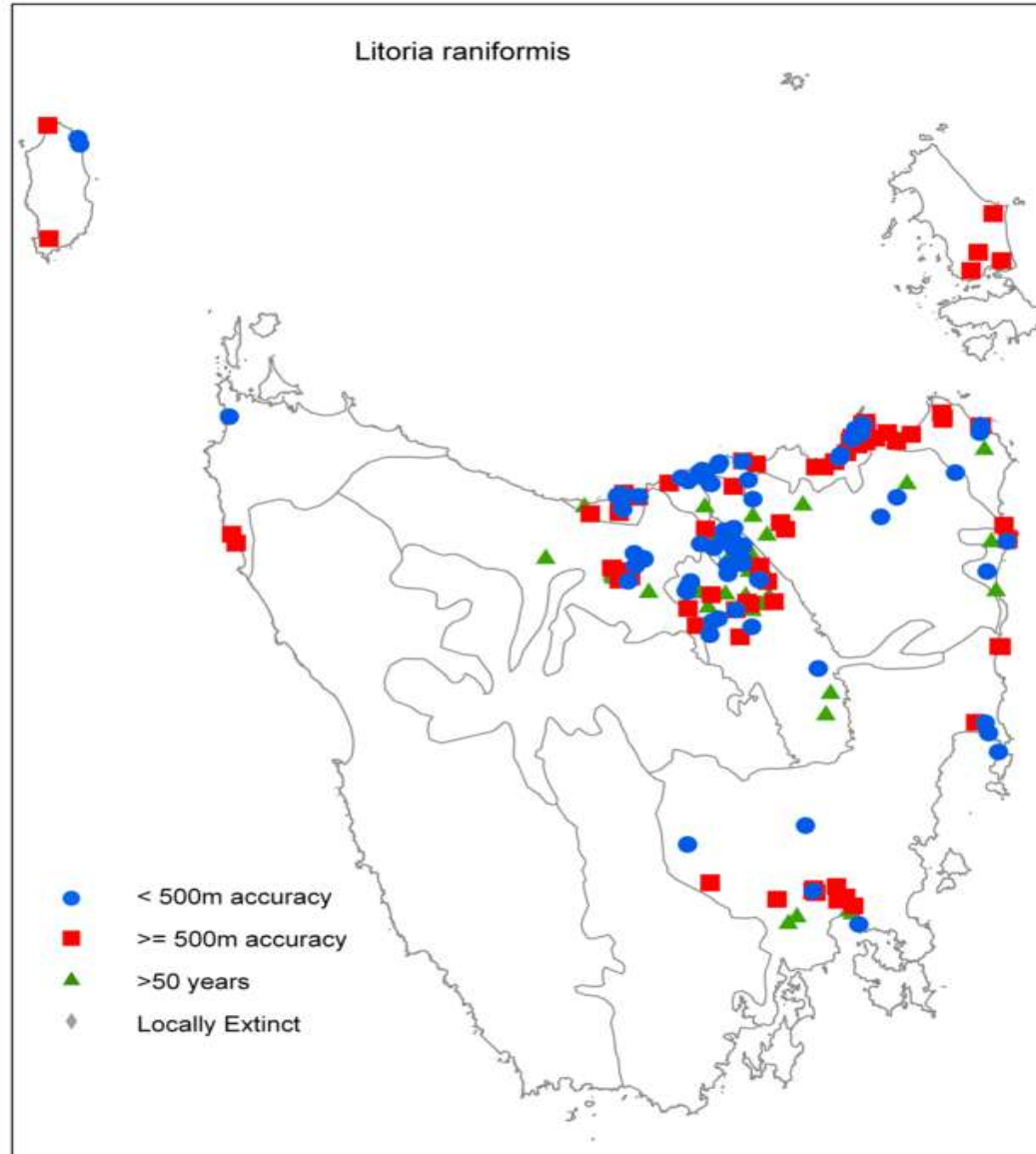


Litoria raniformis



- South-eastern Australian mainland and Tasmania
- 80mm length, 40gm
- Breeding (November to March)
- Listed under the *Environment Protection Biodiversity Conservation Act 1999 (Cwlth)*
- *Threatened Species Protection Act 1995 (Tas)*
- *Threatened Species Conservation Act 1995 (NSW)*
- *National Parks and Wildlife Act 1972 (SA)*
- Melbourne Strategic Assessment program area (Vic)

Distribution



Unlikely Bedfellows: Roadsides as Habitat



- Breeding habitat
- Foraging habitat
- Refuge habitat
- Connectivity habitat

Threats

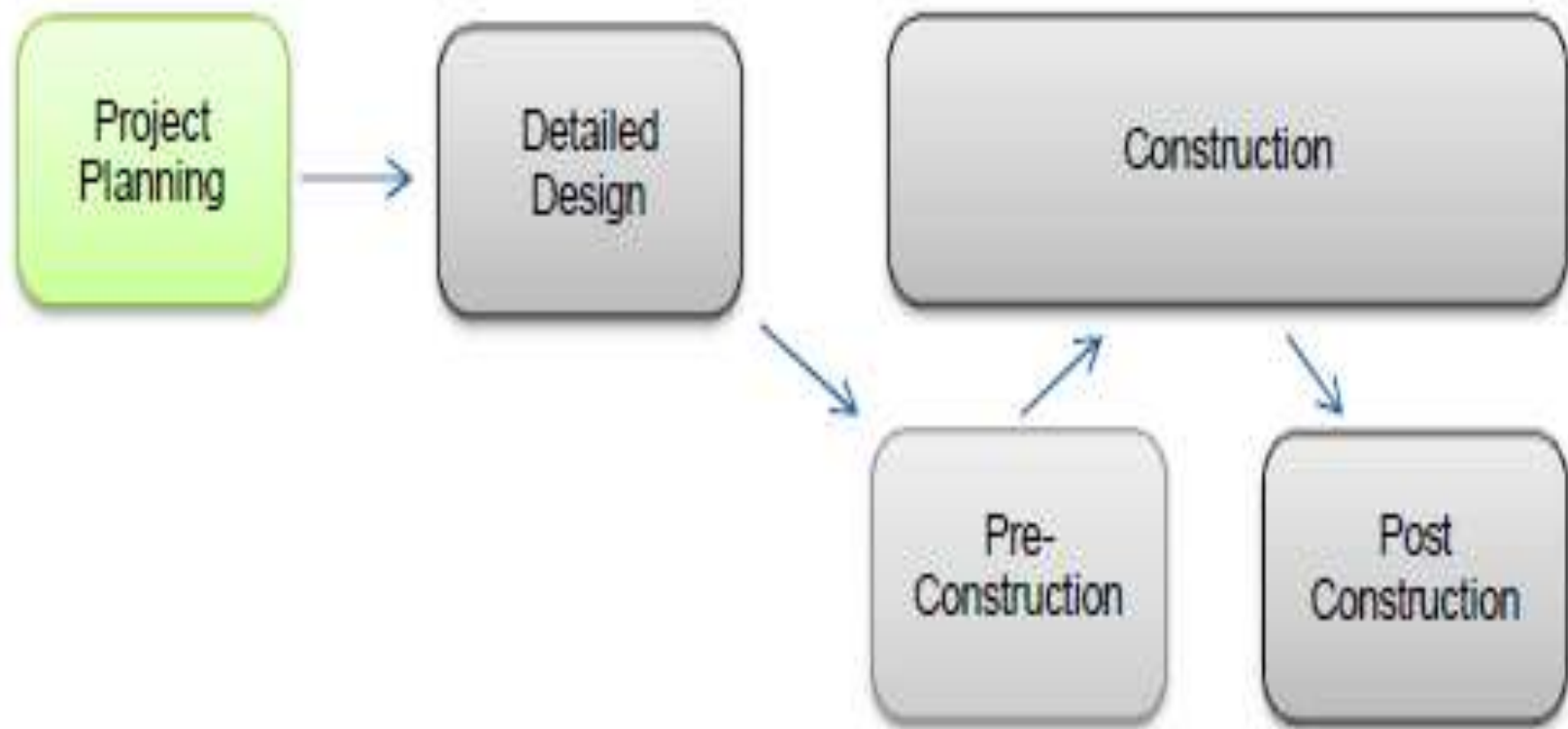


- habitat loss and fragmentation
- habitat degradation
- altered flooding regimes
- disease
- drought
- road kills
- chemicals, including fertilisers

Green and Golden Frog (*Litoria raniformis*) Management Guideline

June 2015





Project Planning



LEGEND



River



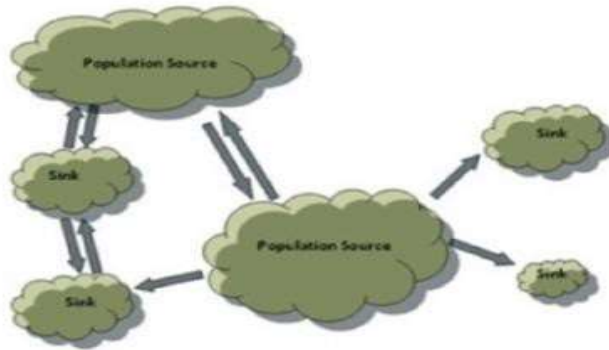
Waterbodies



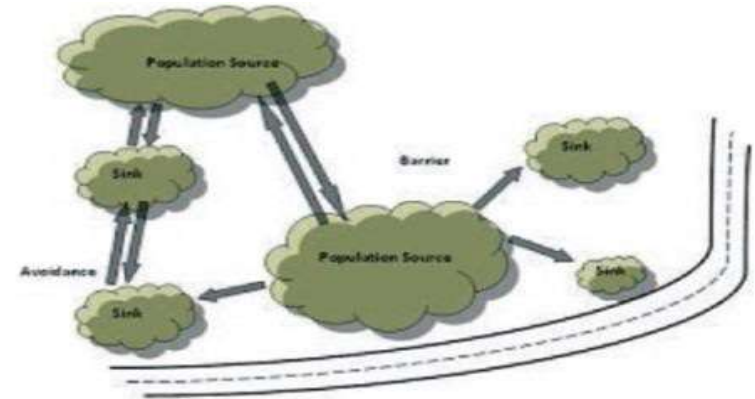
Distance between waterbodies preferably <500m but can be up to 2000m

(Source: Ecology Partners 2012)

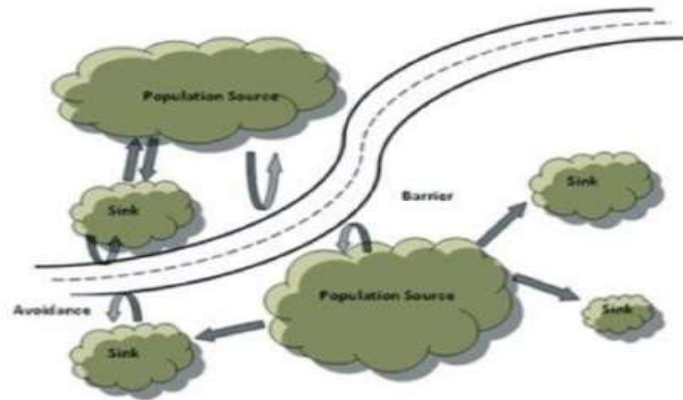
Management: Frogs and Roads



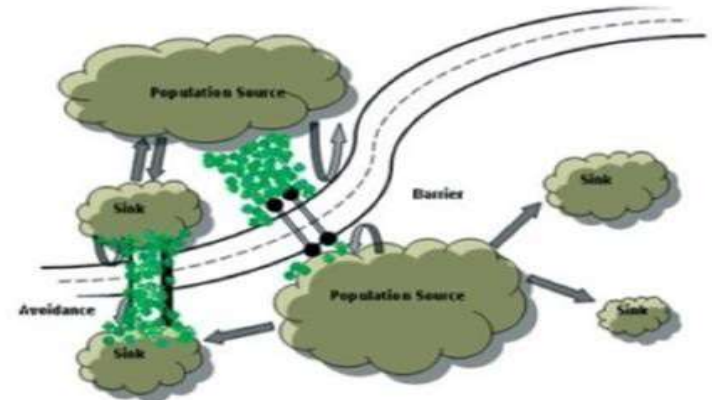
a) Wildlife movements



b) Avoidance



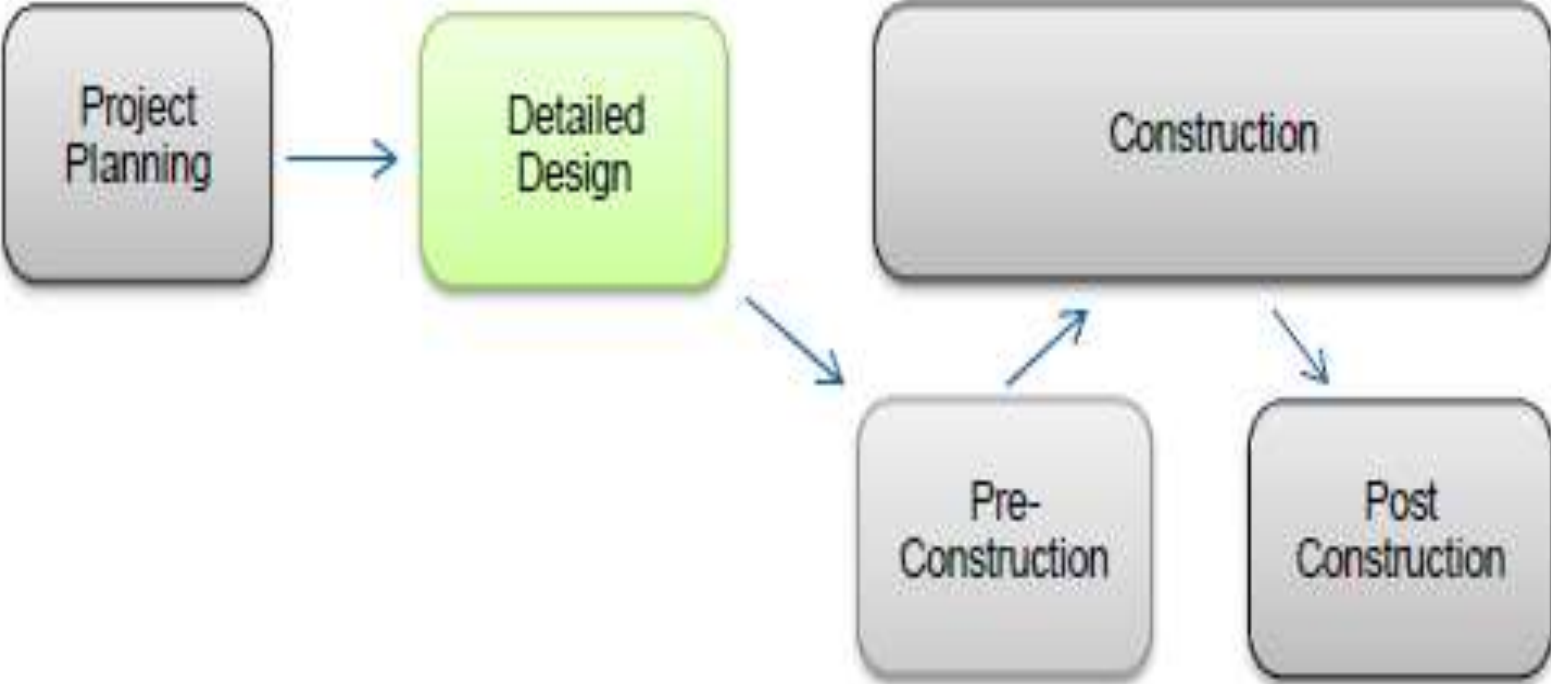
c) Fragmentation



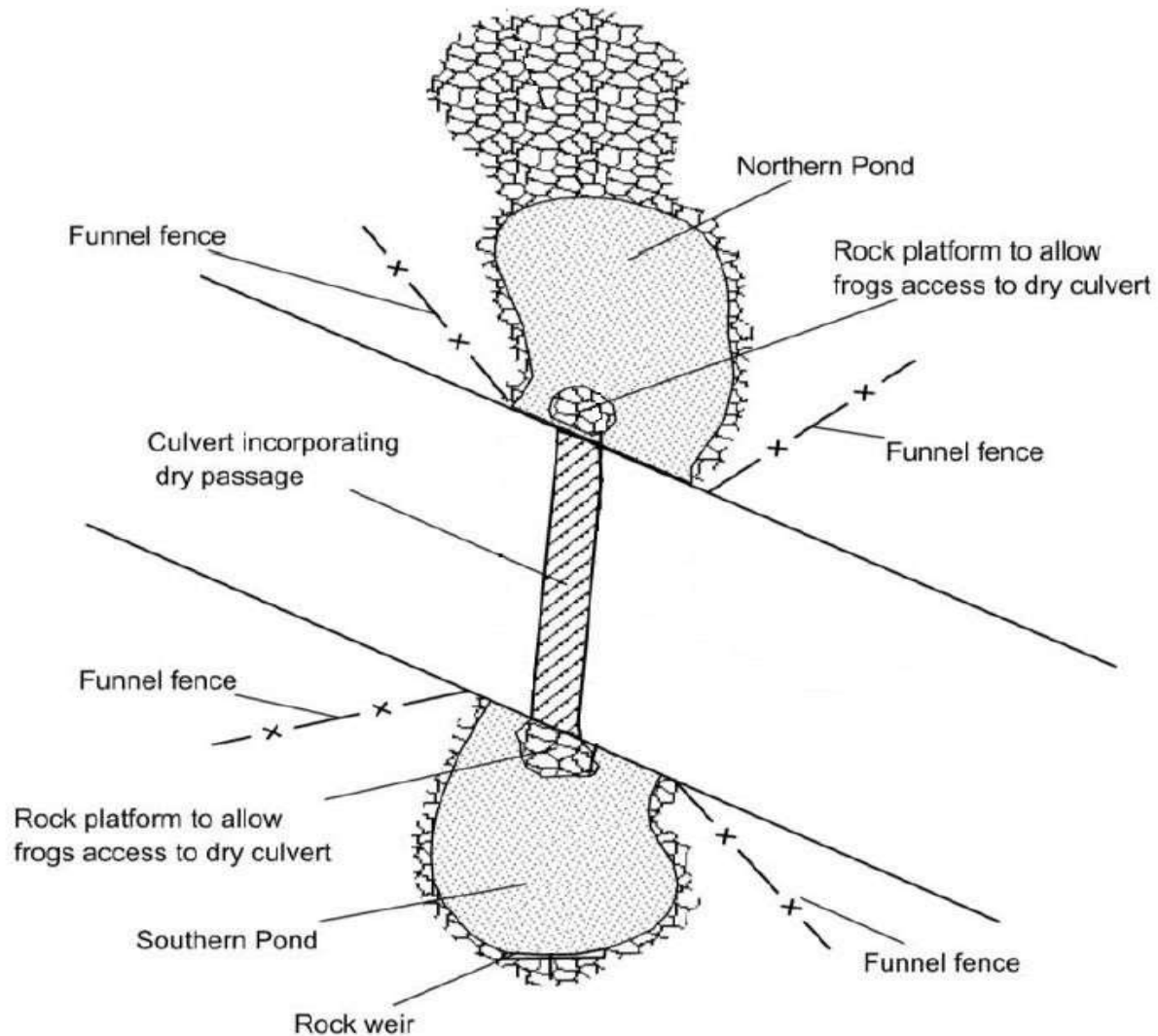
d) Management

Representation of wildlife movements when considering road design on a) wildlife populations b) avoidance c) fragmentation and d) management (VicRoads 2012)

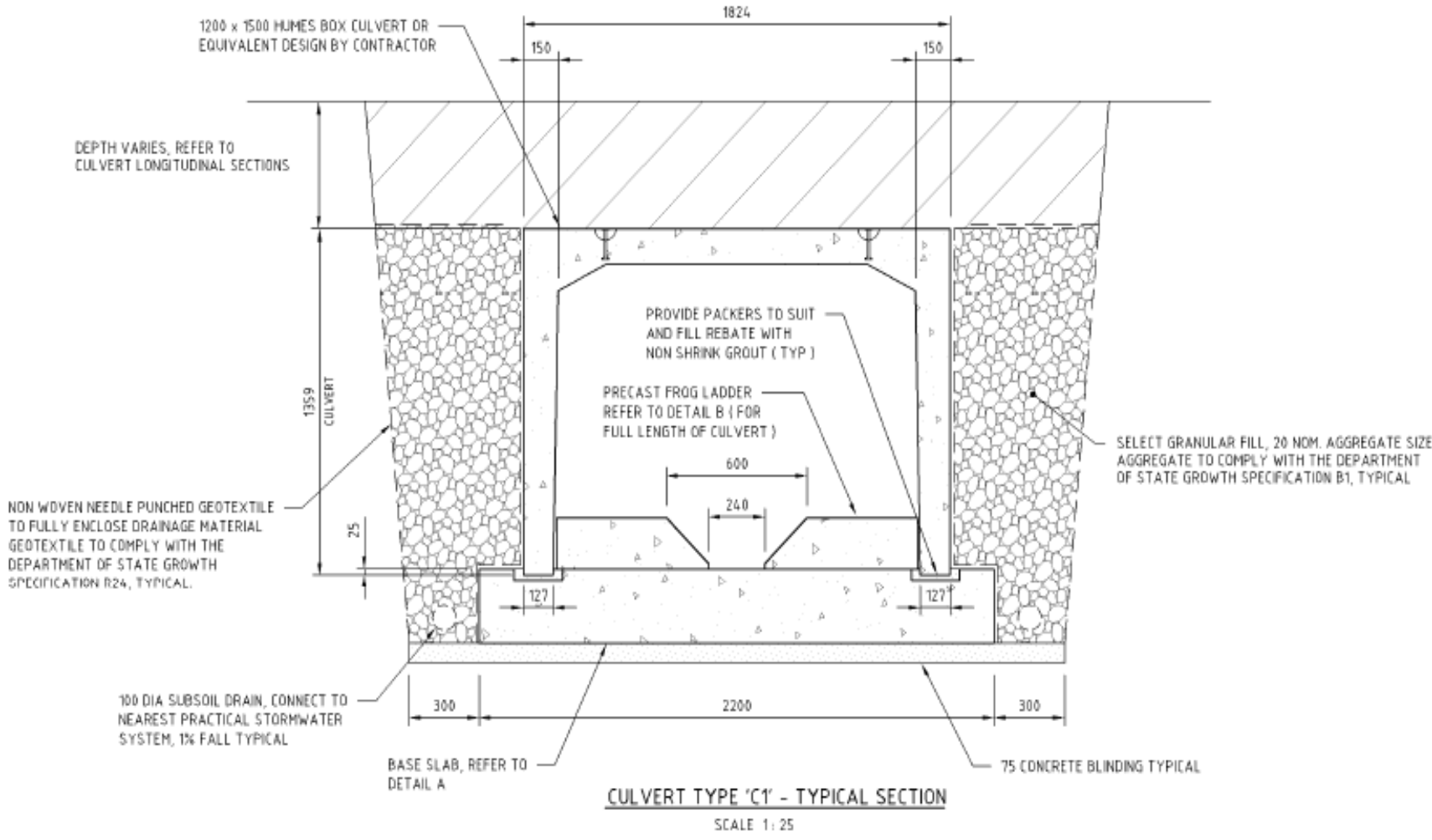
Detailed Design



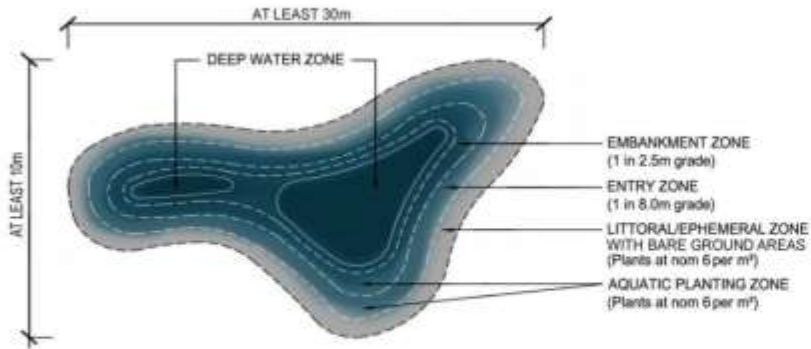
Frog underpass concept (plan view)



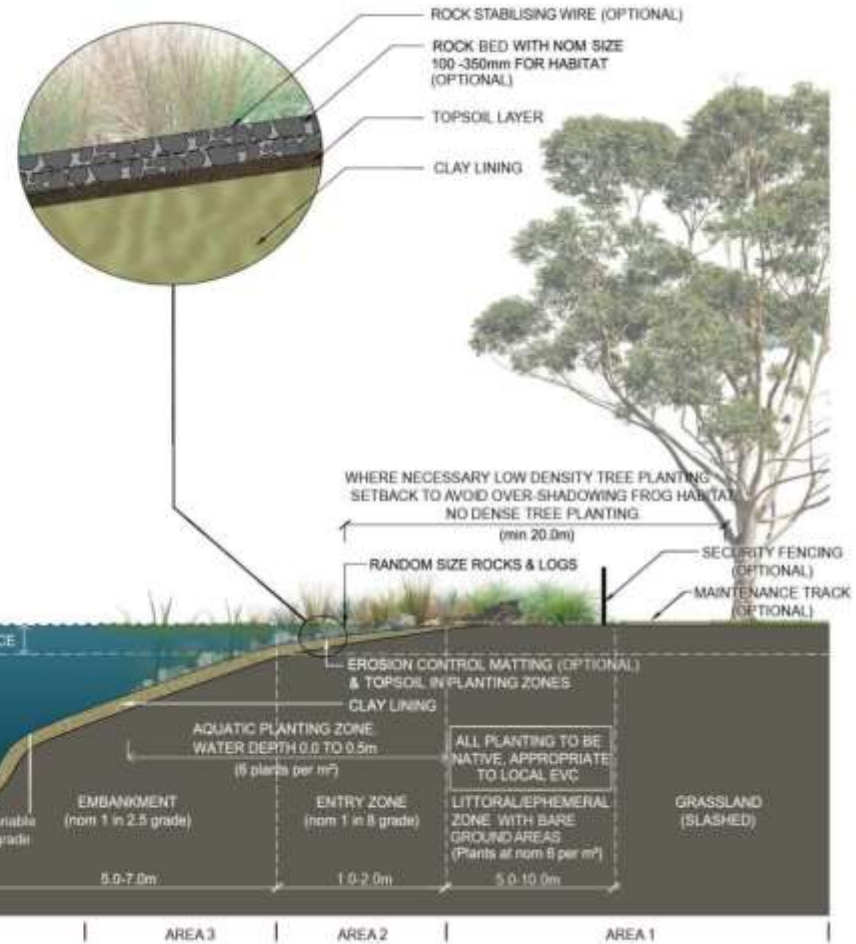
Frog culvert cross section



Constructed frog habitat lagoon concept



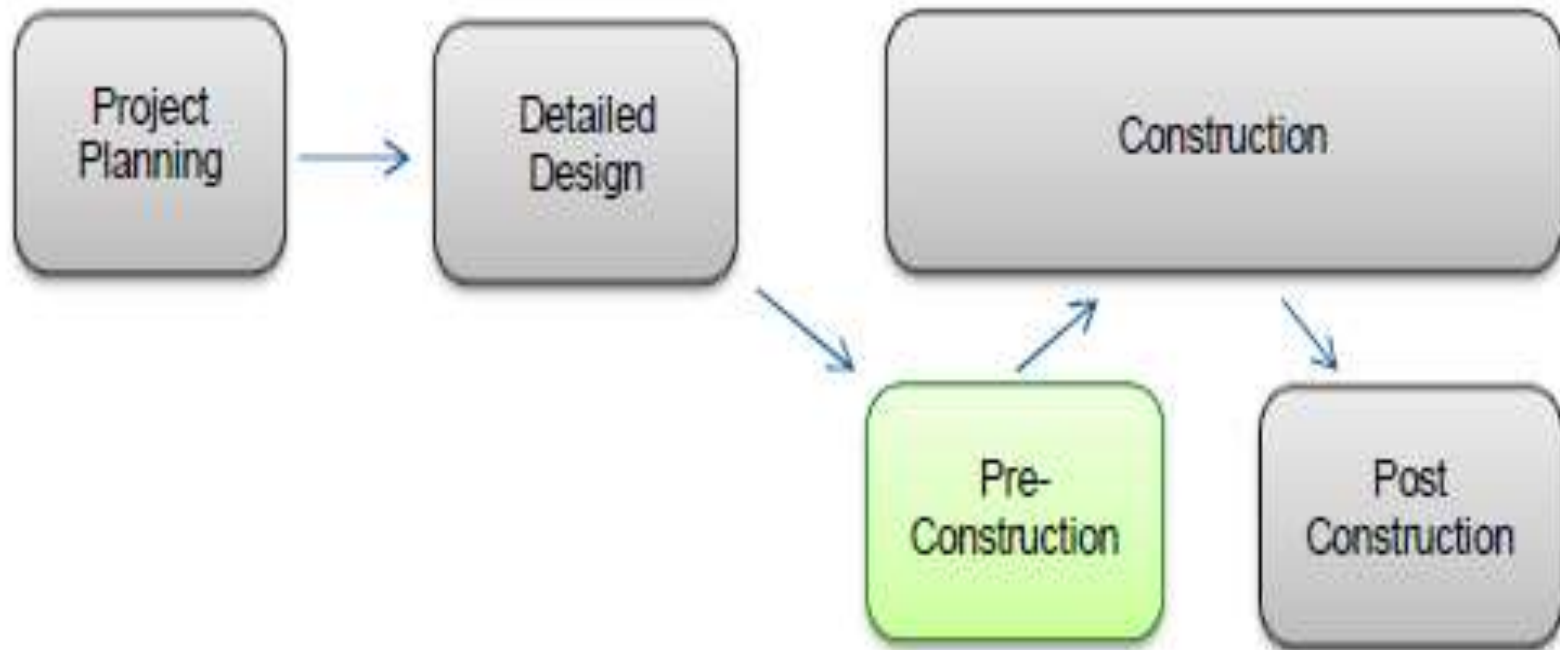
FROG POND PLAN CONSTRUCTION ZONES



TYPICAL FROG POND SECTION

Source GHD 2011

Pre-Construction

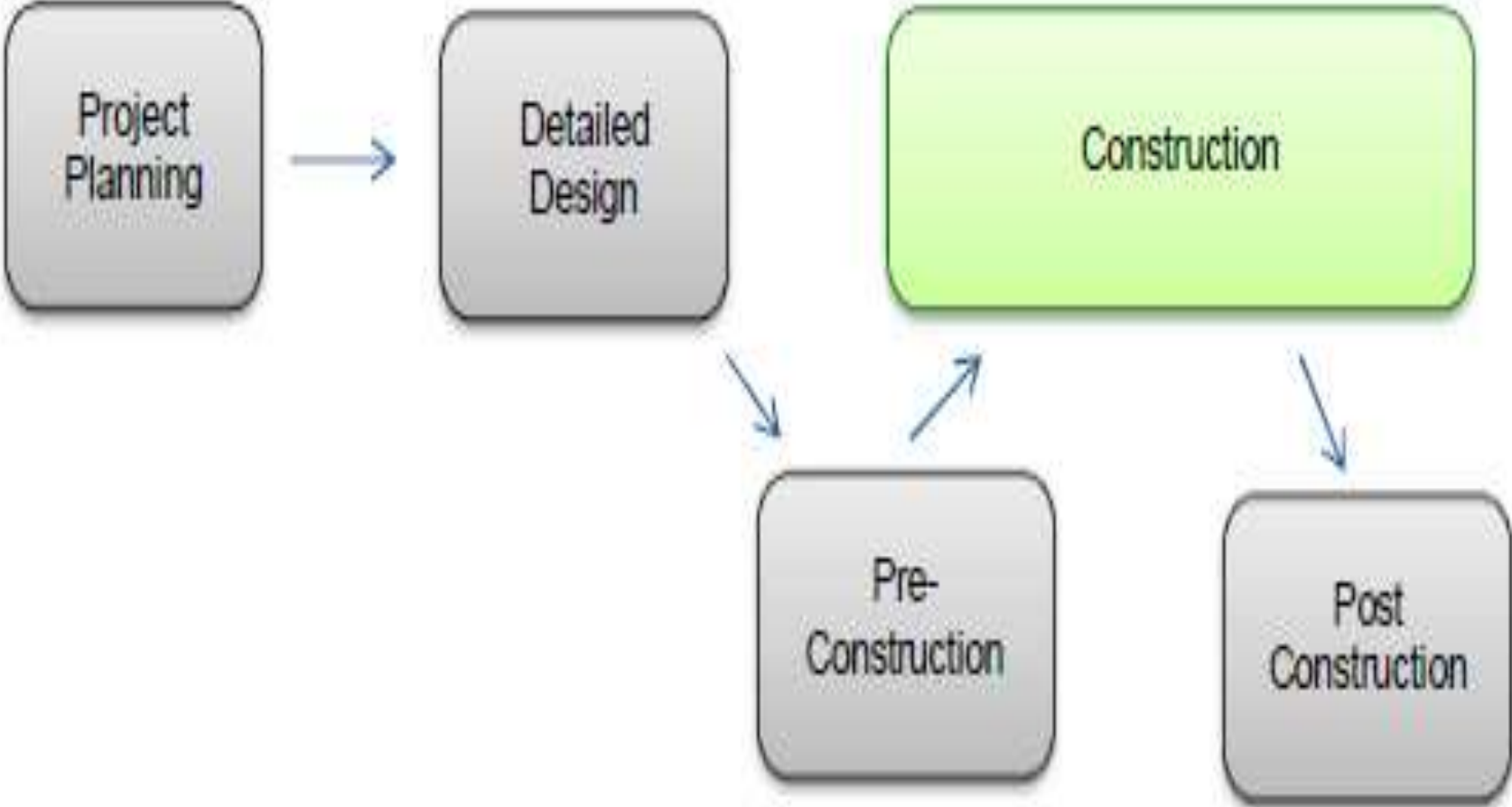


Pre-construction



- Installation of site offices
- Clearing and grubbing
- Relocation of services
- Establishment of site controls
- Designation of Exclusion zone-No Go Areas

Construction



Construction

- Clearing frogs from construction corridors
- Chytrid management during capture and release of frogs
- Works in waterways
- Scheduling of works
- Sediment Management
- Contamination Prevention
- Site Rehabilitation



Post Construction

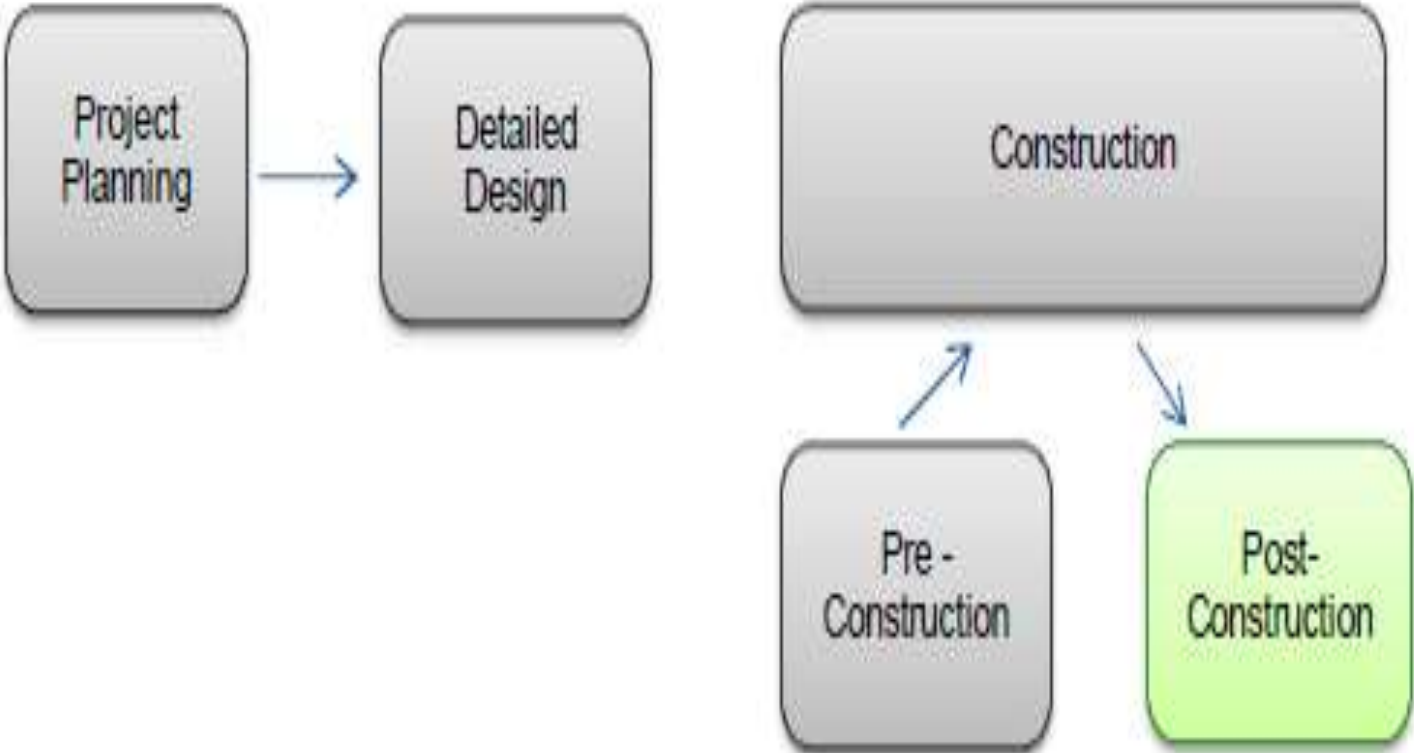


Table 9 Potential monitoring and adaptive management actions

#		Monitoring and Maintenance Requirement	Specific Task	Timing
1	Monitoring	Habitat Monitoring.	Vegetation, survey, weed inspection and to monitor the level of any public disturbance in and around habitat	Annually or as determined by State Growth.
2		Population Survey	Targeted Survey.	Annually or as determined by State Growth in consultation with DPIPWE.
3		Wetland Vegetation Survey.	Vegetation Survey.	First two years following completion of pond. Thereafter, as determined by state growth.
4		Water Quality Monitoring.	Water Quality Testing.	As determined by State Growth.
5	Maintenance	Routine maintenance of terrestrial habitat.	Protective fence, exclusion barriers.	As determined by State Growth.
6		Major works maintenance.	Pond clean-out.	Annually or as determined by State Growth in consultation with DPIPWE.
7		Habitat maintenance.	Revegetation; additional planting to ensure pods and terrestrial habitats remain suitable, (i.e. weed removal, mowing).	As determined by State Growth.
8		Manage the level of any public disturbance in and around habitat.	Fence off areas such as movement corridors where impacts are considered a risk to GGF.	As determined by State Growth.
9		Pollution and stormwater maintenance.		As determined by State Growth.

Perth to Bredalbane Duplication



Perth to Bredalbane Duplication

Midland Highway - Perth to Bredalbane duplication



Department of State Growth, 2014

Constructed frog habitat lagoon



Department of State Growth, May 2016

Perth to Bredalbane project Northern Tasmania



Constructed culvert



Department of State Growth, February 2018



Department of State Growth, February 2018



Department of State Growth, February 2018

Lessons learnt



- Contractor buy in
- Ongoing maintenance-fencing
- Ensure adequate weeding
- Monitoring

Broader application



- Road authorities
- Local council
- Forestry, mining agricultural sectors
- Consultants

Contact details



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VicRoads