

1. Natural waterway

At its final discharge, the ground and surface water has mixed. The waterway was revegetated and fenced. Debris was cleared to ensure the natural waterway was unobstructed; the culvert was repositioned and lowered. The natural waterway is always the starting point for planning surface or groundwater drainage systems.

2. Groundwater joins natural waterway

The groundwater drain discharges safely into the natural surface waterway. Upstream, the surface flow is controlled within the natural surface waterway and is separated from the groundwater drain by a levee bank.

3. Detention dam/silt trap

The detention dam/silt trap captures 'surface and groundwater' flow. This dam has a 150 mm piped outlet through the dam bank over a meter above the dam floor. This ensures water discharge from the dam into the groundwater drain is controlled and unobstructed.

4. Groundwater drain junction

The N-W spur meets the main groundwater drain. The buried pipe from the spur drain allows groundwater to pass under the natural waterway, which continues to flow along the main groundwater drain levee.

5. Revegetation

Biodiversity species were planted to dry out the baseflow groundwater and provide soil surface cover. 50+ local salt-tolerant native plants were matched for the soil salinity and to establish wildlife habitat.

6. Groundwater seepage

This groundwater surface seepage is caused by a dolerite dyke, it provided the opportunity for a

27m deep production bore, yielding ~ 2 L/sec.
A RO Desal unit could provide potable water.

7. Detention dam/silt trap & road crossing

The groundwater drain has two branches. Both meet at a silt trap, here groundwater runs through a pipe into the detention dam/silt trap. On the downstream side, a 150 mm PVC pipe under the road ensures controlled discharge into the downstream groundwater drain.

8. Surface water control, test pit and deep stepped groundwater drain

A broad-based bank protects the whole groundwater drainage system redirecting surface water away from the area. Test pits and observation wells installed before construction monitor the water table around the multi-stepped groundwater drains.

Important disclaimer

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Principles of drain construction

1. Follow the Notice of Intent to Drain procedures.
2. Plan the drain from the discharge point, working upslope.
3. Install test pits prior to construction.
4. Separation of groundwater and surface water.
5. Groundwater discharge flows will not cause any downstreamland degradation.



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Key features of the groundwater drain and revegetation

Legend

Reveg-fencing

Earthworks

Deep stepped groundwater drain

Stepped groundwater drain

Pipe

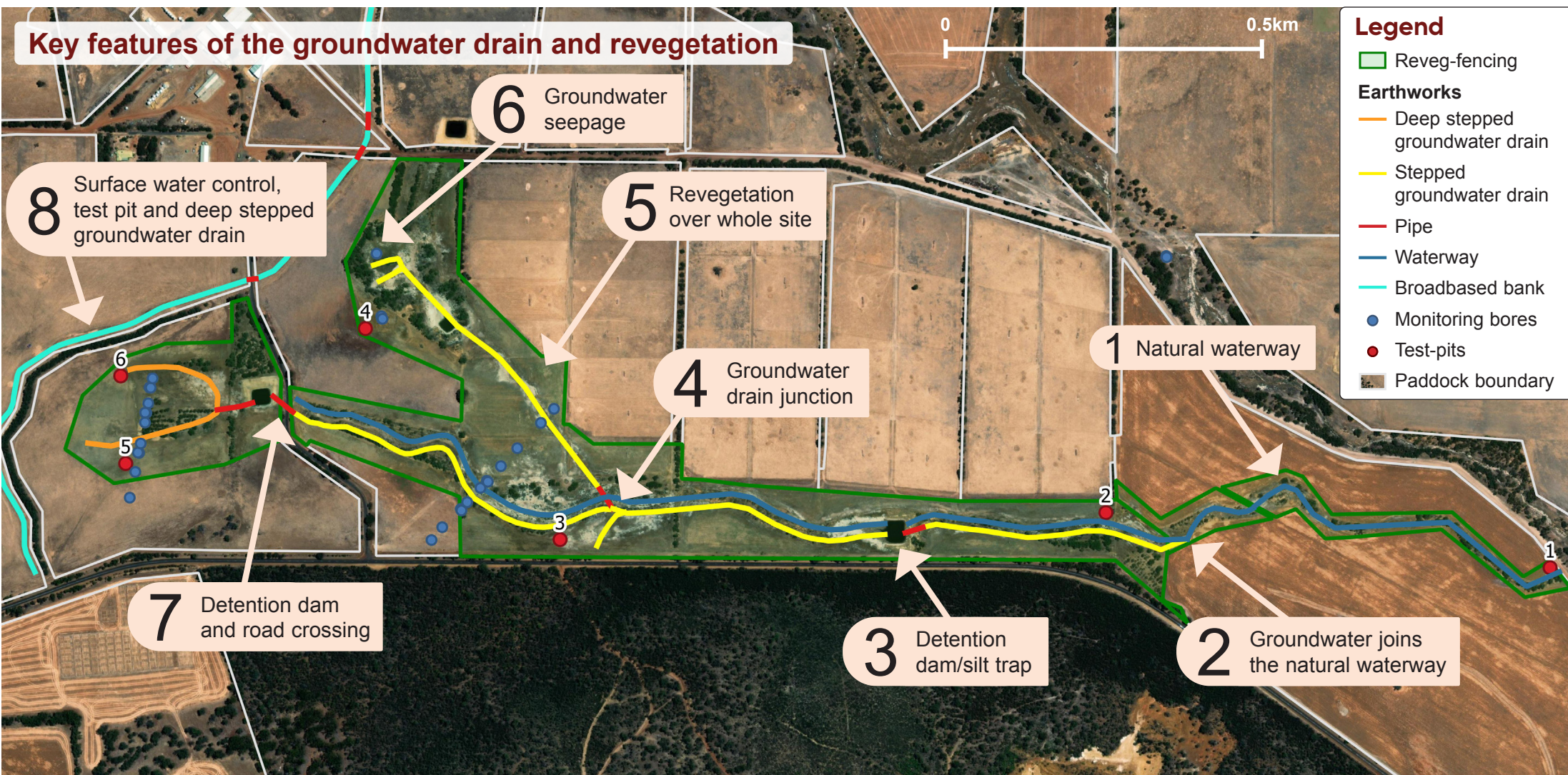
Waterway

Broadbased bank

Monitoring bores

Test-pits

Paddock boundary



Drain schematic drawing

