

2 Amendments to the proposal

2.1 Introduction

A range of issues have been raised during the community engagement activities and the public exhibition of the Environmental Report.

These issues have been considered by the project team. This section outlines the refinements made to the project since the release of the Environmental Report. These refinements have been designed to maximise the project benefits and minimise the effect on the local community, while still achieving the overall project objectives.

2.2 Amendments to the proposal arising from the community engagement activities

Following the outcomes of the community engagement activities and further technical investigations, a number of amendments were made to the proposal.

2.2.1 Refined route

The 'refined route' illustrates the final route and identifies those locations where the alignment has been adjusted and/or changes made. Annotations on the refined route identify the nature of the changes and illustrate the detail of the changes which substantially relate to additional ramps and interchanges.

Figures 2.1 to 2.7 illustrate the refined route and identify where changes have been made. The indicative landscape concept plans (Figures 2.8 to 2.17) have been refined including the provision of the ramps to respond to these changes.

The main adjustments to the route are described below:

- The proposed Northern Expressway will be moved approximately 20 metres north-west at its intersection with Short Road as part of a design optimisation through which the number of properties potentially affected will be minimised.
- The route at Macdonald Park will be optimised by being moved further east at Petherton Road by approximately 30 to 40 metres and further west through the property containing vineyards adjacent to the Macdonald Park rural residential area. In addition, the location of the interchange at Curtis Road (and extending north) will similarly move further north-west by approximately 100 metres. The route has moved closer to the rear of 10 properties with access from McIntyre Road. Realignment of the Northern Expressway at Macdonald Park between Short Road and Fradd Road will minimise the effect on property acquisition adjacent to the Macdonald Park rural residential area. The route contained in the Environmental Report severed the property in a manner which rendered a significant proportion of the property inaccessible. This effect has been substantially reduced by adjusting the route.
- The alignment will be modified north of Two Wells Road (near Whitelaw Road) by approximately 20 metres as part of a property optimisation arrangement relating to existing dam infrastructure and property boundaries.

2.2.2 Changes to interchanges and ramps

In addition, a funding submission is currently being considered by the Commonwealth Department of Transport and Regional Services (DoTARS) and the Australian Government to provide the following interchanges and ramps:

- additional ramps at Two Wells Road for traffic to and from the south
- additional ramps at Angle Vale Road for traffic to and from the south (land acquisition will provide for future ramps for traffic to and from the north)
- additional ramps at the Curtis Road interchange for traffic travelling to and from the north. The location of these ramps will be within the boundaries originally proposed for the ramps for traffic to and from the south.

2.2.3 Roadway lighting

Further investigations confirmed the following approach to roadway lighting:

- The Northern Expressway is located entirely outside the metropolitan Adelaide Urban Boundary. As such, it is considered to be a freeway in a rural area in terms of the Australian Standard (AS1158). In general, rural freeways need not be lit either continuously or at interchanges. The exceptions to this, as itemised in AS1158.1.3 Clause 4.6.4, do not apply to the Northern Expressway.
- Roadway lighting is to be provided at interchanges of the local road connections with the ramps. Lead in/out lighting on the connecting local road and the ramp will be provided in accordance with AS/NZS 1158.1.1. Providing lighting to this extent has recent interstate precedents particularly in Victoria. Where provided, roadway lighting is expected to comply with Category V3.
- Lighting the underpasses on Pellew Road and Nash Road and the underside of the bridge over Taylors Road must be considered for night-time driving conditions. Daylight penetration and driver distance visibility are expected to be sufficient to not require provision of lighting during the day.
- The Northern Expressway junction with Port Wakefield Road will be provided with lighting. The interchange between the Northern Expressway and Gawler Bypass must be considered for lighting particularly at the Gawler Bypass on-ramp.
- The Department of Defence has imposed specific requirements relating to roadway lighting at the Heaslip Road/Womma Road interchange. Specifically, these requirements restrict the use of outreach arms on light columns and require that fully cut-off luminaires (Aeroscreen) be provided to restrict light glare within the runway approach flight path. The precise extent of these restrictions is defined in correspondence from the Department.
- The level of glare control within airport approaches is more stringent than that required in typical road lighting applications. In the Australian Standard, the parameter controlling glare is called upward light waste ratio. Given that all roadway lighting will be designed to the Australian Standard, light glare will be controlled to comply with the limits specified by the standard. The type of luminaires used and the way in which they are installed will ensure compliance with the standard.

2.2.4 Surface water

Smith Creek

Smith Creek will be diverted immediately west of Argent Road to reduce the length of the crossing under the Northern Expressway. It will also be widened between the Northern Expressway and Short Road to ensure the Expressway and the interchange with Heaslip Road are provided with flood protection for a 1:100 year Average Recurrence Interval (ARI) event.

Bridge over the Gawler River

The design basis for the bridge will remain at flood immunity for a 1:100 year ARI event as indicated in the Environmental Report. Additional investigations are informing the final detailed design development process to ensure that the bridge structure and any embankments are designed to accommodate flows for a 1:100 year ARI event without causing further adverse effects either upstream and/or downstream of the proposed bridge crossing. It is expected that additional culverts will be provided under the Northern Expressway for the extent of the flood plain on the southern side of the Gawler River. Culverts through bridge approach embankments and strategically located levee banks on adjacent properties will also aid flood mitigation.

Flood attenuation at the Gawler River

Large flood attenuation basins are required on either side of the proposed Northern Expressway, adjacent to Wingate Road and north of the Gawler River. Material from these basins will be used as a source of fill for the Northern Expressway particularly for ramps, overpasses and below the road pavement.

The basins will be excavated to a depth of approximately 8 metres: options for future use are currently being considered and will be resolved having regard to the intentions of the landowners, the requirements relating to flood management and wetlands, and potential parkland landscape and revegetation opportunities.

2.2.5 Emergency services access

In addition to Expressway access at the interchanges, emergency services vehicle access will be provided from the local road network at one location between each of the interchanges. The final access point locations will be determined during the detailed design phase, but it is likely that they will be provided at Penfield, Petheron, Fradd, Hillier and Whitelaw roads. Median crossings will also be provided at strategic locations along the route for use by emergency services vehicles only.

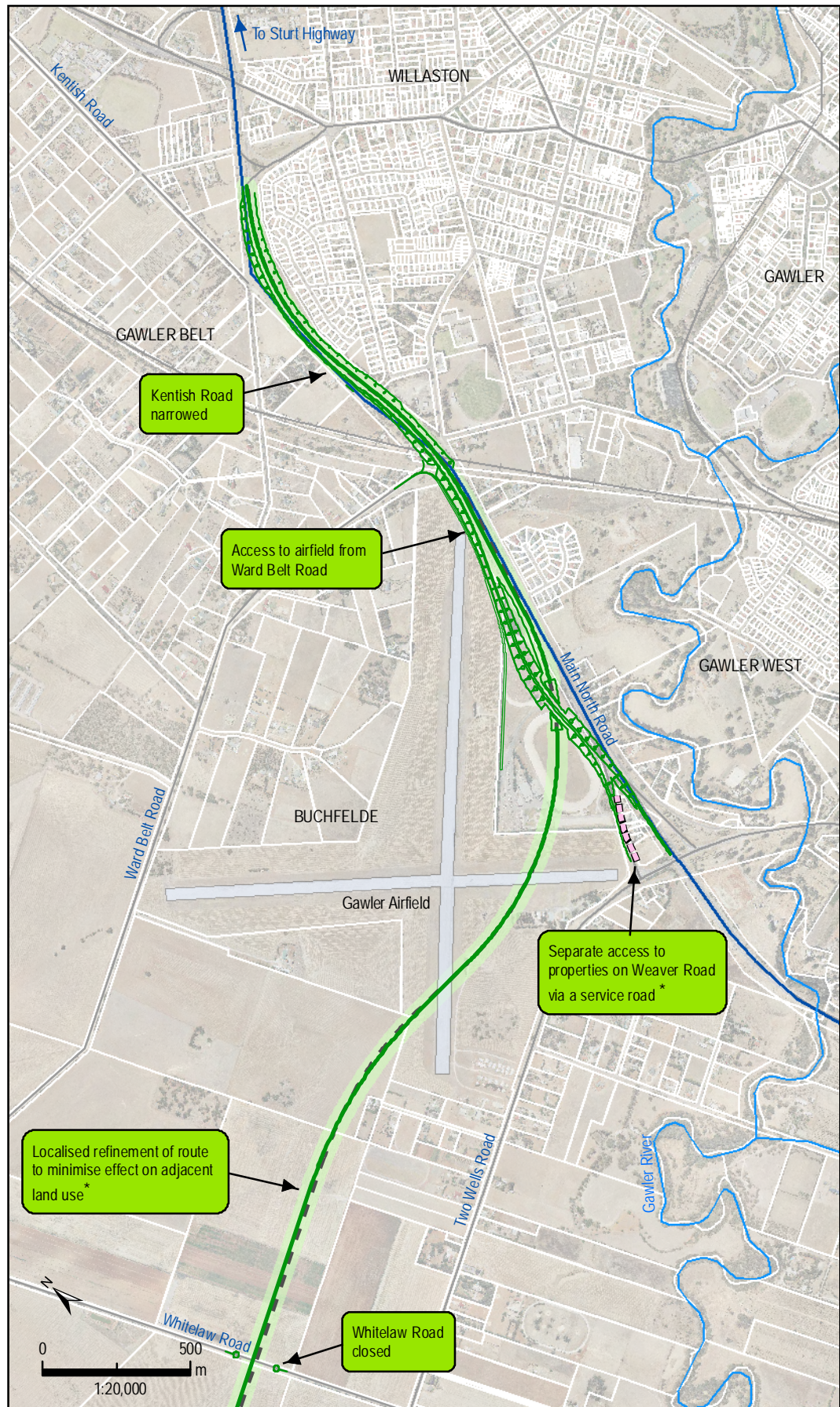
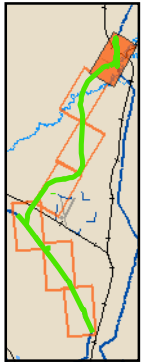
For safety reasons, access points will be secured so that general road users cannot enter the Expressway at these locations, but so they are easily accessible for emergency services vehicles.

The Department for Transport, Energy and Infrastructure (DTEI) will continue to consult with all emergency services providers to ensure that emergencies both on the Expressway and in the northern Adelaide region can be responded to in an efficient and expedient manner.

2.2.6 Port Wakefield Road Upgrade

The amendments and adjustments to the proposed route since the Environmental Report are outlined below:

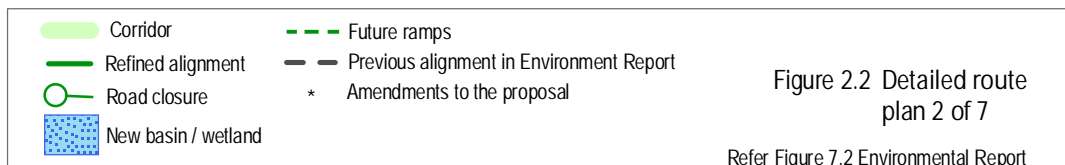
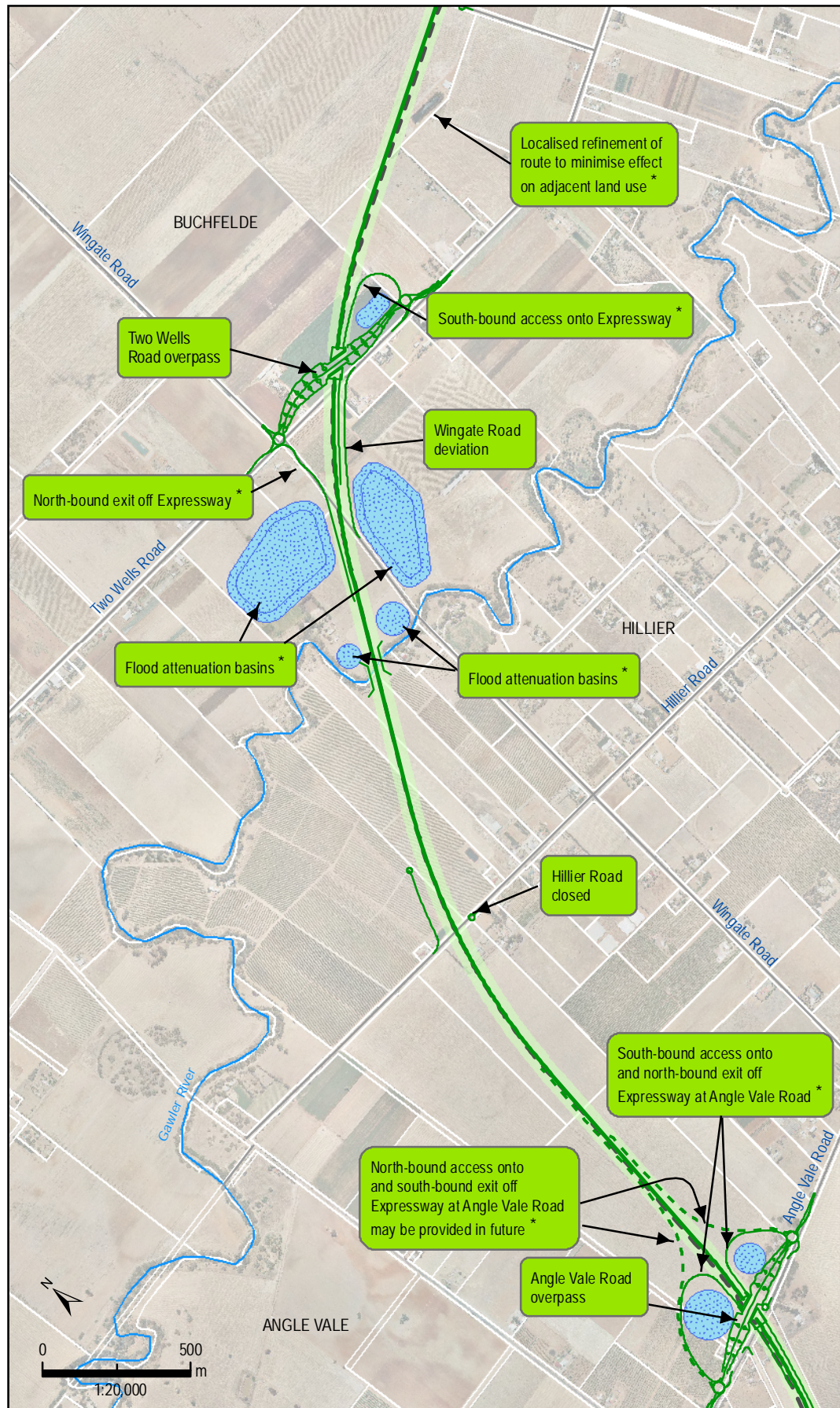
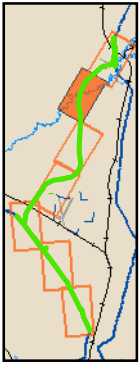
- Adjustments to intersections
 - Right-turn access from Port Wakefield Road south into Burton Road will be allowed for vehicles up to the size of semi-trailers to facilitate access to this industrial precinct from Adelaide. All movements will be accommodated at this junction except right-turn exit from Burton Road to Port Wakefield Road north. These movements will need to be made via Angle Vale Crescent and Waterloo Corner Road. This will require some minor alignment changes to the bend on Angle Vale Crescent to allow safe movements of opposing heavy vehicles at this point.
 - The roundabout at the intersection of Ryans Road and Martins Road will be upgraded within the existing road reserve to allow safe movements by B-doubles.
 - The left turn from Globe Derby Drive at the signalised junction with Port Wakefield Road will be fully controlled by traffic signals to facilitate safe access and weaving across to Martins Road without conflict with other northbound traffic. As well, the northbound acceleration lane from this junction has been slightly shortened to ensure it does not overlap with the right-turn lane into Martins Road.
- Other improvements
 - Management of the pedestrian crossing of Port Wakefield Road and truck parking at the Caltex Service Station at Bolivar will be introduced to improve safe pedestrian crossing and safe vehicle movements. These improvements will be developed in the detailed design of Port Wakefield Road Upgrade in consultation with the City of Salisbury and other stakeholders.
 - Works are proposed to be undertaken in Globe Derby Park to Trotters Drive and to the service road between Daniel Avenue and Whites Road drain to upgrade their current condition. The specific nature of the work will be resolved in consultation with the City of Salisbury and the local community. Consideration will be given to managing horse movements in the design of the roads and kerb and channelling. The service road between Daniel Avenue and Whites Road west will be sealed and fenced off from Port Wakefield Road. If feasible and funds are available, consideration will be given to providing an off-road path for pedestrians and horse movement alongside this service road. Provision of off-road paths elsewhere is not part of the project proposal.

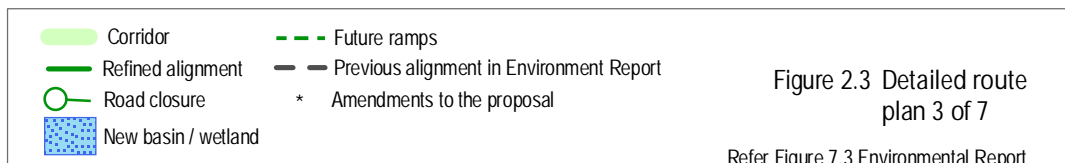
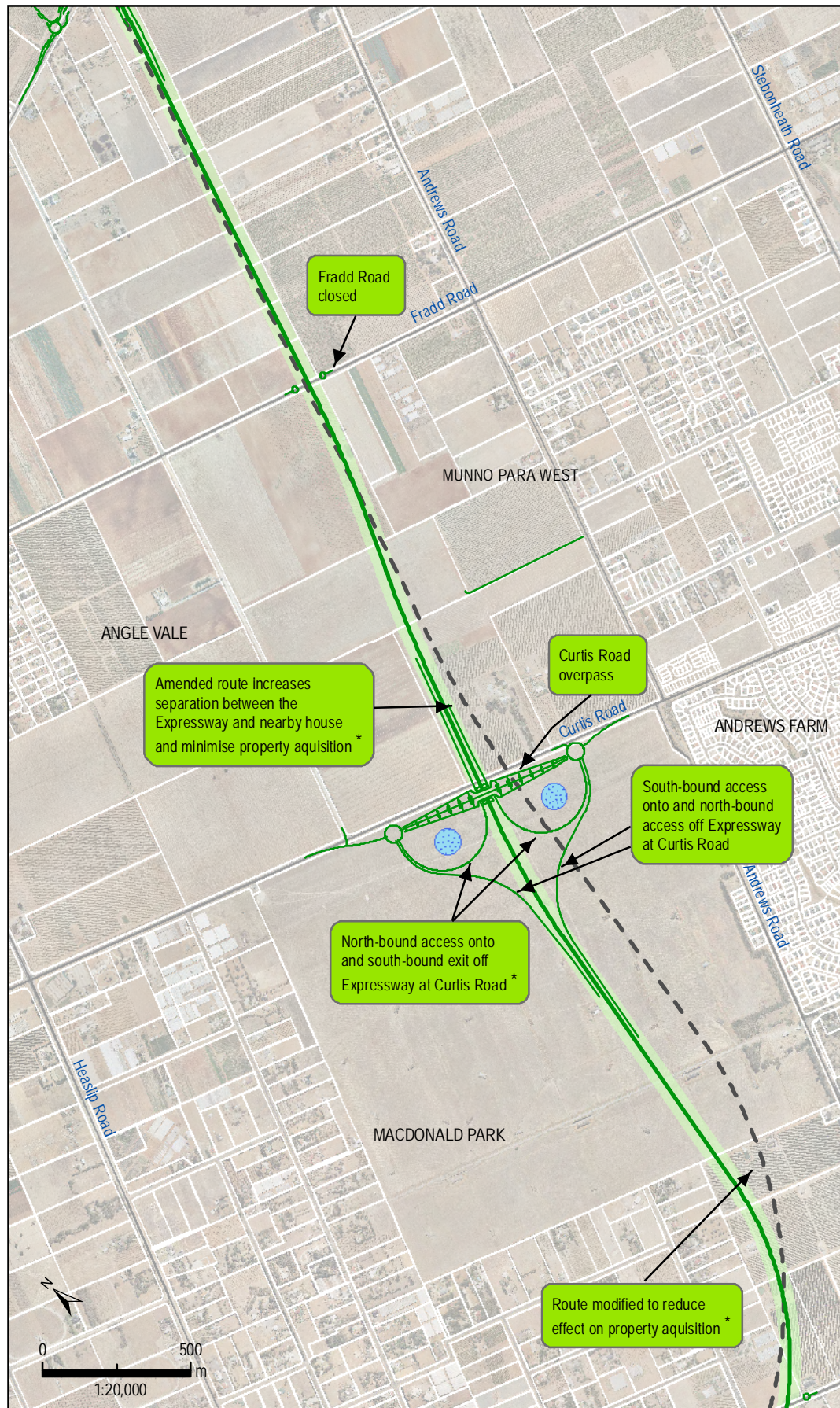


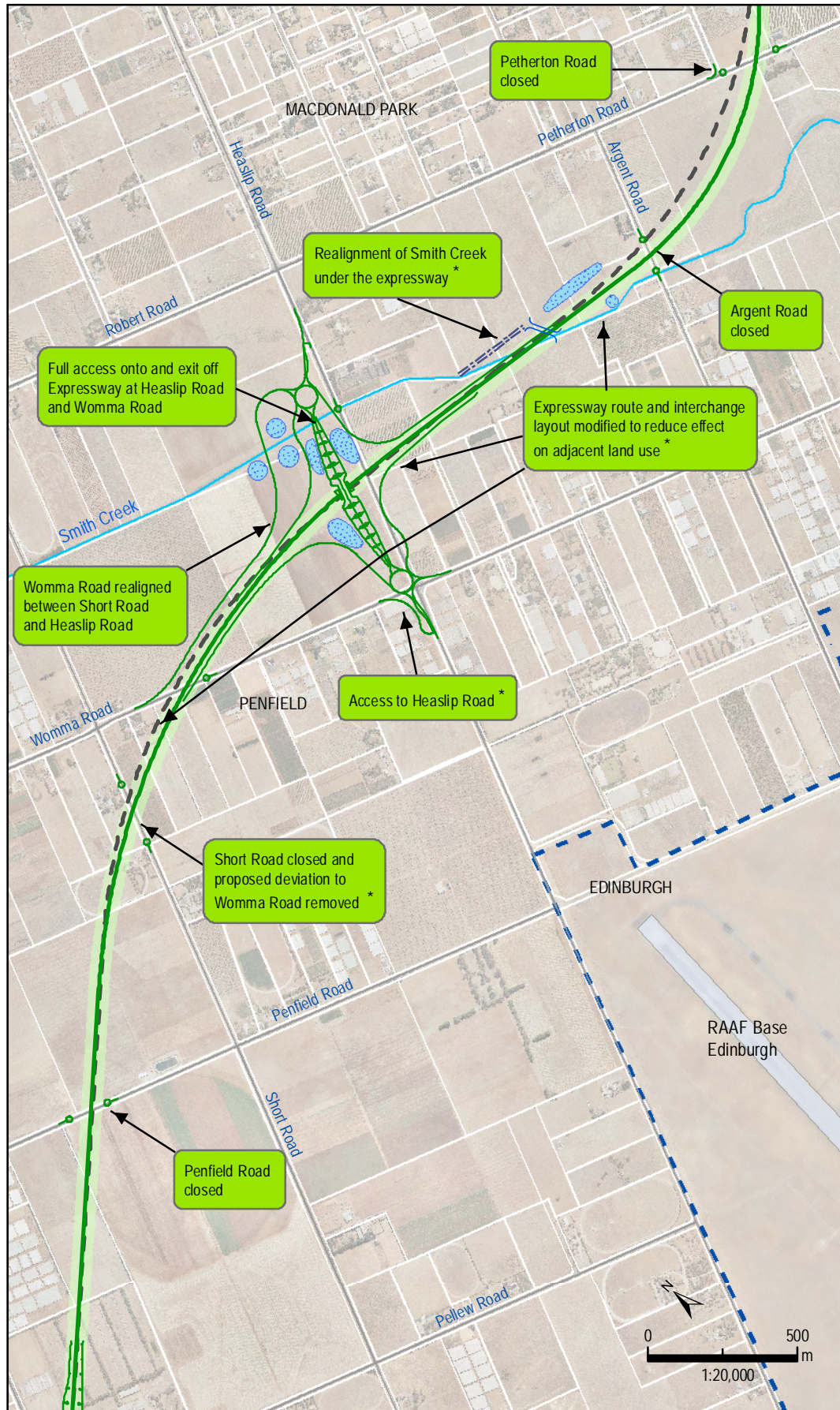
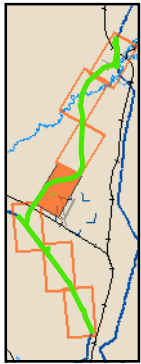
- Corridor
- Refined alignment
- Road closure
- Previous alignment in Environment Report
- Changed access via modified service road
- * Amendments to the proposal

Figure 2.1 Detailed route plan 1 of 7

Refer Figure 7.1 Environmental Report



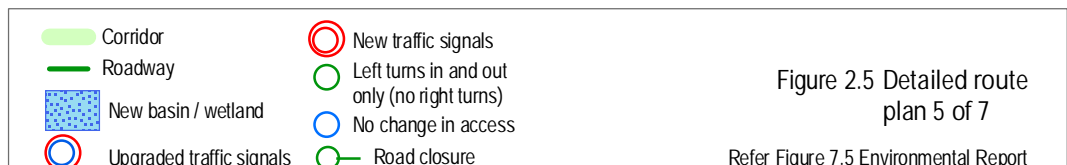
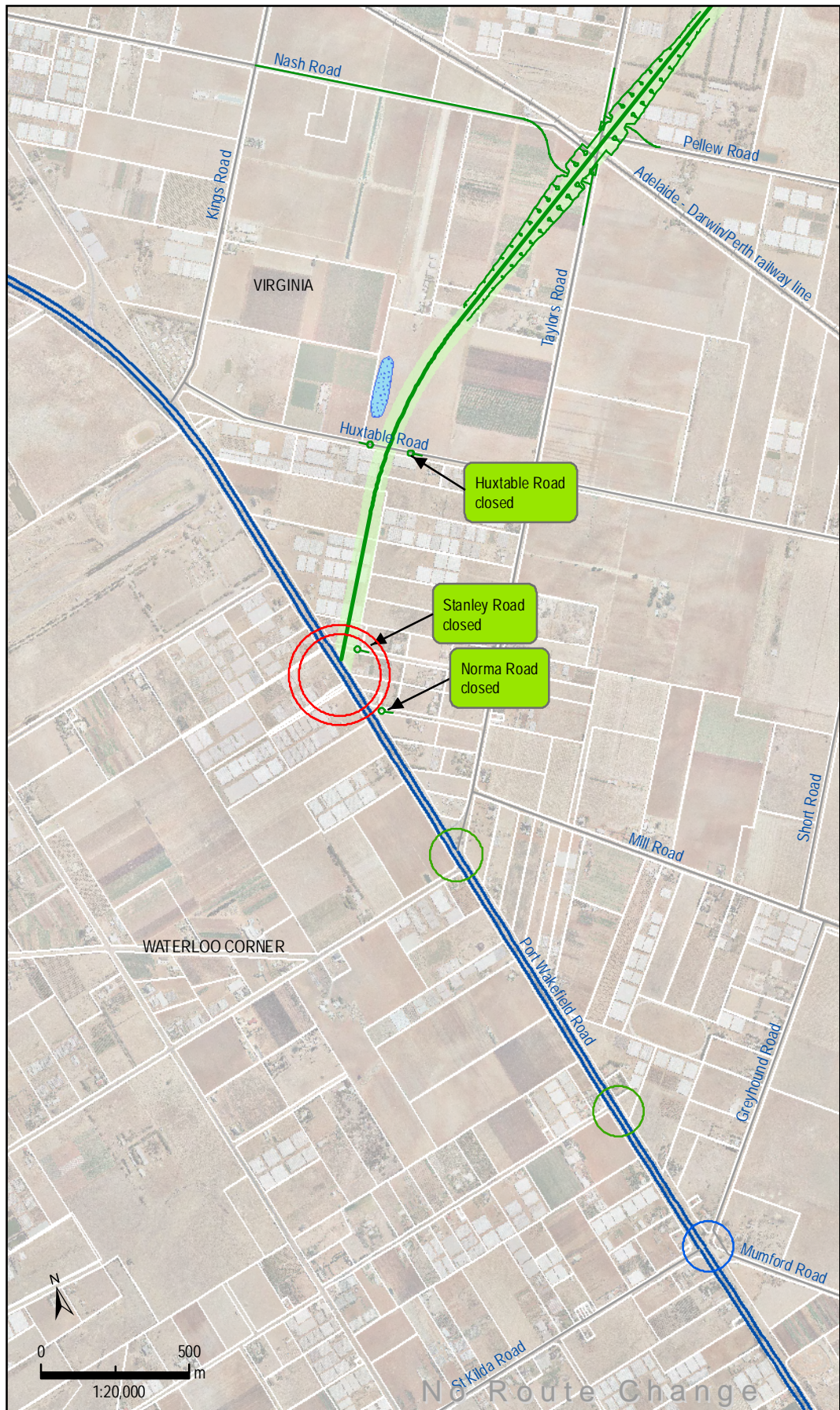
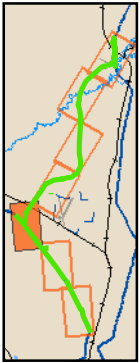




- Corridor
- Refined alignment
- Road closure
- New basin / wetland
- - - Future ramps
- - - Previous alignment in Environment Report
- * Amendments to the proposal

Figure 2.4 Detailed route plan 4 of 7

Refer Figure 7.4 Environmental Report



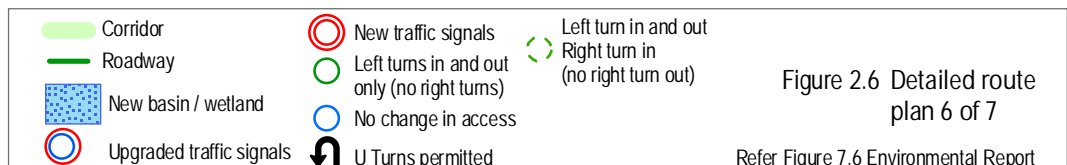
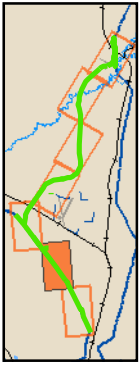


Figure 2.6 Detailed route plan 6 of 7

Refer Figure 7.6 Environmental Report

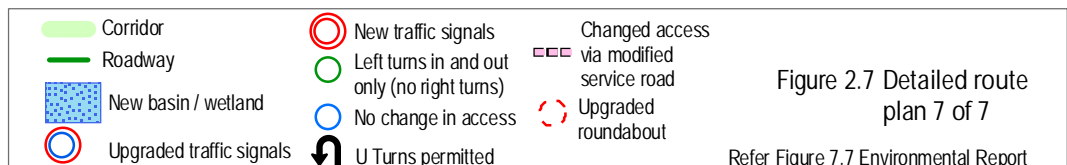
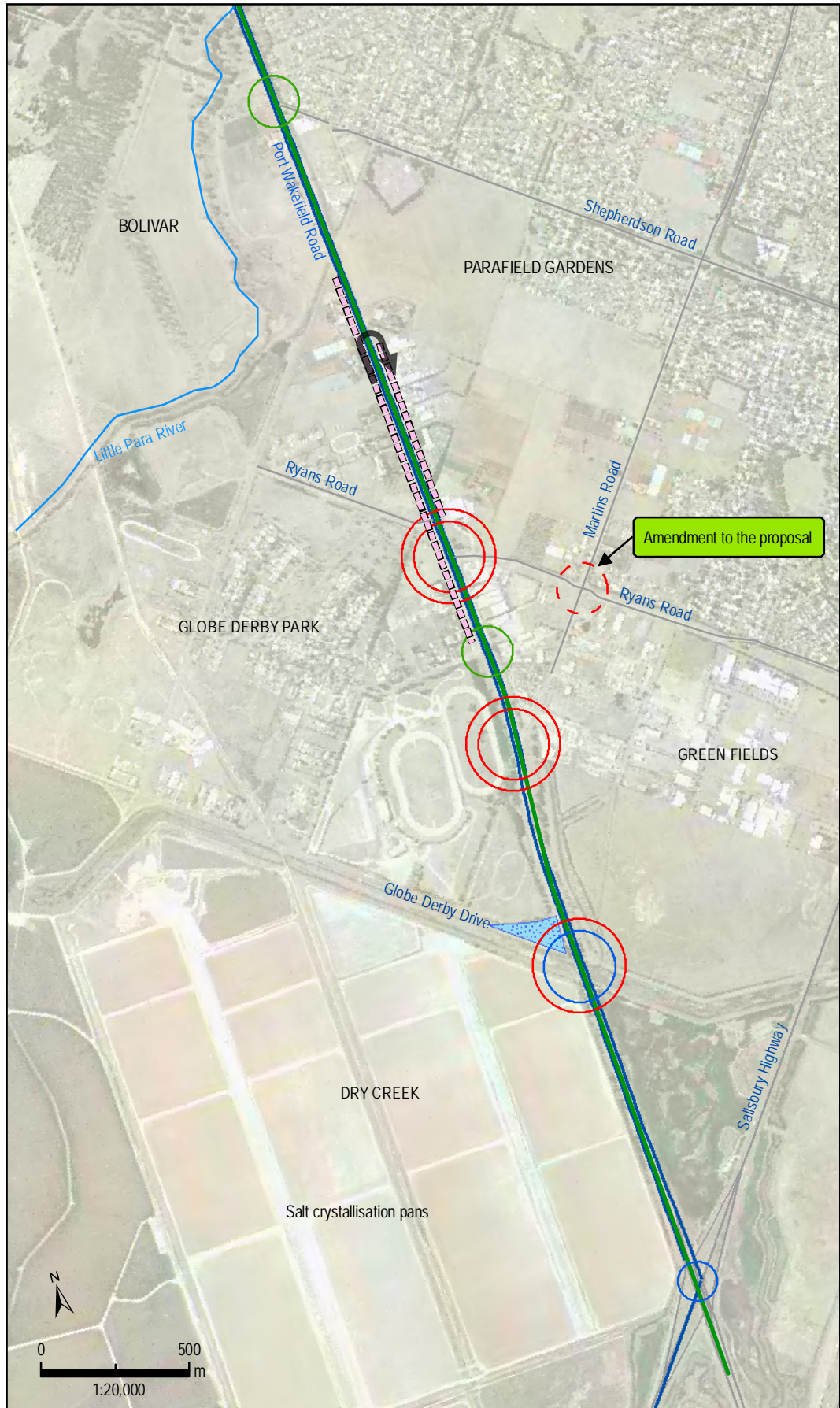
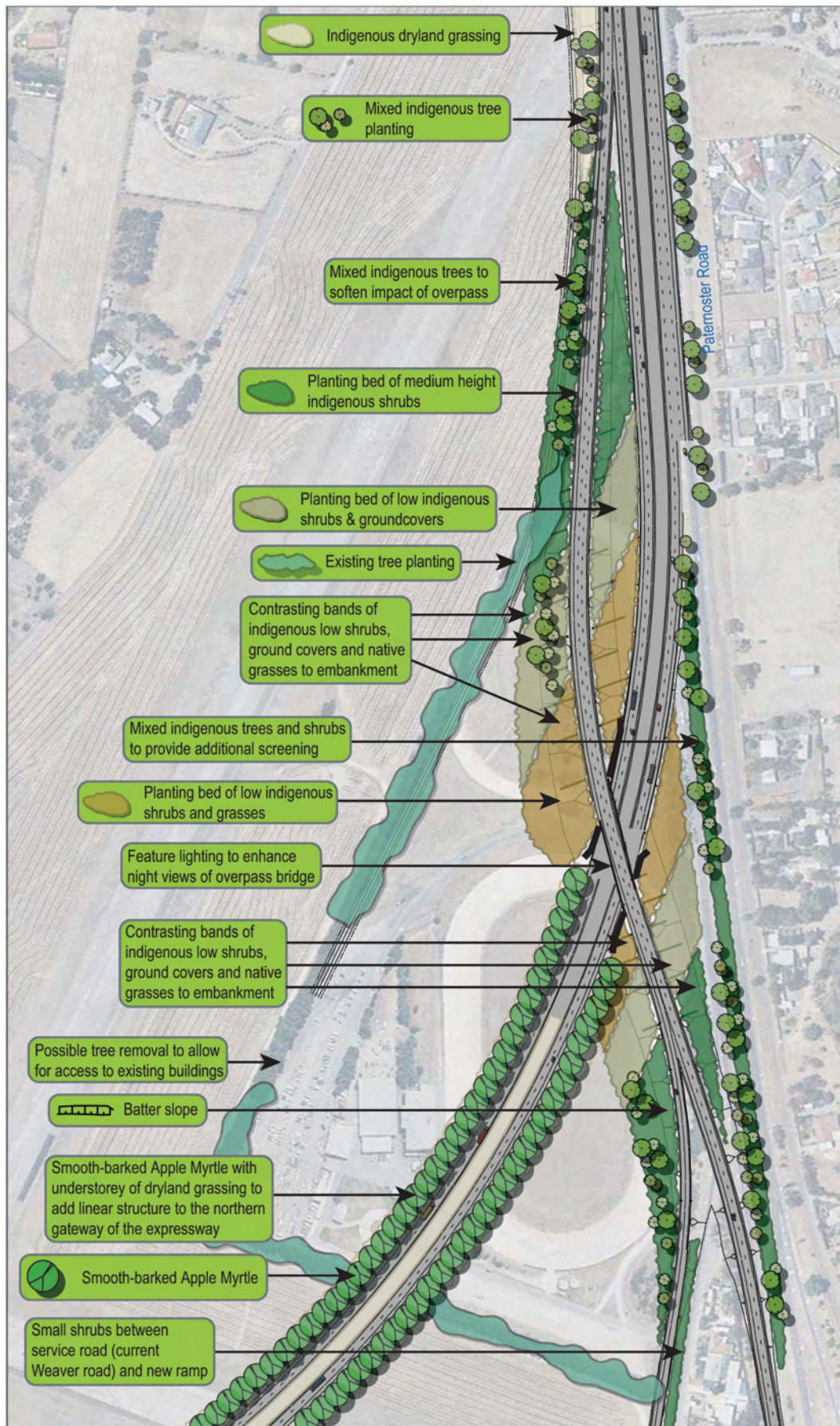


Figure 2.7 Detailed route plan 7 of 7

Refer Figure 7.7 Environmental Report



Note: Landscape elements not to scale

Figure 2.8 Gawler Bypass interchange
indicative landscape concept

Refer Figure 7.10 Environmental Report

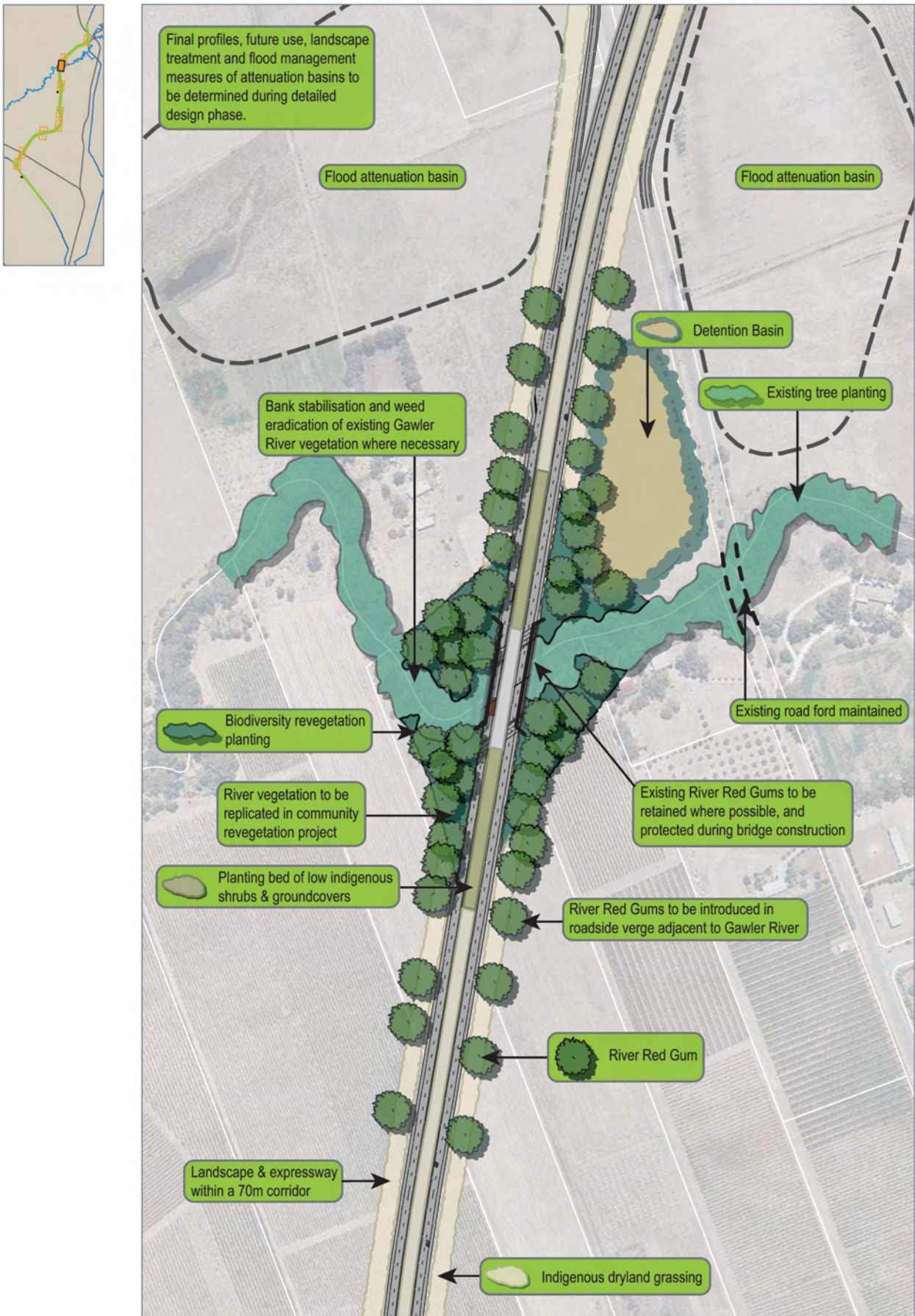


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Note: Landscape elements not to scale

Figure 2.9 Two Wells Road partial interchange indicative landscape concept

Refer Figure 7.11 Environmental Report

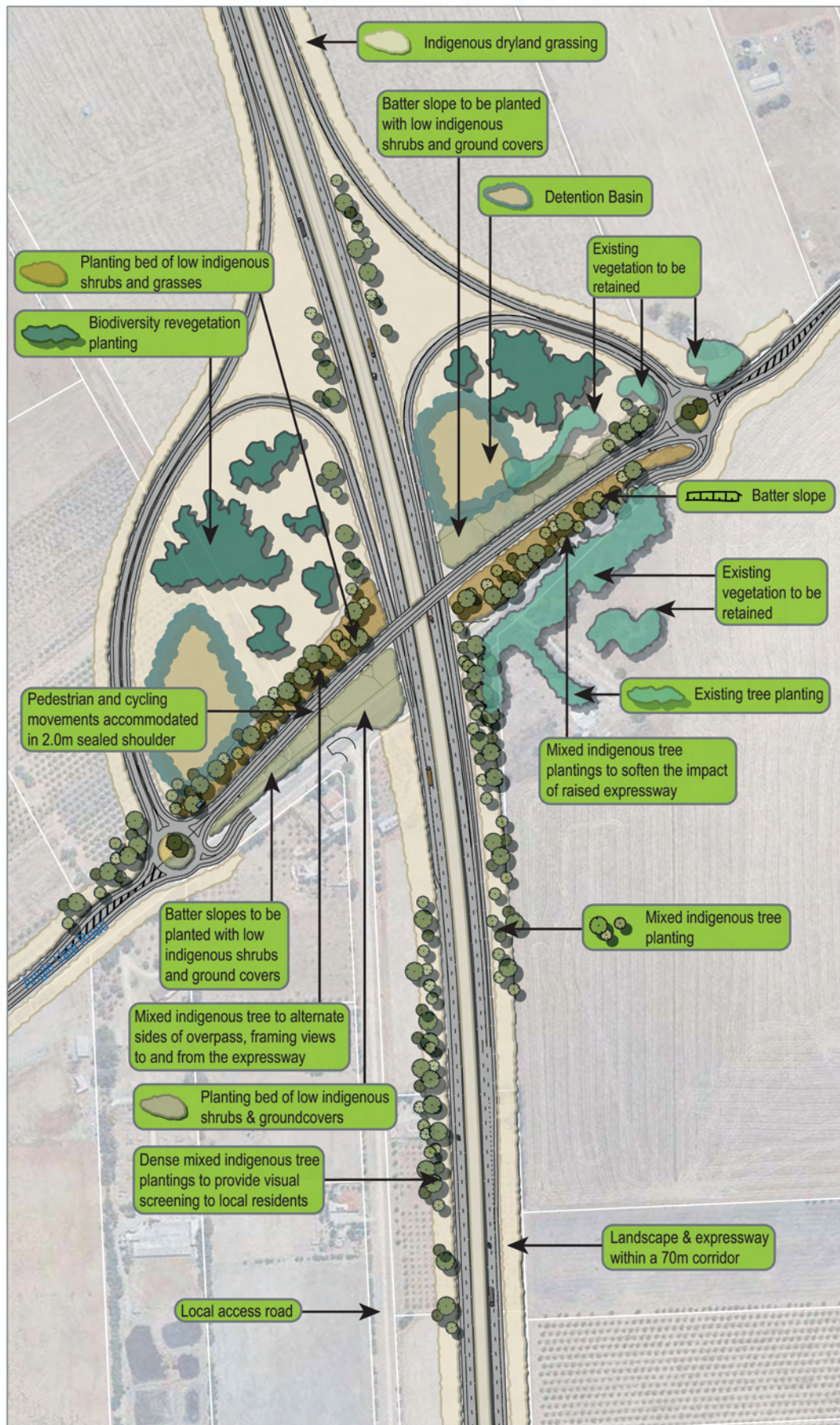


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Note: Landscape elements not to scale

Figure 2.10 **Gawler River crossing indicative landscape concept**

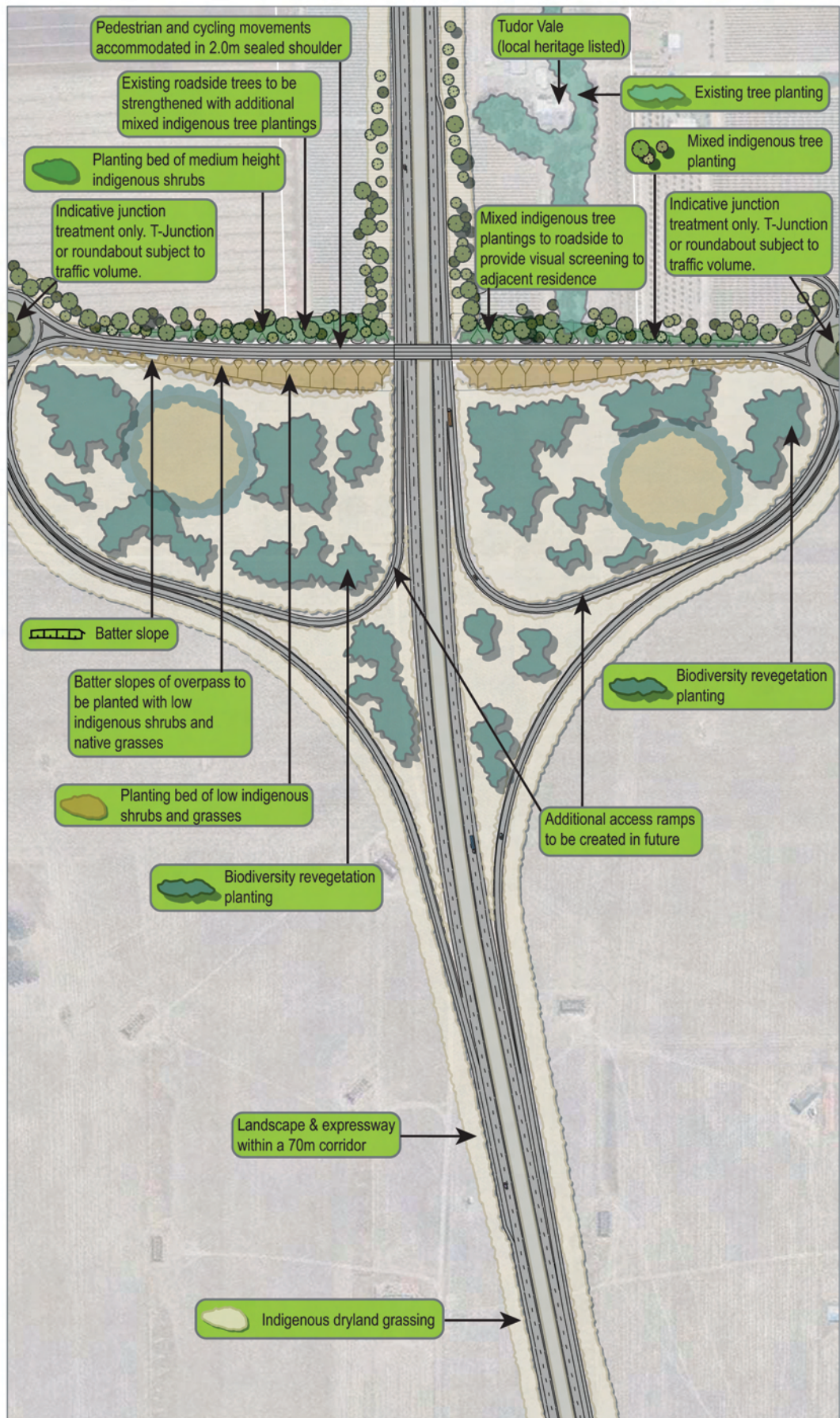
Refer Figure 7.12 Environmental Report



Note: Landscape elements not to scale

Figure 2.11 Angle Vale Road interchange indicative landscape concept

Refer Figure 7.13 Environmental Report



Note: Landscape elements not to scale

Figure 2.12 Curtis Road interchange
indicative landscape concept

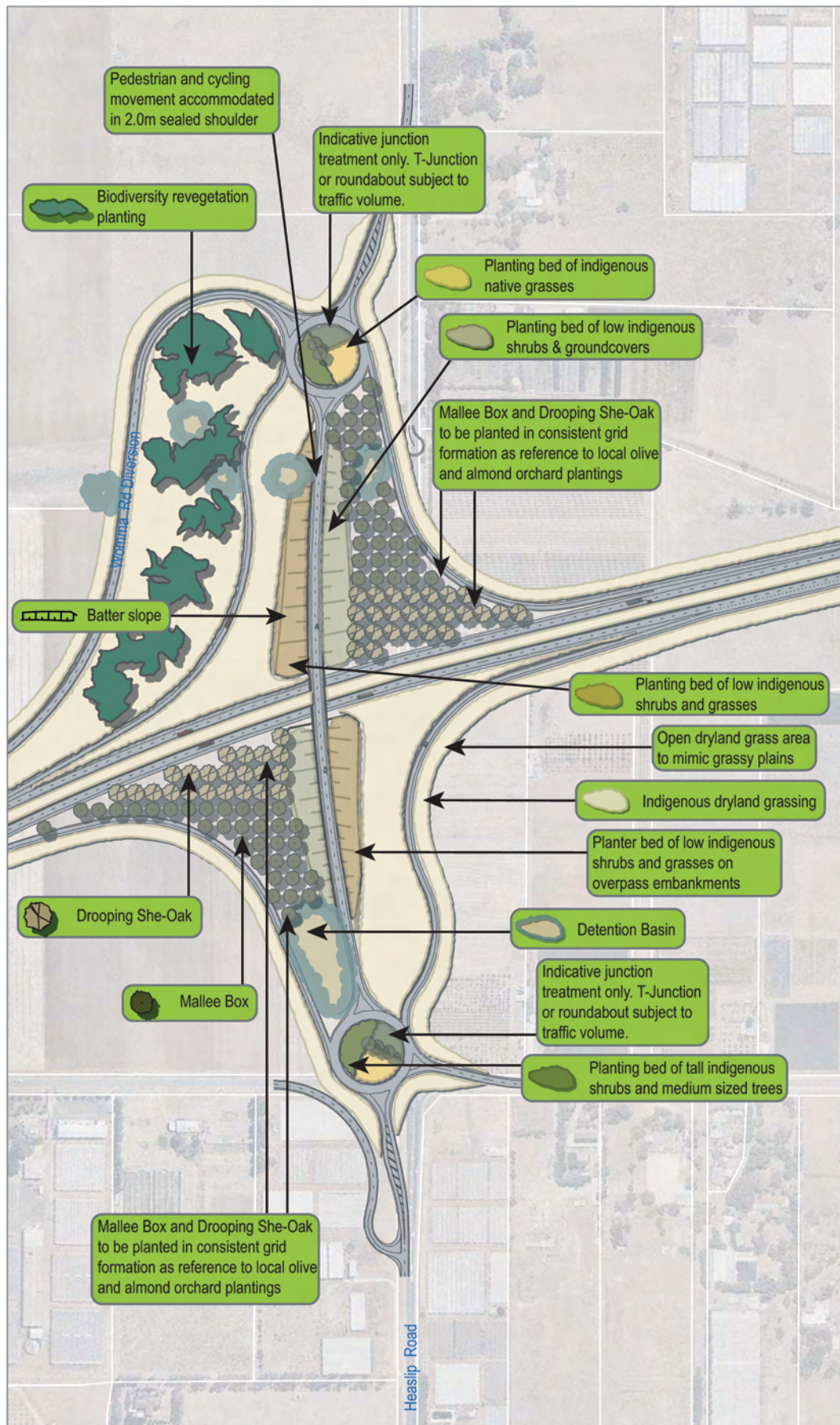
Refer Figure 7.14 Environmental Report



Note: Landscape elements not to scale

Figure 2.13 Macdonald Park alignment
indicative landscape concept

Refer Figure 7.15 Environmental Report



0 100 m

Note: Landscape elements not to scale

Figure 2.14 Heaslip Road and Womma Road interchange indicative landscape concept

Refer Figure 7.16 Environmental Report



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Note: Landscape elements not to scale

Figure 2.15 Railway overpass
indicative landscape concept

Refer Figure 7.17 Environmental Report



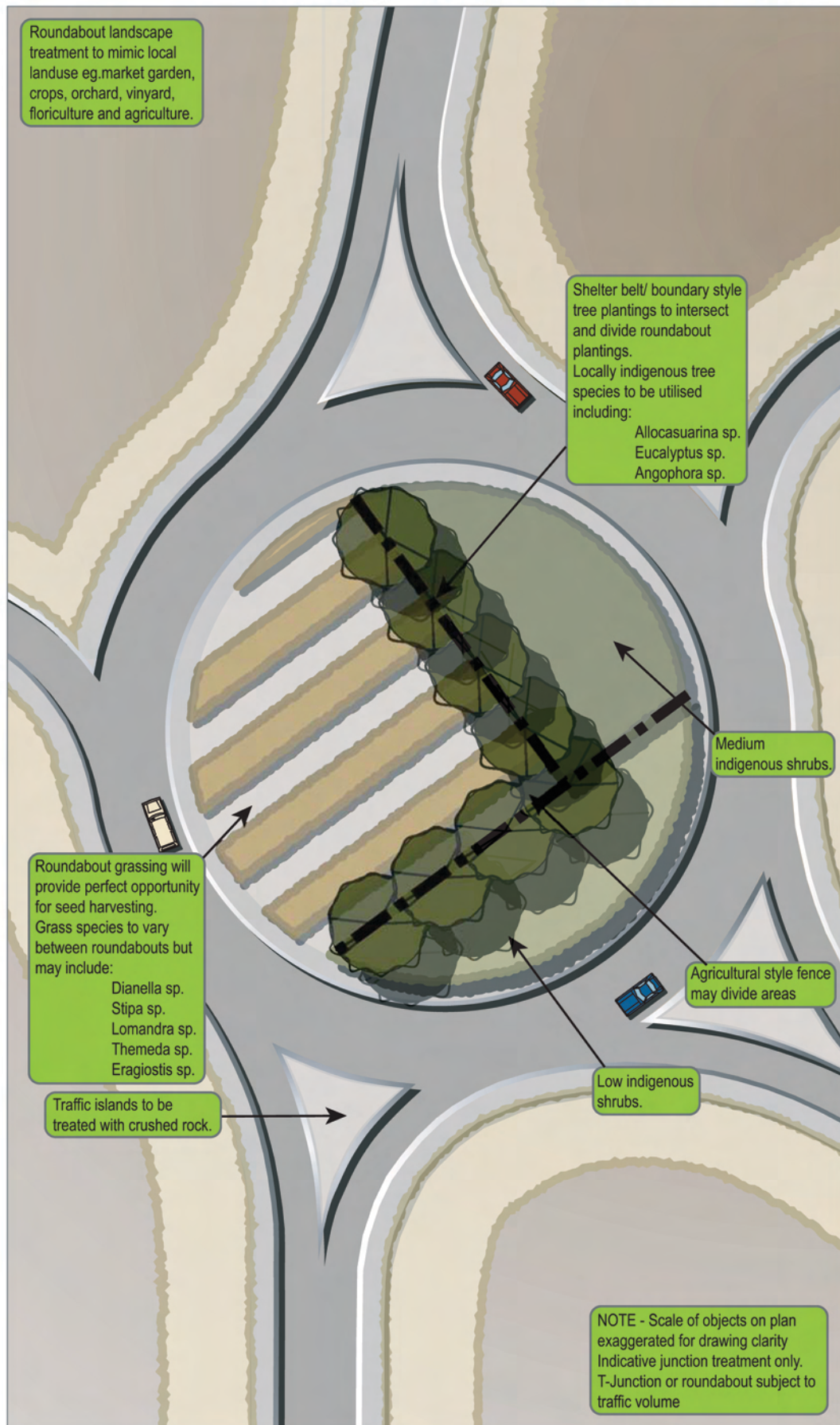
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Note: Landscape elements not to scale

Figure 2.16 Port Wakefield Road junction indicative landscape concept

Refer Figure 7.18 Environmental Report



0 100 m

Note: Landscape elements not to scale

Figure 2.17 Typical roundabout landscape treatment

Refer Figure 7.19 Environmental Report