

Transport
for NSW

MR78 Olympic Highway, Bethungra pavement widening and reconstruction – Stages 3, 4, 5 Minor works review of environmental factors

December 2022



transport.nsw.gov.au

Acknowledgement of Country

Transport for NSW acknowledges the Wiradjuri People, the traditional custodians of the land on which the MR78 Olympic Highway, Bethungra Pavement Widening and Reconstruction – Stage 3, 4 and 5 project is proposed.

We pay our respects to their Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation’s First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples’ cultural and spiritual connections to the land, waters and seas and their rich contribution to society.



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1. Introduction

The purpose of the Minor Works review of environmental factors (REF) is to describe the proposal, to document the likely impacts of the proposal on the environment, to detail mitigation measures to be implemented and to determine whether or not the proposal can proceed. For the purposes of this work Transport for NSW (Transport) is the proponent and determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The description of the proposed works and assessment of associated environmental impacts has been undertaken in the context of section 171 of the *Environmental Planning and Assessment Regulation 2021*, Guidelines for Division 5.1 Assessments (DPE, 2022), the *Biodiversity Conservation Act 2016 (NSW)* (BC Act), the *Fisheries Management Act 1994* (FM Act) and the *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)* (EPBC Act).

In doing so the REF helps to fulfil the requirements of section 5.5 of the EP&A Act including that Transport examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity.

The findings of the REF would be considered when assessing:

- Whether the proposal is likely to have a significant impact on the environment and therefore the necessity for an environmental impact statement to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act.
- The significance of any impact on threatened species as defined by the BC Act and/or FM Act, in section 1.7 of the EP&A Act and therefore the requirement for a Species Impact Statement or a Biodiversity Development Assessment Report
- The potential for the proposal to significantly impact a matter of national environmental significance, including nationally listed threatened biodiversity matters, or the environment of Commonwealth land. Where a significant impact is considered likely on nationally listed biodiversity matters, either the proposal must be reconsidered or a Project REF must be prepared.

2. The proposal

2.1 Description

2.1.1 Proposal location details

Table 2-1 Proposal location details

Location details	
Title	MR78 Olympic Highway, Bethungra Pavement Widening and Reconstruction – Stages 3, 4 and 5
File number	SF2022/123560 (A47088282)
Road name and number	MR78 Olympic Highway
Closest crossroad(s):	Bethungra Waterworks Road
Chainage of works:	32.68km to 35.28km
Local government area:	Junee Shire Council
Transport for NSW region:	South (West) Region

2.1.2 Proposal location description

Transport for NSW (Transport) proposes to undertake pavement widening and reconstruction along 2.6 kilometres of the Olympic Highway (MR78), located 32.68 to 35.28 kilometres north of Junee (the proposal) near Bethungra. The proposal is shown in Figure 1, Appendix B.

The proposal is part of an overall pavement widening and reconstruction project along the Olympic Highway at Bethungra, which includes five stages:

- Stage 1 – 31.89 km to 32.68 km (Completed)
- Stage 2 – 30.88 km to 31.89 km (Completed)
- Stage 3 – 32.68 km to 33.34 km
- Stage 4 – 33.34 km to 34.36 km
- Stage 5 – 34.36km to 35.28 km

Stages 1 and 2 were completed in 2015 and 2018, respectively, with Stages 3, 4 and 5 the subject of this assessment. Previous environmental assessments have been completed for the project, which have included all five stages or parts thereof as part of project scope changes. The following assessments have been completed for the project to date:

- MR78 Olympic Highway, Bethungra pavement wideing and reconstruction – Review of environmental factors, nghenvironmental, May 2014
- Olympic Highway (MR78) Bethungra pavement widening and reconstruction – Addendum review of environmental factors, nghenvironmental, Novemnber 2015
- Addendum assessment and decision for proposed modification to MR78 Olympic Highway, Bethungra pavement widening and reconstruction review of environmental factors, Roads and Maritime, April 2019.

The addendum and addendum memo for the project assessed additional changes to the project scope including:

- Re-shaping the road cross fall and realigning curves
- Changes to construction, replacement and extension of culverts

- Additional vegetation clearing
- Drilling and blasting of some cut batters
- Reshaping table drains
- Additional site compound and temporary material laydown and machinery parking areas
- Property acquisition.

This Minor Works REF is intended to provide a consolidated document for stages 3 to 5 and includes additional project scope changes and updates for these three stages. Some of the culvert work required has previously been completed as part of the original REF assessment, however, some of these need to be replaced due to drainage issues.

Key features of the proposal include:

- Widening of current lanes to current design standard of 3.5 metres
- Relocating the centre line of the road slightly west of its current location
- Widening of sealed shoulders to 1.0 metre and unsealed shoulders to a minimum of 0.8 metres
- Install and reshape table drains where appropriate and where not previously completed
- Construct two new culverts at chainage 32.88km and 33.24km
- Flatten batters to a ratio of 2:1 and 4:1
- Provide a 100 millimetre pavement overlay above the existing surface level
- Spray seal surfaces and pavement marking
- Reinstating and utilising existing stockpile sites and turn-around bays (54, 55, 56)
- Repair of scouring batters behind wire-rope safety barrier at chainage 31.8 km

The proposal is anticipated to involve the following work methodology:

- Establish a temporary compound site at an existing designated area (Figure 2 in Appendix B)
- Reinstating existing stockpile sites for both stockpiling of materials, parking and turnaround areas, including stockpiles 54, 55 and 56 (Figures 2 in Appendix B)
- Implement traffic control, including partial road closures and stop-go traffic control
- Install clearing limit fencing and reinstate fencing of Aboriginal heritage item (50-5-0015) at stockpile 54 (Figure 2, Appendix B)
- Establish environmental controls, including erosion and sediment controls
- Identify and relocation of utilities where required
- Clear and prune vegetation
- Temporary stockpiling of excavated material including topsoil
- Replacement and construction of pipe culverts and headwalls
- Removal of existing guardrails and terminals
- Excavation of cut batters and removal of excavated material
- Excavation of fill batters to place gravel and widen the road formation
- Re-shaping the road cross fall and realignment of some curves
- Stabilisation of the in-situ subgrade with lime
- Placement and compaction of gravel for road formation widening
- Gravel placement and compaction to strength the existing road
- Revegetation to stabilise disturbed areas
- Bitumen sealing of shoulders

- Line-marking, sign, guide post and roadside furniture installation
- Site cleanup and removal of stockpiles and compound
- Removal of traffic controls and erosion and sediment controls.

The proposal would involve the use of the following plant and equipment:

- | | |
|-----------------------------|------------------------|
| • Excavator | • Light vehicles |
| • Rollers | • Concrete trucks |
| • Trucks | • Front end loader |
| • Water carts | • Line marker |
| • Graders | • Spray truck |
| • Bitumen spray truck | • Vibrating compactors |
| • Aggregate spreader trucks | • Hand tool |
| • Backhoe | • Wood chipper |
| • Skid steer loader | • Chainsaws |

Standard working hours that would be adopted for the proposal are:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 1pm
- Sunday and Public Holidays: no work.

2.1.3 Proposal objectives

The proposed works form part of Transport’s continued maintenance and improvement of the road network across NSW. The key objective of the proposal is to improve safety along this section of the Olympic Highway (MR78) for road users. Proposal objectives include:

- Widening the existing road formation, including travel lanes, to meet current road design standards
- Reducing the cost of pavement maintenance
- Providing sufficient clear zone and removing roadside hazards for the posted travel speed of 100 kilometres per hour
- Improving transport efficiency
- Minimising environmental harm by implementing mitigation measures to reduce impacts as a result of the proposal.

2.1.4 Ancillary facilities

Table 2-2 Ancillary facilities

Ancillary facilities		
Will the proposal require the use or installation of a compound site? A temporary compound site would be established at a site previously used as a compound for the project (Figure 2 in Appendix B). The site is located between chainage 33.84 km and 33.90 km and is about 500 square metres in area. It is intended to hold site facilities and provide parking for machinery and vehicles. Materials may also be temporarily stored within the compound site. No vegetation is proposed to be removed as the site is already cleared.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Will the proposal require the use or installation of a stockpile site?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

<p>The proposal would require the use of an existing stockpile site, which has been utilised for previous stages of the proposal; No 54, which is located about 2.3 kilometres north of Bethungra at about chainage 31.72 km (Figure 2 in Appendix B). Imported road base, pavement material, culvert structures and other structural materials required for the proposal would be stored at this site. No additional vegetation removal would be required.</p>		
<p>Are any other ancillary facilities required (e.g., temporary plants, parking areas, access tracks)?</p> <p>It is proposed to use an additional two sites as turn-around bays for construction machinery and vehicles. These sites are identified as stockpile 55 and 56 and are existing cleared sites currently used as parking bays / pull-over areas. The sites are located at chainages 32.82 and 35.20 (Figure 2 in Appendix B). There is potential for small items to be temporarily stored at these sites, however no bulk items would be stored due to their small size. No additional vegetation removal would be required.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

2.1.5 Proposed date of commencement

Culvert works for each stage would occur prior to road work and is expected to commence at the following times:

- Stage 5 – January 2023
- Stage 4 – January 2024
- Stage 3 – January 2025.

Construction of the road works for the proposal is to occur in three stages, expected to commence at the following times:

- Stage 5 – February 2023
- Stage 4 – February 2024
- Stage 3 – February 2025.

2.1.6 Estimated length of construction period

Each stage of the culvert works is expected to take between five to six weeks in duration.

Construction for each stage of road works is expected to take the following duration:

- Stage 5 – 21 weeks
- Stage 4 – 22 weeks
- Stage 3 – 17 weeks.

2.2 Need and options

2.2.1 Options considered

The options considered for the proposal included:

Option 1 – do nothing

This option would involve leaving the road pavement, lane widths, steep batters and drainage in their current condition. The do-nothing option would not meet the road safety objectives of the proposal. In addition, it would lead to ongoing high road maintenance costs and continued sub-standard drainage throughout the proposal site, which has resulted in road failures. There would be no environmental impact of this option.

Option 2 – Proposal as previously determined

This option would involve widening the pavement formation, sealing shoulders, installing new drainage structures and improving the clear zone. This option involves not carrying out additional and amended drainage work, including the addition of culverts. This option is not cost effective and risks continuing damage to the road structure and risk to road user safety. This option is not the preferred option.

The preferred option is:

Option 3 – Widen the pavement formation, sealing shoulders, installing new drainage structures and repairing scouring batters. This is the preferred option as it would ensure cost effectiveness due to decreased ongoing maintenance and risk of road failures due to poor drainage and achieve the proposal objective of improving road user safety.

2.2.2 Justification for the proposal

The proposal is required to improve road user safety by meeting current road design standards. Drainage issues would also be rectified by installing additional culverts and repairing scouring of batters. The proposal would not only result in improved road safety through road design measures such as increased lane widths but also by reducing the risk of road failures by improving drainage issues. This would also result in reduced ongoing maintenance costs. The proposal is therefore considered justified.

2.3 Statutory and planning framework

2.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021

The State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP (Transport and Infrastructure)) aims to facilitate the effective delivery of infrastructure across the state, including for roads and road infrastructure facilities. Section 2.108 of the SEPP (Transport and Infrastructure) permits development on any land for the purpose of a road or road infrastructure facilities to be carried out by or on behalf of a public authority without consent.

As the proposal is appropriately characterised as development for the purposes of a road or road infrastructure facilities and is to be carried out by or on behalf of Transport, it can be assessed under Division 5.1 of the EP&A Act. Development consent from council is not required.

The proposal is not located on land reserved under the *National Parks and Wildlife Act 1974* and does not require development consent or approval under State Environmental Planning Policy (Resilience and Hazards) 2021, State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021, State Environmental Planning Policy (Precincts – Central River City) 2021, State Environmental Planning Policy (Precincts – Western Parkland City) 2021, State Environmental Planning Policy (Precincts – Regional) 2021 or State Environmental Planning Policy (Planning Systems) 2021.

2.3.2 Other relevant legislation and environmental planning instruments

Junee Shire Council Local Environmental Plan 2012

The proposal site is located within the Junee Local Government Area (LGA). Development within the LGA is controlled by the *Junee Local Environmental Plan 2012* (Junee LEP).

The provisions of the SEPP (Transport and Infrastructure) override any development consent requirements of the Junee LEP, therefore development consent from Council is not required. Consultation requirements of the SEPP (Transport and Infrastructure) are discussed below in section 2.4.

NSW Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act), together with the Biodiversity Conservation Regulation 2017 provides a mechanism to address impacts on biodiversity from land clearing associated with development. Self-determining authorities can assess impacts of Part 5 developments on threatened biota listed under the BC Act via Part 7.3 of the BC Act and Section 1.7 of the EP&A Act. This requires assessment of potential impacts on threatened biodiversity via the test of significance, and if significant impacts are likely, a species impact statement (SIS) or assessment under the Biodiversity Assessment Methodology (BAM) would be required.

The potential for impacts on biodiversity have been considered in Section 3.7. The assessment concludes that the proposal would be unlikely to have a significant impact on any threatened species, populations or ecological communities listed under the BC Act. A SIS or assessment under the BAM is therefore not required.

NSW National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides the basis for legal protection and management of National Parks estate and Aboriginal sites and objects in NSW. Items of Aboriginal heritage (Aboriginal objects) or Aboriginal places (declared under Section 84) are protected and regulated under the NPW Act.

Aboriginal objects are protected under Section 86 of the Act. It is an offence to harm or desecrate an Aboriginal object, either knowingly or unknowingly. Section 86 lists offences relating to harming or desecrating Aboriginal object. An Aboriginal heritage impact permit (AHIP) is required under Section 90.

A new Stage 1 Procedure for Aboriginal cultural heritage consultation and investigation (PACHCI) was completed by Desmond Smith on 15 November 2022. No additional impact on Aboriginal heritage is expected.

During the previously completed stages of the project, impacts to a known Aboriginal object occurred on two separate occasions. It is therefore imperative that mitigation measures identified in Section 3.5 are implemented prior to any works commencing for the proposal. The location, photographs and site cards of the item are included in Appendix B, Figure 2 and Appendix E.

Biosecurity Act 2015

The *Biosecurity Act 2015* (Biosecurity Act) specifies the duties of public and private landholders as to the control of priority weeds. Under the Act, priority weeds have been identified for Local Government Areas and assigned duties of control. Under Part 3 of the Biosecurity Act any person who deals with biosecurity mat (i.e. listed weed species) and who knows, or ought reasonably to know, the biosecurity risk posed or likely to be posed by biosecurity matters has the duty to ensure that, so far as reasonably practicable, the biosecurity risk is prevented, eliminated and minimized.

Priority weeds identified within the proposal site, limited to an individual African Boxthorn (*Lycium ferocissimum*) at Stockpile 54, would be managed in accordance with the requirements of the Biosecurity Act. Junee Shire Council have conducted a weed inspection along the length of the proposal site, with no further priority weeds identified. Specific weed management safeguards have been developed to avoid the contamination and spread of priority weeds and can be found in Section 5.

2.4 Community and agency consultation

2.4.1 SEPP (Transport and Infrastructure) consultation

Part 2.2 of the SEPP (Transport and Infrastructure) contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. This is detailed below:

Table 2-3 Consultation required with Council

Is consultation with Council required under sections 2.10 -2.12 and 2.14 of the SEPP (Transport and Infrastructure)?		
Are the works likely to have a substantial impact on the stormwater management services which are provided by council?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the works likely to generate traffic to an extent that will strain the capacity of the existing road system in a local government area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Will the works involve connection to a council owned sewerage system? If so, will this connection have a substantial impact on the capacity of the system?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Will the works involve connection to a council owned water supply system? If so, will this require the use of a substantial volume of water?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

<p>Will the works involve the installation of a temporary structure on, or the enclosing of, a public place which is under local council management or control? If so, will this cause more than a minor or inconsequential disruption to pedestrian or vehicular flow?</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Will the works involve more than a minor or inconsequential excavation of a road or adjacent footpath for which council is the roads authority and responsible for maintenance?</p> <p>The proposal would not involve work on a road for which council is the responsible authority.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is there a local heritage item (that is not also a state heritage item) or a heritage conservation area in the study area for the works? If yes, does a heritage assessment indicate that the potential impacts to the heritage significance of the item/area are more than minor or inconsequential?</p> <p>There are no local heritage items or conservation areas in the proposal site. The Bethungra Spiral on the Main Southern railway is in the study area and listed on the State Heritage Register and on the local heritage register, however it would not be impacted by the proposal. A Stone Pitch Wall located at chainage 32.97 km is not listed on any heritage register.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the proposal within the coastal vulnerability area and is inconsistent with a certified coastal management program applying to that land?</p> <p>Note: See interactive map at Coastal management -(nsw.gov.au). Note the coastal vulnerability area has not yet been mapped.</p> <p>Note: a certified coastal zone management plan is taken to be a certified coastal management program.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Are the works located on flood liable land? If so, will the works change flooding patterns to more than a minor extent?</p> <p>Note: Flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the Floodplain Development Manual: the management of flood liable land (nsw.gov.au).</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Table 2-4 Consultation with other public authorities

Is consultation with a public authority (other than Council) required under sections 2.13, 2.15 and 2.16 of the SEPP (Transport and Infrastructure)?		
<p>Are the works located on flood liable land? (to any extent) (SEPP (Transport and Infrastructure) s2.13)</p> <p>If so, do the works comprise more than minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance?</p> <p>Note: Flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the Floodplain Development Manual: the management of flood liable land (nsw.gov.au).</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Are the works adjacent to a national park, nature reserve or other area reserved under the <i>National Parks and Wildlife Act 1974</i>, or on land acquired under that Act?</p> <p>Ulandra Nature Reserve is located over three kilometres to the south of the proposal and would not be impacted.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Are the works on land in Zone E1 National Parks and Nature Reserves or in a land use zone equivalent to that zone?</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Do the works include a fixed or floating structure in or over navigable waters?</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Are the works for the purpose of residential development, an educational establishment, a health services facility, a correctional facility or group home in bush fire prone land?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Would the works increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? (Note: the dark sky region is within 200 kilometres of the Siding Spring Observatory)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in clause 5.15 of Lockhart LEP 2012, Narrandera LEP 2013 and Urana LEP 2011).	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Are the works on land in a mine subsidence district within the meaning of the <i>Mine Subsidence Compensation Act 1961</i> ?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Table 2-5 Notification of council and occupiers of adjoining land

Do Council and occupiers of adjoining land need to be notified under section 2.110 of the SEPP (Transport and Infrastructure)?		
Does the proposal include a car park intended for the use by commuters using regular bus services?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Does the proposal include a bus depot?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Does the proposal include a permanent road maintenance depot or associated infrastructure, such as garages, sheds, tool houses, storage yards, training facilities and workers amenities?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

2.4.2 Other agency and community consultation

Transport would consult with relevant landholders regarding potential impacts such as property accesses. No other agency or community consultation has been undertaken.

3. Environmental assessment

This section provides a detailed description of the potential environmental impacts associated with the construction and operation of the proposal. All aspects of the environmental potentially impacted upon by the proposal are considered. This includes consideration of the factors specified in section 171 of the Environmental Planning and Assessment Regulation 2021.

The matters of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) are also considered in section 4. Site-specific safeguards are provided to ameliorate the identified potential impacts.

3.1 Soil

Table 3-1 Soil

Description of existing environmental and potential impacts		
<p>Are there any known occurrences of salinity or acid sulfate soils in the area?</p> <p>There are no known occurrences of salinity in the study area. Based on mapping of acid sulfate soils for NSW by the Department of Planning and Environment, it is unlikely these would occur in the study area.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Does the proposal involve the disturbance of large areas (e.g., >2ha) for earthworks?</p> <p>Earthworks would be confined to the construction footprint shown in Appendix A, and would disturb the following areas for the three stages:</p> <ul style="list-style-type: none"> • Stage 3 – 1.5 hectares • Stage 4 – 2.9 hectares • Stage 5 – 2.7 hectares. <p>Work would be progressive along the length of the alignment with exposed areas stabilised prior to moving to the next section.</p> <p>The proposal is estimated to excavate about 10,800 cubic metres of material. There is not expected to be a substantial excess of material, however any excess would be reused on site and scattered on the toe of the batters or transported to a licensed landfill.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Does the site have constraints for erosion and sedimentation controls such as steep gradients or narrow corridors?</p> <p>The proposal would involve work on some steep gradients along its length, particularly in the Stage 3 section where large cuttings are located. However, in these areas works would generally be restricted to the existing road formation with safety barrier installed to prevent alteration of the batters. Appropriate erosion and sediment controls would be installed along the proposal length to prevent sedimentation of waterways in the area and from soils moving off site. In addition, an impermeable liner in the table drain in Stage 3 has been installed to improve drainage and reshaping of other table drains and culvert improvements throughout would be implemented to improve the drainage and water flow throughout the study area.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Are there any sensitive receiving environments that are located in or nearby the likely proposal area or that would likely receive stormwater discharge from the proposal?</p> <p>Sensitive receiving environments include (but are not limited to) wetlands, state forests, national parks, nature reserves, rainforests, drinking water catchments).</p> <p>There are no sensitive receiving environments, including named watercourses, located in or near the proposal site. There are however two ephemeral creeks which, when flowing, pass through culverts under the highway.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

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<p>Is there any evidence within or nearby the likely footprint of potential contamination? There are no records of contaminated land in the Junee Shire Council local government area (EPA 2022).</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the likely proposal footprint in or nearby highly sloping landform? The proposal would involve work adjacent to steep slopes along its length, particularly in the Stage 3 section where large cuttings are located. However, in these areas works would generally be restricted to the existing road formation with safety barrier installed to prevent alteration of the batters. Appropriate erosion and sediment controls would be installed along the proposal length to prevent sedimentation of waterways in the area and from soils moving off site. Batter improvements would also be made to strengthen the area adjacent to a box culvert at chainage 33.27 km. The landform characteristics have been considered during the design of the proposal.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Is the proposal likely to result in more than 2.5ha (area) of exposed soil? The proposal is estimated to result in a total of 7.1 hectares of exposed soils, comprised of the following areas for each stage:</p> <ul style="list-style-type: none"> • Stage 3 – 1.5 hectares • Stage 4 – 2.9 hectares • Stage 5 – 2.7 hectares. <p>Earthworks would be completed in stages and appropriate erosion controls would be implemented to avoid the erosion and loss of soils.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Safeguards

Safeguards to be implemented are:

- E1. Erosion and sediment control measures are to be implemented and maintained to:
 - Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets
 - Reduce water velocity and capture sediment on site
 - Minimise the amount of material transported from site to surrounding pavement surfaces
 - Divert clean water around the site. (in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book)).
- E2. Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request
- E3. Erosion and sediment control measures are not to be removed until the works are complete and areas are stabilised
- E4. Work areas are to be stabilised progressively during the works
- E5. A progressive erosion and sediment control plan is to be prepared for the works
- E6. The maintenance of established stockpile sites is to be in accordance with the Roads and Maritime Services Stockpile Site Management Guideline (EMS-TG-10)
- E7. Develop and implement site-specific erosion and sediment control plans (ESCPs) in accordance with the Blue Book, including measures identified above.

3.2 Waterways and water quality

Table 3-2 Waterways and water quality

Description of existing environmental and potential impacts		
Is the proposal located within, adjacent to or near a waterway? Two unnamed intermittent creeks flow through culverts in Stage 3 and 4 of the proposal site, eventually draining into Ulandra Creek to the south of the proposal site. Runoff from the Olympic Highway and study area would flow into these minor drainage lines via the culverts in the proposal site. To minimize the potential impact on the drainage lines and creeks in the study area, erosion and sediment control measures would be implemented prior to any works being commenced.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Is the location known to flood or be prone to water logging?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Is the proposal located within or immediately adjacent to the area managed by WaterNSW covered by chapter 8 of State Environmental Planning Policy (Biodiversity and Conservation) 2021 (SEPP (Biodiversity and Conservation))? Note: See map here - Sydney drinking water catchment map .	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Would the proposal be undertaken on a bridge or ferry?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Is the proposal likely to require the extraction of water from a local water course (not mains)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Safeguards

Safeguards to be implemented are:

- W1. There is to be no release of dirty water into drainage lines and/or waterways
- W2. Visual monitoring of local water quality (ie turbidity, hydrocarbon spills/slicks) is to be undertaken on a regular basis to identify any potential spills or deficient silt curtains or erosion and sediment controls
- W3. Water quality control measures are to be used to prevent any materials (eg. concrete, grout, sediment etc) entering drain inlets or waterways
- W4. Excess debris from cleaning and washing is removed using hand tools
- W5. Works in waterways will be conducted in accordance with Environmental Fcat Sheet 04: *Working in Waterways* and the RMS Biodiversity Guide 10 – *Aquatic Habitats and Riparian Zones*
- W6. An Environmental Work Method Statement will be prepared for work to be conducted in waterways and shall form part of the Construction Environmental Management Plan (CEMP)
- W7. Refuelling of plant and equipment is to occur in impervious bunded areas away from drainage lines
- W8. Emergency spill kits for the management of accidental dry and wet chemical spills will be available. All personnel would be made aware of their availability and trained in their use.

3.3 Noise and vibration

Are there any residential properties or other noise sensitive areas near the location of the proposal that may be affected by the work (i.e., church, school, hospital)?

Table 3-3 Noise and vibration

Description of existing environmental and potential impacts		
<p>During construction?</p> <p>There is one sensitive receiver located about 235 metres east of Stage 5 that may be impacted by the construction works (refer Figure 2, Appendix B). Attended noise monitoring was completed for the REF (NGH Environmental) at a sensitive receiver 30 metres from the project site, with the residence located 235 metres from the proposal site also assessed. Construction activities are likely to exceed the Noise Management Level for daytime, evening and night works for this receiver. Construction works are unlikely to exceed the highly effected noise level for day, evening and night works. Works would be limited to standard work hours and therefore no out-of-hours noise impacts are anticipated.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>During operation?</p> <p>The proposal would not increase the overall traffic carrying capacity of the road and is unlikely to result in an increase in traffic or noise during operation. It is therefore unlikely to cause noise impacts to sensitive receiver in the study area during operation.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the proposal going to be undertaken only during standard working hours?</p> <p>Standard working hours</p> <ul style="list-style-type: none"> • Monday-Friday: 7:00am to 6.00pm • Saturday: 8.00am to 1.00pm • Sunday and Public Holidays: no work 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Is any explosive blasting required for the proposal?</p> <p>No explosive blasting is proposed as part of the proposal.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Would construction noise or vibration from the proposal affect sensitive receivers?</p> <p>The residence located 235 metres from the proposal site was assessed. Construction activities are likely to exceed the Noise Management Level for daytime, evening and night works for this receiver. Construction works are unlikely to exceed the highly effected noise level for day, evening and night works. Works would be limited to standard work hours and therefore no out-of-hours noise impacts are anticipated. Works would be progressive along the length of the alignment, and therefore impacts on the sensitive receiver are anticipated to be relatively short in duration.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Would operation of the proposal alter the noise environment for sensitive receivers? This might include, but not be limited to, altering the line or level of an existing carriageway, changing traffic flow, adding extra lanes, increasing traffic volume, increasing the number of heavy vehicles, removing obstacles that provide shielding including changing the angle of view of the traffic, changing the type of pavement, increasing traffic speeds by more than 10km/hour or installing audio-tactile line markings.</p> <p>The proposal would not increase the overall traffic carrying capacity of the road and road traffic noise levels are not predicted to increase following construction.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Would the proposal result in vibration being experienced by any surrounding properties or infrastructure during operation?</p> <p>Sensitive receivers are unlikely to be impacted by any vibration due to their distance from the proposal site.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Safeguards

Safeguards to be implemented are:

- N1. Works to be carried out during normal work hours (i.e. 7am to 6pm Monday to Friday; 8am to 1pm Saturdays). Any work that is performed outside normal work hours or on Sundays or public holidays must be undertaken

in line with EMF-NV-GD-0056 Construction Noise and Vibration Guideline and in consultation with the Transport Customer and Community Engagement Team.

N2. Noise impacts are to be minimised in accordance with Roads and Maritime Construction Noise Estimator

3.4 Air quality

Table 3-4 Air quality

Description of existing environmental and potential impacts		
<p>Is the proposal likely to result in large areas (>2ha) of exposed soils?</p> <p>Earthworks would be confined to the construction footprint shown in Appendix A, and would disturb the following areas for the three stages:</p> <ul style="list-style-type: none"> • Stage 3 – 1.5 hectares • Stage 4 – 2.9 hectares • Stage 5 – 2.7 hectares. <p>Work would be progressive along the length of the alignment with exposed areas stabilised prior to moving to the next section.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Are there any dust-sensitive receivers located within the vicinity of the proposal during the construction period?</p> <p>The nearest sensitive receiver to the proposal site is located about 235 metres to the east of Stage 5. There is potential for this property to be impacted by dust during the construction period if management measures are not implemented, however, the receiver is unlikely to be impacted more than to a minor degree.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Is there likely to be an emission to air during construction?</p> <p>During construction, air quality impacts may result from:</p> <ul style="list-style-type: none"> • Vegetation removal • Exhaust emissions from construction vehicles • General surface earthworks • Wind erosion of exposed areas. <p>Air quality impacts can result in:</p> <ul style="list-style-type: none"> • Aesthetic effects which arise from visible airborne dust and desposits of dust on surfaces • Potential adverse health effects including respiratory problems from excessive inhalation of fine particles and skin or eye conditions • Impacts on water quality from dust deposition • Complaints from the public relating to visible dust • Unsafe driving conditions for road users <p>The air quality in the study area is currently affected by emissions associated with existing traffic on the Olympic Highway and agricultural activities. Impacts to air quality as a result of exhaust fumes from construction plant and vehicles and dust generation from earthworks at the site would be temporary and negligible. With the implementation of the safeguards below, air quality impacts would be low.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Safeguards

Safeguards to be implemented are:

- A1. Measures (including watering or covering exposed areas) are to be used to minimise or prevent air pollution and dust
- A2. Works (including the spraying of paint and other materials) are not to be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely
- A3. Vegetation or other materials are not to be burnt on site

- A4. Vehicles and vessels transporting waste or other materials that may produce odours or dust are to be covered during transportation
- A5. Stockpiles or areas that may generate dust are to be managed to suppress dust emissions in accordance with the Roads and Maritime Services Stockpile Site Management Guideline (EMS-TG-10)
- A1. Plant and machinery would be maintained in accordance with manufacturer’s specification and regular checks made to ensure there are no continuous exhaust emissions
- A7. Vehicles would not be left running when idle.

3.5 Aboriginal heritage

Table 3-5 Aboriginal heritage

Description of existing environmental and potential impacts		
<p>Would the proposal involve disturbance in any area that has not been subject to previous ground disturbances?</p> <p>The proposal site has previously been disturbed by the construction of the Olympic Highway. The areas undergoing pavement widening and reconstruction works have previously been disturbed by road construction, including batter formation, and clear zone works. The proposed stockpile and compound locations are also established sites and previously disturbed areas. Therefore, all works would occur on previously disturbed land.</p> <p>A small area of land, containing remnant vegetation adjacent to the existing stockpile 54 contains a registered Aboriginal heritage object (see below).</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Has an online Aboriginal Heritage Information Management System (AHIMS) search been completed?</p> <p>An updated basic AHIMS search was completed on 7 July 2022, which identified six Aboriginal sites within the area of the project. These sites were identified in the REF and subsequent addendums. One Aboriginal site is located in the vicinity of the proposal site, 50-5-0015 (refer to below for site information).</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Is there potential for the proposal to impact on any items of Aboriginal heritage?</p> <p>As part of the original REF (NGH Environmental 2014), six Aboriginal sites were identified on the AHIMS extensive search conducted 29 November 2012. A subsequent Stage 2 PACHCI was completed by an archaeologist (February 2013), which included a survey of the study area in consultation with representatives from the Wagga Wagga Local Aboriginal Land Council.</p> <p>While there are no Aboriginal sites located along the road alignment of Stage 3, 4 or 5, there is a recorded Aboriginal site (50-5-0015), an artefact scatter consisting of four artefacts in one location with a separate artefact located closer to the road edge. The site is located within the road reserve adjacent to the existing stockpile site being used for the project (stockpile 54) (Figure 2, Appendix B and Appendix E).</p> <p>Stockpile 54 has been used for the duration of the project and due to identified safeguard and management measures not being appropriate to protect the site, it has been impacted on two separate occasions. In addition, the location coordinates of the Aboriginal site in the AHIMS site card are recorded incorrectly, which was confirmed during the subsequent archaeological survey. The REF Addendum memo (Transport 2019) didn’t map this site on updated designs, which included batter works in this area and may also have led to confusion on the site’s location.</p> <p>The site was fenced following each incident. A site visit on 16 June 2022 observed fencing still in place around the site, however fencing needs re-erecting in some areas to prevent further impacts to the site when the proposal commences (refer to Figure 3, Appendix E).</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

<p>The REF Addendum memo (Transport 2019) included an updated AHIMS extensive search on 5 April 2019 incorporating the area of Stage 3, 4 and 5 due to project scope changes in these areas. The search identified one Aboriginal site (50-5-0187), which is a modified tree and located about 80 metres to the south of the proposal adjacent to the old highway alignment (Figure 2, Appendix B). It is not anticipated that this tree would be impacted as works are not located in this area, however should the access track be used for any reason, the tree would be identified on site and fenced to avoid accidental impacts.</p> <p>The GPS coordinates of the two AHIMS sites in the study area are shown in the table below.</p> <p>AHIMS site and location</p> <table border="1"> <thead> <tr> <th colspan="2">AHIMS site</th> <th colspan="2">Location</th> </tr> <tr> <th>Name</th> <th>Number</th> <th>Easting</th> <th>Northing</th> </tr> </thead> <tbody> <tr> <td>Olympic Hwy – Bethungra 1</td> <td>50-5-0015</td> <td>579760</td> <td>6153859</td> </tr> <tr> <td>Bethungra Rail Tunnel 1</td> <td>50-5-0187</td> <td>580947</td> <td>6154630</td> </tr> </tbody> </table>				AHIMS site		Location		Name	Number	Easting	Northing	Olympic Hwy – Bethungra 1	50-5-0015	579760	6153859	Bethungra Rail Tunnel 1	50-5-0187	580947	6154630		
AHIMS site		Location																			
Name	Number	Easting	Northing																		
Olympic Hwy – Bethungra 1	50-5-0015	579760	6153859																		
Bethungra Rail Tunnel 1	50-5-0187	580947	6154630																		
<p>Would the proposal involve the removal of mature native trees?</p> <p>The proposal would involve the removal of about 10 large or very large trees. These trees have been sighted by the TfNSW Aboriginal Cultural Heritage Officer and do not have any cultural modification and are therefore not culturally significant.</p>				<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																
<p>Is the proposal consistent with the requirements of the legacy <i>Roads and Maritime Procedure for Aboriginal cultural heritage consultation and investigation</i> (PACHCI)?</p> <p>The proposal is consistent with the PACHCI. A Stage 1 PACHCI assessment was completed 15 November 2022 (refer Appendix D), in addition to the Stage 2 assessment completed in February 2013. The findings of the assessment concluded the works are unlikely to impact on Aboriginal cultural heritage, providing the safeguards below are implemented.</p>				<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																

Safeguards

Safeguards to be implemented are:

- B1. If Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the Roads and Maritime Services Aboriginal cultural heritage officer and regional environment manager contacted immediately. Steps in the Roads and Maritime Standard Management Procedure: Unexpected Heritage Items must be followed
- B2. The artefact scatter (Olympic Highway – Bethungra, AHIMS ID: 50-5-0115) will be fenced off with star pickets and bunting prior to and for the duration of the works. Fencing will be regularly checked and maintained to ensure site is secure
- B3. Should access along the old highway alignment be required, the modified tree (Bethungra Rail Tunnel 1 – AHIMS ID: 50-5-0187) would be identified and fenced to avoid accidental impacts
- B4. Following completion of the project, access to the artefact scatter would be permanently restricted to avoid further accidental impacts via vehicle access and stockpiling, either by constructing a mound or erecting a permanent fence between the site and the stockpile
- B5. Any activity proposed outside of the current assessment areas should also be subject to an Aboriginal heritage assessment.

3.6 Non-Aboriginal heritage

Table 3-6 Non-Aboriginal heritage

Description of existing environmental and potential impacts		
<p>Have online heritage database searches been completed?</p> <ul style="list-style-type: none"> • Transport (including legacy Roads and Maritime) section 170 register. • NSW Heritage database. • Commonwealth Heritage List, established under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act). • Australian Heritage Places Inventory. • Local Environmental Plan(s) heritage items. 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Are there any items of non-Aboriginal heritage or heritage conservation areas listed on relevant heritage databases/registers that are located within the vicinity of the proposal?</p> <p>The Bethungra Spiral, which is located adjacent to the proposal site, to the south of Stage 3, is listed on the NSW State Heritage Register. All works would be confined within the road reserve, and therefore would not impact on this heritage item.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Is the proposal likely to occur in or near features that indicate potential archaeological remains?</p> <p>A Stone Pitch Wall is located in the road reserve at chainage 32.97 km, however it is not listed on any heritage register. The wall is unlikely to be impacted by the proposal.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Safeguards

Safeguards to be implemented are:

- H1. If unexpected heritage items are uncovered during the works, all works must cease in the vicinity of the material/find and the Roads and Maritime Services Standard Management Procedure: Unexpected Heritage Items must be followed. Transport Senior Environment Specialist – Heritage must be contacted immediately.

3.7 Biodiversity

An assessment of the biodiversity impacts for the project was conducted for the REF, with additional impacts assessed for the subsequent addendums. This MWREF involves assessment of the biodiversity impacts in addition to those previously assessed and those which have not yet occurred. This includes additional vegetation removal as identified below.

The following database searches and assessment were conducted to inform the biodiversity section of this MWREF:

- Search of the EPBC Act Protected Matters Search Tool (PMST) – searched July 2022 (Appendix E)
- Search of the BioNet Atlas of Wildlife – licensed data – for EPBC Act and BC Act listed threatened and migratory species and populations
- Sharing and Enabling Environmental Data in NSW (SEED) database for mapping of vegetation communities in the area
- NSW WeedWise (DPI) website for priority weeds that occur in the Riverina control area
- Likelihood of occurrence of threatened species and ecological communities in the area (Appendix C).

The biodiversity assessments for the project identified two threatened ecological communities in the study area:

- White-Box Yellow Box Blakely's Red Gum Woodland (Box-Gum Woodland) – Critically endangered BC Act
- Inland Grey Box Woodland (Grey Box Woodland) – Endangered BC Act.

These communities both have EPBC Act listed forms, however, according to the biodiversity assessment previously completed, due to the small size and poor condition of the patches did not quality for listing under the more stringent criteria. State Vegetation Type Mapping of plant community types along the proposal alignment are shown in Figure 3, Appendix B. The extent of the Grey Box Woodland is outside of the current study area for stages 3, 4 and 5.

One threatened bird species was recorded during surveys; the Speckled Warbler (*Chthonicola saggitata*), which is listed as vulnerable under the BC Act.

Table 3-7 Biodiversity

Description of existing environmental and potential impacts																
<p>Have relevant database searches been carried out? [e.g., NSW Bionet and OEH threatened species profile search (including a search by the relevant CMA/s to identify potential EECs present) <u>NSW WeedWise</u> (DPI) website. Commonwealth EPBC Act Protected matters search tool] Searches of the following databases were completed (refer to Appendix E)</p> <ul style="list-style-type: none"> • Search of the EPBC Act Protected Matters Search Tool (PMST) – searched July 2022 (Appendix E) • Search of the Atlas of NSW Wildlife – licensed data – for EPBC Act and BC Act listed threatened and migratory species and populations (accessed July 2022) • Sharing and Enabling Environmental Data in NSW (SEED) database for mapping of vegetation communities in the area (access July 2022) • NSW WeedWise (DPI) website for priority weeds that occur in the Riverina control area (accessed July 2022) • OEH threatened biodiversity profile search (accessed July 2022) • DAWE Species profile and threats database (accessed July 2022). 					<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No										
<p>Did the database searches identify any endangered ecological communities, threatened flora and/or threatened or protected fauna, or migratory species in or within the vicinity of the proposed works? Both Commonwealth and State listed matters must be considered.</p> <p>Based on previous assessments for the project in the study area, vegetation mapping and species surveys conducted, only those species that are considered likely to occur due to previous records and that may be impacted have been included in the below table (refer to Appendix C for further detail).</p> <table border="1"> <thead> <tr> <th>Scientific and common name</th> <th>Status (V, E, EEC, M)*</th> <th>Type of listing (BC Act or EPBC Act)</th> <th>Distance from works</th> <th>Potential impacts</th> </tr> </thead> <tbody> <tr> <td>Box-Gum Woodland</td> <td>CEEC</td> <td>BC Act</td> <td>Within proposal site</td> <td>Scattered trees, associated groundcover and shrubs</td> </tr> </tbody> </table> <p>CEEC = critically endangered ecological community</p>					Scientific and common name	Status (V, E, EEC, M)*	Type of listing (BC Act or EPBC Act)	Distance from works	Potential impacts	Box-Gum Woodland	CEEC	BC Act	Within proposal site	Scattered trees, associated groundcover and shrubs	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Scientific and common name	Status (V, E, EEC, M)*	Type of listing (BC Act or EPBC Act)	Distance from works	Potential impacts												
Box-Gum Woodland	CEEC	BC Act	Within proposal site	Scattered trees, associated groundcover and shrubs												
<p>Is the proposal likely to impact nationally listed threatened species, ecological communities or migratory species?</p> <p>Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, threatened species are unlikely to be substantially impacted by the</p>					<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No										

<p>proposal. Most species with the potential to occur in the study area are highly mobile and able to traverse the study area to alternative habitat or are considered vagrant to the study area. The proposal would potentially remove up to three hollow bearing trees however attempts will be made to avoid removal of these trees during construction. The removal of these trees would have a minor impact to hollow-dependent species given the large amount of suitable habitat surrounding the site. The impact will be mitigated through the installation of replacement hollows in accordance with the Transport for NSW Biodiversity Policy if required. The Box-Gum Woodland in the study area does not conform to the listing of the community under the EPBC Act due to the degraded groundcover and the small size of the patches, as previously assessed for the REF.</p>																										
<p>Would the proposal require the removal of any other vegetation?</p> <p>The proposal would require the removal of scattered Mugga Ironbark (<i>Eucalyptus sideroxylon</i>), Blakely's Red Gum (<i>E. blakelyi</i>), Dwyer's Red Gum (<i>E. Dwyeri</i>) trees and Currawang (<i>Acacia doratoxylon</i>) from along the length of the proposal site that would require tree replacement in accordance with the Transport <i>Biodiversity Policy 2022</i>. One stag would also be removed. These include the following tree size classes:</p> <table border="1" data-bbox="295 779 1273 1048"> <thead> <tr> <th>Tree size</th> <th>Number of trees</th> <th>Tree replacement ration (to be planted)</th> <th>Total trees to be planted</th> </tr> </thead> <tbody> <tr> <td>Small (5-20 cm)</td> <td>52</td> <td>2</td> <td>104</td> </tr> <tr> <td>Medium (20-50 cm)</td> <td>8</td> <td>4</td> <td>32</td> </tr> <tr> <td>Large (50-100cm)</td> <td>4</td> <td>8</td> <td>32</td> </tr> <tr> <td>Very large</td> <td>6</td> <td>16</td> <td>96</td> </tr> <tr> <td>TOTAL</td> <td>70</td> <td>-</td> <td>264</td> </tr> </tbody> </table> <p>Some scattered small sized (<5cm) saplings of the above species would also be removed by the proposal.</p>	Tree size	Number of trees	Tree replacement ration (to be planted)	Total trees to be planted	Small (5-20 cm)	52	2	104	Medium (20-50 cm)	8	4	32	Large (50-100cm)	4	8	32	Very large	6	16	96	TOTAL	70	-	264	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Tree size	Number of trees	Tree replacement ration (to be planted)	Total trees to be planted																							
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Very large	6	16	96																							
TOTAL	70	-	264																							
<p>Would the proposal affect any tree hollows or hollow logs?</p> <p>Three of the trees proposed to be removed contain hollows and therefore no hollow replacement is necessary for the proposal.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																								
<p>Are there any known areas of outstanding biodiversity value or areas mapped as 'littoral rainforest' or 'coastal wetland' under chapter 2 of SEPP (Resilience and Hazards) in or within the vicinity of the proposed work?</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No																								
<p>Would the proposal provide any additional barriers to the movement of wildlife?</p> <p>Vegetation in the study area is already fragmented due to previous clearing for agriculture and the construction of the Olympic Highway. There are however relatively extensive tracts of vegetation remaining in the rail reserve around the Bethungra Spiral adjacent to the proposal site to the south and on private property. The removal of a small area of vegetation from the roadside corridor is unlikely to cause any further fragmentation or barriers to wildlife movement in the area.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No																								
<p>Would the proposal disturb any natural waterways or aquatic habitat?</p> <p>Two unnamed intermittent creeks flow through culverts in Stage 3 and 4 of the proposal site, eventually draining into Ulandra Creek to the south of the proposal site. Runoff from the Olympic Highway and study area would flow into these minor drainage lines via the culverts in the proposal site.</p> <p>These drainage lines are unlikely to provide aquatic habitat and do not hold permanent water. Water flow is generally limited to periods of heavy rainfall. To minimize the potential impact on the drainage lines and creeks in the study area, erosion and sediment control measures would be implemented prior to any works being commenced.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No																								
<p>Would the proposal disturb any crevices or other locations (such as on bridges and culverts) for potential bat habitat?</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No																								

Safeguards

Safeguards to be implemented are:

- F1. There is to be no disturbance or damage to threatened species or areas of outstanding value
- F2. Works are not to harm threatened fauna (including where they inhabit bridges or other structures eg timber fence posts or maritime piles)
- F3. If unexpected threatened fauna or flora species are discovered, stop works immediately and follow the Roads and Maritime Services Unexpected Threatened Species Find Procedure in the Roads and Maritime Services Biodiversity Guidelines 2011 – Guide 1 (Pre-clearing process)
- F4. Declare priority weeds are to be managed according to requirements under the *Biosecurity Act 2015* and Guide 6 (Weed Management) of the Roads and Maritime Services Biodiversity Guidelines 2011
- F5. Fauna handling must be carried out in accordance with the requirements of the Roads and Maritime Services Biodiversity Guidelines – Guide 9 (Fauna Handling)
- F6. Works are not to create an ongoing barrier to the movement of wildlife
- F7. Pruning is to be favoured over the removal of mature trees at all times. Pruning is to be in accordance with Part 5 of the Australian Standard 4373-2007 Pruning of amenity trees
- F8. Exclusion zone fencing is to be set up at the limit of clearing to avoid accidental impacts to retained areas of vegetation. These exclusion zones should be administered in accordance with Biodiversity Guidelines 2011 – Guide 2 (Exclusion Zones) and is to be included in the Environmental Management Plan and toolbox talks for all staff on site
- F9. Processes and measures of the Roads and Maritime Services ‘Clearing and Grubbing procedure’ are to be implemented before, during and after proposed vegetation clearing. This would be addressed in an Environmental Work Method Statement to be prepared for the work, and would include Pre-clearing surveys by the project ecologist or qualified person in accordance with Roads and Maritime Services Biodiversity Guidelines – Guide 1 (Pre-clearing process), and in co-ordination with the project Environment Officer
- F10. Course Woody Debris (CWD) such as tree trunks may be placed within the road reserve as habitat, and is to be in accordance with Roads and Maritime Services Biodiversity Guidelines – Guide 5 (Re-use of woody debris and bushrock). The CWD would be placed outside of the clear zone and away from fence lines under the supervision of Roads and Maritime project manager and environment officer
- F11. Measures for preventing the introduction and/or spread of disease causing agents such as bacteria and fungi will be implemented, as detailed in Biodiversity Guidelines – Guide 7 (Pathogen management)
- F12. Where practicable, vegetation removal will occur outside the main fauna breeding season (August to January) to avoid potential breeding disturbance to fauna.
- F13. Tree and Hollow replacement will occur in accordance with the Transport for NSW Biodiversity Policy and No Net Loss Guidelines.

3.8 Trees

Table 3-8 Trees

Description of existing environmental and potential impacts		
Does the proposal involve pruning, trimming or removal of any tree/s?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>The proposal would involve the removal of 70 trees scattered along the length of the proposal site, which includes 52 trees 5-20 centimetres in diameter at breast height (dbh) 8 trees 20-50 centimetres dbh four 50-100 centimetres dbh and six trees >100 centimetres dbh. This includes the following species:</p> <ul style="list-style-type: none"> • Mugga Ironbark • Blakely’s Red Gum 		

<ul style="list-style-type: none"> Dwyer's Red Gum Currawang <p>Some scattered small sized (<5cm) saplings of the above species would also be removed by the proposal.</p>		
<p>Do the trees form part of a streetscape, an avenue or roadside planting?</p> <p>The trees to be removed do not form part of a streetscape, an avenue or roadside planting.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Have the trees been planted by a community group, Landcare group or by council or is the tree a memorial or part of a memorial group e.g., has a plaque?</p> <p>None of the trees in the proposal site have been planted by a community group, Landcare group or by council. The trees to be removed are not part of a memorial</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Do the trees form part of a heritage listing or have other heritage value?</p> <p>There are no trees in the proposal site that form part of a heritage listing or hold heritage value.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Safeguards

No additional safeguards required.

3.9 Traffic and transport

Table 3-9 Traffic and transport

Description of existing environmental and potential impacts		
<p>Is the proposal likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during construction?</p> <p>The proposal would require minor temporary disruptions to traffic flow during construction. Traffic control would include partial road closures and reduced speed zones, where necessary. Traffic interruptions will most likely be reduced speed limits, closed traffic lanes with only one lane of traffic operating. This could be operated by stop/go or by portable traffic lights. These traffic control measures will cause delays for commuters. The delays will add travel time for affected commuters. It can also create stacked traffic due to traffic ques. These traffic impacts are common occurrences on regional roads. These traffic and transport impacts would be temporary and short term.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Is the proposal likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during operation?</p> <p>The proposal would not result in any changes or disruptions to traffic during operation. Both lanes would be re-opened on completion of work stages. Road user safety would be improved as a result of the proposal.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the proposal likely to affect any other transport nodes or transport infrastructure (e.g., bus stops, bus routes) in the surrounding area? Or result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during operation?</p> <p>The proposal site is located in a rural environment. There are no transport nodes or infrastructure that would be impacted by the operation of the proposal.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Safeguards

Safeguards to be implemented are:

- T1. Where possible, current traffic movements and property accesses are to be maintained during the works. Any disturbance is to be minimised to prevent unnecessary traffic delays

- T2. A traffic control plan will be prepared in accordance with the 'Traffic control at work sites manual' (RTA, 2010a) and Australian Standard 1742.3 Manual of uniform control devices
- T3. Community consultation would be undertaken to notify locals and road users of the works and change to traffic conditions. This would include as a minimum traffic alerts, letter box drops and advanced warning variable message signs (VMS)
- T4. Access to the rail corridor must be maintained at all times.

3.10 Socio-economic

Table 3-10 socio-economic

Description of existing environmental and potential impacts		
<p>Is the proposal likely to impact on local business?</p> <p>Local businesses located within the study area are limited to farming enterprises. There would be minor delays for vehicles travelling to and from farms and rural residences during construction</p> <p>Property access would be maintained during construction. The proposal would not affect the productive use of adjacent land.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the proposal likely to require any property acquisition?</p> <p>Property acquisition for the proposal has been completed and assessed during the previous addendum REF. The acquisition included the following areas (refer Appendix F):</p> <ul style="list-style-type: none"> • Lot 2 DP 1074391 – about 74 square metres • Lot 1 DP 119413 – about 213 square metres • Lot 1 DP 1039990 – about 540 square metres • Lot 79 DP 751396 – about 1642 square metres. <p>No additional land acquisition is required for the proposal.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the proposal likely to alter any access for properties (either temporarily or permanently)?</p> <p>The proposal would not alter any access for properties during construction or operation. Private property access and access to the rail corridor along the alignment would be accessible for the duration of the construction period.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the proposal likely to alter any on-street parking arrangements (either temporarily or permanently)?</p> <p>The proposal is located in a rural area where no on-street parking is available.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the proposal likely to change pedestrian movements or pedestrian access (either temporarily or permanently)?</p> <p>The proposal is located in a rural area and would not alter pedestrian movements or access.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the proposal likely to impact on any items or places of social value to the community (either temporarily or permanently)?</p> <p>The proposal would not impact any items or places of social value.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the proposal likely to reduce or change visibility of any businesses, farms, tourist attractions or the like (either temporarily or permanently)?</p> <p>There would be no impact or change in visibility for any businesses, farms or tourist attractions in the study area. The road environment would be similar to existing conditions at completion.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Safeguards

Safeguards to be implemented are:

C1. Notification is to be given to affected community members prior to the works taking place. The notification is to include:

- Details of the proposal
- The duration of works and working hours
- Any changed traffic or access arrangements
- How to lodge a complaint or obtain more information
- Contact name and details.

Notification should be a minimum of 7 calendar days prior to the start of works.

C2. All complaints are to be recorded on a complaints register and attended to promptly

C3. Existing access for nearby and adjoining properties is to be maintained at all times during the works unless otherwise agreed to by the affected property owner.

3.11 Landscape character and visual amenity

Table 3-11 Landscape character and visual amenity

Description of existing environmental and potential impacts		
<p>Is the proposed work over or near an important physical or cultural element or landscape? (For example, heritage items and areas, distinctive or historic built form, National Parks, conservation areas, scenic highways etc.)?</p> <p>The Bethungra Spiral, which is located adjacent to the proposal site, to the south of Stage 3, is listed on the NSW State Heritage Register. All works would be confined within the road reserve, and therefore would not impact on this heritage item.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Would the proposal obstruct or intrude upon the character or views of a valued landscape or urban area? For example, locally significant topography, a rural landscape or a park, a river, lake or the ocean or a historic or distinctive townscape or landmark?</p> <p>The proposal would involve relatively minor changes to the visual characteristics of the study area and would not obstruct or intrude upon the character of the landscape or surrounding properties. The road environment would be similar to existing.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Would the proposal require the removal of mature trees or stands of vegetation, either native or introduced?</p> <p>The proposal would involve the removal of 70 trees scattered along the length of the proposal site, which includes 60 trees less than 50 centimetres dbh and 10 trees greater than 50 centimetres dbh. The proposed removal of these trees is unlikely to substantially affect landscape character and visual amenity.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Would the proposal result in large areas of shotcrete visible from the road or adjacent properties?</p> <p>The proposal does not involve the use of shotcrete.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Would the proposal involve new noise walls or visible changes to existing noise walls?</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Would the proposal involve the removal or reuse of large areas of road corridor, landscape, either verges or medians?</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

<p>Would the proposal involve substantial changes to the appearance of a bridge (including piers, girders, abutments and parapets) that are visible from the road or residential areas?</p> <p>The proposal does not include works on any bridge structure.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>If involving lighting, would the proposal create unwanted light spillage on residential properties at night (in construction or operation)?</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Would any new structures or features to be constructed, result in over shadowing to adjoining properties or areas?</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Safeguards

Safeguards to be implemented are:

- V1. Works to be carried out in accordance with Roads and Maritime EIA-N04 Guideline for Landscape Character and visual impact assessment.

3.12 Waste

Table 3-12 Waste

Description of existing environmental and potential impacts		
<p>Is the proposal likely to generate >200 tonnes of waste material (contaminated and /or non-contaminated material)?</p> <p>It is estimated that over the three stages there would be an excess of about 10,800 cubic metres of cut material. It is also expected that waste would be generated from tree removal, road materials and general waste from site facilities.</p> <p>Where excess material can't be reused on site or another Transport or Council project, it would be transported to the Cootamundra licensed landfill facility.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>Is the proposal likely to require a licence from EPA?</p> <p>A license would not be required form EPA, as the proposal is not a scheduled activity under Schedule 1 of the <i>Protection of the Environment Operations Act 1997</i>.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>Is the proposal likely to require the removal of asbestos?</p> <p>The proposal would not require the removal of asbestos.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Safeguards

Safeguards to be implemented are:

- M1. A Waste Management Plan must be prepared that follows the Roads and Maritime Services Technical Guide: Management of road construction and maintenance waste
- M2. Resource management hierarchy principles are to be followed:
 - Avoid unnecessary resource consumption as a priority
 - Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery)
 - Disposal is undertaken as a last resort

(in accordance with the *Waste Avoidance & Resource Recovery Act 2001*).

- M3. If vegetation is to be mulched and transported off site for beneficial reuse, it is to be assessed for the presence of weeds, pest, and other disease and a Mulch Management Plan prepared in accordance with the Roads and Maritime Technical Procedure: Mulch Management
- M4. Bulk project waste (e.g. fill) sent to a site not owned by Transport (excluding EPA licensed landfills and resource recovery facilities) is to have prior formal written approval from the landowner, in accordance with Environmental Direction No. 20 – Legal Off-site Disposal of Roads and Maritime Services Waste. This includes waste transported for reuse, recycling, disposal or stockpiling
- M5. There is to be no disposal or re-use of construction waste on to other land
- M6. Waste is not to be burnt on site
- M7. Waste material, other than vegetation and tree mulch, is not to be left on site once the works have been completed
- M8. Working areas are to be maintained, kept free of rubbish and cleaned up at the end of each working day.

4. Consideration of State and Commonwealth environmental factors

4.1 Environmental Planning and Assessment Regulation 2021 factors

The following factors, listed in section 171(2) of the Environmental Planning and Assessment Regulation 2021, have been considered to assess the likely impacts of the proposal on the natural and built environment. This consideration is required to comply with sections 5.5 and 5.7 of the EP&A Act.

Table 4-1 Consideration of section 171 of the EP&A Regulation factors

Environmental factor	Impact
<p>a) Any environmental impact on a community?</p> <p>While the proposal would cause short-term delays to traffic during construction, it is not anticipated to have an environmental impact on the local community in the long-term. Road users would benefit from safer conditions as a result of the proposal.</p>	<p>Minor negative short-term</p> <p>Positive long-term</p>
<p>b) Any transformation of a locality?</p> <p>The proposal would result in a minor alteration to the proposal site due to the removal of vegetation to widen the road and improve the clear zone. However, the proposal would be limited to the existing road corridor. The potential impacts would be minimized with the implementation of the safeguards provided in section 5 of this Minor Works REF.</p>	<p>Minor negative long-term</p>
<p>c) Any environmental impact on the ecosystems of a locality?</p> <p>The proposal would remove about 70 trees, including about 10 mature trees over 50 centimetres DBH. The removal of vegetation has been limited as far as possible and is unlikely to result in a significant impact to the ecosystems of the locality. The potential impacts would be further minimized with the implementation of the safeguards provided in section 5.</p>	<p>Minor negative long-term</p>
<p>d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?</p> <p>The proposal would not reduce the aesthetic, recreational, scientific or other environmental quality or value of the locality, as works would generally be contained within the existing road reserve, which has previously been modified.</p>	<p>Nil</p>
<p>e) Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?</p> <p>The proposal would be unlikely to have an effect on a locality, place or building of significance or other species value for present or future generations, as the proposal is located in a rural landscape, with minimal vegetation removal required. The proposal would be unlikely to have an impact on any site of Aboriginal or non-Aboriginal heritage significance. The potential impacts of the proposal would be minimized with the implementation of the safeguards provided in section 5.</p>	<p>Nil</p>
<p>f) Any impact on habitat of any protected animals (within the meaning of the <i>Biodiversity Conservation Act 2016</i>)?</p> <p>The proposal would involve vegetation removal that may provide habitat for threatened species listed under the BC Act. The potential impacts of the proposal on any habitat or protected fauna, would be relatively minor given the limited vegetation removal in the context of the alternative habitat in the study area and locality, and the previous disturbance of the proposal site.</p>	<p>Minor negative long-term</p>

<p>g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?</p> <p>The proposal would not endanger any species of animal, plant or other form of life, whether living on land, in water or in the air due to the limited scope of works for the proposed activities, confined to the existing road reserve, and the implementation of the safeguards identified in section 5.</p>	<p>Nil</p>
<p>h) Any long-term effects on the environment?</p> <p>The proposal would have positive long-term effects on the environment due to improved safety for road users. The proposal would have minor negative long-term effects on the environment through the removal of native vegetation, as described in (c).</p>	<p>Positive long-term Minor negative long-term</p>
<p>i) Any degradation of the quality of the environment?</p> <p>The proposal would potentially degrade the quality of the environment due to the removal of vegetation and exposure of soils. Vegetation to be removed provides potential habitat for fauna in the study area. The proposal is located in a previously disturbed landscape and environmental impacts would be minimised with the implementation of the safeguards outlined in section 5.</p>	<p>Minor negative short-term</p>
<p>j) Any risk to the safety of the environment?</p> <p>The presence of a construction site has a number of inherent safety risks. These risks would be reduced to the lowest practical level through the development and implementation of the safeguards outlined in section 5.</p> <p>The proposal would provide a safer environment for road users in the long-term by achieving the objectives outlined in section 2.</p>	<p>Minor negative short-term Positive long-term</p>
<p>k) Any reduction in the range of beneficial uses of the environment?</p> <p>The proposal would cause a minor reduction in the use of the road from lane closures, which would potentially increase travelling time for road users in the short-term. There would be no long-term reduction in the range of beneficial uses of the environment as a result of the proposal.</p>	<p>Minor negative short-term</p>
<p>l) Any pollution of the environment?</p> <p>The proposal would potentially cause pollution of the environment through construction vehicle emissions and dust generation, and potential soil and water pollution could occur in the event of fuel or oil spills. The potential impacts would be minimised with the implementation of the safeguards given in section 5.</p>	<p>Minor negative short-term</p>
<p>m) Any environmental problems associated with the disposal of waste?</p> <p>The waste generated during the proposal would be contained and removed for disposal to approved recycling facilities or to licensed landfill in accordance with the safeguards in section 5 of this REF. No environmental problems are anticipated for the disposal of waste.</p>	<p>Nil</p>
<p>n) Any increased demands on resources, natural or otherwise which are, or are likely to become, in short supply?</p> <p>The proposal would not significantly increase demands on resources, which are, or are likely to become, in short supply. Relatively small amounts of materials would be required for the proposed work. The safeguards listed in section 5 of this REF would be implemented to minimise any impacts.</p>	<p>Nil</p>
<p>o) Any cumulative environmental effect with other existing or likely future activities?</p> <p>The proposal has the potential to add to the cumulative environmental effects related to vegetation clearing for agriculture, the railway line running parallel to the proposal alignment and the clearing that was conducted for Stage 1 and 2 of the project and for already constructed culverts and other components in the proposal site. The cumulative effects of the proposal would be minimal due to the limited scope of works covered in this REF. The potential impacts on the environment would</p>	<p>Minor negative short-term</p>

be minimised with the implementation of the safeguards given in section 5. No other proposals are known in the vicinity of the proposal.	
<p>p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?</p> <p>The proposal is located away from the coast and would have no impact on coastal hazards.</p>	Nil
<p>q) Any impact on applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1?</p> <p>The proposal is consistent with the Riverina-Murray Regional Plan Goal 3 – efficient transport and infrastructure networks. The proposal would improve the road link through the study area and into other regions.</p>	Minor positive long-term
<p>r) Any impact on other relevant environmental factors?</p> <p>In considering the potential impacts of this proposal all relevant environmental factors have been considered, refer to chapter 3 of this assessment.</p>	

4.2 Matters of National Environmental Significance

Table 4-2 Matters of national environmental significance

Environmental factor	Impact
<p>a) Any impact on a World Heritage property?</p> <p>A search of the EPBC Act Protected Matters Search Tool on 6 July 2022 confirmed there are no World Heritage properties within 10 kilometres of the proposal site (refer Appendix E).</p>	Nil
<p>b) Any impact on a National Heritage place?</p> <p>A search of the Australian Heritage Database and the EPBC Act Protected Matters Search Tool on 6 July 2022 confirmed there are no National Heritage places within 10 kilometres of the proposal site (refer Appendix E).</p>	Nil
<p>c) Any impact on a wetland of international importance (often called ‘Ramsar’ wetlands)?</p> <p>The EPBC Act Protected Matters Search Tool identified four wetlands of national importance existing in the same catchment as the proposal:</p> <ul style="list-style-type: none"> • Banrock station wetland complex • Hattah-kulkyne lakes • Riverland • The Coorong, and lakes Alexandrina and Albert wetland. <p>The proposal is unlikely to impact on these areas given the minimal scope of works and large distances to these areas (>400 kilometres upstream)</p>	Nil
<p>d) Any impact on nationally threatened species, ecological communities or migratory species?</p> <p>The EPBC Act Protected Matters Search Tool identified three threatened ecological communities (TECs) that may occur near the proposal site. Two of these; Grey Box Woodland and Box-Gum Woodland have been recorded in the study area during previous surveys. However, the communities do not meet the listing criteria for classification under the EPBC Act. No EPBC Act flora species are considered likely to occur in the proposal site and Grey Box Woodland is outside of the study area for the current proposal.</p>	Nil

<p>An assessment of the potential presence of threatened fauna species (refer Appendix C) concluded that Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, threatened species are unlikely to be substantially impacted by the proposal. Most species with the potential to occur in the study area are highly mobile and able to traverse the study area to alternative habitat or are considered vagrant to the study area. The proposal would potentially remove up to three hollow bearing trees however attempts will be made to avoid removal of these trees during construction. The removal of these trees would have a very minor impact to hollow-dependent species given the large amount of suitable habitat surrounding the site. The impact will be mitigated through the installation of replacement hollows in accordance with the Transport for NSW Biodiversity Policy if required.</p>	
<p>e) Any impact on a Commonwealth marine area? The proposal would not have an impact on a Commonwealth marine area.</p>	<p>Nil</p>
<p>f) Does the proposal involve a nuclear action (including uranium mining)? The proposal would not involve a nuclear action.</p>	<p>Nil</p>
<p>Additionally, any impact (direct or indirect) on the environment of Commonwealth land? The proposal would not have any impact (direct or indirect) on Commonwealth land.</p>	<p>Nil</p>

5. Summary of safeguards and environmental management measures

This section provides a summary of the site-specific environmental safeguards and management measures identified in described in chapters 3 and 4 of this REF. These safeguards will be implemented to reduce potential environmental impacts throughout construction and operation. A framework for managing the potential impacts is provided with reference to environmental management plans and relevant Transport QA specifications. Any potential licence and/or approval requirements required prior to construction are also listed.

Table 5-1: Summary of site-specific safeguards for proposed work

Factor	Impact
General	G1. An environmental management plan is prepared in accordance with the specifications set out in the: QA Specification G36 – Environmental Protection (Management System), QA Specification G38 – Soil and Water Management (Soil and Water Plan), QA Specification G40 – Clearing and Grubbing, QA Specification G10 - Traffic Management and implemented prior to the commencement of works.
Soil	<p>E1. Erosion and sediment control measures are to be implemented and maintained to:</p> <ul style="list-style-type: none"> Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets Reduce water velocity and capture sediment on site Minimise the amount of material transported from site to surrounding pavement surfaces Divert clean water around the site. (in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book)). <p>E2. Erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request</p> <p>E3. Erosion and sediment control measures are not to be removed until the works are complete and areas are stabilised</p> <p>E4. Work areas are to be stabilised progressively during the works</p> <p>E5. A progressive erosion and sediment control plan is to be prepared for the works</p> <p>E6. The maintenance of established stockpile sites is to be in accordance with the Roads and Maritime Services Stockpile Site Management Guideline (EMS-TG-10)</p> <p>E7. Develop and implement site-specific erosion and sediment control plans (ESCPs) in accordance with the Blue Book, including measures identified above.</p>
Waterways and water quality	W1. There is to be no release of dirty water into drainage lines and/or waterways

	<p>W2. Visual monitoring of local water quality (ie turbidity, hydrocarbon spills/slicks) is to be undertaken on a regular basis to identify any potential spills or deficient silt curtains or erosion and sediment controls</p> <p>W3. Water quality control measures are to be used to prevent any materials (eg. concrete, grout, sediment etc) entering drain inlets or waterways</p> <p>W4. Excess debris from cleaning and washing is removed using hand tools</p> <p>W5. Works in waterways will be conducted in accordance with Environmental Fact Sheet 04: Working in Waterways and the RMS Biodiversity Guide 10 – Aquatic Habitats and Riparian Zones</p> <p>W6. An Environmental Work Method Statement will be prepared for work to be conducted in waterways and shall form part of the Construction Environmental Management Plan (CEMP)</p> <p>W7. Refuelling of plant and equipment is to occur in impervious bunded areas away from drainage lines</p> <p>W8. Emergency spill kits for the management of accidental dry and wet chemical spills will be available. All personnel would be made aware of their availability and trained in their use.</p>
Noise and vibration	<p>N1. Works to be carried out during normal work hours (i.e. 7am to 6pm Monday to Friday; 8am to 1pm Saturdays). Any work that is performed outside normal work hours or on Sundays or public holidays must be undertaken in line with EMF-NV-GD-0056 Construction Noise and Vibration Guideline and in consultation with the Transport Customer and Community Engagement Team.</p> <p>N2. Noise impacts are to be minimised in accordance with Roads and Maritime Construction Noise Estimator</p>
Air quality	<p>A1. Measures (including watering or covering exposed areas) are to be used to minimise or prevent air pollution and dust</p> <p>A2. Works (including the spraying of paint and other materials) are not to be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely</p> <p>A3. Vegetation or other materials are not to be burnt on site</p> <p>A4. Vehicles and vessels transporting waste or other materials that may produce odours or dust are to be covered during transportation</p> <p>A5. Stockpiles or areas that may generate dust are to be managed to suppress dust emissions in accordance with the Roads and Maritime Services Stockpile Site Management Guideline (EMS-TG-10)</p> <p>A6. Plant and machinery would be maintained in accordance with manufacturer’s specification and regular checks made to ensure there are no continuous exhaust emissions</p>

	A7. Vehicles would not be left running when idle.
Non-Aboriginal heritage	H1. If unexpected heritage items are uncovered during the works, all works must cease in the vicinity of the material/find and the Roads and Maritime Services Standard Management Procedure: Unexpected Heritage Items must be followed. Transport Senior Environment Specialist –Heritage must be contacted immediately.
Aboriginal heritage	<p>B1. If Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the Roads and Maritime Services Aboriginal cultural heritage officer and regional environment manager contacted immediately. Steps in the Roads and Maritime Standard Management Procedure: Unexpected Heritage Items must be followed</p> <p>B2. The artefact scatter (Olympic Highway –Bethungra, AHIMS ID: 50-5-0115) will be fenced off with star pickets and bunting prior to and for the duration of the works. Fencing will be regularly checked and maintained to ensure site is secure</p> <p>B3. Should access along the old highway alignment be required, the modified tree (Bethungra Rail Tunnel 1 –AHIMS ID: 50-5-0187) would be identified and fenced to avoid accidental impacts</p> <p>B4. Following completion of the project, access to the artefact scatter would be permanently restricted to avoid further accidental impacts via vehicle access and stockpiling, either by constructing a mound or erecting a permanent fence between the site and the stockpile</p> <p>B5. Any activity proposed outside of the current assessment areas should also be subject to an Aboriginal heritage assessment.</p>
Biodiversity	<p>F1. There is to be no disturbance or damage to threatened species or areas of outstanding value</p> <p>F2. Works are not to harm threatened fauna (including where they inhabit bridges or other structures eg timber fence posts or maritime piles)</p> <p>F3. If unexpected, threatened fauna or flora species are discovered, stop works immediately and follow the Roads and Maritime Services Unexpected Threatened Species Find Procedure in the Roads and Maritime Services Biodiversity Guidelines 2011 –Guide 1 (Pre-clearing process)</p> <p>F4. Declare priority weeds are to be managed according to requirements under the Biosecurity Act 2015 and Guide 6 (Weed Management) of the Roads and Maritime Services Biodiversity Guidelines 2011</p> <p>F5. Fauna handling must be carried out in accordance with the requirements of the Roads and Maritime Services Biodiversity Guidelines – Guide 9 (Fauna Handling)</p> <p>F6. Works are not to create an ongoing barrier to the movement of wildlife</p> <p>F7. Pruning is to be favoured over the removal of mature trees at all times. Pruning is to be in accordance with Part 5 of the Australian Standard 4373-2007 Pruning of amenity trees</p> <p>F8. Exclusion zone fencing is to be set up at the limit of clearing to avoid accidental impacts to retained areas of vegetation. These exclusion zones</p>

	<p>should be administered in accordance with Biodiversity Guidelines 2011 – Guide 2 (Exclusion Zones) and is to be included in the Environmental Management Plan and toolbox talks for all staff on site</p> <p>F9. Processes and measures of the Roads and Maritime Services ‘Clearing and Grubbing procedure’ are to be implemented before, during and after proposed vegetation clearing. This would be addressed in an Environmental Work Method Statement to be prepared for the work, and would include Pre-clearing surveys by the project ecologist or qualified person in accordance with Roads and Maritime Services Biodiversity Guidelines – Guide 1 (Pre-clearing process), and in co-ordination with the project Environment Officer</p> <p>F10. Course Woody Debris (CWD) such as tree trunks may be placed within the road reserve as habitat and is to be in accordance with Roads and Maritime Services Biodiversity Guidelines – Guide 5 (Re-use of woody debris and bushrock). The CWD would be placed outside of the clear zone and away from fence lines under the supervision of Roads and Maritime project manager and environment officer</p> <p>F11. Measures for preventing the introduction and/or spread of disease-causing agents such as bacteria and fungi will be implemented, as detailed in Biodiversity Guidelines – Guide 7 (Pathogen management)</p> <p>F12. Where practicable, vegetation removal will occur outside the main fauna breeding season (August to January) to avoid potential breeding disturbance to fauna.</p> <p>F13. Tree and Hollow replacement will occur in accordance with the Transport for NSW Biodiversity Policy and No Net Loss Guidelines.</p>
Trees	No additional safeguards required.
Traffic and transport	<p>T1. Where possible, current traffic movements and property accesses are to be maintained during the works. Any disturbance is to be minimised to prevent unnecessary traffic delays</p> <p>T2. A traffic control plan will be prepared in accordance with the ‘Traffic control at work sites manual’ (RTA, 2010a) and Australian Standard 1742.3 Manual of uniform control devices</p> <p>T3. Community consultation would be undertaken to notify locals and road users of the works and change to traffic conditions. This would include as a minimum traffic alerts, letter box drops and advanced warning variable message signs (VMS)</p> <p>T4. Access to the rail corridor must be maintained at all times.</p>
Socio-economic	<p>C1. Notification is to be given to affected community members prior to the works taking place.</p> <p>The notification is to include:</p> <ul style="list-style-type: none"> • Details of the proposal • The duration of works and working hours • Any changed traffic or access arrangements • How to lodge a complaint or obtain more information • Contact name and details.

	<p>Notification should be a minimum of 7 calendar days prior to the start of works.</p> <p>C2. All complaints are to be recorded on complaints register and attended to promptly</p> <p>C3. Existing access for nearby and adjoining properties is to be maintained at all times during the works unless otherwise agreed to by the affected property owner.</p>
Landscape character and visual amenity	V1. Works to be carried out in accordance with Roads and Maritime EIA-N04 Guideline for Landscape Character and visual impact assessment.
Waste	<p>M1. A Waste Management Plan must be prepared that follows the Roads and Maritime Services Technical Guide: Management of road construction and maintenance waste</p> <p>M2. Resource management hierarchy principles are to be followed: <ul style="list-style-type: none"> • Avoid unnecessary resource consumption as a priority • Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery) • Disposal is undertaken as a last resort (in accordance with the Waste Avoidance & Resource Recovery Act 2001). </p> <p>M3. If vegetation is to be mulched and transported off site for beneficial reuse, it is to be assessed for the presence of weeds, pest, and other disease and a Mulch Management Plan prepared in accordance with the Roads and Maritime Technical Procedure: Mulch Management</p> <p>M4. Bulk project waste (e.g. fill) sent to a site not owned by Transport (excluding EPA licensed landfills and resource recovery facilities) is to have prior formal written approval from the landowner, in accordance with Environmental Direction No. 20 – Legal Off-site Disposal of Roads and Maritime Services Waste. This includes waste transported for reuse, recycling, disposal or stockpiling</p> <p>M5. There is to be no disposal or re-use of construction waste on to other land</p> <p>M6. Waste is not to be burnt on site</p> <p>M7. Waste material, other than vegetation and tree mulch, is not to be left on site once the works have been completed</p> <p>M8. Working areas are to be maintained, kept free of rubbish and cleaned up at the end of each working day.</p>

5.1 Licensing and approvals

No licensing and approvals are required for the proposal.

6. Certification, review and decision

6.1 Certification

This minor works REF provides a true and fair review of the proposal in relation to its potential effects on the environment. It addresses, to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the proposal.

Prepared by

Signature



Name: Mel Cotterill
Position: Environment and Sustainability Officer
Company name: Transport for NSW
Date: 21/12/2022

Minor Works REF reviewed by:

Signature



Name: Paul Amos
Position: Senior Environment and Sustainability Officer
Company name: Transport for NSW
Date: 21/12/2022

6.2 Environment staff review

The Minor Works REF has been reviewed and considered against the requirements of sections 5.5 and 5.7 of the EP&A Act.

In considering the proposal this assessment has examined and taken into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of that activity as addressed in the Minor Works REF and associated information. This assessment is considered to be in accordance with the factors required to be considered under section 171 of the Environmental Planning and Assessment Regulation 2021.

The proposal described in the Minor Works REF will have some environmental impacts which can be ameliorated satisfactorily. Having regard to the safeguard and management measures proposed, this assessment has considered that these impacts are unlikely to be significant and therefore an approval for the proposal does not need to be sought under Division 5.2 of the EP&A Act.

The assessment has considered the potential impacts of the activity on areas of outstanding value and on threatened species, ecological communities or their habitats for both terrestrial and aquatic species as defined by the *Biodiversity Conservation Act 2016* and the *Fisheries Management Act 1994*.

The proposal described in the Minor Works REF will not affect areas of outstanding value. The activity described in the Minor Works REF will not significantly affect threatened species ecological communities or their habitats. Therefore, a species impact statement is not required.

The assessment has also addressed the potential impacts on the activity on matters of national environmental significance and any impacts on the environment of Commonwealth land and concluded that there will be no significant impacts. Therefore, there is no need for a referral to be made to the Australian Government Department of Agriculture, Water and the Environment for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Minor Works REF is considered to meet all relevant requirements.

6.3 Environment staff recommendation

It is recommended that the proposal to MR78 Olympic Highway, Bethungra Pavement Widening and Reconstruction – Stages 3, 4 and 5 at 32.68km to 35.28km north of Junees described in this Minor Works REF proceed subject to the implementation of all safeguards identified in the Minor Works REF and compliance with all other relevant statutory approvals, licences, permits and authorisations.

The Minor Works REF has examined and taken into account to the fullest extent possible all matters likely to affect the environment by reason of the activity and established that the activity is not likely to significantly affect the environment or threatened species, ecological communities or their habitats.

The Minor Works REF has concluded that there will be no significant impacts on matters of national environmental significance or any impacts on the environment of Commonwealth land.

The Minor Works REF determination will remain current for five years until Decemer 2027 at which time it shall lapse if works have not been physically commenced. The pre-construction checklist must be completed prior to the commencement of any works.

Noted by:

Signature 

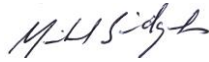
Name: Nirupan (Mylvaganam Nirupan)

Position: Project / Contract Manager

Date: 21.12.2022

Recommended by:

Signature



Name: Michael Suidgeest

Position: Environment and Sustainability Manager South (West)

Date: 21/12/2022

6.4 Determination

Drafting guidance:

This section is to be completed by the relevant delegated manager determining the Minor Works REF. The determination is to certify the recommendation made by SMES on whether or not to proceed with the works described in the Minor Works REF. Details of current delegations are available in the Transport Delegations Manual.

In accordance with the above recommendation, I certify that I have reviewed and endorsed the contents of this Minor Works REF and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under Section 170 of the EP&A Regulation, and the information is neither false nor misleading.

I determine that Transport for NSW may:

- proceed with the activity

Signature




Name: Stephen Onions

Position: Senior Manager Project Services South

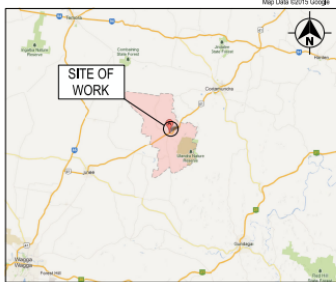
Date: 11th January, 2023

Appendix A: Construction design drawings

Minor works review of environmental factors



JUNEE SHIRE COUNCIL
MR78 - OLYMPIC HIGHWAY
30.88km TO 35.28km NORTH JUNEE
"BETHUNGRA NORTH OVERTAKING LANES"
100% DETAIL DESIGN



PART NUMBER	CODE	GENERAL NAME
PART 1	GE	GENERAL
	RD	ROAD ALIGNMENT AND DETAIL
	RC	ROAD CROSS SECTIONS
	SM	STORMWATER MANAGEMENT
	PV	PAVEMENT
	RF	ROADSIDE FURNITURE AND LINEMARKING

DESIGNED BY: Crossroads CM Design Pty. Ltd.
PREPARED BY: 303 Chatham Street
Broadmeadows NSW 2302

ACCEPTED FOR CONSTRUCTION

JUNEE SHIRE COUNCIL
MTR OLYMPIC HIGHWAY
30.88km TO 35.28km NORTH OF JUNEE
"BETHUNGRA NORTH OVERTAKING LANES"
SHEET SCHEDULE
DRAWING NO: DS2013/000714
ISSUE NO: 01
DATE: 17.10.2016

SHEET NAME	SHEET DESCRIPTION	DRAWING FILE	O	P	Q	R
GE-001	COVER SHEET	01-052013-000714-DD-GE	17-10-2016	21-12-2016	08-04-2022	3/06/2022
GE-002	SHEET SCHEDULE - SHEET 1 OF 2	01-052013-000714-DD-GE	17-10-2016	21-12-2016	08-04-2022	3/06/2022
GE-003	SHEET SCHEDULE - SHEET 2 OF 2	01-052013-000714-DD-GE	17-10-2016	21-12-2016	08-04-2022	3/06/2022
GE-004	ALIGNMENT DETAILS	01-052013-000714-DD-GE	17-10-2016	21-12-2016	08-04-2022	3/06/2022
GE-005	GENERAL ARRANGEMENT	01-052013-000714-DD-GE	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-001	TYPICAL SECTIONS - SHEET 1 OF 6	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-002	TYPICAL SECTIONS - SHEET 2 OF 6	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-003	TYPICAL SECTIONS - SHEET 3 OF 6	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-004	TYPICAL SECTIONS - SHEET 4 OF 6	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-005	TYPICAL SECTIONS - SHEET 5 OF 6	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-006	TYPICAL SECTIONS - SHEET 6 OF 6	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-007	ALIGNMENT PLAN - CH 30860.00 TO CH 31380.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-008	ALIGNMENT PLAN - CH 31380.00 TO CH 31880.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-009	ALIGNMENT PLAN - CH 32680.00 TO CH 33160.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-010	ALIGNMENT PLAN - CH 33160.00 TO CH 33640.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-011	ALIGNMENT PLAN - CH 33640.00 TO CH 34120.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-012	ALIGNMENT PLAN - CH 34120.00 TO CH 34600.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-013	ALIGNMENT PLAN - CH 34600.00 TO CH 35080.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-014	ALIGNMENT PLAN - CH 35080.00 TO CH 35560.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-015	ALIGNMENT SCHEDULE	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-016	ALIGNMENT SCHEDULE	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-017	SURVEY SCHEDULE	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-018	DETAIL PLAN AND LONGSECTION - CH 30860.00 TO CH 31140.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-019	DETAIL PLAN AND LONGSECTION - CH 31140.00 TO CH 31380.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-020	DETAIL PLAN AND LONGSECTION - CH 31380.00 TO CH 31620.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-021	DETAIL PLAN AND LONGSECTION - CH 31620.00 TO CH 31860.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-022	DETAIL PLAN AND LONGSECTION - CH 32680.00 TO CH 32920.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-023	DETAIL PLAN AND LONGSECTION - CH 32920.00 TO CH 33160.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-024	DETAIL PLAN AND LONGSECTION - CH 33160.00 TO CH 33400.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-025	DETAIL PLAN AND LONGSECTION - CH 33400.00 TO CH 33640.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-026	DETAIL PLAN AND LONGSECTION - CH 33640.00 TO CH 33880.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-027	DETAIL PLAN AND LONGSECTION - CH 33880.00 TO CH 34120.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-028	DETAIL PLAN AND LONGSECTION - CH 34120.00 TO CH 34360.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-029	DETAIL PLAN AND LONGSECTION - CH 34360.00 TO CH 34600.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-030	DETAIL PLAN AND LONGSECTION - CH 34600.00 TO CH 34840.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-031	DETAIL PLAN AND LONGSECTION - CH 34840.00 TO CH 35080.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-032	DETAIL PLAN AND LONGSECTION - CH 35080.00 TO CH 35320.00	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-033	GUARD RAIL SCHEDULE	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-034	KERB SCHEDULE	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-035	DRIVEWAY LONGSECTIONS - MC1 AND MC2	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-036	DRIVEWAY LONGSECTIONS - MC2 AND MC1	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-037	DRIVEWAY LONGSECTIONS - MC3 AND MC4	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-038	DRIVEWAY LONGSECTIONS - MC4	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-039	KERB LONGSECTION - MK0 - CH 0.00 TO CH 184.485	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-040	KERB LONGSECTION - MK10 - CH 0.00 TO CH 240.000	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-041	KERB LONGSECTION - MK10 - CH 240.000 TO CH 480.000	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-042	KERB LONGSECTION - MK10 - CH 480.000 TO CH 591.911	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-043	KERB LONGSECTION - MK20 - CH 0.00 TO CH 289.988	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-044	KERB LONGSECTION - MK40 - CH 0.00 TO CH 180.032	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-045	KERB LONGSECTION - MK50 - CH 0.00 TO CH 100.488	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RD-046	KERB LONGSECTION - MK60 - CH 0.00 TO CH 110	02-052013-000714-DD-RD	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-001	CROSS SECTIONS - CH 30860.00 TO CH 30860.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-002	CROSS SECTIONS - CH 30860.00 TO CH 31040.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-003	CROSS SECTIONS - CH 31040.00 TO CH 31200.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-004	CROSS SECTIONS - CH 31200.00 TO CH 31380.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-005	CROSS SECTIONS - CH 31380.00 TO CH 31560.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-006	CROSS SECTIONS - CH 31560.00 TO CH 31740.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-007	CROSS SECTIONS - CH 31740.00 TO CH 31920.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-008	CROSS SECTIONS - CH 31920.00 TO CH 32100.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-009	CROSS SECTIONS - CH 32100.00 TO CH 32280.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-010	CROSS SECTIONS - CH 32280.00 TO CH 32460.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-011	CROSS SECTIONS - CH 32460.00 TO CH 32640.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-012	CROSS SECTIONS - CH 32640.00 TO CH 32820.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-013	CROSS SECTIONS - CH 32820.00 TO CH 33000.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-014	CROSS SECTIONS - CH 33000.00 TO CH 33180.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-015	CROSS SECTIONS - CH 33180.00 TO CH 33360.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-016	CROSS SECTIONS - CH 33360.00 TO CH 33540.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-017	CROSS SECTIONS - CH 33540.00 TO CH 33720.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-018	CROSS SECTIONS - CH 33720.00 TO CH 33900.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-019	CROSS SECTIONS - CH 33900.00 TO CH 34080.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-020	CROSS SECTIONS - CH 34080.00 TO CH 34260.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-021	CROSS SECTIONS - CH 34260.00 TO CH 34440.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-022	CROSS SECTIONS - CH 34440.00 TO CH 34620.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-023	CROSS SECTIONS - CH 34620.00 TO CH 34800.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-024	CROSS SECTIONS - CH 34800.00 TO CH 34980.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-025	CROSS SECTIONS - CH 34980.00 TO CH 35160.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-026	CROSS SECTIONS - CH 35160.00 TO CH 35340.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-027	CROSS SECTIONS - CH 35340.00 TO CH 35520.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-028	CROSS SECTIONS - CH 35520.00 TO CH 35700.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-029	CROSS SECTIONS - CH 35700.00 TO CH 35880.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-030	CROSS SECTIONS - CH 35880.00 TO CH 36060.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-031	CROSS SECTIONS - CH 36060.00 TO CH 36240.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-032	CROSS SECTIONS - CH 36240.00 TO CH 36420.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-033	CROSS SECTIONS - CH 36420.00 TO CH 36600.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-034	CROSS SECTIONS - CH 36600.00 TO CH 36780.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-035	CROSS SECTIONS - CH 36780.00 TO CH 36960.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-036	CROSS SECTIONS - CH 36960.00 TO CH 37140.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-037	CROSS SECTIONS - CH 37140.00 TO CH 37320.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-038	CROSS SECTIONS - CH 37320.00 TO CH 37500.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-039	CROSS SECTIONS - CH 37500.00 TO CH 37680.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
RC-040	CROSS SECTIONS - CH 37680.00 TO CH 37860.00	03-052013-000714-DD-RC	17-10-2016	21-12-2016	08-04-2022	3/06/2022
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RC-0040	CROSS SECTIONS - CH 34740.000 TO CH 34800.000	05-052013-000714-00-RC	17-10-2016	21-12-2016	08-04-2022	3/05/2022
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RF-0008	SIGNAGE AND LINEMARKING - CH 35080.000 TO CH 35280.000	06-052013-000714-00-RF	17-10-2016	21-12-2016	08-04-2022	3/05/2022

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REVISION	DATE	DESCRIPTION	BY	CHECKED
1	12/01/2016	ISSUED FOR CONSTRUCTION	SGY	SGY

ACCEPTED FOR CONSTRUCTION

NSW Transport for NSW

JUNEE SHIRE COUNCIL
NORTH OLYMPIA HIGHWAY
30.89km TO 35.28km NORTH OF JUNEE
'BETHUNGRA NORTH OVERTAKING LANES'
SHEET SCHEDULE
SHEET 2 OF 2
PROJECT NO: DS2013/000714
ISSUE NO: GE-0003
© Transport for NSW

AMENDMENT ISSUE	SHEET No.	DESCRIPTION OF REVISION	AUTHORISED BY	DATE
S	ALL SHEETS	DESIGN UPDATED	SGY	3/05/2022
	GE-0004	AMENDMENT DETAILS ADDED		
	RD-002 & RD-005	TYPICAL SECTION UPDATED		
	RD-002A	DETAIL PLAN UPDATED		
	RD-003	SCHEDULES UPDATED		
	RC-001	UPDATED CROSS SECTIONS		
	SM-018	DRAINAGE SCHEDULE UPDATED		
	RF-001 & RF-008	LINEMARKING PLANS UPDATED		

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REVISION	DATE	DESCRIPTION	BY	CHECKED
1	12/01/2016	ISSUED FOR CONSTRUCTION	SGY	SGY

ACCEPTED FOR CONSTRUCTION

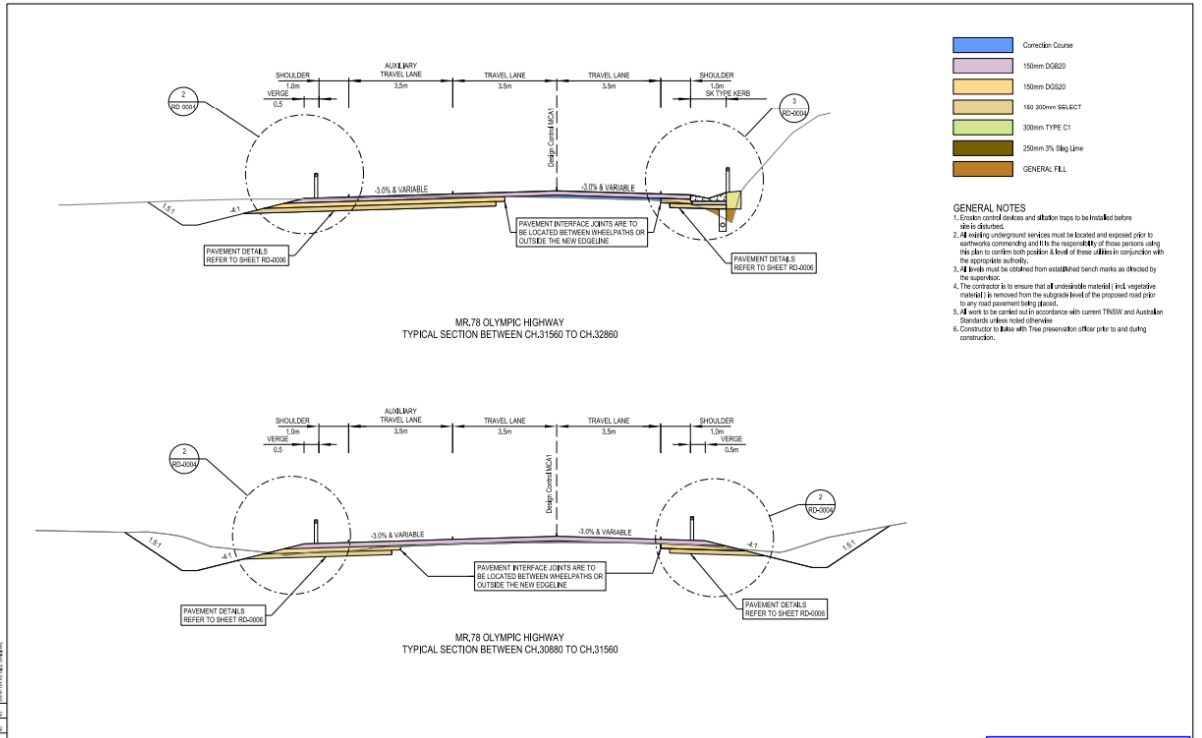
NSW Transport for NSW

JUNEE SHIRE COUNCIL
NORTH OLYMPIA HIGHWAY
30.89km TO 35.28km NORTH OF JUNEE
'BETHUNGRA NORTH OVERTAKING LANES'
AMENDMENT DETAILS
SHEET 0004 OF 0005
PROJECT NO: DS2013/000714
ISSUE NO: GE-0004
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EMF-PA-PR-0081-TT5

OFFICIAL

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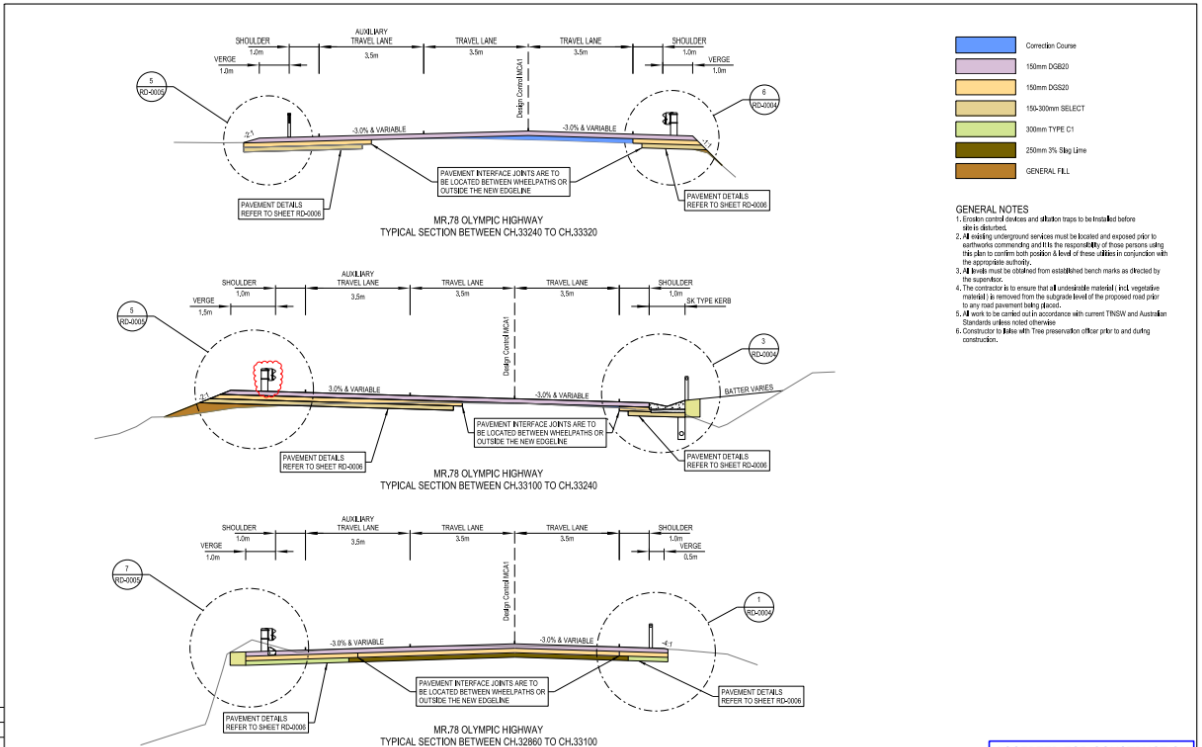


- Correction Course
- 150mm DGB20
- 150mm DGS20
- 150-200mm SELECT
- 300mm TYPE C1
- 250mm 3% S&G Lime
- GENERAL FILL

- GENERAL NOTES**
1. Erosion control devices and siltation traps to be installed before site is disturbed.
 2. All existing underground services must be located and exposed prior to earthworks commencing and to the responsibility of those persons using this plan to confirm both position & level of these utilities in conjunction with the appropriate authority.
 3. All levels must be obtained from established bench marks as checked by the supervisor.
 4. The contractor is to ensure that all undesirable material (i.e. vegetation material) is removed from the subgrade level of the proposed road prior to any road pavement being placed.
 5. All work to be carried out in accordance with current TNSW and Australian Standards unless noted otherwise.
 6. Contractor to liaise with the preservation officer prior to and during construction.

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DESIGNER: R. G. M. (R.G.M.) CHECKER: M. STEVENSON (M.S.) DATE: 12/21/2016		DESIGNER: R. G. M. (R.G.M.) CHECKER: M. STEVENSON (M.S.) DATE: 12/21/2016	PROJECT NO. 44000004	PROJECT NAME MR.78 OLYMPIC HIGHWAY	PROJECT NO. 44000004	PROJECT NAME MR.78 OLYMPIC HIGHWAY	PROJECT NO. 44000004
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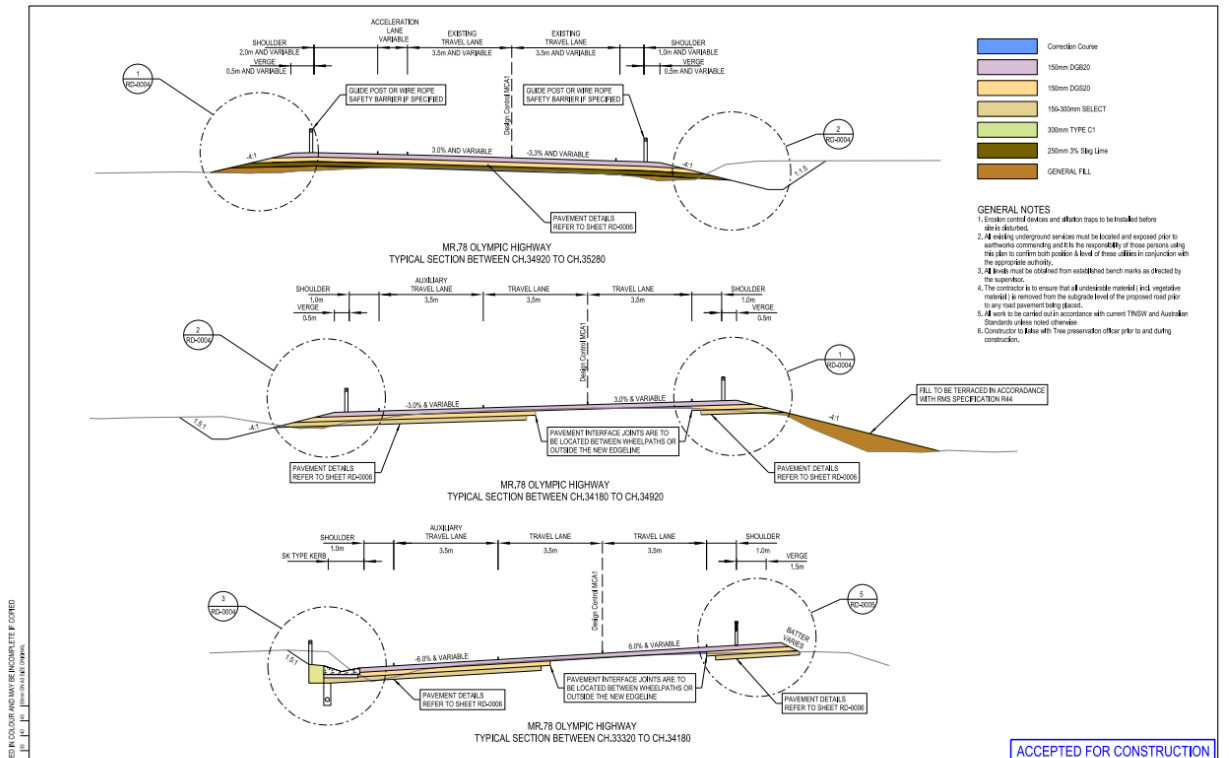


- Correction Course
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- 150mm DGS20
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- 250mm 3% S&G Lime
- GENERAL FILL

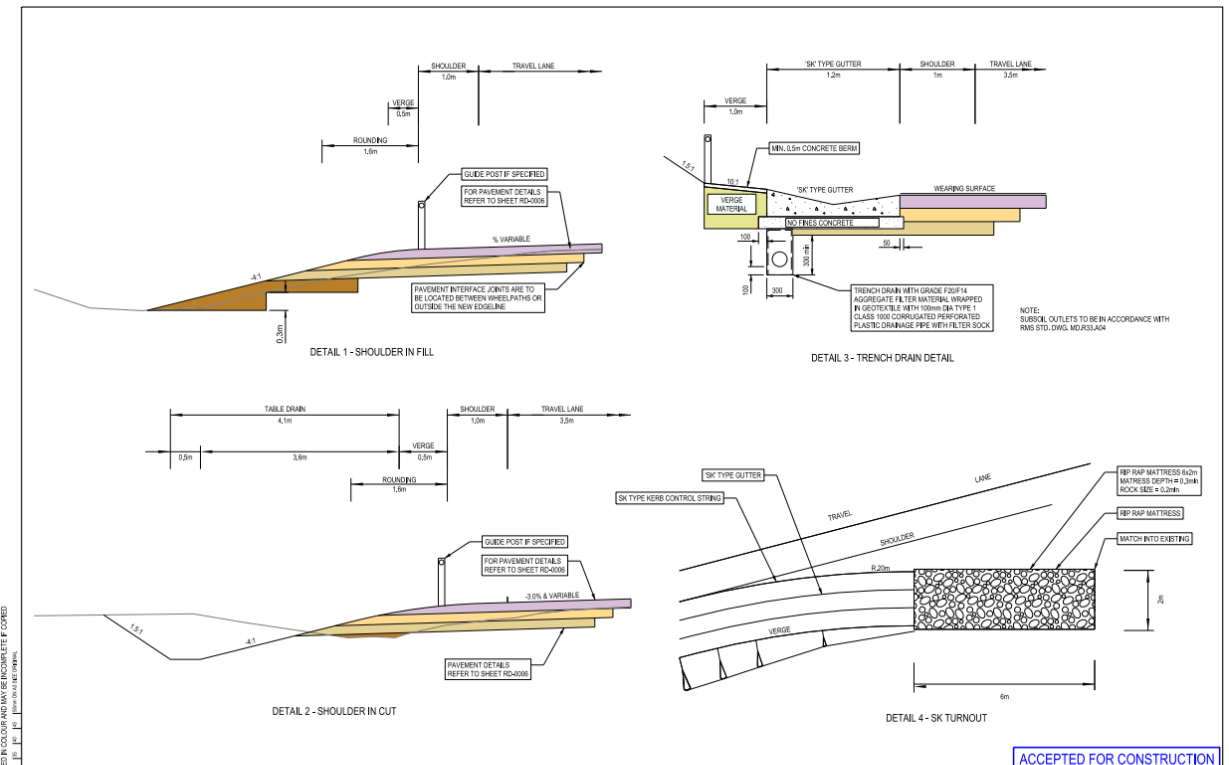
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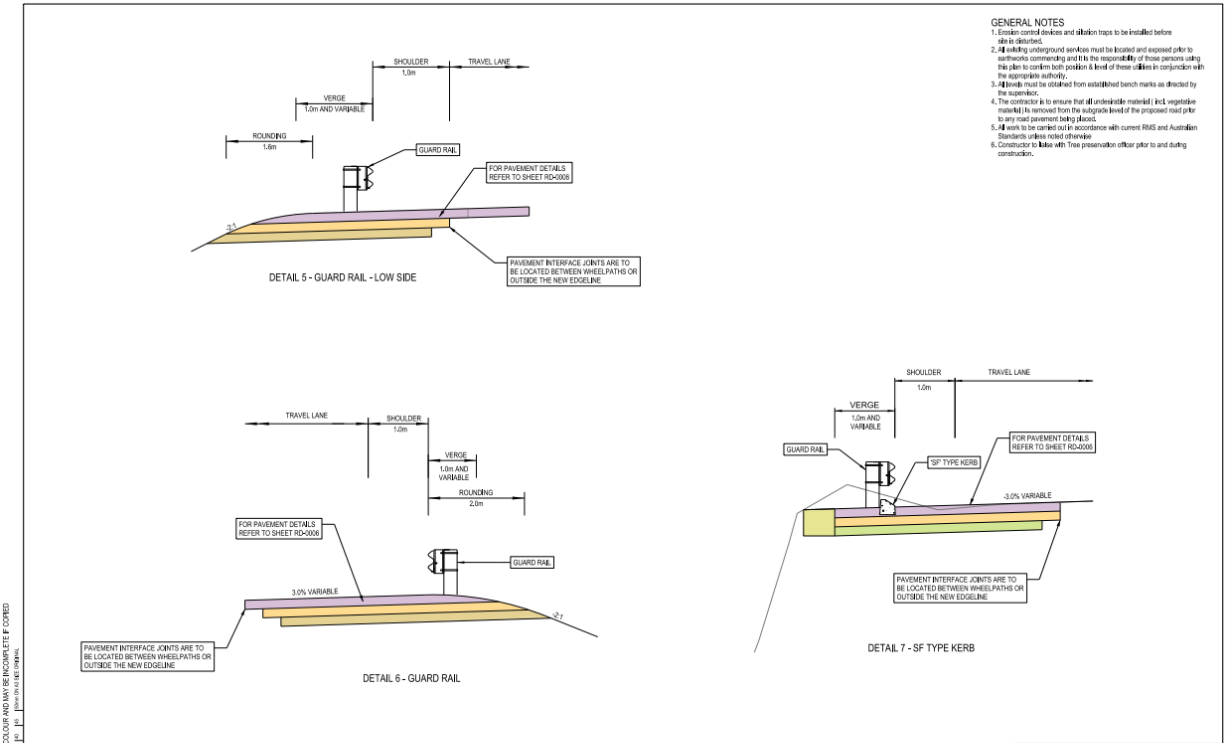
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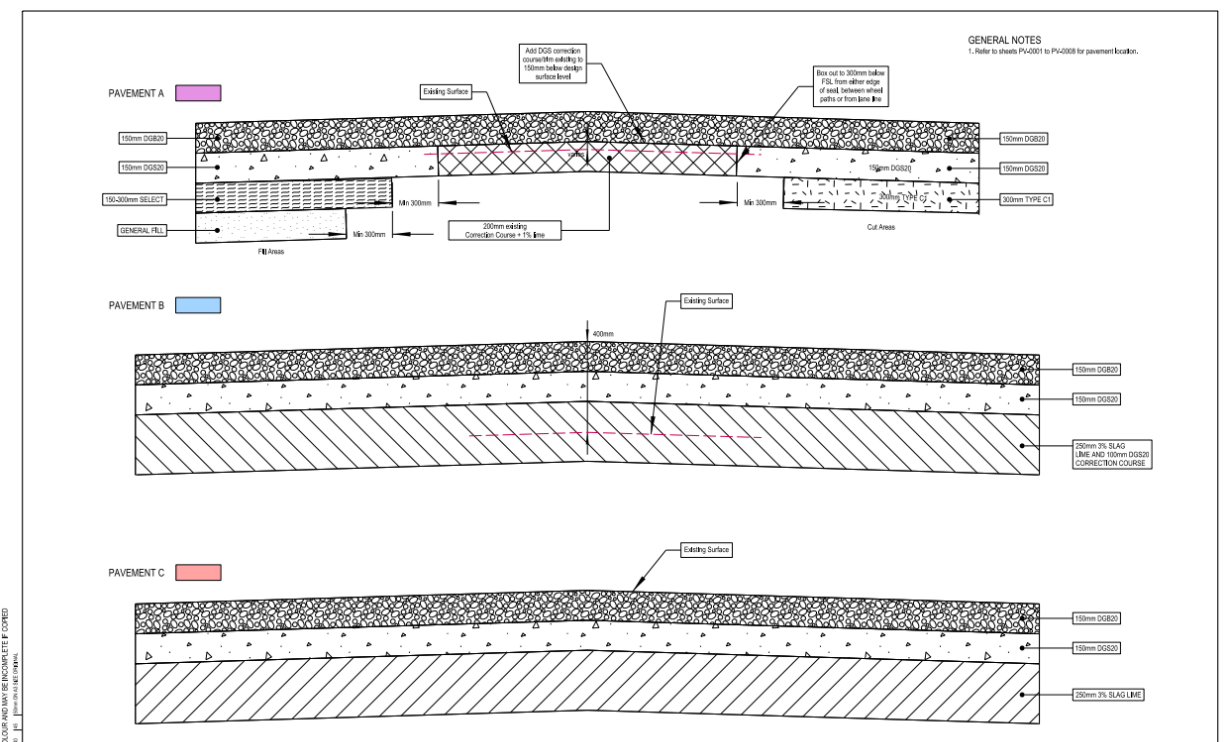


GENERAL NOTES

1. Erosion control devices and siltation traps to be installed before site is disturbed.
2. All existing underground services must be located and exposed prior to earthworks commencing and it is the responsibility of those persons undertaking site work to confirm both position & level of these utilities in conjunction with the appropriate authority.
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ACCEPTED FOR CONSTRUCTION

SHEET 0308 OF 0308 DS2013/000714 RD-0006 Transport for NSW		PROJECT NO: 12/21/2016 DRAWING NO: 30-006 SCALE: AS SHOWN DATE: 12/21/2016 3:25:02 PM		DRAWN BY: S. Swainson CHECKED BY: M. Swainson APPROVED BY: M. Swainson		PREPARED FOR: TNSW WAGGA WAGGA		TITLE: TYPICAL SECTIONS SHEET 0308 OF 0308	
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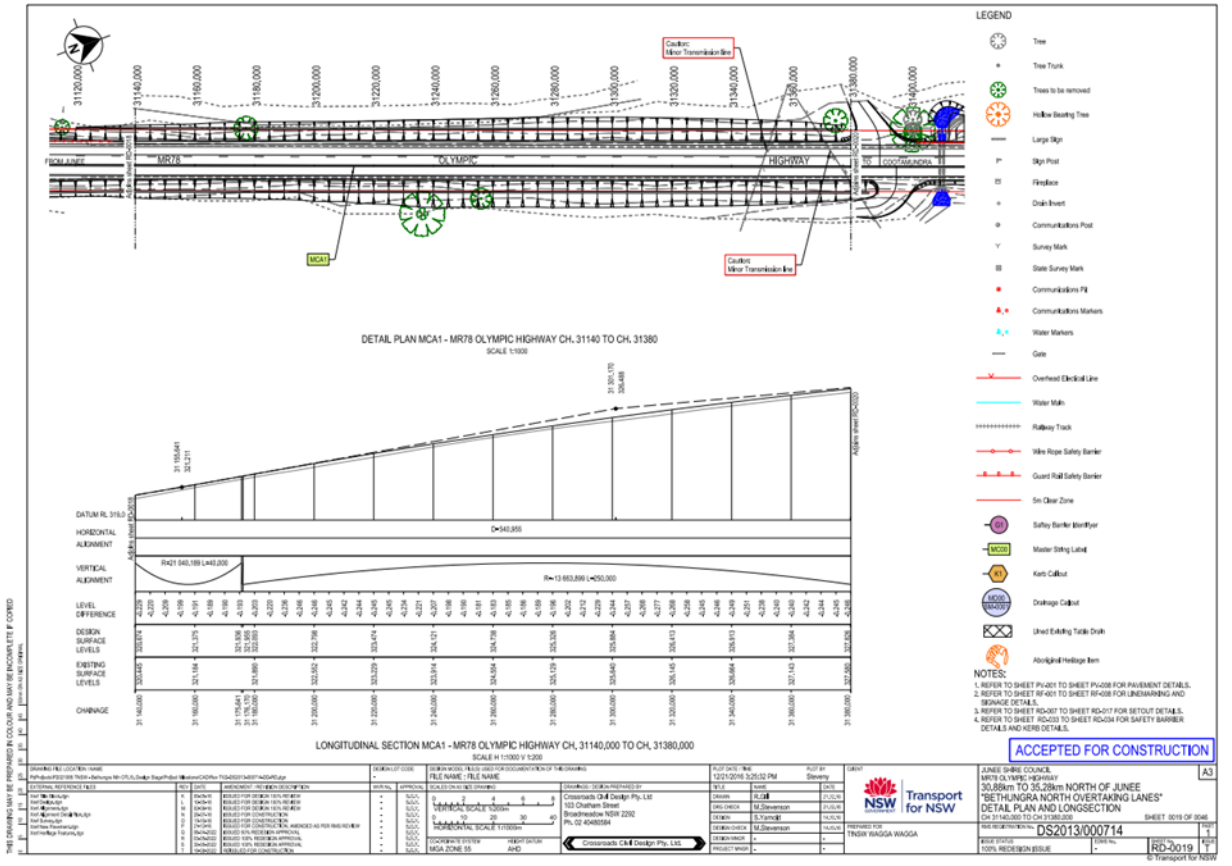
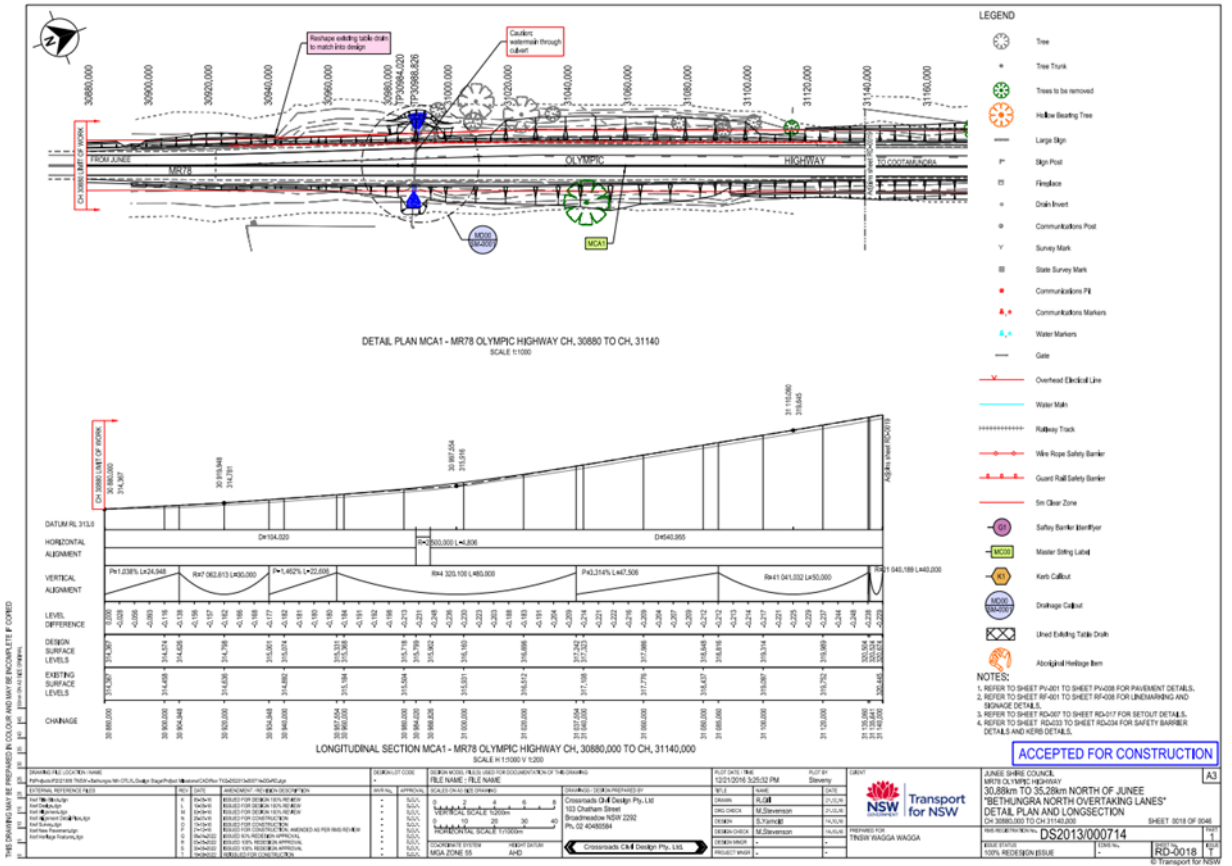


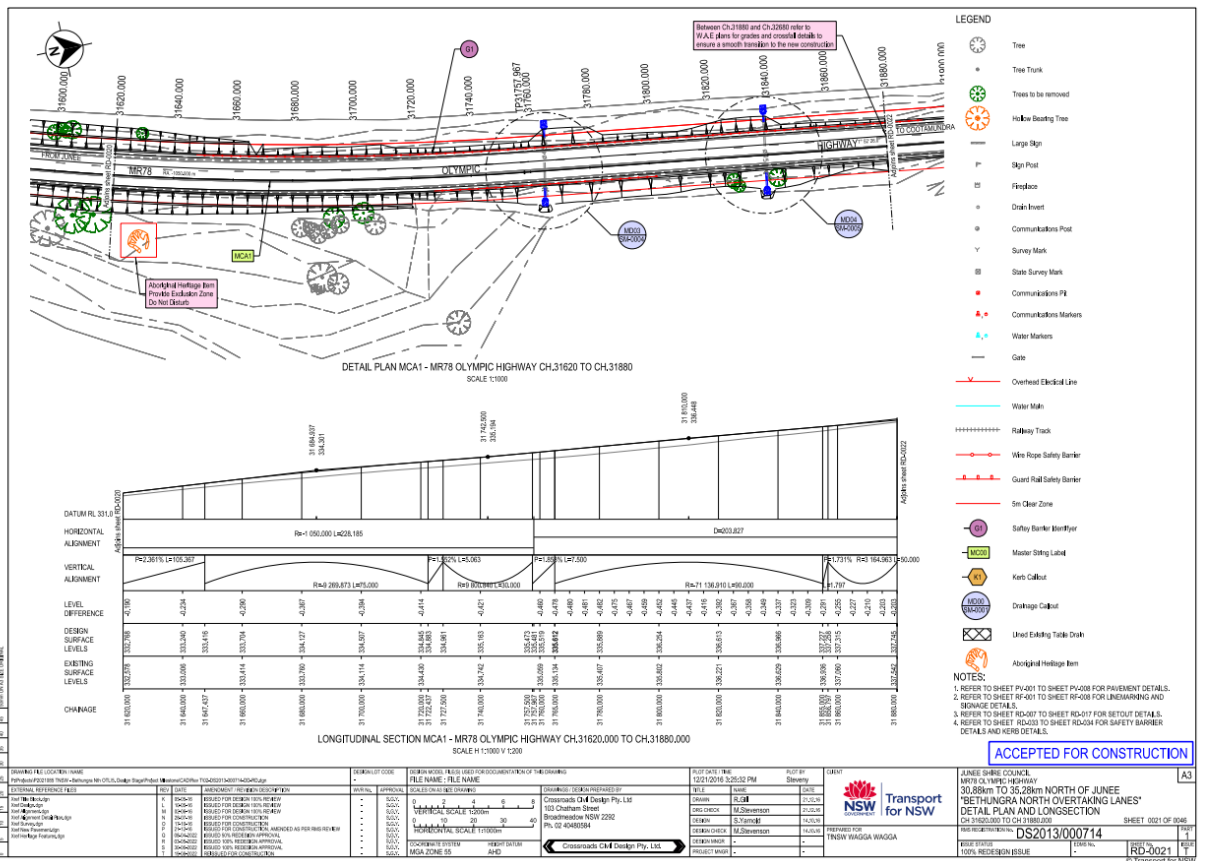
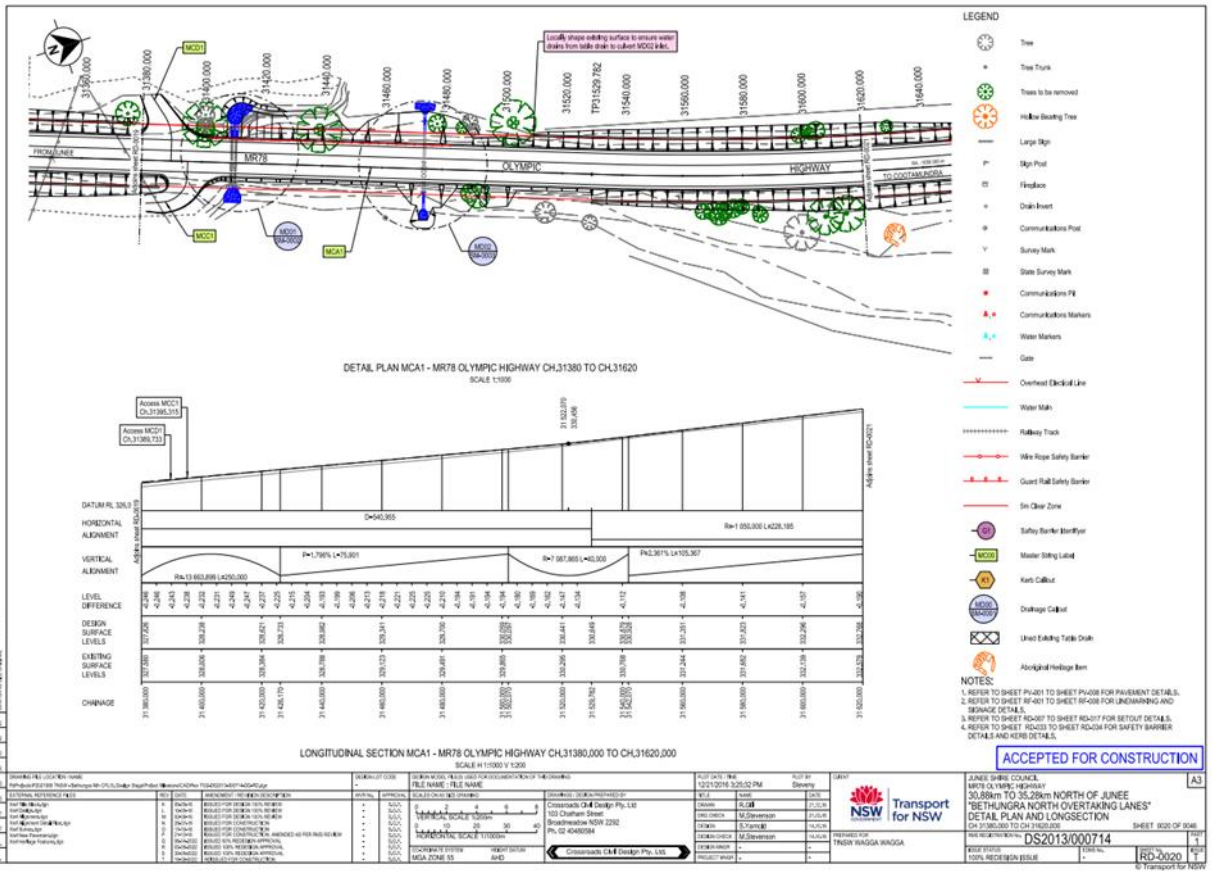
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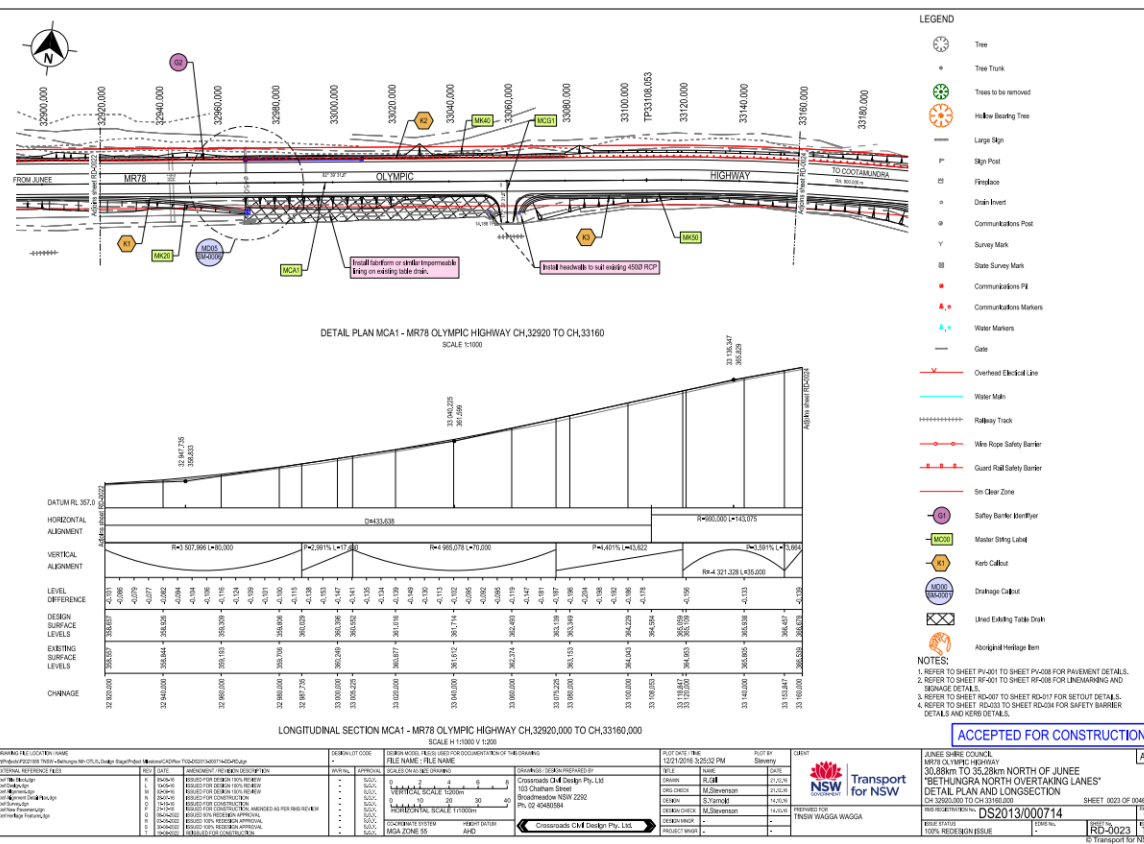
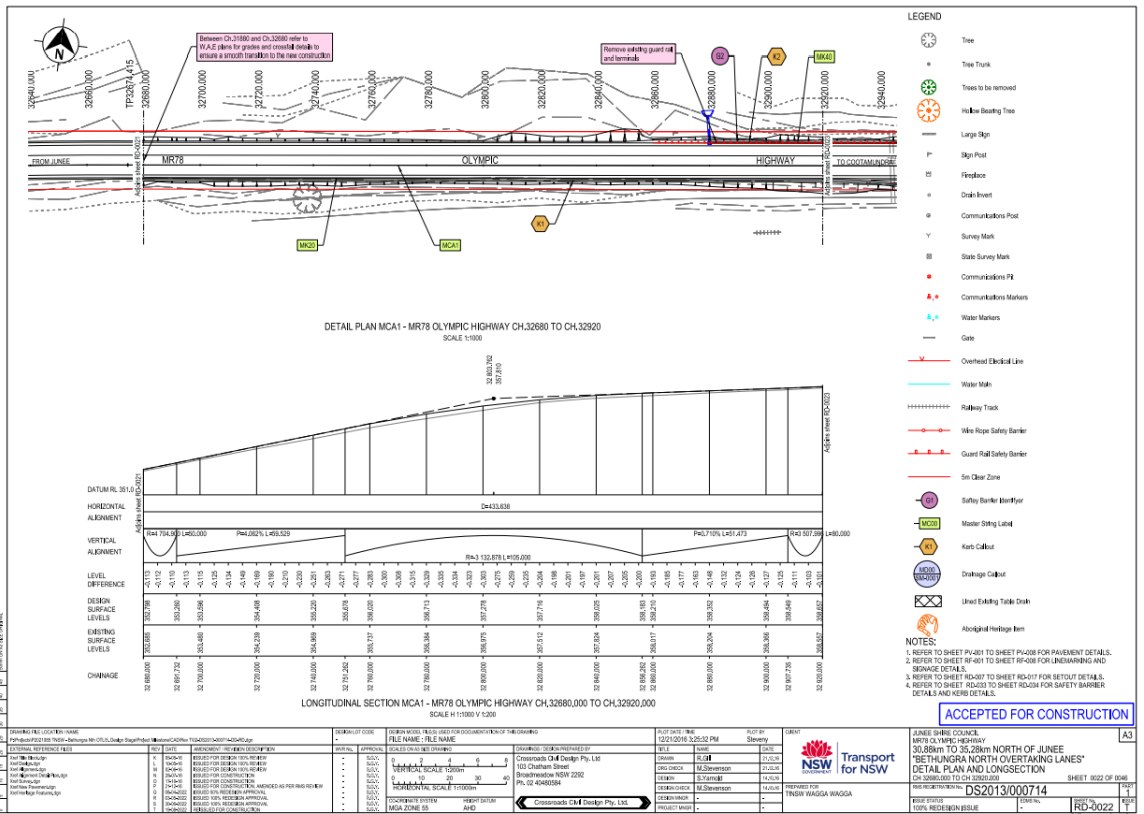
1. Refer to sheets PA0001 to PA0008 for pavement location.

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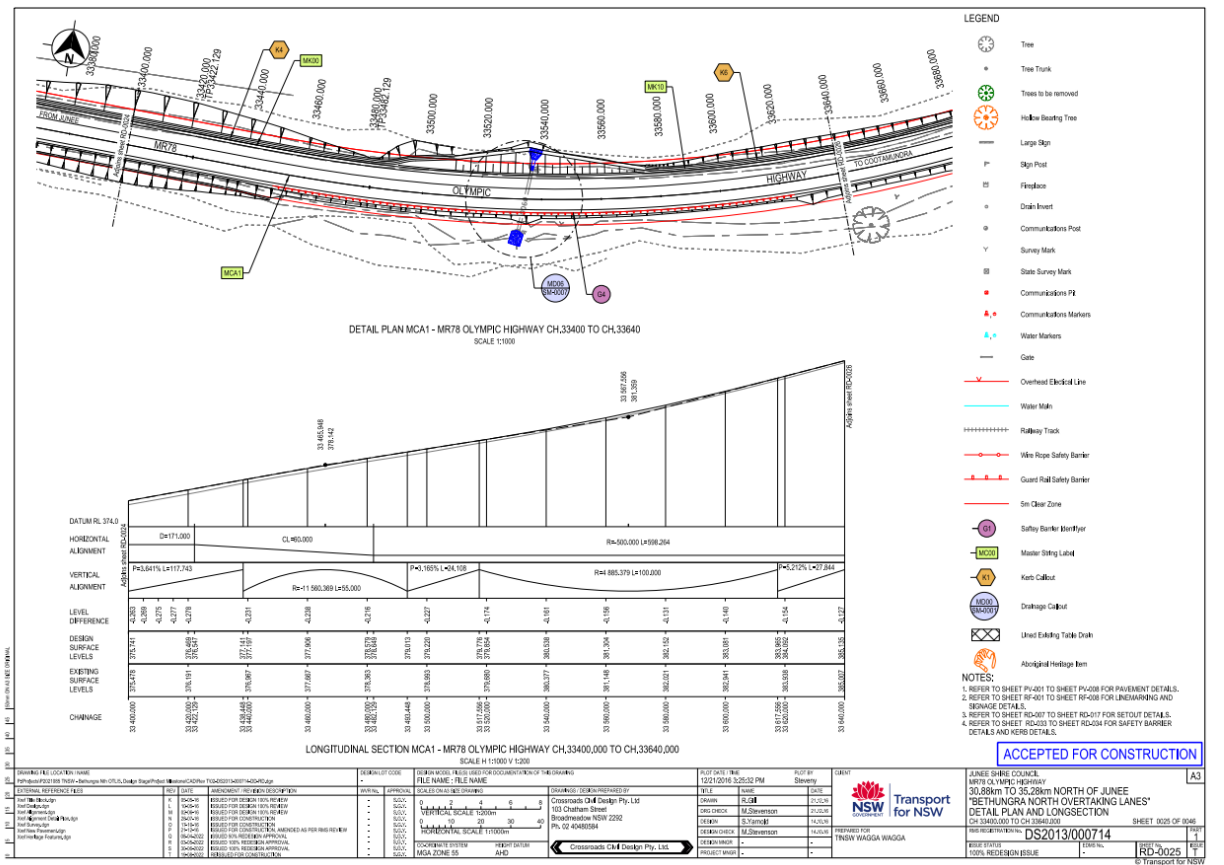
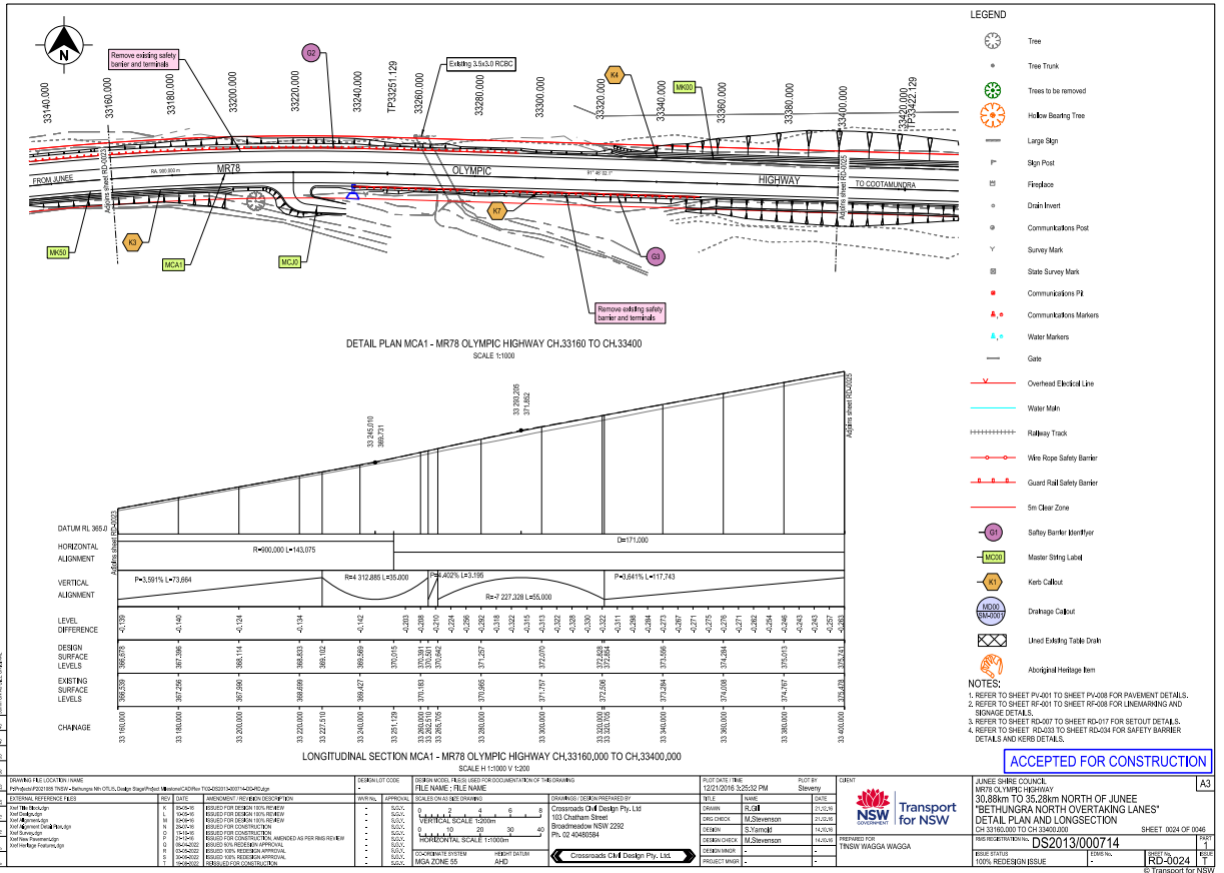
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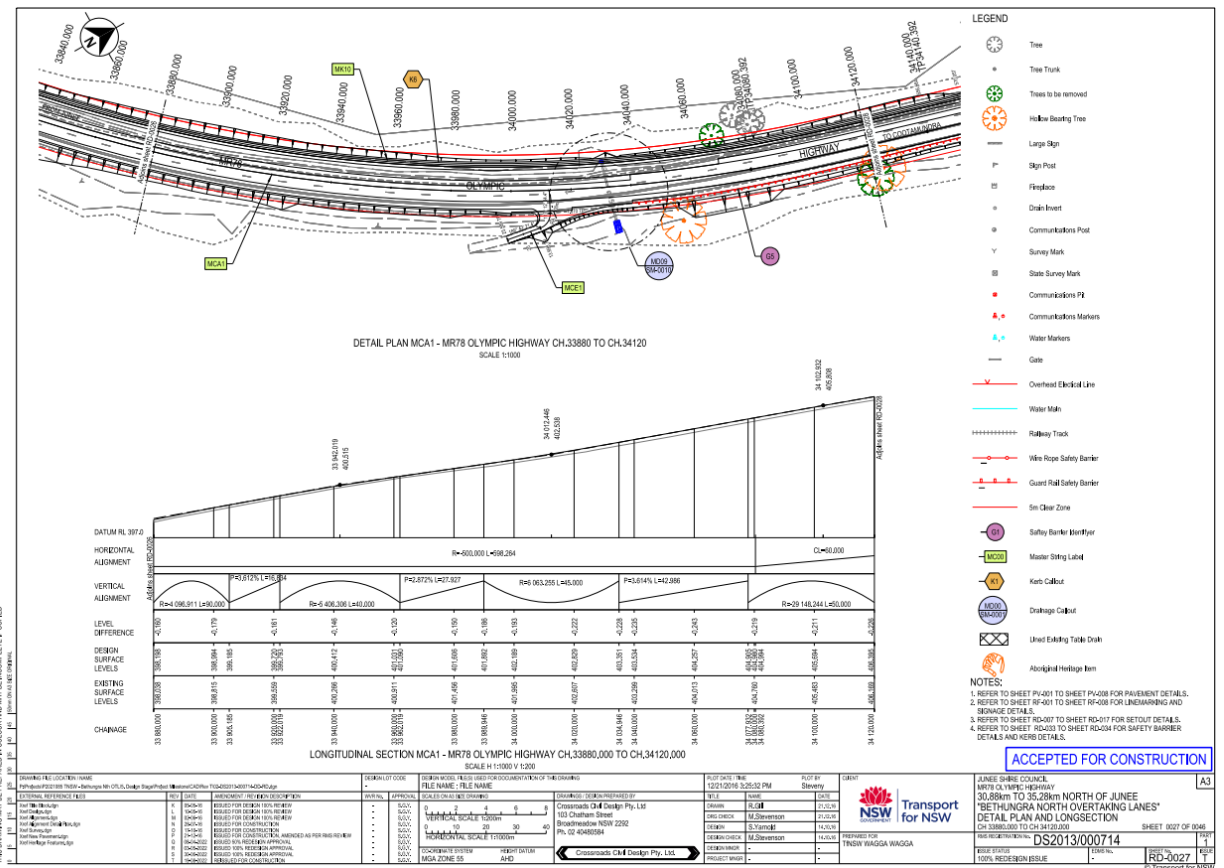
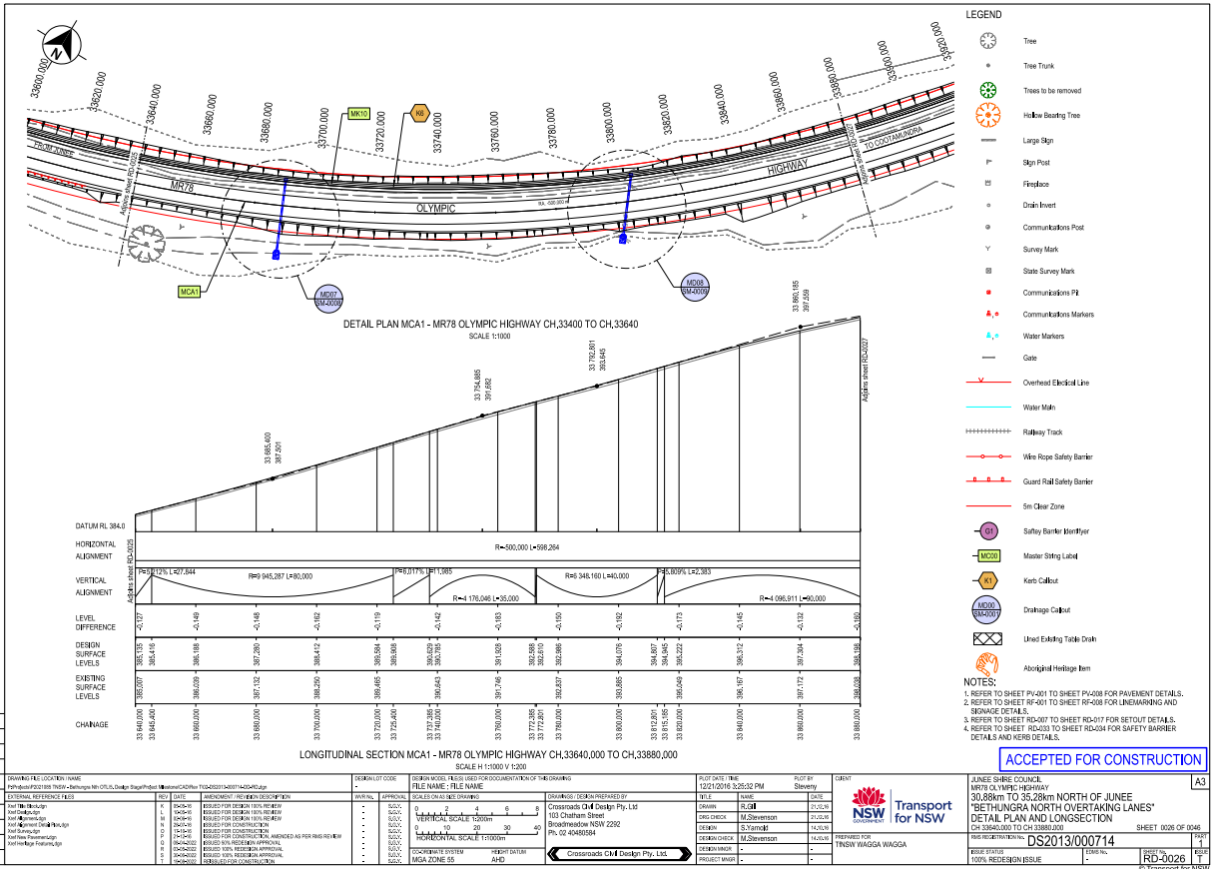


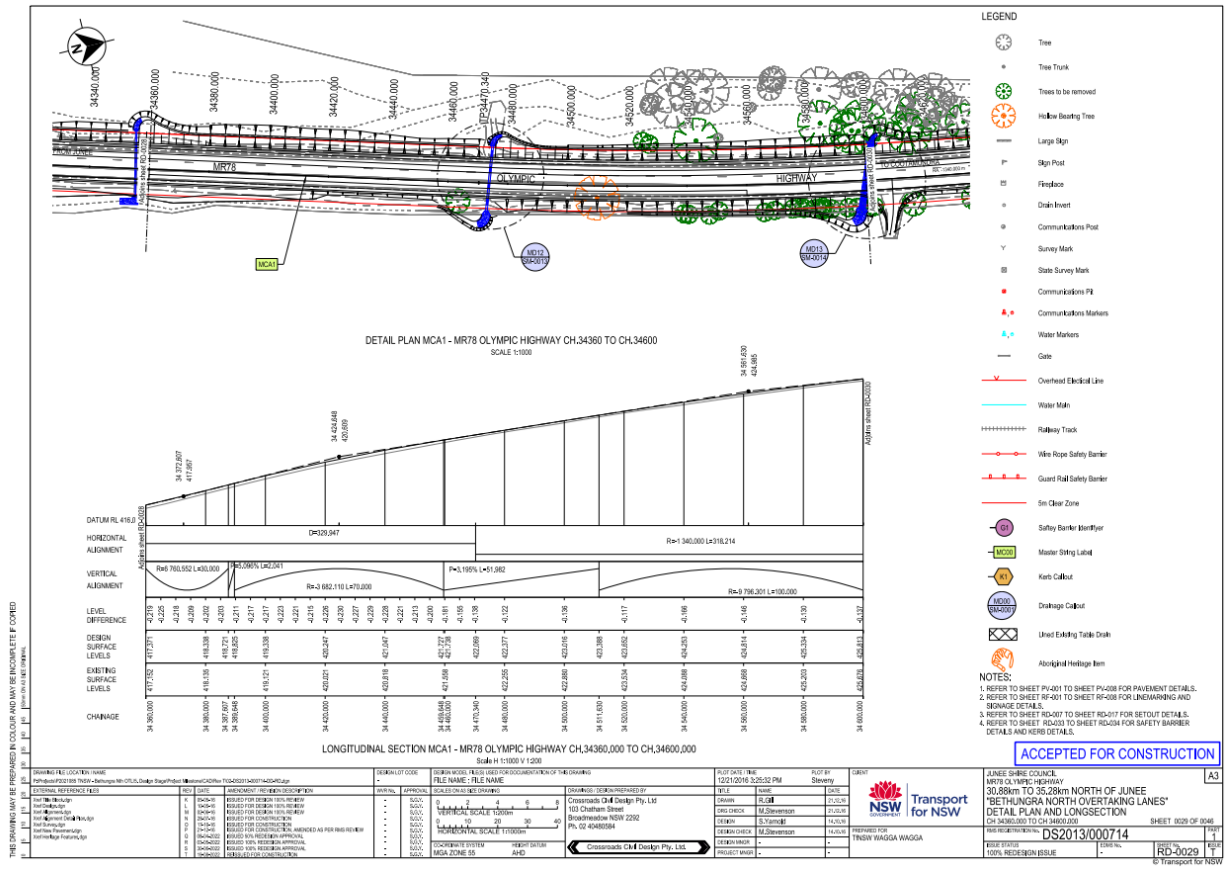
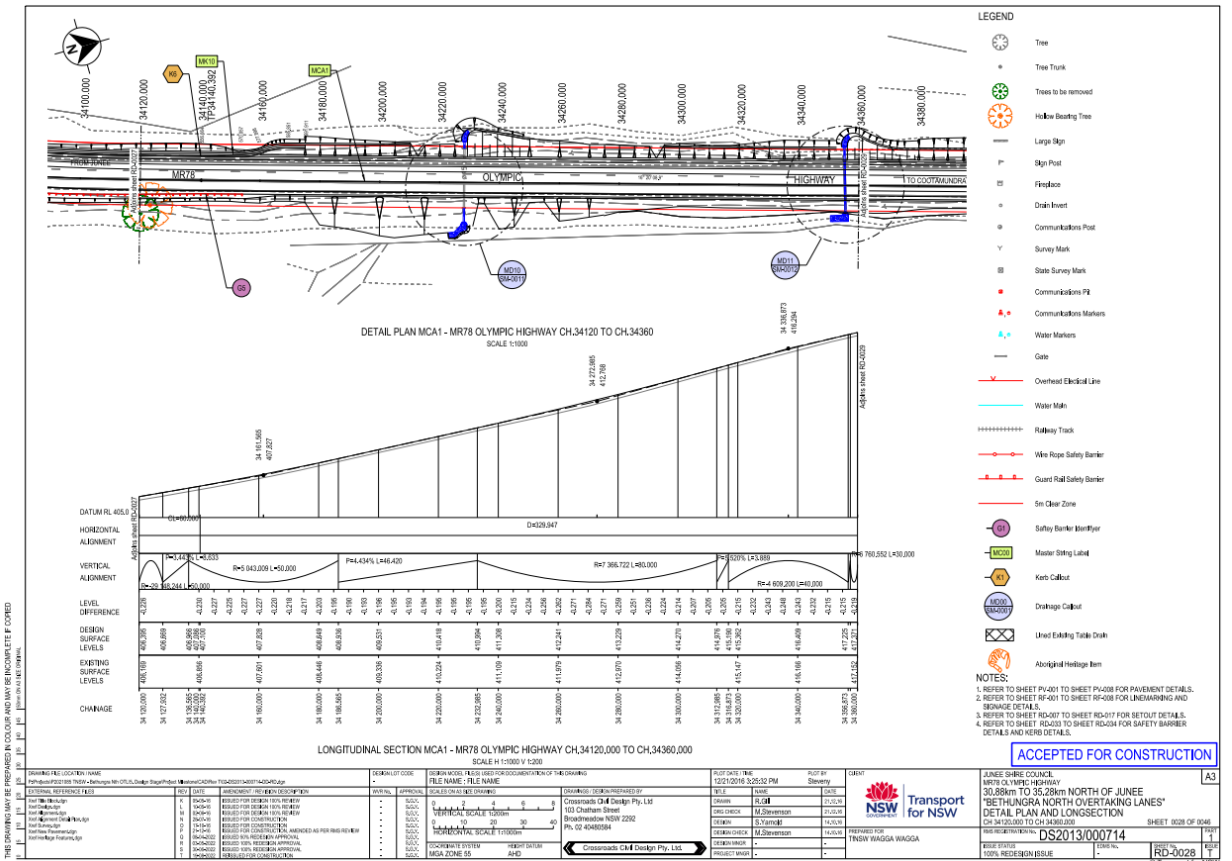


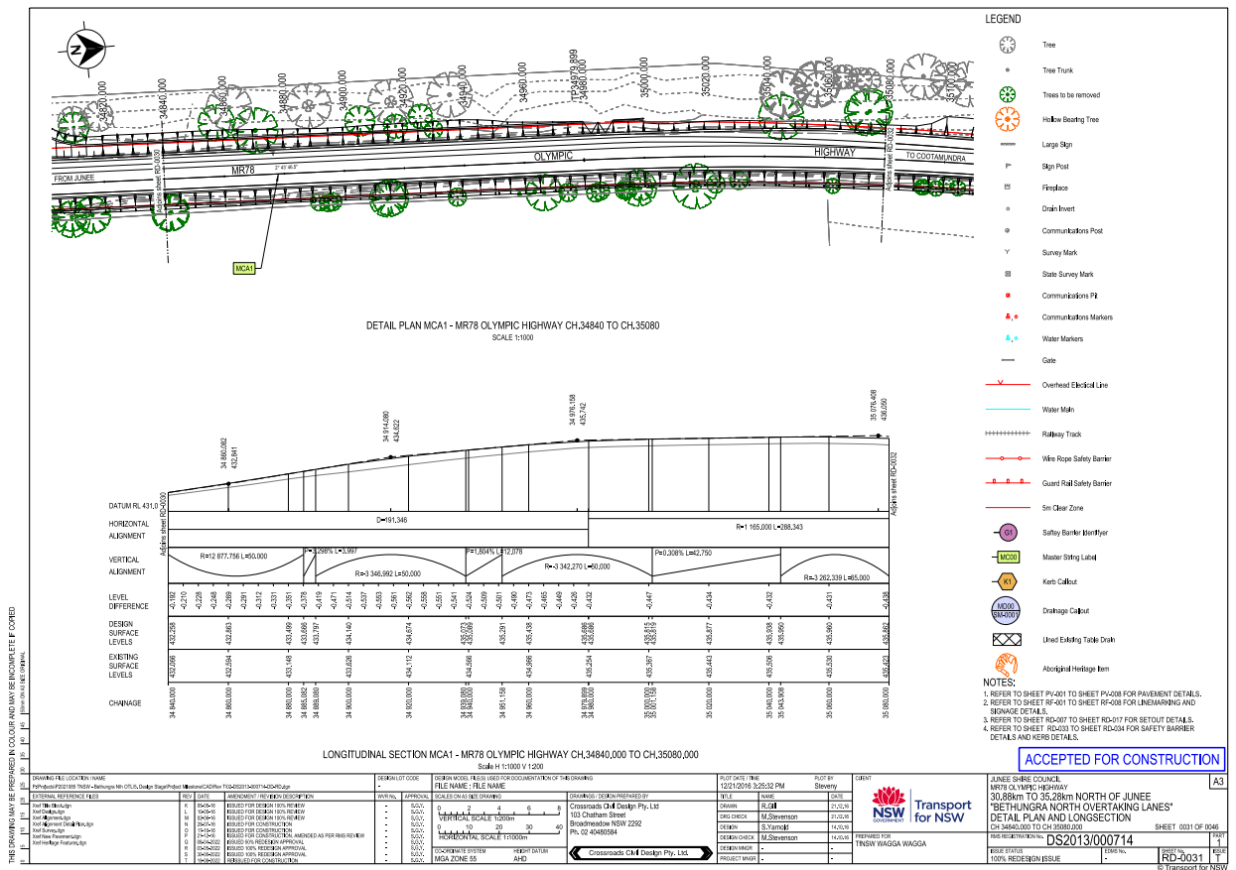
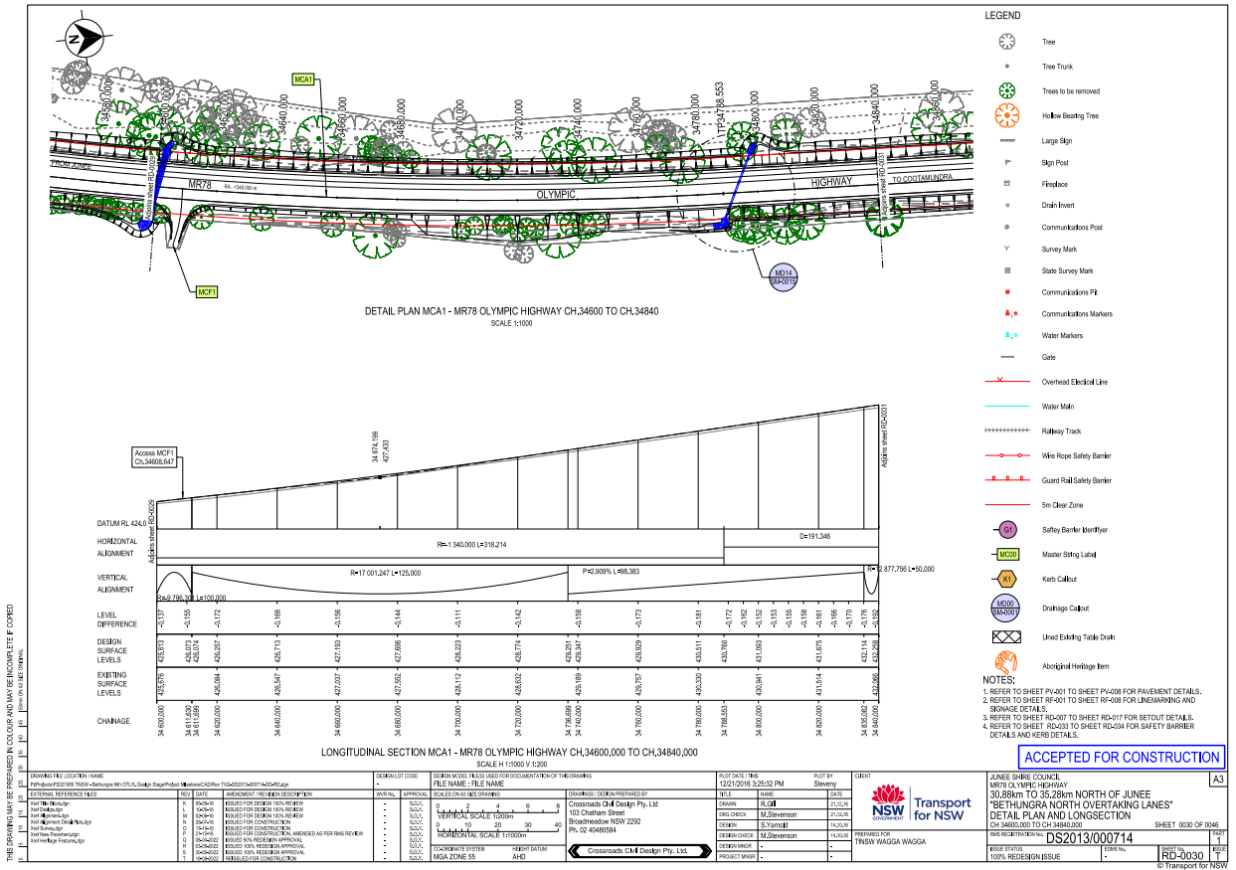


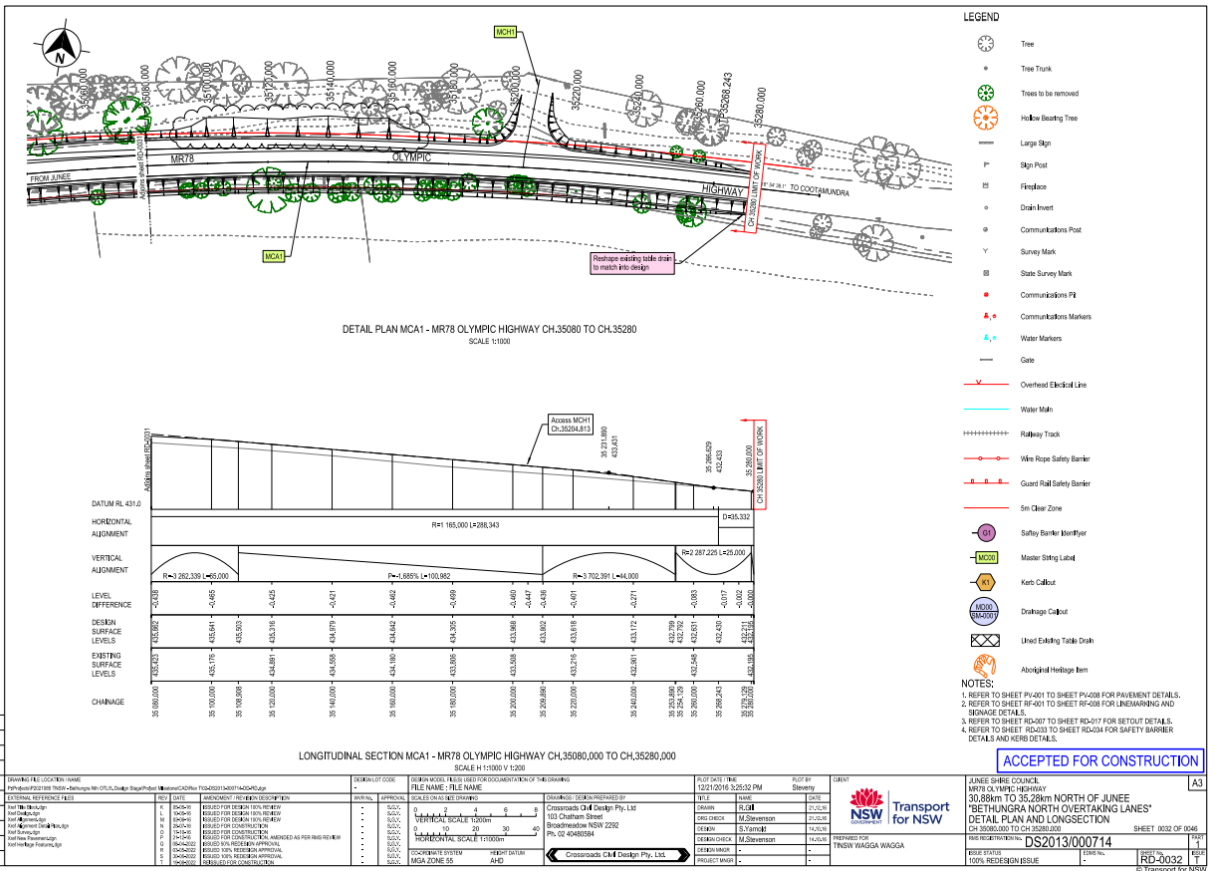
Minor works review of environmental factors








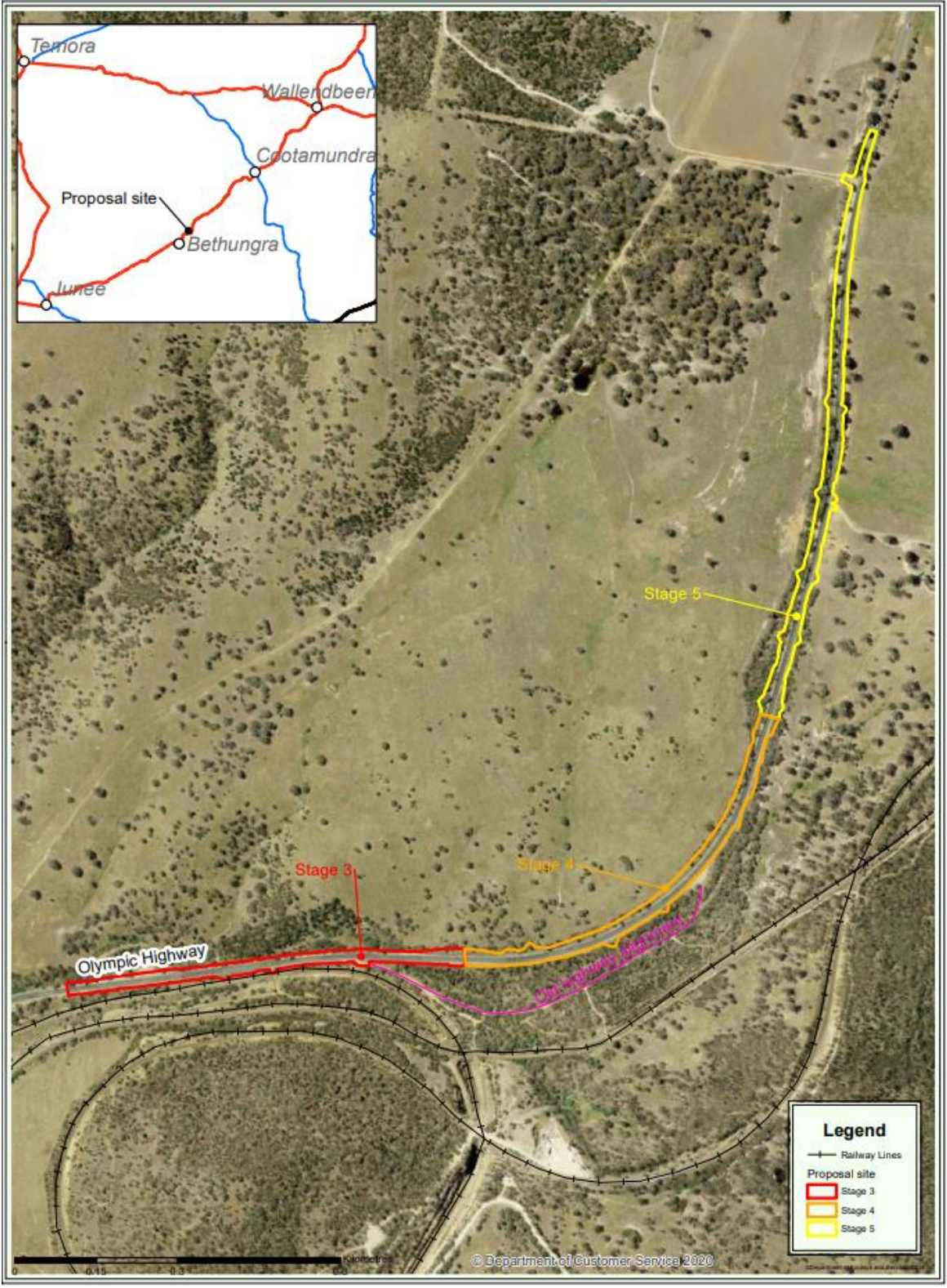




Minor works review of environmental factors

Appendix B: Figures

 **Bethungra pavement widening & rehabilitation**
Figure 1 Location of the proposal

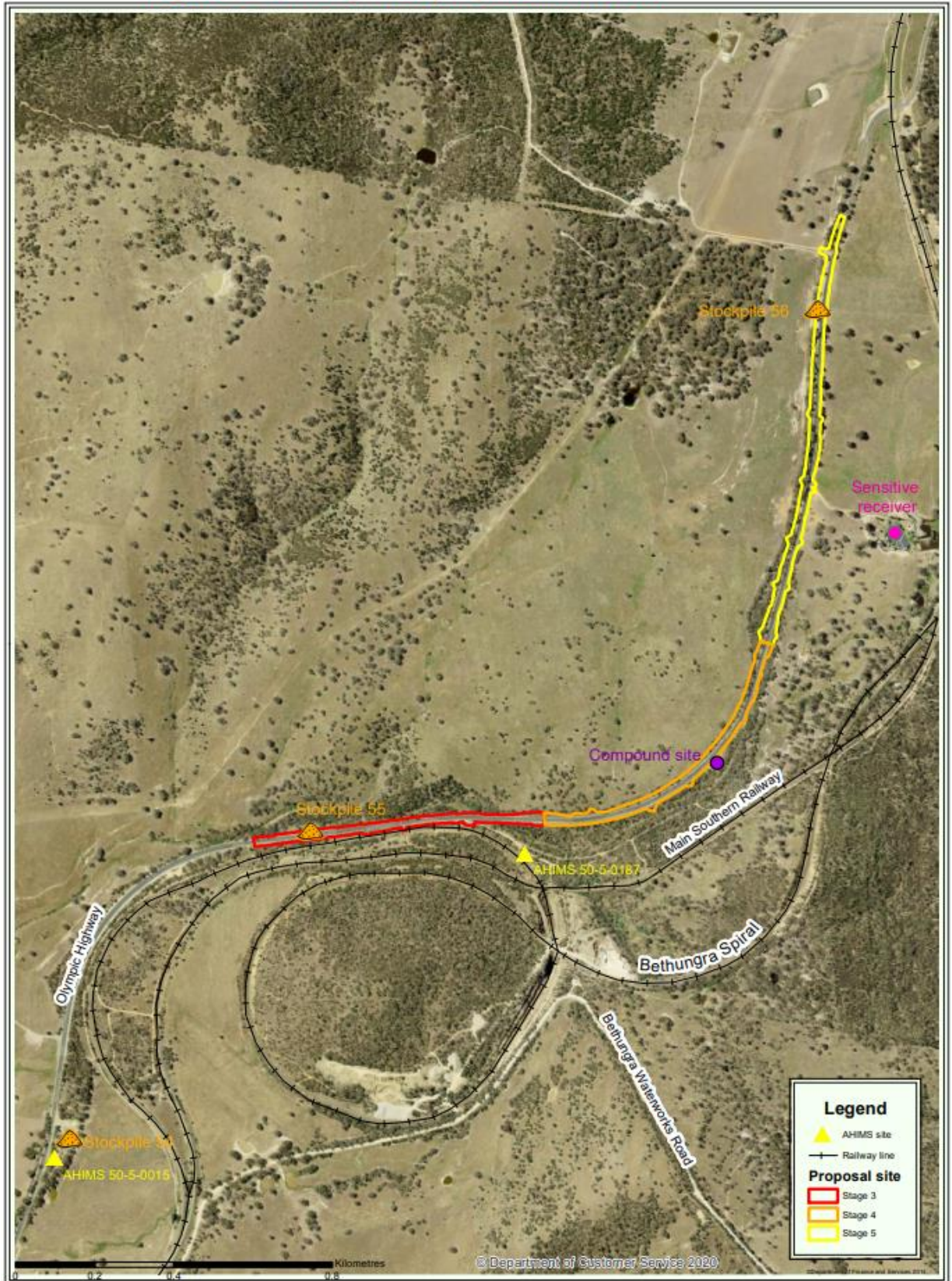


Minor works review of environmental factors



Bethungra pavement widening & rehabilitation

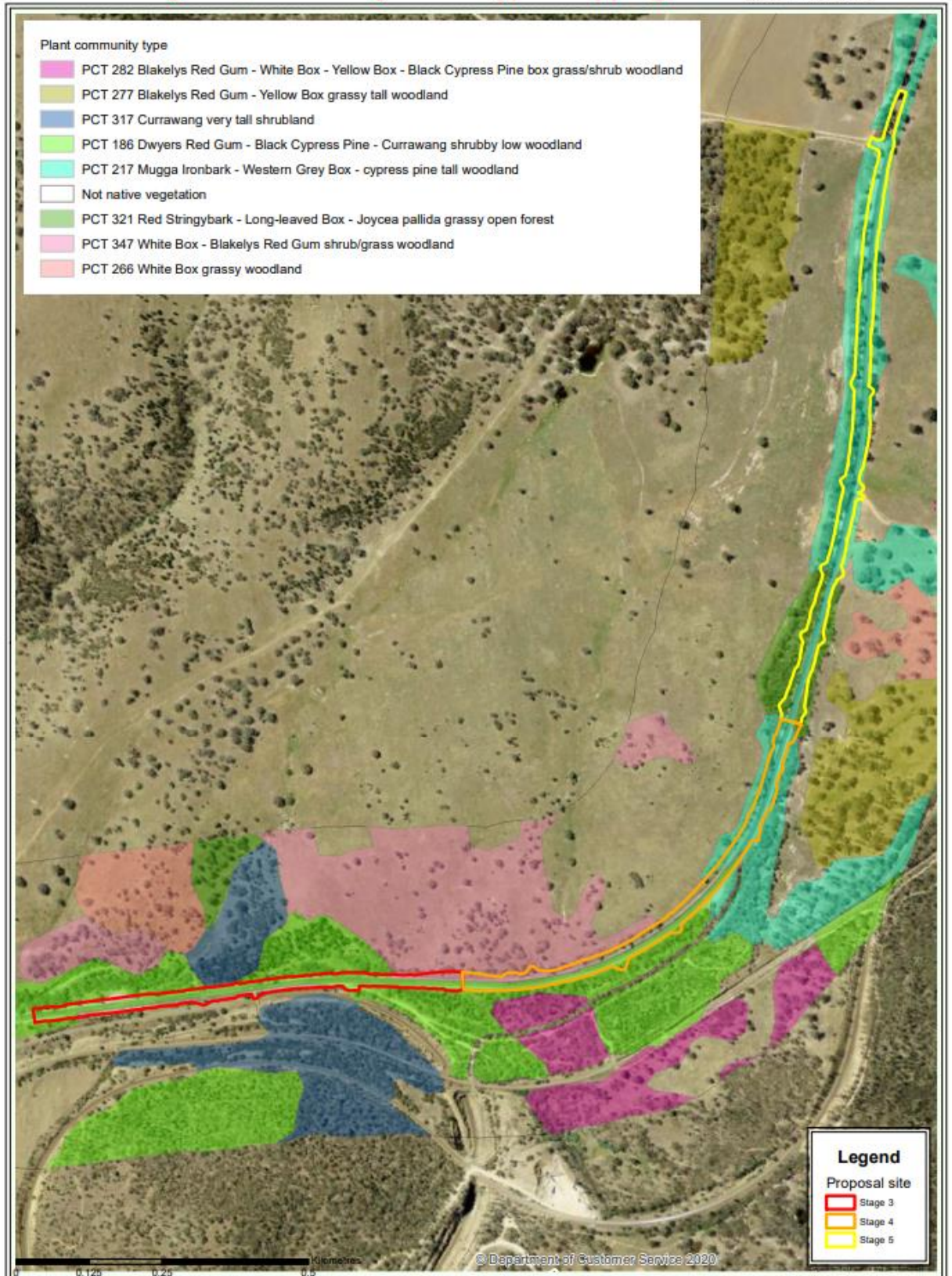
Figure 2 Locality and proposal features



Minor works review of environmental factors



Bethungra pavement widening & rehabilitation Figure 3 State Vegetation Type Mapping



Minor works review of environmental factors

Appendix C: Habitat assessment table

Likelihood of occurrence criteria

Likelihood	Criteria
Recorded	The species was observed in the study area during the current survey or has been recorded within the past five years (known from a reputable source).
High	<p>A species is considered highly likely to occur in the study area if:</p> <ul style="list-style-type: none"> There are previous credible records on BioNet within the study area from the last 10 years and suitable habitat is present. <p><u>OR</u></p> <ul style="list-style-type: none"> The species is highly mobile, dependent on identified suitable habitat within the study area (ie for breeding or important life cycle periods such as winter flowering resources) and has been recorded recently (within five years) on BioNet in the locality. This also includes species known or likely to visit the study area during regular seasonal movements or migration.
Moderate	<p>A species is considered moderately likely to occur in the study area if:</p> <ul style="list-style-type: none"> Any suitable habitat (eg foraging) is present in the study area, the species is highly mobile and has been recorded in the locality in the last 10 years on BioNet. The species may be unlikely to maintain sedentary populations, however may seasonally use resources within the study area opportunistically or during migration. The species is unlikely to be dependent (ie for breeding or important life cycle periods such as winter flowering resources) on habitat within the study area. <p><u>OR</u></p> <ul style="list-style-type: none"> The species is not highly-mobile, dependent on identified suitable habitat features (eg hollows, rocky outcrops) within the study area and has been recorded in the locality in the last 10 years on BioNet. <p><u>OR</u></p> <ul style="list-style-type: none"> For flora species that are associated with PCTs in the study area (see TBDC) or have been recorded in the locality in the last 10 years on BioNet – the associated PCT/habitat present in the study area is not degraded and the species was not targeted by surveys in accordance with the BAM and relevant survey guidelines. In addition, for flora species known to occur in disturbed areas (eg orchids), records from any time within the locality may warrant inclusion in this category.
Low	<p>A species is considered to have a low likelihood of occurring in the study area if:</p> <ul style="list-style-type: none"> For highly mobile species, the species may be an occasional visitor, but habitat similar to the study area is widely distributed in the locality, meaning that the species is not dependent (ie for breeding or important life cycle periods such as winter flowering resources) on habitats in the study area and the species has not been recorded in the locality in the last 10 years on BioNet. <p><u>OR</u></p>

Likelihood	Criteria
	<ul style="list-style-type: none"><li data-bbox="539 316 1951 373">• The species is not highly-mobile, dependent on identified suitable habitat features (eg hollows, rocky outcrops) within the study area and has not been recorded in the locality in the last 10 years on BioNet. <p data-bbox="539 395 584 421"><u>OR</u></p> <ul style="list-style-type: none"><li data-bbox="539 427 1995 549">• For flora species that are associated with PCTs in the study area (see TBDC) and the species was not identified following targeted surveys in accordance with the BAM and relevant survey guidelines. Flora species that have been recorded in the locality on BioNet at any time, associated suitable habitat (see the TBDC) is not present in the study area, though similar habitats of the same vegetation formation is present in the study area.
Unlikely	Suitable habitat for the species is absent from the study area.

Habitat assessment table

Based on previous assessments for the project in the study area, vegetation mapping and species surveys conducted, only those species that are considered likely to occur due to previous records and that may be impacted have been included in this table. For example, no migratory and wetland species have been included due to impacts being limited to the disturbed edges of the road and area immediately adjacent where these species are less likely to occur. Flora species have also been excluded for these reasons. It is considered that sufficient survey and assessment has been conducted to determine biota that are likely to be impacted by the proposal. Nevertheless, updated database searches were completed and assessment of species likelihood of occurrence was confirmed for the proposal to determine the accuracy of information.

Scientific name (Common name)	Status		Distribution and habitat	Number of records (source)	Likelihood of occurrence and possibility of impact
	BC Act	EPBC Act			
Ecological communities					
White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England, Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	CE	CE	An open woodland community characterised by the presence or prior occurrence of White Box, Yellow Box and/or Blakely’s Red Gum and a generally grassy understorey. Remnants generally occur on fertile lower parts of the landscape.		Recorded, the proposal would remove trees, shrubs and groundcover that forms the community
Birds					
Black Falcon <i>Falco subniger</i>	V		The Black Falcon is widely, but sparsely, distributed in New South Wales, mostly occurring in inland regions. In New South Wales there is assumed to be a single population that is continuous with a broader continental population, given that falcons are highly mobile, commonly travelling hundreds of kilometres (Marchant & Higgins 1993)	3 (Bionet)	Low. This species may be a vagrant in the study area. The species is unlikely to be reliant on any vegetation to be removed by the proposal due to alternative habitat availability and its highly mobile and wide-ranging nature.
Brown Treecreeper (eastern subspecies)	V		Found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range;	16 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment

Scientific name (Common name)	Status		Distribution and habitat	Number of records (source)	Likelihood of occurrence and possibility of impact
	BC Act	EPBC Act			
<i>Climacteris picumnus victoriae</i>			mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species.		and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially impacted by the proposal. The species is sufficiently mobile to traverse the study area to alternative habitat. The proposal would potentially remove up to three hollow bearing trees however attempts will be made to avoid removal of these trees during construction. The removal of these trees would have a very minor impact to hollow-dependent species given the large amount of suitable habitat surrounding the site.
Diamond Firetail <i>Stagonopleura guttata</i>	V		Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. Often found in riparian areas and sometimes in lightly wooded farmland.	5 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially impacted by the proposal. The species is sufficiently mobile to traverse the study area to alternative habitat.
Dusky Woodswallow <i>Artamus cyanopterus cyanopterus</i>	V		Primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and groundcover of grasses or sedges and fallen woody debris. It has also been recorded in shrublands, heathlands and very occasionally in moist forest or rainforest. Also found in farmland, usually at the edges of forest or woodland.	2 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially impacted by the proposal. The species is sufficiently mobile to traverse the study area to alternative habitat.
Flame Robin <i>Petroica pheonica</i>	V		Breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes.	14 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees,

Scientific name (Common name)	Status		Distribution and habitat	Number of records (source)	Likelihood of occurrence and possibility of impact
	BC Act	EPBC Act			
			Habitat often changes in winter to include drier more open habitat including dry forests, open woodlands, native grassland, pastures and occasionally in heathland or other shrubland.		scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially impacted by the proposal. The species is sufficiently mobile to traverse the study area to alternative habitat.
Grey-crowned Babbler (eastern subspecies) <i>Pomatostomus temporalis temporalis</i>	V		Inhabits open Box-Gum Woodlands on the slopes, and Box-Cypress-pine and open Box Woodlands on alluvial plains. Woodlands on fertile soils in coastal regions. Flight is laborious so birds prefer to hop to the top of a tree and glide down to the next one. Birds are generally unable to cross large open areas	35 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially impacted by the proposal. The species is sufficiently mobile to traverse the study area to alternative habitat.
Little Eagle <i>Hieraaetus morphnoides</i>	V		Little Eagle is distributed across all of the Australian mainland except for densely vegetated areas, particularly on the Dividing Range escarpment. In NSW the Little Eagle is considered a single population. They inhabit open eucalypt woodland, woodland, and open woodland, including She-oak, <i>Acacia</i> woodland and riparian woodland in arid and semi-arid regions.	2 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially impacted by the proposal. The species is highly mobile and able to traverse the study area to alternative habitat. The proposal would remove limited mature trees and therefore limited potential breeding habitat for the species.
Little Lorikeet <i>Glossopsitta pusilla</i>	V		Uses riparian habitats and forages in open eucalypt forests and woodland. Roosts in treetops, often separate from feeding areas. Urban areas, paddocks and roadside remnants with flowering trees can help sustain viable populations.	2 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially

Scientific name (Common name)	Status		Distribution and habitat	Number of records (source)	Likelihood of occurrence and possibility of impact
	BC Act	EPBC Act			
Scarlet Robin <i>Petrocia boodang</i>	V		Lives in dry eucalypt forests and woodlands with open grassy understorey with scattered shrubs. Lives in both mature and regrowth vegetation that usually contains abundant logs and fallen timber, which are important components of its habitat.	3 (Bionet)	impacted by the proposal. The species is sufficiently mobile to traverse the study area to alternative habitat.
Speckled Warbler <i>Chthonicola sagittata</i>	V		Lives in Eucalypts dominated communities that have a grassy understorey with sparse shrub layer. Large, relatively undisturbed habitats are needed for this species to remain in an area.	4 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially impacted by the proposal. The species is sufficiently mobile to traverse the study area to alternative habitat. The species would preferentially utilise more structurally diverse habitat away from the disturbed roadside edges to be impacted.
Superb Parrot <i>Polytelis swainsonii</i>	V	V	Inhabit Box-Gum, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. On the South West Slopes nest trees can be in open Box-Gum Woodland or isolated paddock trees. Species known to be used are Blakely's Red Gum, Yellow Box, Apple Box and Red Box.	141 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially impacted by the proposal. The species is

Scientific name (Common name)	Status		Distribution and habitat	Number of records (source)	Likelihood of occurrence and possibility of impact
	BC Act	EPBC Act			
Swift Parrot <i>Lathamus discolor</i>	E	CE	Breeds in Tasmania during spring and summer, migrating in the autumn and winter months to south-eastern Australia. On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such as Swamp Mahogany <i>Eucalyptus robusta</i> , Spotted Gum <i>Corymbia maculata</i> , Red Bloodwood <i>C. gummifera</i> , Forest Red Gum <i>E. tereticornis</i> , Mugga Ironbark <i>E. sideroxylon</i> , and White Box <i>E. albens</i> . Commonly used lerp infested trees include Inland Grey Box <i>E. microcarpa</i> , Grey Box <i>E. moluccana</i> , Blackbutt <i>E. pilularis</i> , and Yellow Box <i>E. melliodora</i>	2 (Bionet)	sufficiently mobile to traverse the study area to alternative habitat. The proposal would potentially remove up to three hollow bearing trees however attempts will be made to avoid removal of these trees during construction. The removal of these trees would have a very minor impact to hollow-dependent species given the large amount of suitable habitat surrounding the site.
Turquoise Parrot <i>Neophema pulchella</i>	V		Habitats include edges of eucalypt woodland near clearings, timbered ridges, and creeks in farmlands.	4 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially impacted by the proposal. The species is highly mobile and able to traverse the study area to alternative habitat. The species only breeds in Tasmania and therefore breeding habitat would not be impacted.

Scientific name (Common name)	Status		Distribution and habitat	Number of records (source)	Likelihood of occurrence and possibility of impact
	BC Act	EPBC Act			
					be made to avoid removal of these trees during construction. The removal of these trees would have a very minor impact to hollow-dependent species given the large amount of suitable habitat surrounding the site.
Varied Sittella <i>Daphoenositta chrysoptera</i>	V		Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and <i>Acacia</i> woodland.	3 (Bionet)	Moderate. Due to the proposal only removing predominantly juvenile trees, scattered along the length of the alignment and the presence of a large amount of alternative habitat in the surrounding area, the species is unlikely to be substantially impacted by the proposal. The species is sufficiently mobile to traverse the study area to alternative habitat.
Mammals					
Squirrel Glider <i>Petaurus norfolcensis</i>	V		Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas. Prefers mixed species stands with a shrub or <i>Acacia</i> midstorey.	6 (Bionet)	Moderate. While the species may occur in the study area it prefers old growth habitat with an abundant midstorey, which is unlikely to be impacted by the proposal, which is predominantly limited to juvenile trees scattered along the alignment. The proposal would potentially remove up to three hollow bearing trees however attempts will be made to avoid removal of these trees during construction. The removal of these trees would have a very minor impact to hollow-dependent species given the large amount of suitable habitat surrounding the site. accordance with the

Appendix D: Assessment of Significance

EP&A Act assessments of significance (Biodiversity Conservation Act)

Section 7.3 of the Biodiversity Conservation Act 2016 and section 1.7 of the EP&A Act lists five factors that must be taken into account in the determination of the significance of potential impacts of an activity on 'threatened species', populations or ecological communities (or their habitats) listed under the BC Act.

The '5-part test' is used to determine whether an activity is 'likely' to impose 'a significant effect' on threatened biota and thus whether a species impact statement (SIS) is required. Should the 5-part test conclude that a significant effect is likely, an SIS must be prepared.

The following threatened biota is included in these assessments:

- Box-Gum Woodland (Critically endangered ecological community)

Section 1.7 assessments

Box-Gum Woodland (critically endangered)

a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

N/A

b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

The proposal would involve the removal of about 70 trees from the Box-Gum Woodland community along the proposal site of Stages 3, 4 and 5. Trees to be removed are scattered along the length of the alignment and mostly limited to juvenile trees, with associated shrubs and groundcover along the edges of existing patches of the community. Groundcover to be removed is highly disturbed due to being on the edges of the roadside and is generally dominated by introduced species.

The community is unlikely to classify for listing under the EPBC Act due to the degraded nature of the understory and the small size of the patches, as previously assessed for the REF.

Due to the removal of the community being scattered along the entire length of the proposal, removal being limited to scattered trees, no entire patches of the community being removed and no additional fragmentation of the community, the proposal is unlikely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction. In addition, there is a large extent of Box-Gum Woodland connected to the roadside corridor and extending into adjacent private property that would not be impacted by the proposal.

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

The proposal would involve the removal of about 70 trees from the Box-Gum Woodland community along the proposal site of Stages 3, 4 and 5. Trees to be removed are scattered along

the length of the alignment and mostly limited to juvenile trees, with associated shrubs and groundcover. Groundcover to be removed is highly disturbed due to being on the edges of the roadside and is generally dominated by introduced species. Removal would be limited to the edges of patches of the community and would not completely remove or isolate any patches of the community. The proposal would potentially remove up to three hollow bearing trees however attempts will be made to avoid removal of these trees during construction. The removal of these trees would have a very minor impact to hollow-dependent species given the large amount of suitable habitat surrounding the site. The proposal is therefore unlikely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.

c) in relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

The proposal would involve the removal of about 70 trees from the Box-Gum Woodland community along the proposal site of Stages 3, 4 and 5. Removal of the community includes mostly juvenile trees, with associated shrubs and groundcover dominated by introduced species. Impacts would be limited to the disturbed edges of the roadside.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

Box-Gum Woodland in the study area has previously been fragmented from the construction of the Olympic Highway and other linear infrastructure. The proposal would remove parts of the community from the disturbed edges of the roadside and would not remove entire patches of the community.

Due to the impacts on the community being limited to the disturbed edges of the community, the proposal is unlikely to cause further fragmentation to a greater extent than that which already occurs. The proposal would not isolate any patches of the community.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,

Impacts to the community are limited to the disturbed roadside edges that are already impacted by edge effects and ongoing maintenance of the road corridor. Trees to be removed are scattered along the length of the alignment and mostly limited to juvenile trees, with associated shrubs and groundcover. Groundcover to be removed is highly disturbed due to being on the edges of the roadside and is generally dominated by introduced species. The proposal would potentially remove up to three hollow bearing trees however attempts will be made to avoid removal of these trees during construction. The removal of these trees would have a very minor impact to hollow-dependent species given the large amount of suitable habitat surrounding the site. There is a large extent of Box-Gum Woodland connected to the roadside corridor and extending into adjacent private property that would not be impacted by the proposal. Some of these patches are likely to be of higher quality and better habitat value given their location away from the roadside and continued disturbance. The proposal is therefore unlikely to impact on the long-term survival of the ecological community in the locality.

d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),

The proposal would not affect any habitat of outstanding biodiversity value.

e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

The proposal constitutes one listed key threatening process relevant to the Box-Gum Woodland ecological community:

Clearing of native vegetation – the proposal would remove 70 trees from the Box-Gum Woodland community with associated shrubs and disturbed groundcover. This is unlikely to represent a significant loss of the Box-Gum Woodland ecological community, as described above.

Conclusion of Assessment of Significance

The proposal is unlikely to have a significant impact on the Box-Gum Woodland due to:

- *Only a small area of vegetation representative of the community would be removed*
 - *The small amount of woodland removal from the ecological community is unlikely to result in significant additional fragmentation to that which has already occurred*
 - *The presence of large areas of the community outside the proposal site that are of better quality and likely to be of higher importance to the community in the locality.*
-

Appendix E: PACHCI and AHIMS site information

E.1. PACHCI Letter



15 November 2022

Nirupan (Mylvaganam Nirupan)
Project Engineer - RSR
Project Services South, Network and Assets
Regional and Outer Metropolitan
193 Morgan Street
Wagga Wagga NSW 2650

Dear Nuripan,

Preliminary assessment results for the Bethungra Hill (MR78) shoulder widening and culvert work projects on chainages 34360 – 35280, 33340 – 34360, 32700 - 33340. The key features of these projects are listed below.

- Culvert replacement works
- Vegetation removal
- Guard rail installation
- Shoulder widening

Based on Stage 1 of the **Procedure for Aboriginal Cultural Heritage Consultation and Investigation** (PACHCI), the project, as specified within the PACHCI and through a search of the Aboriginal Heritage Information Management System (AHIMS), was assessed as being unlikely to have an impact on Aboriginal Cultural Heritage.

The assessment is based on the following due diligence considerations:

- The project is unlikely to harm known Aboriginal objects or places.
- The AHIMS search did not indicate moderate to high concentrations of Aboriginal objects or places in the study area.
- The study area does not contain landscape features that indicate the presence of Aboriginal objects, based on the Office of Environment and Heritage's Due diligence Code of Practice for the Protection of Aboriginal objects in NSW and the Transport for NSW procedure.
- The cultural heritage potential of the study area appears to be reduced due to past disturbance.

Your project may proceed in accordance with the environmental impact assessment process, as relevant, and all other relevant approvals. If the scope of your project changes, you must contact Desmond Smith, Aboriginal Cultural Heritage Officer and your regional environmental staff to reassess any potential impacts on Aboriginal cultural heritage.

TfNSW staff and/or contractors should be aware of the potential of Aboriginal objects (including skeletal remains) being discovered during the course of the project, if this occurs all works in the vicinity of the find must cease. Follow the steps outlined in the Roads and Maritime Services' *Unexpected Archaeological Finds Procedure*.

For further assistance in this matter do not hesitate to contact Desmond Smith.

Yours sincerely

Desmond Smith

Desmond Smith
Aboriginal Cultural Heritage Officer
Aboriginal Engagement - Southern

Transport for NSW
193 – 195 Morgan Street, Wagga Wagga, NSW, 2650
E Desmond.Smith@transport.nsw.gov.au

E2. AHIMS Site Information

AHIMS #50-5-0115

Site name: Olympic Hwy – Bethungra 1



Figure 1: Artefacts in situ, north-bound facing (prior to impact)

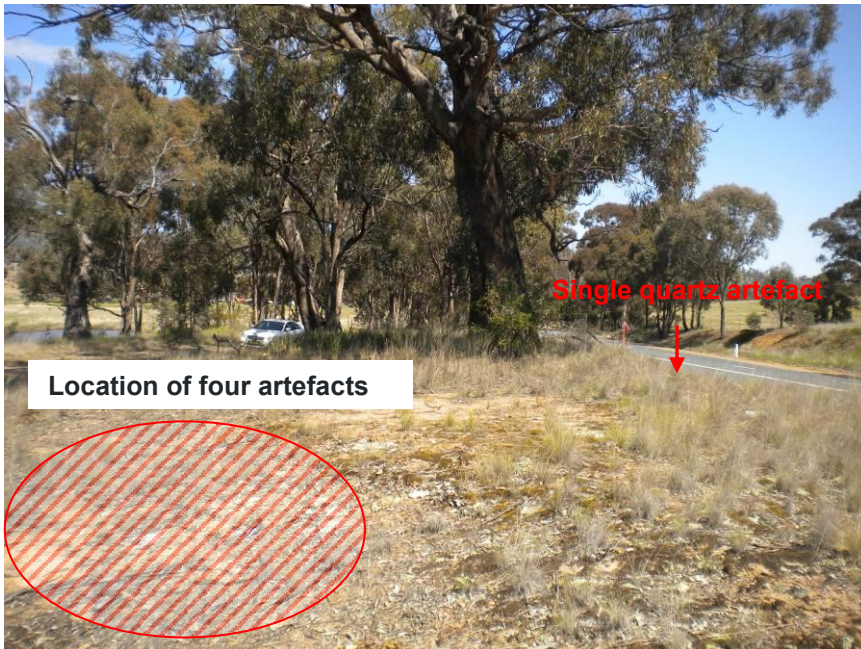



Figure 2: Artefacts in situ, south-bound facing (prior to impact)



Figure 3: Relative location of artefacts after impact, showing ineffective bunting


E.3. Aboriginal Site Recording Form



AHIMS
Aboriginal Heritage Information Management System

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office of
Environment
& Heritage

Office Use Only

Site Number

Date received Date entered into system Date catalogued

Entered by (I.D.)

Information Access

Gender/male
 Gender/female
 Location restriction
 General restriction
 No access

For Further Information Contact:

Nominated Trustee

Title	Surname	First Name	Initials
<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>

Organisation
 Address
 Phone number Fax

Knowledge Holder

Title	Surname	First Name	Initials
<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>

Organisation
 Address
 Phone number Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name

Easting Northing AGD/GDA

Mapsheet

Zone Location Method

Other Registration

Primary Recorder

Title	Surname	First Name	Initials
<input type="text" value="MS"/>	<input type="text" value="TAYLOR"/>	<input type="text" value="JACKIE"/>	<input type="text" value=""/>

Organisation
 Address
 Phone number Fax
 Date recorded

Office Use Only

Client on system

Client on system

Client on system

Minor works review of environmental factors

NPWS Aboriginal Site Recording Form - Site Information			page 3
General Site Information			Features
<p>Closed Site</p> <p>Shelter/Cave Formation</p> <p><input type="checkbox"/> Boulder</p> <p><input type="checkbox"/> Wind erosion</p> <p><input type="checkbox"/> Water erosion</p> <p><input type="checkbox"/> Rock collapse</p>	<p>Rock Surface Condition</p> <p><input type="checkbox"/> Boulder</p> <p><input type="checkbox"/> Sandstone platform</p> <p><input type="checkbox"/> Silica gloss</p> <p><input type="checkbox"/> Tessellated</p> <p><input type="checkbox"/> Weathered</p> <p><input type="checkbox"/> Other platform</p>	<p>Open Site</p> <p>Site Orientation</p> <p><input type="checkbox"/> N-S</p> <p><input checked="" type="checkbox"/> NE-SW</p> <p><input type="checkbox"/> E-W</p> <p><input type="checkbox"/> SE-NW</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> 1. Aboriginal Ceremony & Dreaming</p> <p><input type="checkbox"/> 2. Aboriginal Resource & Gathering</p> <p><input type="checkbox"/> 3. Art</p> <p><input checked="" type="checkbox"/> 4. Artefact</p> <p><input type="checkbox"/> 5. Burial</p> <p><input type="checkbox"/> 6. Ceremonial Ring</p> <p><input type="checkbox"/> 7. Conflict</p> <p><input type="checkbox"/> 8. Earth Mound</p> <p><input type="checkbox"/> 9. Fish Trap</p> <p><input type="checkbox"/> 10. Grinding Groove</p> <p><input type="checkbox"/> 11. Habitation Structure</p> <p><input type="checkbox"/> 12. Hearth</p> <p><input type="checkbox"/> 13. Non Human Bone & Organic Material</p> <p><input type="checkbox"/> 14. Ochre quarry</p> <p><input type="checkbox"/> 15. Potential Archaeological Deposit</p> <p><input type="checkbox"/> 16. Stone Quarry</p> <p><input type="checkbox"/> 17. Shell</p> <p><input type="checkbox"/> 18. Stone Arrangement</p> <p><input type="checkbox"/> 19. Modified Tree</p> <p><input type="checkbox"/> 20. Water Hole</p>
<p>Condition of Ceiling</p> <p><input type="checkbox"/> Boulder</p> <p><input type="checkbox"/> Sandstone platform</p> <p><input type="checkbox"/> Silica gloss</p> <p><input type="checkbox"/> Tessellated</p> <p><input type="checkbox"/> Weathered</p> <p><input type="checkbox"/> Other platform</p>	<p>Shelter Aspect</p> <p><input type="checkbox"/> North</p> <p><input type="checkbox"/> North East</p> <p><input type="checkbox"/> East</p> <p><input type="checkbox"/> South East</p> <p><input type="checkbox"/> South</p> <p><input type="checkbox"/> South West</p> <p><input type="checkbox"/> West</p> <p><input type="checkbox"/> North West</p>		
Site Plan Indicate scale, boundaries of site, features			
NW	N	NE	
W	S	E	
SW	S	SE	
			<p>Site Dimensions</p> <p>Closed Site Dimensions (m)</p> <p><input type="text"/> Internal length</p> <p><input type="text"/> Internal width</p> <p><input type="text"/> Shelter height</p> <p><input type="text"/> Shelter floor area</p> <p>Open Site Dimensions (m)</p> <p><input type="text"/> Total length of visible site</p> <p><input type="text"/> Average width of visible site</p> <p><input type="text"/> Estimated area of visible site</p> <p><input type="text"/> Length of assessed site area</p>

NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement page 4

Aboriginal Community Interpretation and Management Recommendations

Preliminary Site Assessment

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

Small scatter of five stone artefacts located in road reserve immediately east of Olympic Highway, north of Bethungra.

This section should only be filled in by the Endorsees

Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus

Title	Surname	First Name	Initials
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Organisation

Address

Phone number Fax

Attachments (No.)

- A4 location map
- B/W photographs
- Colour photographs
- Slides
- Aerial photographs
- Site plans, drawings
- Recording tables
- Other
- Feature inserts-No.

Comments

Minor works review of environmental factors

Appendix F: Database searches

F.1. Australian Heritage Database

Search Results

14 results found.

Commercial Hotel Lorne St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
E A Commins Building Seignior St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Hotel Junee Seignior St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Hotel Junee Group Seignior St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Junee Courthouse Belmore St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Junee Post Office 119 Lorne St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Junee Post Office 119 Lorne St	Junee, NSW, Australia (Listed place) Commonwealth Heritage List
Junee Railway Station Main St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Loftus Hotel Main St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Railway Hotel (former) Main St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)

Town Group Lorne St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Ulandra Nature Reserve	Bethungra, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Universal Provider General Store (former) Seignior St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)
Westpac Bank 80 Lorne St	Junee, NSW, Australia (Registered) Register of the National Estate (Non-statutory archive)

Report Produced: Tue Jul 5 09:26:52 2022

F.2. Junee Local Environmental Plan 2012



NSW legislation

Junee Local Environmental Plan 2012

Current version for 30 June 2022 to date (accessed 5 July 2022 at 9:02)

Schedule 5

Schedule 5 Environmental heritage

(Clause 5.10)

Part 1 Heritage items

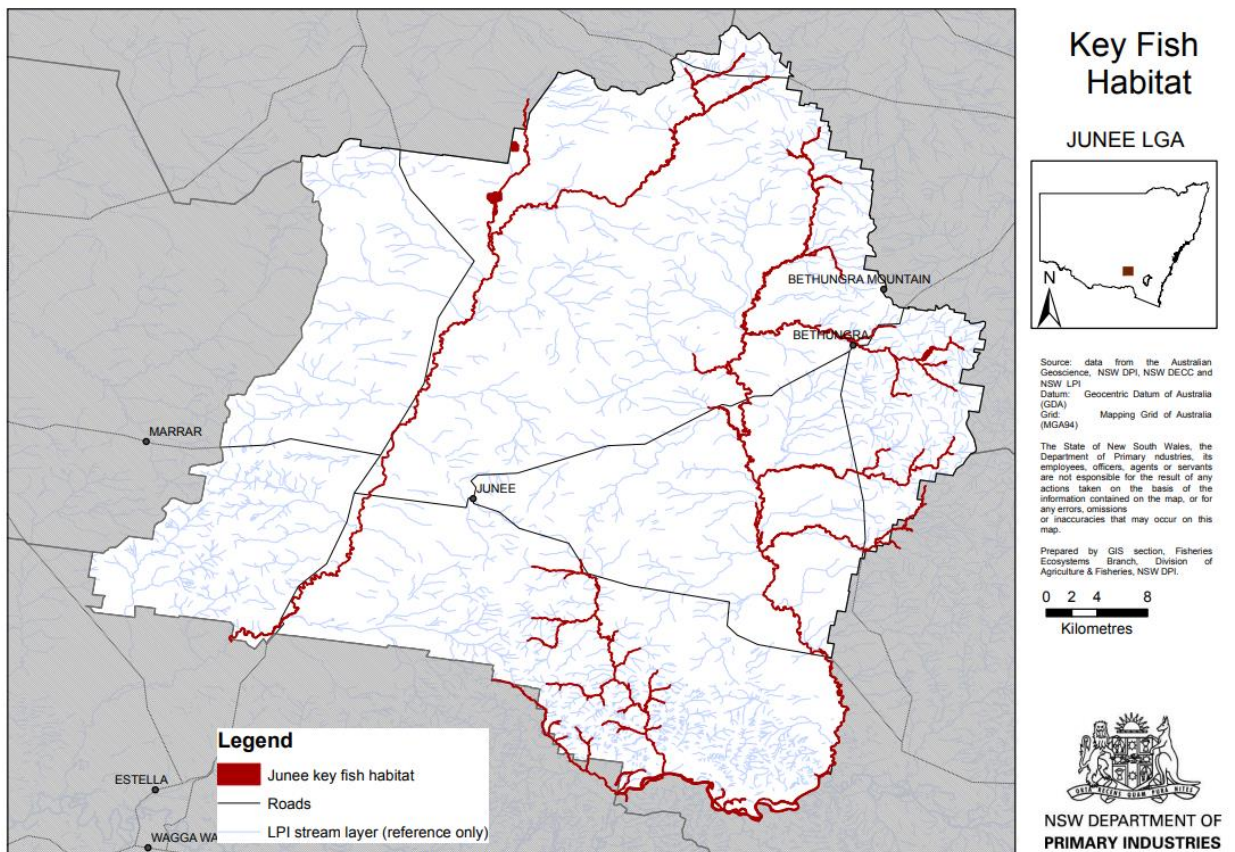
Locality	Item name	Address	Property description	Significance	Item number
Bethungra	Bethungra Spiral	Main Southern Railway	Lot 1, DP 1077543; Lot 17, DP 751428; Lot 1, DP 1077551; Lot 7007, DP 1066054; part of Lot 1, DP 1121721	State	11
Junee	Junee Court House	1 Belmore Street	Lot 5, DP 45464	Local	13
Junee	Former Broadway Hotel	82–86 Broadway	Lot 9, DP 1337; Lot C, DP 917593	Local	115
Junee	Athenium Theatre (former Jadda Centre)	89 Broadway	Lot 15, DP 10366	State	12
Junee	ANZ Bank	97 Broadway	Lots 19–21, DP 2446	Local	114
Junee	Broadway Stores Group	102–116 Broadway	Lot 2, DP 1128421; Lot 2, DP 554479; Lots E–H, DP 17274	Local	116
Junee	Humphrys on Loftus (former Loftus Hotel)	6 Humphrys Street	Lots 1 and 2, DP 2004	Local	17
Junee	Monte Cristo	John Potts Drive and Monte Cristo Road	Lot 5, DP 18362; Lots 20 and 21, DP 833292	Local	117
Junee	Commercial Hotel	68–70 Lorne Street	Lot A, DP 421659; Lots 1 and 2, DP 129798; Lot 1, DP 758548	Local	15
Junee	Former Westpac Bank—Bank of NSW	80 Lorne Street	Lot 3, DP 758548	Local	14
Junee	Junee Post Office	119 Lorne Street	Lot 2, DP 774935	State	16
Junee	Junee Railway Station, yard and locomotive depot	Lorne and Harold Street	Lot 2, DP 1066082; Lot 5, DP 866583	State	18
Junee	Junee Railway Station—moveable relics	Lorne Street	Lot 5, DP 866583	State	19
Junee	Junee Railway—refreshment rooms	Railway Square	Lot 2, DP 1066082	Local	110
Junee	Junee Hotel	21 Seigneur Street	Lot 1, DP 909913	Local	111

Junee	Filewood's (former General Store)	23 Seignior Street	Lot 1, DP 1073599	Local	112
Junee	Former solicitor's office	25 Seignior Street	Lot 2, DP 1073599	Local	113
Junee	Yathella Park	96 Yathella Road	Lot 41, DP 751416	Local	118

Part 2 Heritage conservation area

Name	Identification on Heritage Map	Significance
Junee Heritage Conservation Area	Shown by a red outline with red hatching and labelled "C1"	Local

F.3. Junee Key Fish Habitat



F.4. Protected Matters



Australian Government
Department of Agriculture,
Water and the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 06-Jul-2022

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	32
Listed Migratory Species:	11

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	2
Commonwealth Heritage Places:	None
Listed Marine Species:	18
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	1
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	5
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Banrock station wetland complex	600 - 700km upstream from Ramsar site	In feature area
Hattah-kulkyne lakes	400 - 500km upstream from Ramsar site	In feature area
Riverland	600 - 700km upstream from Ramsar site	In feature area
The coorong, and lakes alexandrina and albert wetland	700 - 800km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community likely to occur within area	In feature area
Weeping Myall Woodlands	Endangered	Community may occur within area	In buffer area only
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needle-tail [682]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
FISH			
Maccullochella macquariensis Trout Cod [26171]	Endangered	Species or species habitat may occur within area	In buffer area only
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area	In feature area
FROG			
Crinia sloanei Sloane's Froglet [59151]	Endangered	Species or species habitat may occur within area	In feature area
Litoria booroolongensis Booroolong Frog [1844]	Endangered	Species or species habitat may occur within area	In buffer area only
Litoria raniformis Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat may occur within area	In feature area
INSECT			
Synemon plana Golden Sun Moth [25234]	Vulnerable	Species or species habitat may occur within area	In feature area
MAMMAL			
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area	In feature area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</u>			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat likely to occur within area	In feature area
<u>Pteropus poliocephalus</u>			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
PLANT			
<u>Ammobium craspedioides</u>			
Yass Daisy [20758]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<u>Caladenia arenaria</u>			
Sand-hill Spider-orchid [9275]	Endangered	Species or species habitat may occur within area	In feature area
<u>Caladenia concolor</u>			
Crimson Spider-orchid, Maroon Spider-orchid [5505]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<u>Lepidium aschersonii</u>			
Spiny Pepper-cress [10976]	Vulnerable	Species or species habitat may occur within area	In feature area
<u>Prasophyllum petilum</u>			
Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area	In feature area
<u>Senecio macrocarpus</u>			
Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat may occur within area	In feature area
<u>Swainsona recta</u>			
Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat may occur within area	In feature area
REPTILE			
<u>Aprasia parapulchella</u>			
Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat may occur within area	In feature area

Listed Migratory Species **[Resource Information]**

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area

Migratory Terrestrial Species

Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area

Migratory Wetlands Species

Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Communications, Information Technology and the Arts - Telstra Corporation Limited Commonwealth Land - Australian Telecommunications Commission [15077]NSW		In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15065]NSW		In buffer area only

Listed Marine Species [\[Resource Information \]](#)

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]		Species or species habitat likely to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves [\[Resource Information \]](#)

Protected Area Name	Reserve Type	State	Buffer Status
Ulandra	Nature Reserve	NSW	In buffer area only

Nationally Important Wetlands [\[Resource Information \]](#)

Wetland Name	State	Buffer Status
Bethungra Dam Reserve	NSW	In buffer area only

EPBC Act Referrals [\[Resource Information \]](#)

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Inland Rail - Illabo to Stockinbingal, NSW	2018/8233	Controlled Action	Assessment Approach	In buffer area only
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Looping Pipeline - Stage 2	2011/6100	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

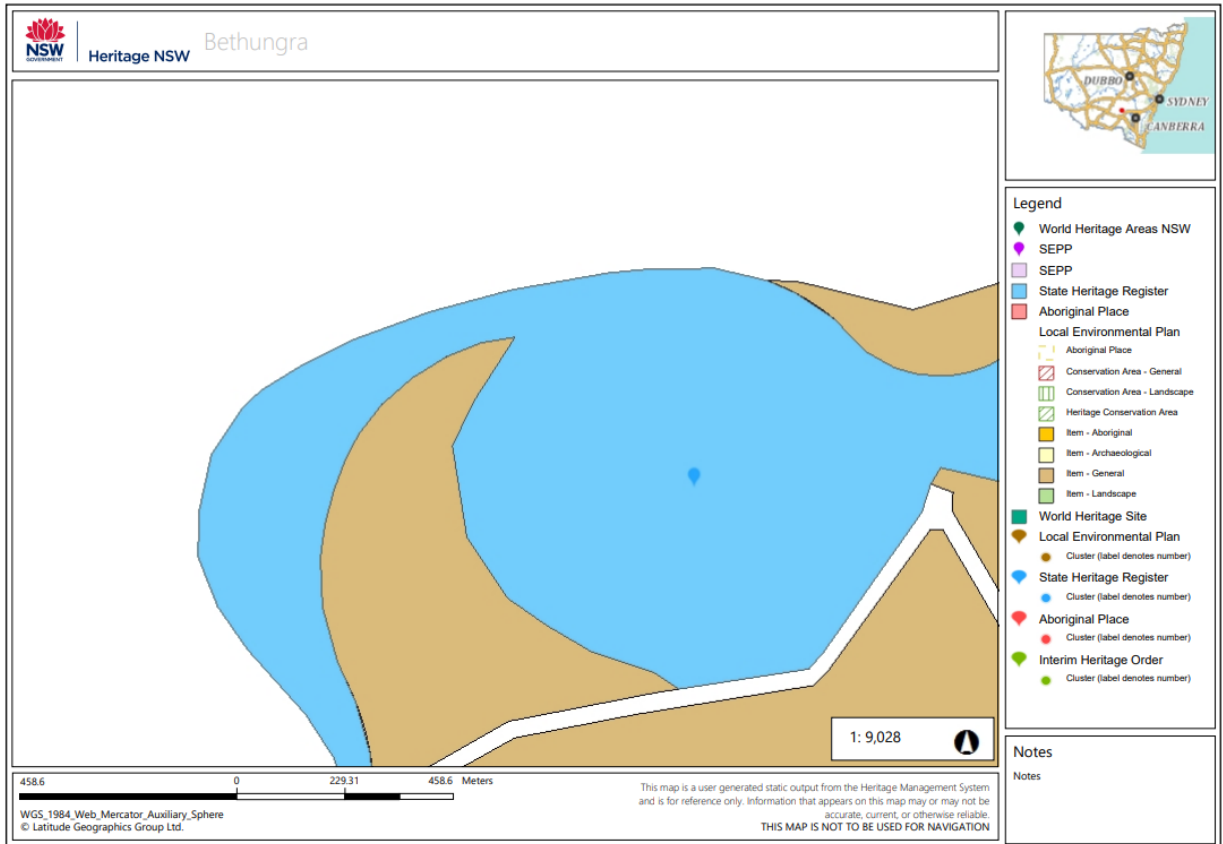
Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Office of Environment and Heritage, New South Wales](#)
- [Department of Environment and Primary Industries, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment, Water and Natural Resources, South Australia](#)
- [Department of Land and Resource Management, Northern Territory](#)
- [Department of Environmental and Heritage Protection, Queensland](#)
- [Department of Parks and Wildlife, Western Australia](#)
- [Environment and Planning Directorate, ACT](#)
- [Birdlife Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- [Natural history museums of Australia](#)
- [Museum Victoria](#)
- [Australian Museum](#)
- [South Australian Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- [Australian Tropical Herbarium, Cairns](#)
- [eBird Australia](#)
- [Australian Government – Australian Antarctic Data Centre](#)
- [Museum and Art Gallery of the Northern Territory](#)
- [Australian Government National Environmental Science Program](#)
- [Australian Institute of Marine Science](#)
- [Reef Life Survey Australia](#)
- [American Museum of Natural History](#)
- [Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

F.5. State Heritage Register



F.6. AHIMS Basic



Your Ref/PO Number : Bethungra
Client Service ID : 698338

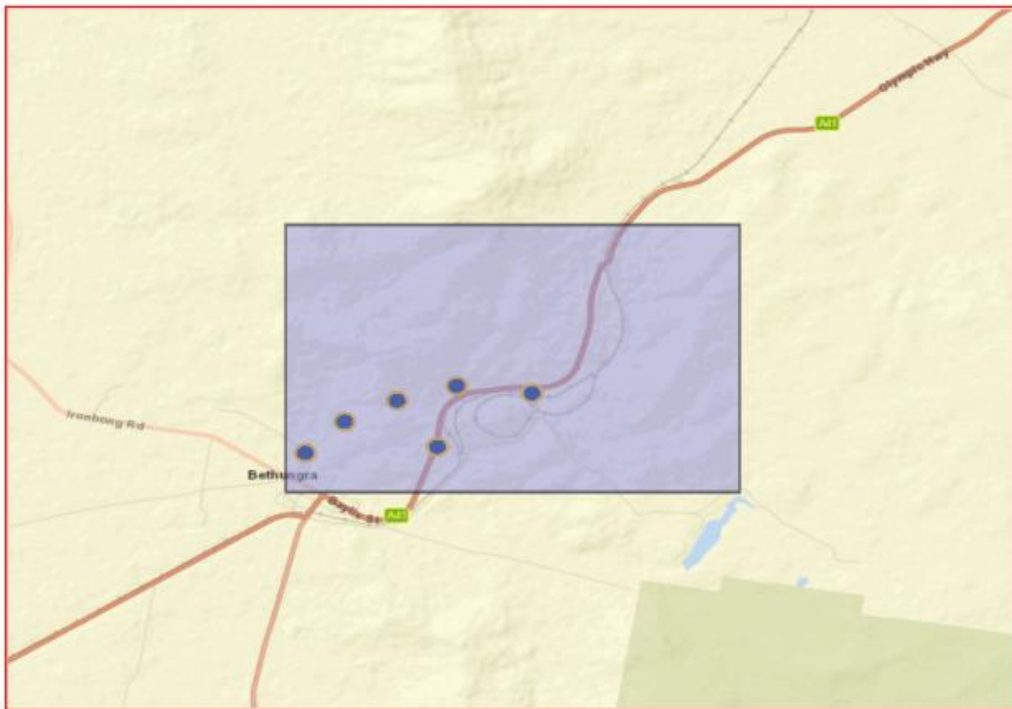
Transport for NSW
193 Morgan Street
Wagga Wagga New South Wales 2650
Attention: Melissa Cotterill
Email: mel.cotterill@transport.nsw.gov.au

Date: 07 July 2022

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -34.7603, 147.8508 - Lat, Long To : -34.7251, 147.9126, conducted by Melissa Cotterill on 07 July 2022.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

6	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette](https://www.legislation.nsw.gov.au/gazette) (<https://www.legislation.nsw.gov.au/gazette>) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

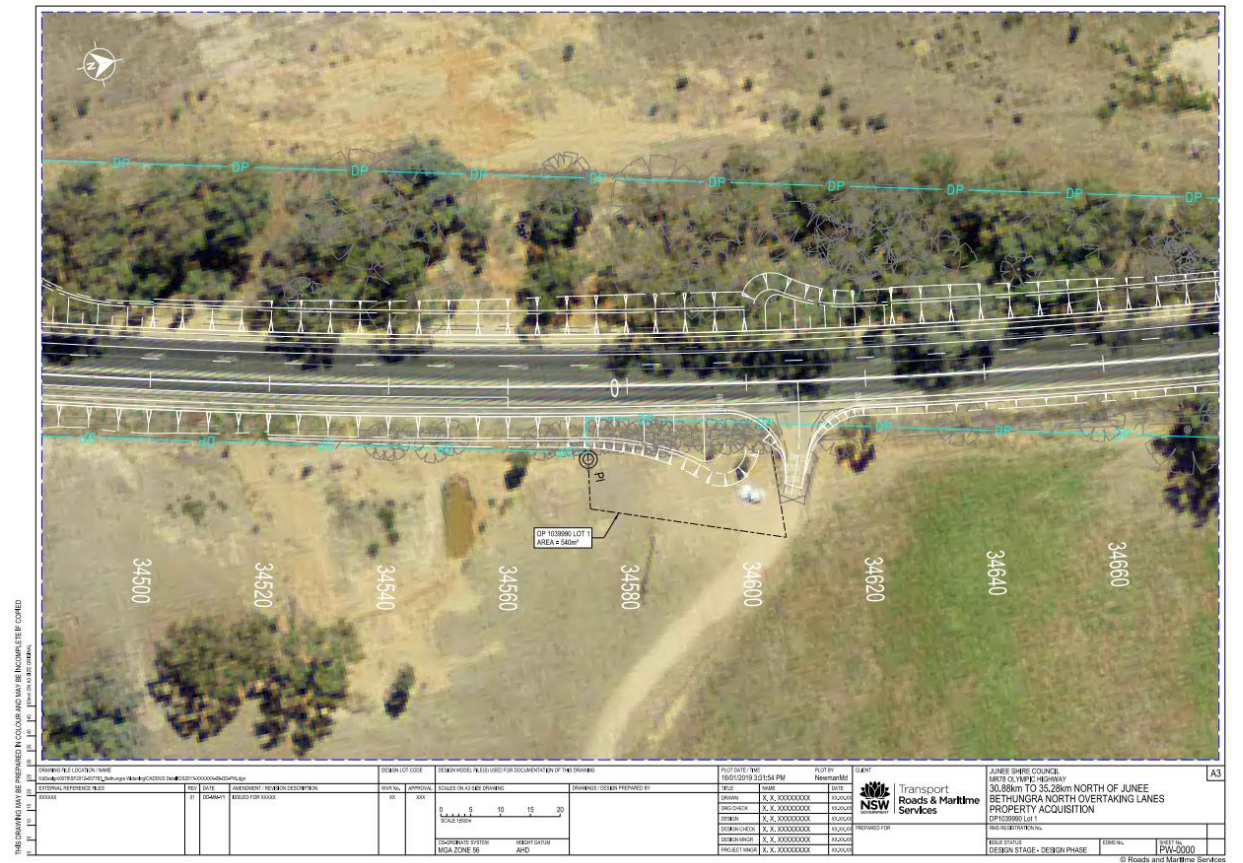
ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

Appendix G: Land acquisition



DRAWING FILE LOCATION NAME C:\Users\pww2000\Documents\Projects\2019\20190620\20190620\20190620.dwg		DESIGN LOT CODE	DESIGN MODEL FILE USED FOR DOCUMENTATION OF THE DRAWING		PLT DATE: 19/06/2019 2:14:43 PM	PLUTRY Newcastle	CLIENT JUNEE SHIRE COUNCIL 30.85km TO 35.28km NORTH OF JUNEE BETHUNGA NORTH OVERTAKING LANES PROPERTY ACQUISITION DP 119413 LOT 1	
DESIGNER	DATE	APPROVAL	SCALE OR AS-BUILT DRAWING	DRAWING DESIGN PREPARED BY	DESIGN	DESIGN	PREPARED FOR	
			1:100 1:50 1:25				NSW Roads & Maritime Services	
			COORDINATE SYSTEM MGA ZONE 56	PROJECT/LOT AND			NSW Roads & Maritime Services	
							DESIGN STAGE - DESIGN PHASE	CONTRACT NO. PW-2000

Minor works review of environmental factors





Minor works review of environmental factors



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