

Transport
for NSW

Burley Griffin Way, Garoolgan. Pavement Reconstruction

Minor works review of
environmental factors

December 2023



transport.nsw.gov.au

Acknowledgement of Country

Transport for NSW acknowledges the traditional custodians of the land on which the project is proposed.

We pay our respects to 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.



Table of contents

1.	Introduction	6
2.	The proposal.....	7
2.1	Description	7
2.2	Need and options	12
2.3	Statutory and planning framework	13
2.4	Community engagement and agency consultation.....	14
3.	Environmental assessment.....	17
3.1	Soil	17
3.2	Waterways and water quality	19
3.3	Noise and vibration	21
3.4	Air quality.....	24
3.5	Aboriginal cultural heritage	25
3.6	Non-Aboriginal heritage.....	26
3.7	Biodiversity	27
3.8	Traffic and transport	31
3.9	Socio-economic	32
3.10	Landscape character and visual amenity	33
3.11	Waste	35
3.12	Climate change and greenhouse gas emissions.....	36
3.13	Cumulative impact	37
4.	Summary of safeguards and environmental management measures	38
4.1	Safeguards and environmental management measures.....	38
4.2	Licensing and approvals.....	40
4.3	Other requirements	40
5.	Certification, review and determination	41
5.1	Certification	41
5.2	Environment and sustainability staff review	42
5.3	Environment and Sustainability staff recommendation.....	43
5.4	Decision statement	43
5.5	EP&A Regulation publication requirement.....	44
	Appendix A: Proposal site details	45
	Appendix B: Consideration of State and Commonwealth environmental factors.....	46
	Appendix C: Basic AHIMS Search and PACHCI assessment	49
	Appendix D: Heritage Databases	53

Appendix E: Biodiversity database Search Results56

Appendix F: Noise Assessment Table59

Tables

Table 2-1: Proposal location details..... 7

Table 2-2: Ancillary facilities..... 10

Table 2-3: Consultation required with Council..... 14

Table 2-4: Consultation with other public authorities 15

Table 2-5: Notification of council and occupiers of adjoining land..... 16

Table 3-1: Soil 17

Table 3-2: Waterways and water quality 19

Table 3-3: Noise and vibration 21

Table 3-4: Noise sensitive receivers..... 21

Table 3-5: Recommended minimum working distances from vibrating plant and other equipment..... 22

Table 3-6: Air quality 24

Table 3-7: Aboriginal cultural heritage..... 25

Table 3-8: Non-Aboriginal heritage 26

Table 3-9: Biodiversity 27

Table 3-10: Protected matters search tool (PMST) results..... 28

Table 3-11: BioNet database records of threatened species near the project. 28

Table 3-12: Plant community types and Threatened ecological communities mapped in the study area 29

Table 3-13: Traffic and transport 31

Table 3-14: Socio-economic 32

Table 3-15: Landscape character and visual amenity 33

Table 3-16: Waste 35

Table 3-17: Climate change and greenhouse gas emissions 36

Table 3-18: Cumulative impact 37

Table 4-1: Summary of site-specific safeguards for proposed work..... 38

Table 4-2: Summary of licensing and approvals required..... 40

Table 4-3: Other requirements 40

Table 5-1: EP&A Regulation publication requirement..... 44

Figures

Figure 2-1: Gooroolgan pavement project site features 8

Figure 2-2: Garoolgan Rest area compound site 10

Figure 2-3: Existing compound sites near the project 11

Figure 2-4: Existing Transport compound site 11

Figure 2-5: Existing compound site on Graincorp and Crown land 12

Figure 3-1: Waterways and waterbodies near the proposal..... 20

Figure 3-2: HW84 construction noise impacts 23

Figure 3-3: Potential dust-sensitive receivers near the proposal..... 24

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* (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

Table 2-1: Proposal location details

Location details	
Title	Garoolgan Pavement Reconstruction
File number	SF2020/209101 – ID: fA10209614
Road name and number	Burley Griffin Way (MR84)
Closest crossroad(s)	Garoolgan Road, Brobenah Hall Rd.
Chainage of works	38.824 km to 46.411 km west of Ardlethan
Local government area	Narrandera
Transport for NSW region	Southwest

2.1.2 Proposal description

Transport proposes to reconstruct about 7.6 kilometres of the Burley Griffin Way at Garoolgan. The proposal would involve pavement widening by approximately 1m on either side of the road along with a 300mm pavement overlay and re-surfacing. The road alignment and existing centre line would remain the same. There are nine culverts which would be replaced or extended. The proposed works would extend the life of existing pavement, reduce future routine maintenance costs, and improve road user safety in line with Transport's Network Performance Measures and Network Planning Targets.

The proposal is in the Narrandera Local Government Area (LGA). Site features are identified in Figure 2-1 and project details are included in Appendix A.

This section of the Burley Griffin Way is in poor condition. It requires regular maintenance such as patching and potholing and needs to be reconstructed. The pavement reconstruction allows the road to be improved to current road standards. Key features of the proposal include:

- Replace or extend nine existing culverts
- Widen pavement and increase sealed width to meet current standards. Accommodate for 0.5 metre centre line, 3.5 metre traffic lanes, 1 metre sealed shoulder and 0.5 metre verges (9.5-metre-wide seal and 10.5-metre-wide formation)
- Maintain and improve clear zones and roadside drainage
- Maintain and improve intersections and property access
- Reinstate and improve road furniture, signage, line marking and safety barriers

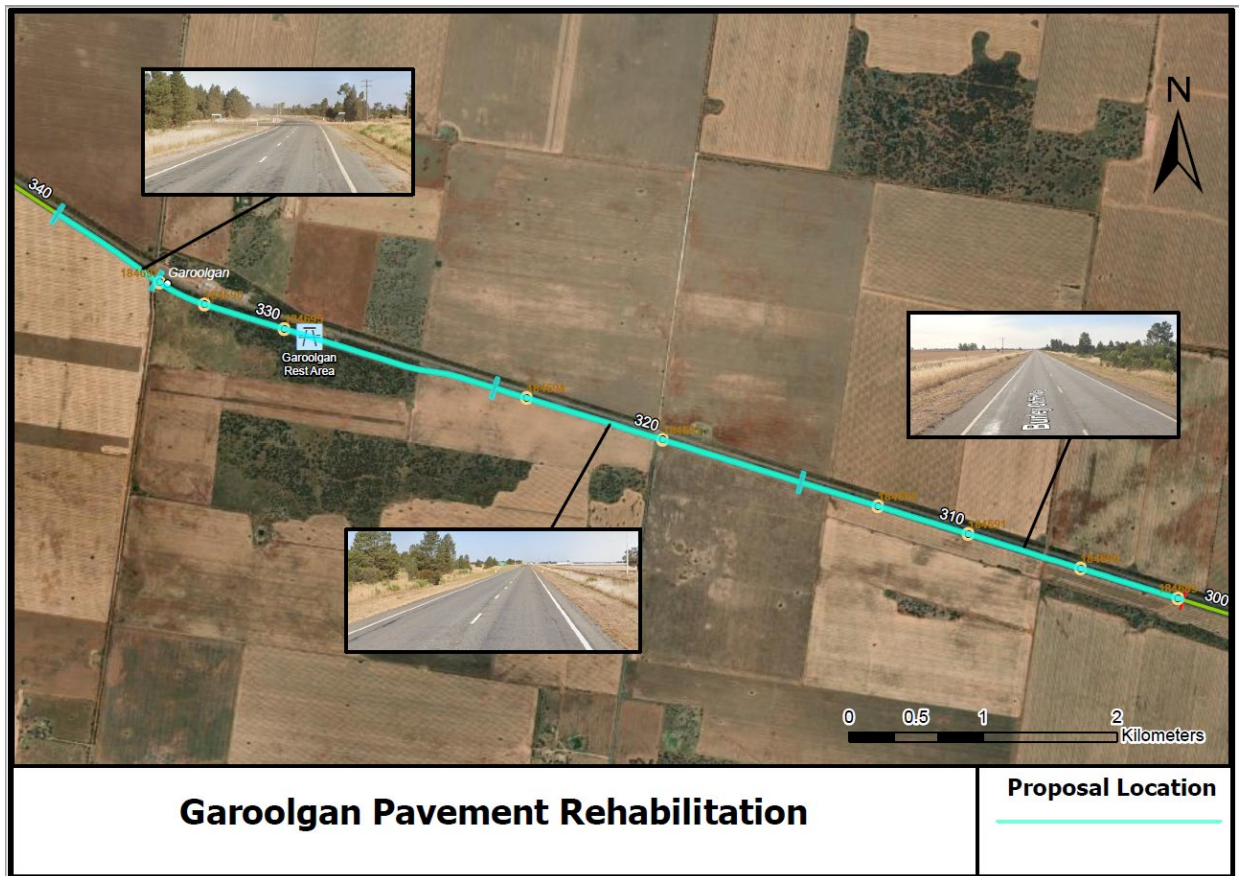


Figure 2-1: Garoolgan pavement project site features

Construction will be spread across financial years and the amount of work done in each financial year will be determined on available funding, crew and resource availability. It is likely that the 7.6 kilometre reconstruction will be built in four construction stages. Some enabling works such as culvert works and vegetation clearing may be done for the entire length in the first construction stage but pavement reconstruction will be staged. The proposal will likely have the following work method:

- Establish stockpile and compound sites, and have materials delivered to stockpiles and to appropriate locations in the road reserve
- Establish traffic controls including turn around areas and machinery parking areas
- Clear regrowth vegetation in the table drains. Slash grasses or mulch and spread cleared trees on site
- Reinstate roadside drains by clearing regrowth vegetation and reshaping drains out to the existing disturbed zone.
- Replace or widen culverts 184689, 184690, 184691, 184692, 184693, 184694, 184695, 184696, 184697. Culverts would be about 2.4 meters wider on either side of the road. This enables pavement widening and creates a safer road. Culvert replacements would include erosion and sediment controls (ErSed) as necessary.
- Windrow or stockpile any batter material (topsoils) that is suitable for respreading back onto the batters to stabilise the site at completion of each stage
- Excavate near the road edge line and build a wider road foundation
- Classify excavated material and nominate reuse or disposal options in line with Transport guidance
- Reuse appropriate excavated material by spreading on batters in suitable areas of the roadside reserve
- Rebuild the widened road edge line
- Reconstruct the pavement including adding a 300mm gravel base
- Seal the new pavement with a bitumen aggregate seal
- Reinstate and improve existing signage, line markings and guardrail.
- Reinstate the table drains and disturbed area on the southern side of the road.

Other aspects of the work include:

- The existing centreline would be the same

- All existing property access and maintenance laybys will be maintained or reconstructed
- Minor intersection improvements to cater for heavy vehicle turn paths.
- Currently unsealed side roads will be sealed for about 10 metres from the edge line. Property accesses would be sealed to five metres from the edge line.
- Minor works are required to 'tie into' side roads and property access
- Construction batters embankments will a 6:1 slope where appropriate
- The vegetation clear zone will be re-established to the extent of the previous clear zone
- Minor disruption to traffic including single lane closure with alternate flows controlled by a traffic light signal system will be required
- Waste would be disposed of at Narrandera Waste Facility.
- Clear and reinstate existing stockpile sites (SWA_142) on completion of work. Refer to Figure 3 and 4.

Equipment and machinery used for this work is typical of road maintenance and minor construction work.

Work will be conducted during standard work hours which are:

- Monday-Friday 7:00am to 6.00pm
- Saturday 08:00am to 01:00pm
- Sunday and Public Holidays: no work

Any out of hours work will be done in line with Transports out of hours works procedure.

2.1.3 Proposal objectives

The objective of the proposal is to upgrade the existing two-lane undivided road. This would be done by replacing existing pavement and conform with TfNSW Network Performance Measures, Network Planning Targets and the Route Standards for Southwest Region.

2.1.4 Ancillary facilities

Table 2-2: Ancillary facilities

Ancillary facilities		
<p>Will the proposal require the use or installation of a compound site?</p> <p>A compound site would be installed at the Garoolgan Rest area as shown in Figure 2-2. The compound site uses only part of the rest area (shown in red). The remainder of the rest area would remain open and functional for the public, except for the stage when road works are occurring adjacent the rest area. The duration of this closure would be approximately two weeks.</p>  <p>Figure 2-2: Garoolgan Rest area compound site</p>	<p>Yes <input checked="" type="checkbox"/></p>	<p>No <input type="checkbox"/></p>
<p>Will the proposal require the use or installation of a stockpile site?</p> <p>The designated Transport stockpile site (SWA_142) in segment 330 would be used to temporarily stockpile pavement material and as a parking area for plant. Refer to Figures 2-3 and 2-4 for location SWA_142 stockpile site.</p> <p>There is a stockpile site located on the northern side of the railway tracks that is part located in the rail reserve managed by managed by GrainCorp and part located on an unfenced Travelling Stock Reserve. This site contains some general waste material and also stockpiled soils. Transport may be able to use some of the stockpiled materials on this site for general fill but written permission would need to be sought from GrainCorp and Local Land Services. Refer to Figure 2-3 and Figure 2-5 for location of the GrainCorp stockpile site.</p>	<p>Yes <input checked="" type="checkbox"/></p>	<p>No <input type="checkbox"/></p>

Minor works review of environmental factors

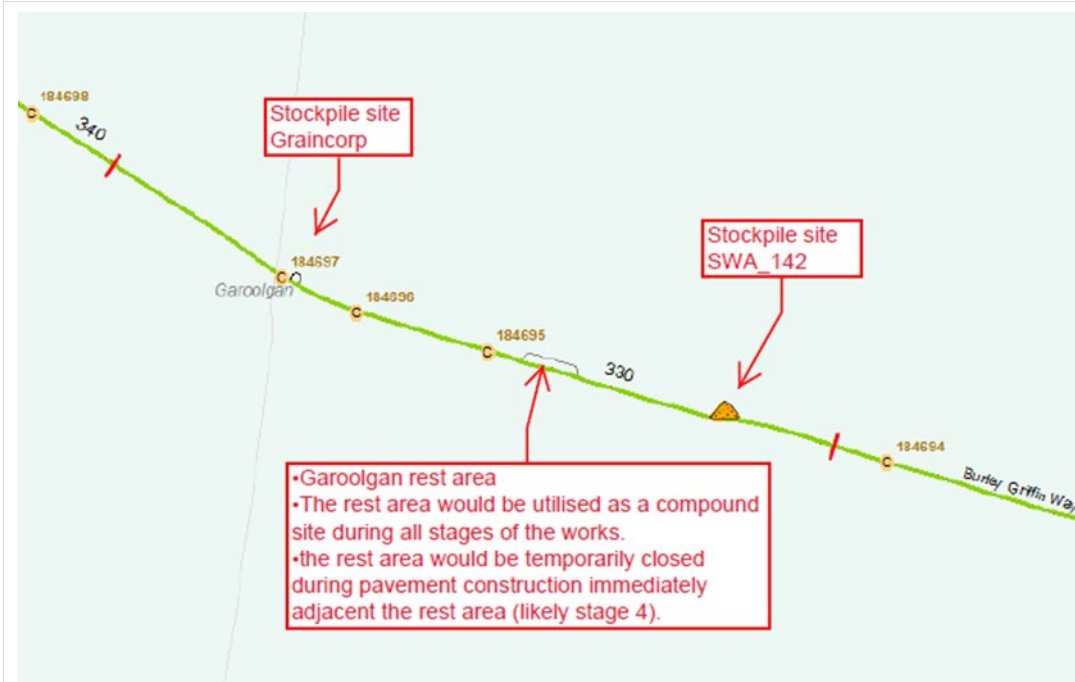


Figure 2-3: Existing compound sites near the project



Figure 2-4: Existing Transport stockpile site



Figure 2-5: Existing compound site on GrainCorp and Crown land

All stockpile sites would be managed in accordance with the RMS Stockpile Site Management Guideline 2015.

Are any other ancillary facilities required (e.g. temporary plants, parking areas, access tracks)?

Yes

No

Additional temporary stockpiles and storage areas can be established where project and environment staff identify no additional environment impacts and low environment risks. This includes sites that have already been cleared, have limited or no weeds present, don't require earthworks to prepare the site and can be rehabilitated with limited work. Areas with native tree or grass cover, weedy sites and areas outside the road reserve are unlikely to meet this criteria. Areas outside the road reserve would require written agreement with the land manager before work begins.

2.1.5 Proposed date of commencement

The proposed commencement date for stage one is March 2024.

2.1.6 Estimated length of construction period

The estimated length of the construction period for each stage is ten weeks. The project would likely be broken into four stages over consecutive years. Each stage would be approximately two kilometres of pavement rehabilitation.

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 maintaining the road with no improvement to road pavement.

Option one would not incur costs or disruption to road users and would not have any environmental impact. Option one would not improve road user safety or reduce the required maintenance needs and costs, therefore would not meet the objectives of the proposal.

Option 2 – Pavement reconstruction and improvement to current standards

This option would involve re-building and improving the existing road pavement and drainage for improved road user safety and asset maintenance and longevity. Option 2 would meet the objectives listed in section 2.1.3.

Option two would incur costs, cause minor disruptions to road users, and have temporary impacts to the environment. These temporary impacts would be outweighed by the long-term benefits to the road asset pavement life and reduced ongoing maintenance costs.

Option two is the preferred option due to the associated long-term benefits to the road asset.

2.2.2 Justification for the proposal

The proposal is required to improve asset longevity and reduce maintenance costs. It would ensure that this section of road complies with the Network Performance Measures and Network Planning Targets and the Route Standards for Southwest Region.

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 roads and road infrastructure facilities. Section 2.109 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 the:

- 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
- State Environmental Planning Policy (Planning Systems) 2021.

2.3.2 Other relevant legislation and environmental planning instruments

Roads Act 1993 (NSW)

The *Roads Act 1993* sets out rights of members of the public to pass along public roads, establishes procedures for opening and closing a public road and provides for the classification of roads. It also provides for the declaration of Transport, local councils, and other public authorities as roads authorities for both classified and unclassified roads and confers certain functions (the function of carrying out roadwork) on Transport and other roads authorities.

Heritage Act 1977 (NSW)

The *Heritage Act 1977* aims to protect and preserve items of non-Aboriginal heritage significance. It provides for the protection of items of local, regional and State significance, and outlines processes for approval of development which may impact items of heritage significance.

National Parks and Wildlife Act 1974 (NSW)

The *National Parks and Wildlife Act 1974* is the primary legislation dealing with Aboriginal cultural heritage in NSW. Items of Aboriginal cultural heritage (Aboriginal objects) or Aboriginal places (declared under section 84) are protected and regulated under the Act. Aboriginal objects are protected under section 86 of the Act. Under section 90(1) of the Act, the Chief Executive may issue an Aboriginal heritage impact permit (AHIP) for an activity which would harm an Aboriginal object.

Protection of the Environment Operations Act 1997 (NSW)

The *Protection of the Environment Operations Act 1997* (POEO Act) aims to protect, restore, and enhance the quality of the environment principally through the regulation of pollution. It does this mainly through a requirement to notify pollution incidents, and through Environment Protection Licences (EPL) for certain ‘scheduled’ activities and non-scheduled activities with potential to pollute waters.

Under Schedule 3, Part 1, cl35 of the POEO Act, the proposal is classified as a scheduled activity under ‘road construction’. However, as the proposal would not result in the extraction or processing of more than 150,000 tonnes of material or result in a four-lane road, an EPL is not required.

Notwithstanding, in carrying the proposal, any pollution incident causing or threatening to materially harm the environment would need to be notified to the Environment Protection Authority (EPA). This would include pollution incidents involving air, water, noise or land pollution, the disposal of waste, or material spills, leaks or escapes.

Biodiversity Conservation Act 2016 (NSW)

The BC Act protects threatened flora and fauna species and ecological communities and their habitats within NSW.

Aboriginal Land Rights Act 1976 (NSW)

The *Aboriginal Land Rights Act 1983* (ALR Act) provides for the land rights for Aboriginal Persons and for representative Aboriginal Land Councils in New South Wales. Crown Land that is not lawfully being used or occupied, not (likely) needed for residential or essential public purposes and not the subject of a registered native title claim or determination can be claimed under the ALR Act.

Crown Land Management Act 2016 (NSW)

The *Crown Land Management Act 2016* provides for the ownership and equal management of parcels of land which are identified as ‘Crown Land’ under this Act. Proposals which are located on Crown Land must consider environmental, social, cultural and economic considerations of the specific parcel of land.

2.4 Community engagement 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?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

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?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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? The work involves accessing potable water from a standpipe in Barellan. Water from this resource is supplied by Goldenfields Water. No connection to a council owned water supply system would occur.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal within the coastal vulnerability area and inconsistent with a certified coastal management program applying to that land?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works located on flood liable land? If so, will the works change flooding patterns to more than a minor extent? Consultation with the Narrandera Shire Council advised that no flooding has been encountered in the project area in the last 10+ years, However, other sections of the Burley Griffin Way West towards Binya of the proposal location has been prone to flooding. The proposal would not change flooding patterns to more than a minor extent, as per section 3.2 of this report.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

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)?		
Are the works located on flood liable land? (to any extent)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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? The NSW National Parks and Wildlife Service (NPWS) Estate–SEED map identified no National Park, nature reserve or other area reserved under the National Parks and Wildlife Act 1974, or on land acquired under that Act adjacent to the works. The closest land acquired under the Act is Cocoparra National Park about 12km to the west	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works on land in Zone C1 National Parks and Nature Reserves or in a land use zone equivalent to that zone? A search of the NSW National Parks and Wildlife Service (NPWS) Estate–SEED map identified no Land in Zone C1 National Parks and Nature reserves within or near the proposal area. The closest Zone C1 is Cocoparra National Park located greater than 12km from the proposal location.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Do the works include a fixed or floating structure in or over navigable waters?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

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?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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? The dark sky region is greater than 500km from the proposal location.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works on buffer land around the defence communications facility near Morundah?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works on land in a mine subsidence district within the meaning of the <i>Mine Subsidence Compensation Act 1967</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works on, or reasonably likely to have an impact on, a part of the Willandra Lakes Region Work Heritage Property? The Willandra Lakes Region Work Heritage Property is greater than 200km from the proposal location, therefore no likely impact will occur.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Are the works within a Western City operational area specified in Schedule 2 of the <i>Western Parkland City Authority Act 2018</i> with a capital value of \$30 million or more?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

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

Do Council and occupiers of adjoining land need to be notified under section 2.111 of the SEPP (Transport and Infrastructure)?		
Does the proposal include a car park intended for the use by commuters using regular bus services?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Does the proposal include a bus depot?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

2.4.2 Other agency and community engagement

GrainCorp operate a rail grain silo on the north side of the railway line. This rail grain silo was not operating in mid-November 2023 when other nearby silos were. The surrounding area is primarily stock grazing and cereal crops. There is a rest area about midway through the project on the north side of the road. It would be used by trucks and light vehicles. It contains some picnic facilities but does not have toilets. A consultation plan will be developed that considers GrainCorp, customers and surrounding landowners.

3. Environmental assessment

This chapter 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 s171 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 Appendix B. 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>A search of the NSW SEED Acid Sulphate Soils Map identified no known occurrences of acid sulphate soils within the proposal location – acid sulphate soils are predominantly located near coastal areas. The NSW eSapde Spatial Viewer Website identified that there is no salting evident within the proposal location.</p> <p>Searches were conducted on the 19th of October 2023</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Does the proposal involve the disturbance of large areas (e.g., >2ha) for earthworks?</p> <p>The proposal would involve disturbance of 5.4ha of soil for earthworks. This would include the clearing footprint and ‘box out’ of material on the current road batter. Only selected areas on the northern side of the road where clear zone is not the 5 metre (m) minimum would be disturbed for clearing purposes. A conservative estimate for the clearing footprint would be 3m wide by 3km = 3 x 3,000 = 9,000m² (0.9ha).</p> <p>Additionally, an indicative amount of ‘box out’ material along the edge line would be 2 x 2 x 7,500 = 30,000m². (3.0 ha). This material would be ‘lost’ on the new batter.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Does the site have constraints for erosion and sedimentation controls such as steep gradients or narrow corridors?</p> <p>The topography of the proposed work location consists of flat gradients and wide corridors greater than 10m. This broad acre agricultural landscape is low risk for sedimentation impact due to the low sensitivity receiving environment. The difference in elevation index of the area is 1m (NSW Government, 2023). The study area is a disturbed landscape that is very flat. There are no nearby sensitive receiving environments. Basic erosion and sediment controls can minimise pollution risk.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<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>A search of the NSW Planning Portal Spatial Viewer identified no known sensitive receiving environments or areas of biodiversity value that are located within the proposal area that would receive stormwater discharge from the proposal (NSW,2023).</p> <p>Sensitive receiving environments nearby the proposal location are Binya Creek (8km west of proposal) and the Mirrool Creek (5.6km south of proposal). Both are unlikely to receive stormwater discharge from the proposal due to the topography of the location, distance from the works and lack of adjoining streams or creeks in the proposal area.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is there any evidence within or nearby the likely footprint of potential contamination?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Minor works review of environmental factors

<p>The EPA contaminated sites list on 19th October 2023 provided no evidence of potential contamination within the likely footprint of the proposed works. The nearest contaminated site registered under the EPA contaminated land record of notices is a fertiliser storage facility in Ardlethan 37km from the proposal (18 & 24-26 Ariah STREET) (EPA,2023).</p>		
<p>Is the likely proposal footprint in or nearby highly sloping landform? The closest highly sloping landform is Binya State Forest, 10km from the proposal footprint.</p>	<p>Yes <input type="checkbox"/></p>	<p>No <input checked="" type="checkbox"/></p>
<p>Is the proposal likely to result in more than 2.5ha (area) of exposed soil? The proposal is likely to result in 5.4ha of exposed soil for earthworks including clear zone and 'box out' area. Potential impacts associated with this amount of exposed soil could include an increase in dust generation from wind and plant movements and could also increase the extent and nature of storm water -erosion sediment in rain events. The work would be undertaken in a staged manner which minimises the area of exposed soil at any one time. Additionally, the safeguards listed in this section would minimise the likely hood and extent of issues occurring.</p>	<p>Yes <input checked="" type="checkbox"/></p>	<p>No <input type="checkbox"/></p>

Safeguards

Safeguards to be implemented: Erosion and sedimentation safeguards.

Erosion and sedimentation	
E1	<p>Erosion and sediment control measures will 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. • divert clean water around the site. <p>(in accordance with the Landcom/Department of Housing <i>Managing Urban Stormwater, Soils and Construction Guidelines</i> (the Blue Book)).</p>
E2	<p>Erosion and sedimentation controls will be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.</p>
E3	<p>Erosion and sediment control measures will not be removed until the works are complete, and areas stabilized.</p>
E4	<p>A progressive erosion and sediment control plan will be prepared for the works.</p>
E5	<p>The maintenance of established stockpile sites will be in accordance with the Transport <i>Stockpile Site Management Guideline</i> (EMS-TG-10) (2015).</p>

3.2 Waterways and water quality

Table 3-2: Waterways and water quality

Description of existing environmental and potential impacts		
<p>Is the proposal located within, adjacent to or near a waterway?</p> <p>The nearest waterway adjacent to the proposal site is Mirrool Creek approximately 5.6km from the proposal location. Changes associated with the flow of stormwater in the proposed works include extending and replacing nine culverts as per the proposal description in section 2.1 of this report. It is expected that replacement of these culverts would have limited impact on the hydrology in the area.</p> <p>Waterbodies within the vicinity of the proposed works includes a farm dam located at (-34°15'2.79"S, 146°26'24.87"E) which is within 10m of the proposal as seen in Figure 3-1. The primary source of water for this dam is stormwater runoff. Potential impacts associated with the proposal on the farm dam water supply would include sedimentation or other pollutants entering the dam via stormwater leaving the works and mixing with clean offsite stormwater.</p> <p>The scope of works has temporary risks for erosion and sedimentation during construction. This would be limited by implementing standard mitigation measures that minimise the extent and nature of polluted water entering the farm dam and other waterways within the vicinity of the proposal.</p> <p>Mitigation measures would include diverting clean water around the works and retaining polluted stormwater within the boundaries of the works. Erosion and sediment control safeguards are listed in section 3.1 and 3.2 of this report.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the location known to flood or be prone to water logging?</p> <p>The location of the proposal is within the Mirrool Creek Catchment Area which is prone to flooding. Consultation with the Narrandera Shire Council (NSC) on the 4th of October 2023 advised that the Burley Griffin Way, at the proposal location, has not been subject to any flooding in the last 10 years. NSC noted that flooding has occurred West of the proposal location on the Burley Griffin Way. Using the NSW Flood Imagery Viewer the most recent flood event in the vicinity of the proposal occurred in November 2021 (NSW, 2023).</p> <p>A search of the NSW Soil and Land information spatial viewer (eSPADE) identified very slight to negligible limitations of water logging in the area (NSW, 2023).</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal located within a regulated catchments covered by chapter 6 of State Environmental Planning Policy (Biodiversity and Conservation) 2021 (SEPP (Biodiversity and Conservation))?</p> <p>Land to which chapter 6 of the State Environmental Planning Policy (Biodiversity and Conservation) applies to includes: the Sydney Drinking Water Catchment, the Sydney Harbour Catchment, the Georges River Catchment and the Hawkesbury-Nepean Catchment (SEPP Biodiversity and Conservation, 2023).</p> <p>Using the NSW Planning Portal Spatial Viewer the proposal location is greater than 300km from regulated catchments under Chapter 6 of the SEPP Biodiversity and Conservation (NSW, 2023).</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal be undertaken on a bridge or ferry?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to require the extraction of water from a local water course (not mains)?</p> <p>Extraction of water would be taken from a standpipe in the Barellan township.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Safeguards relevant to waterways and water quality include the safeguards listed in section 3.1.</p>		

Safeguards

No additional.



Figure 3-1: Waterways and waterbodies near the proposal.

3.3 Noise and vibration

Table 3-3: Noise and vibration

Description of existing environmental and potential impacts														
<p>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)?</p> <p>There are two sensitive receivers within 1010m of the proposal. Sensitive receivers are outlined in Table 3-4: Noise sensitive receivers . Including two residential and one industrial. Figure 3-2 identifies sensitive receivers near the construction site.</p> <p>Table 3-4: Noise sensitive receivers</p> <table border="1"> <thead> <tr> <th>Sensitive Receiver</th> <th>Type</th> <th>Distance from Proposal (m)</th> </tr> </thead> <tbody> <tr> <td>SR1</td> <td>Residential</td> <td>680</td> </tr> <tr> <td>SR2</td> <td>Residential</td> <td>1100</td> </tr> <tr> <td>SR3</td> <td>Industrial</td> <td>110</td> </tr> </tbody> </table>	Sensitive Receiver	Type	Distance from Proposal (m)	SR1	Residential	680	SR2	Residential	1100	SR3	Industrial	110	<p>Yes <input checked="" type="checkbox"/></p>	<p>No <input type="checkbox"/></p>
Sensitive Receiver	Type	Distance from Proposal (m)												
SR1	Residential	680												
SR2	Residential	1100												
SR3	Industrial	110												
<p>Is the proposal going to be undertaken only during standard working hours?</p> <p>The proposal would be conducted during standard working hours which are as follows:</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 <p>Further detail for construction timing would occur during delivery readiness. If work is required outside of standard work hours Transport’s Construction Noise and Vibration Guideline would be followed.</p>	<p>Yes <input checked="" type="checkbox"/></p>	<p>No <input type="checkbox"/></p>												
<p>Is any explosive blasting required for the proposal?</p>	<p>Yes <input type="checkbox"/></p>	<p>No <input checked="" type="checkbox"/></p>												
<p>Would construction noise or vibration from the proposal affect sensitive receivers?</p> <p>The proposed works would generate minor noise impacts to two sensitive receivers near the proposal. A noise assessment has been done using Transports Construction and Maintenance Noise Estimator Tool, the datils are in Appendix F. This identifies the extent and nature of noise impacts on sensitive receivers. The tool estimates distances at which receivers may be impacted by the proposed noise.</p> <p>The assessment identified that very few receivers would be impacted by the proposal. Effects on sensitive receivers in the area include no impacts to SR3, and minor impacts to both SR1 and SR2. Mitigation measures that would be implemented based on the level of noise impact on SR1 and SR2 includes notification (letterbox drop or equivalent), respite period 1 and duration respite. The safeguards listed in this section of the report would be implemented to reduce the nature and extent of impacts associated with noise and vibration. The safeguards listed would be in accordance with Transports Construction Noise and Vibration guideline.</p> <p>For projects greater than six weeks a detailed noise assessment would normally be undertaken with at least seven days of noise logging, however due to the minor nature of the works, few receivers being affected by noise emission and isolated locality of the proposal, the results obtained through Transports Construction and Maintenance Noise Estimator Tool would suffice.</p> <p><u>Vibration:</u></p> <p>There are three buildings near the project, two residences and a grain silo facility. Table 3-5 below details minimum working distances from a range of construction plant. The details identify that none of the buildings near the project will be impacted by vibration. Neither cosmetic damage nor human response impacts are likely given the distance to the buildings.</p>	<p>Yes <input checked="" type="checkbox"/></p>	<p>No <input type="checkbox"/></p>												

Table 3-5: Recommended minimum working distances from vibrating plant and other equipment

Plant item	Rating / Description	Minimum working distance		
		Cosmetic damage		Human Response
		Light-framed structure (BS 7385)	Heritage and other sensitive structures (DIN 4150)	EPA's Vibration Guideline
Vibratory Roller	< 50 kN (Typically 1-2 tonnes)	5 m	14 m	15 m to 20 m
	< 100 kN (Typically 2-4 tonnes)	6 m	16 m	20 m
	< 200 kN (Typically 4-6 tonnes)	12 m	33 m	40 m
	< 300 kN (Typically 7-13 tonnes)	15 m	41 m	100 m
	> 300 kN (Typically 13-18 tonnes)	20 m	54 m	100 m
	> 300 kN (> 18 tonnes)	25 m	68 m	100 m
Steel Drum Roller	Hamm HD70 (Oscillating Mode)	2 m	-	-
Steel Drum Roller	Hamm HD70 (Static Mode)	1 m	-	-

Would operation of the proposal alter the noise environment for sensitive receivers?

Yes

No

The proposal would not involve;

- alteration to the line or level of an existing carriageway,
- 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, or
- increasing traffic speeds by more than 10 kilometres per hour.

Installation of audio tactile line markings (ATLM) would generate noise at times of vehicles leaving the road or potentially overtaking along the proposal area after completion of the works. This would be considered a long-term alteration of the noise environment but there are no residents within 200m of the road. This is the distance at which ATLM can have negative noise impacts on residents.

Would the proposal result in vibration being experienced by any surrounding properties or infrastructure during operation?

Yes

No

The proposal is unlikely to impact the GrainCorp Storage facility or the residences due to the distance to the buildings.

Safeguards

Safeguards to be implemented are:

Noise and vibration

<p>N1</p>	<p>Works will 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 have measures in place to minimise noise impacts.</p>
<p>N2</p>	<p>Noise impacts will be minimised in accordance with <i>Transport Construction and Maintenance Noise Estimator</i> (EMF-NV-TT-0067) and <i>Transport Construction noise and vibration guidelines (for roads and maritime) 2022</i> (EMF-NV-GD-0056).</p>
<p>N3</p>	<p>Measures will be implemented to minimise or prevent vibration impacts, including:</p> <ul style="list-style-type: none"> • allowing adequate distance that vibration producing equipment can come to buildings • using non-vibration-producing equipment.

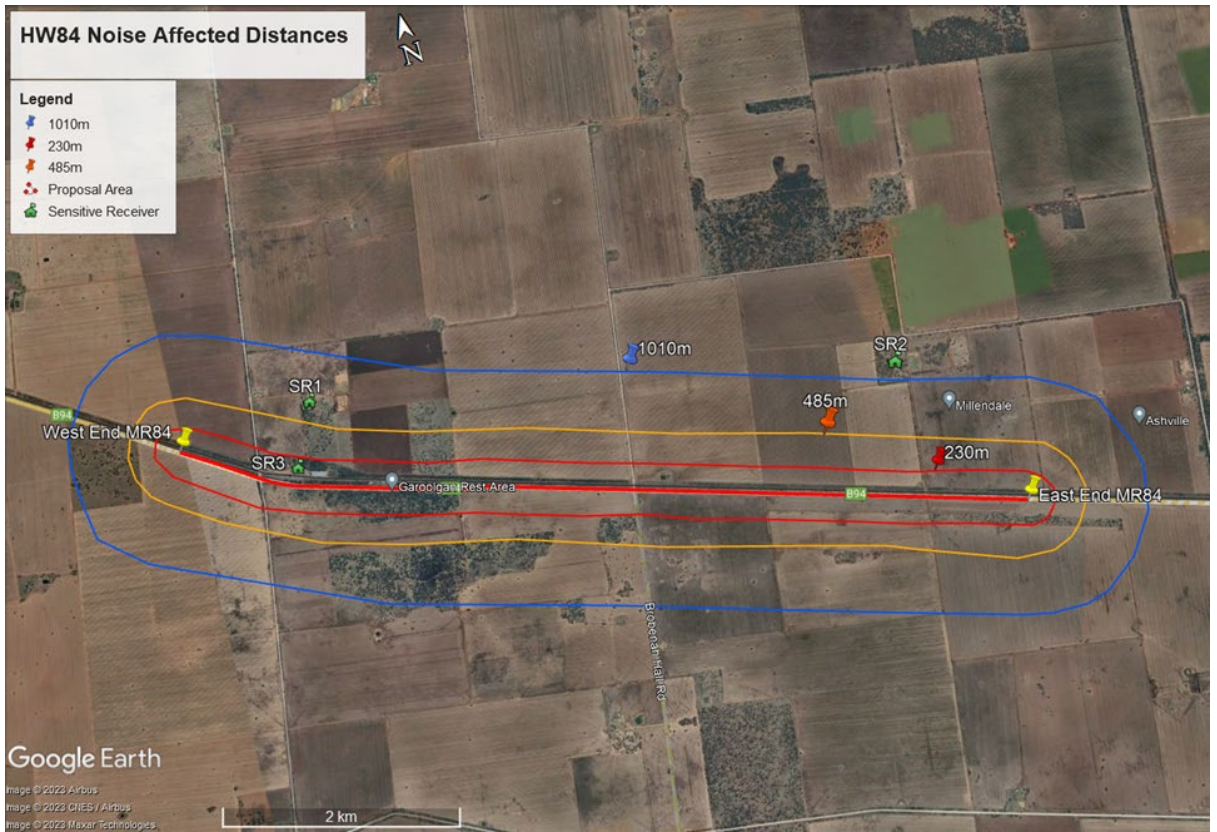


Figure 3-2: HW84 construction noise impacts

Minor works review of environmental factors

3.4 Air quality

Table 3-6: 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>The proposal is expected to result in 5.4ha of exposed soils to widen road shoulders and clear vegetation to reinstate the table drain. Local air quality in the proposal area is considered as 'good AQC' at the nearest monitoring station (Griffith Airport) using the NSW SEED Rural Air Quality Network on the 25th of October 2023 (NSW SEED, 2023). Potential impacts associated with the amount of area likely to be exposed includes short term minor generation of air impurities such as dust and small solid particles.</p> <p>With the work to be undertaken in a staged manner minimising the area of exposed soil at any one time and implementation of the relevant safeguards, it is unlikely that the 5.4ha of exposed soils would adversely change the air quality.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Are there any dust-sensitive receivers located within the vicinity of the proposal during the construction period?</p> <p>Three receivers are be located near the proposal. The GrainCorp site (SR3) and two residences (SR1 and SR2) are shown in Figure 3-3. GrainCorp SR3 is within 100m of the works, where SR1 and SR2 are greater than 600m from the works. The existing landscape includes large areas of cleared agricultural land. This is land that can have exposed soil surfaces for extended periods during the cropping cycle. This may create periods of higher dust level at these receivers during a year. Potential impacts from construction are unlikely to negatively impact background air quality such that it is noticeable at these receivers. Dust may be generated during bulk earthworks at the site but this is mitigated with standard measures such as spraying water to suppress dust.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
		
<p>Is there likely to be an emission to air during construction?</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Figure 3-3: Potential dust-sensitive receivers near the proposal

Minor works review of environmental factors

<p>The proposed works would generate emissions to air including dust, fumes, odours and other air borne particulates. Current emission to air in the proposal location occurs predominantly from traffic travelling along the Burley Griffin Way.</p> <p>Potential impacts associated with works would include a higher volume of the above emissions being emitted into the air. Referring to the TfNSW Air quality management guidelines (EMF-AQ-GD-0063) activities that are expected to generate these air impurities include:</p> <ul style="list-style-type: none"> - Site preparation including clearing of vegetation, removal of topsoil and demolition. - Earth works, particularly rock hammering, cutting, profiling and breaking, crushing and grinding - Movement and stockpiling of materials - Surface grading and compaction - Vehicle and plant movement on unsealed haul roads - Hard and soft landscaping, including cutting pavers <p>Each of the above activities could have a negative impact on air emission. Vehicle, plant and equipment emissions could be reduced through avoiding operation at or near capacity of the engine. Additionally, air quality safeguards would be implemented to reduce the above emissions to air occurring during construction.</p>		
---	--	--

Safeguards

Safeguards to be implemented are:

Air quality	
A1	Measures (including watering or covering exposed areas) will be used to minimise or prevent air pollution and dust.
A2	Works (including the spraying of paint and other materials) will not 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 will not to be burnt on site.
A4	Vehicles and vessels transporting waste or other materials that may produce odours or dust will be covered during transportation.
A5	Stockpiles or areas that may generate dust will be managed to suppress dust emissions in accordance with the Transport <i>Stockpile Site Management Guideline</i> (EMS-TG-10).

3.5 Aboriginal cultural heritage

Table 3-7: Aboriginal cultural 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 would be built within the previous disturbed area of the road reserve.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Has an online Aboriginal Heritage Information Management System (AHIMS) search been completed?</p> <p>An online Aboriginal Heritage Information Management Systems (AHIMS) search was done on the 27th of September 2023. The search returned no known Aboriginal sites or places recorded in or near the proposed works. See Appendix C for attached basic AHIMS search results.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

<p>Is there potential for the proposal to impact on any items of Aboriginal cultural heritage?</p> <p>The proposal has no potential to impact any known items of Aboriginal cultural heritage, confirmed through the AHIMS search in Appendix C. The site is not located in or nearby a landscape feature that would indicate a higher likelihood of the presence of Aboriginal Sites or Places. It has been confirmed through the PACHCI process that there is unlikely to be any impacts on Aboriginal cultural heritage in the proposed work area.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal involve the removal of mature native trees?</p> <p>The proposal would not involve the removal of mature native trees that may have cultural modification or cultural significance.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal consistent with the requirements of Transport's <i>Procedure for Aboriginal cultural heritage consultation and investigation (PACHCI)</i>?</p> <p>An assessment to satisfy the Stage 1 of the PACHCI Procedure was undertaken by a Transport Aboriginal Cultural Heritage Officer (ACHO). A site visit was done on 15 November 2023 with Transport ACHOs, Environment officers and Project Manager attending. No Aboriginal objects were identified during the site visit and no concerns were raised in the field.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>A PACHCI Stage 1 assessment was done for the proposal and is attached in Appendix C.</p>		

Safeguards

Safeguards to be implemented are:

Aboriginal heritage	
B1	If Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the Transport Aboriginal cultural heritage officer and Senior Manager Environment and Sustainability contacted immediately. Refer to steps in the Transport <i>Unexpected heritage items procedure</i> (EMF-HE-PR-0076) which must be followed.

3.6 Non-Aboriginal heritage

Table 3-8: Non-Aboriginal heritage

Description of existing environmental and potential impacts		
<p>Have online heritage database searches been completed?</p> <p>Online heritage database searches were conducted for the Narrandera LGA using the following data bases:</p> <ul style="list-style-type: none"> • NSW State Heritage Inventory containing data from <ul style="list-style-type: none"> - Narrandera Council Local Environmental Plan(s) heritage items. - Transport (including legacy Roads and Maritime) section 170 register • Protected matters search tool (PMST) which includes information from: <ul style="list-style-type: none"> - Commonwealth Heritage List, established under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) • Australian Heritage Places Inventory <p>Existing Non-Aboriginal heritage items in the Narrandera LGA are detailed in Appendix D: Barellan Post Office is the closest non-Aboriginal heritage item to the proposal location. It is in Barellan about six kilometres east of the proposal.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

<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>No non-Aboriginal heritage or heritage conservation areas listed on any relevant heritage databases/registers are located within the vicinity of the proposal.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to impact trees that form part of a heritage listing or have other heritage value?</p> <p>The heritage database search results have identified that the proposal is unlikely to impact trees that form part of a heritage listing or have other heritage value.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to occur in or near features that indicate potential archaeological remains?</p> <p>As the proposal would be carried out within the existing road reserve and areas previously disturbed for road construction, no features that indicate potential archaeological remains would be within the proposed work area. Heritage database searches also confirm no records of the above.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

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 steps in the Transport <i>Unexpected heritage items procedure (EMF-HE-PR-0076)</i> must be followed.

3.7 Biodiversity

Table 3-9: Biodiversity

Description of existing environmental and potential impacts		
<p>Have relevant database searches been carried out?</p> <p>Relevant databases were used to identify biodiversity that could potentially be impacted as result of the proposed works and current impacts to biodiversity in the area (i.e weeds). The data base searches included:</p> <ul style="list-style-type: none"> • BioNet threatened species records within the locality (10km radius) • BioNet Vegetation Classification database (including a search to identify potential TECs present) • NSW State Vegetation type Map (SEED) • NSW WeedWise (DPI) website. • Commonwealth EPBC Act Protected Matters Search Tool (PMST) <p>Searches were conducted between the 10th and 30th of October 2023</p> <p>A site inspection was done on 15 November 2023. Transport Environment Officers attended with the Transport Project Manager. The entire length of the project was inspected with focus on any areas likely impacted by vegetation removal, batter widening and culvert upgrades.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<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>Protected matters search tool</p> <p>Table 3-10 below contains a summary of the results from the protected matters search of the proposal area. These results contain any nationally protected matters under the</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) that may occur in or near a selected area (proposal location).

Table 3-10: Protected matters search tool (PMST) results

MNES Category	Listing	Proximity to Works
Wetlands of International Importance (RAMSAR)	<ul style="list-style-type: none"> Banrock Station Wetland Complex Hattah-Kulkyne Lakes Riverland The Coorong, and Lakes Alexandrina and Albert wetland 	500-600km 300-400km 400-500km 600-700km
Listed Threatened Ecological Communities (TEC's)	<ul style="list-style-type: none"> Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia Poplar Box Grassy Woodland on Alluvial Plains Weeping Myall Woodlands White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland 	Community likely to occur within search area.
Listed Threatened Species	<ul style="list-style-type: none"> 30 threatened species 4 critically endangered 11 endangered 	Species or species habitat may occur within area.
Listed Migratory species	8 migratory species listed,	Species or species habitat may occur within area
Listed Marine species	15 listed marine species, see Appendix E for full search results	Species or species habitat may occur within area.

BioNet

Threatened species previously recorded within 10 kilometres of the proposal with the potential to occur on site are listed in Table 3-11. Full lists of species identified in the locality are attached in Appendix E.

Table 3-11: BioNet database records of threatened species near the project.

Scientific and common name	Status *	Listing	Distance from works
<i>Circus assimilis</i> Spotted Harrier	V	BC ACT	<10m
<i>Pomatostomus temporalis temporalis</i> Grey-crowned Babbler (eastern subspecies)	V	BC ACT	<10m
<i>Polytelis swainsonii</i> Superb Parrot	V	BC ACT EPBC ACT	<400m
<i>Epthianura albifrons</i> White-fronted Chat	V	BC ACT	>4km
<i>Lophochroa leadbeateri</i> Major Mitchell's Cockatoo	V	BC ACT	>3km

*V= vulnerable

NSW Vegetation Type Map (SEED) – Plant Community Types (PCT's)

SEED mapping identifies three PCTs close to the proposal site. Most native vegetation in the landscape has been cleared for agricultural purposes. There is woodland vegetation remaining in the road and rail reserves and there are patches remaining in the agricultural landscape. Table 3-12 below identifies the three PCTs mapped in the study area.

Table 3-12: Plant community types and threatened ecological communities mapped in the study area

Vegetation Formation	Vegetation Class	PCT Name	PCTID	Associated TEC's
Arid Shrublands (Acacia sub-formation)	North-west Plain Shrublands	Derived mixed shrubland on loamy-clay soils in the Cobar Peneplain Bioregion	229	Yes
Semi-arid Woodlands (Shrubby sub-formation)	Inland Rocky Hill Woodlands	Dwyers Red Gum-White Cypress Pine-Currawang shrubby woodland mainly in the NSW South Western Slopes Bioregion	185	No
Dry Sclerophyll Forests (Shrubby sub-formation)	Western Slopes Dry Sclerophyll Forests	Buloke-White Cypress Pine woodland in the NSW South Western Slopes Bioregion	54	No

The vegetation community close to the proposal site has been impacted by clearing for development of the road and the adjacent railway line and powerline. Large old trees are sparsely distributed through the road reserve. There is a regrowth woodland community remaining between the road and the railway that contains scattered remnant trees. On the southern side of the road, running parallel, there is a powerline that is continually cleared of canopy species so only groundcovers and understory vegetation is present.

The overstorey of the woodland adjacent to the proposal site is dominated by *Callitris glaucophylla* (White Cypress Pine) with some large old *Eucalyptus macrocarpa* (Grey Box) and *Eucalyptus populeus* (Bimble Box) present. In most areas of the roadside reserve there is thick regrowth of multi aged White Cypress Pine with scattered old growth White Cypress Pine present. The regrowth forms a dense canopy or understorey depending on the age of the regrowth. There are areas of previous clearing where there is now shrub dominated understory. The shrub species on site are mainly *Eremophila longifolia* (Berrigan), *Geijera parviflora* (Wilga) and various *Acacia* species. The groundcover is highly disturbed and dominated by annual exotic species such as *Avena fatua* (Wild Oat) and common weed species such as *Cirsium vulgare* (Spear Thistle) and *Echium plantagineum* (Patterson's Curse). The roadside reserve contains native grass species such as *Anthosachne scabra* (Common Wheatgrass), *Panicum effusum* (Hairy Panic), *Cymbopogon refractus* (Barbed Wire Grass) and other common native grass species. Roads side drains and wetter areas contain *Rumex brownii* (Swamp doc) and introduced species that prefer more moisture.

The vegetation community aligns most closely with PCT54 Buloke –White Cypress Pine Woodland in the NSW South Western Slopes Bioregion. *Allocasuarina luehmannii* (Buloke) is not common in the proposal area but it is common as a co-dominant in the road reserve east of the site where extensive clearing has not occurred. This PCT is not associated with a Threatened Ecological Community.

Does the proposal involve pruning, trimming or removal of any tree/s?

The proposal will largely be contained within the already disturbed areas of the roadside reserve. There is regrowth vegetation in the road side drains that will be cleared as part of the project or before the project begins. This vegetation would normally be cleared during routine maintenance of the road so this is not additional clearing specific to the proposal.

Yes

No

<p>There are nine culverts to be widened or replaced as part of the road reconstruction. The areas around the culvert inlets and outlets will be modified to ensure the culverts drain water appropriately. Additional disturbance will be required to create a workspace and for improved drains. The culvert inlets and outlets have been previously disturbed but there is regrowth White Cypress trees and some shrubs that will be removed.</p> <p>There may be some regrowth trees and shrubs removed in previously disturbed areas for establishment of laydown areas. No mature trees will be removed, and any vegetation removal required for material laydown and parking will be inspected by Transport environment staff prior to works beginning.</p>		
<p>Is the proposal likely to impact nationally listed threatened species, ecological communities or migratory species?</p> <p>The limited extent of earthworks outside the existing disturbed areas, including the limited vegetation impacts, means that threatened ecological communities will not be impacted. There are some threatened species and threatened species habitat in the study area, but the limited impact will not affect breeding or foraging opportunities. Connectivity will not be impacted, and key threatening processes will not increase or be introduced.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal require the removal of any other vegetation?</p> <p>There will be some regrowth trees and groundcovers removed but this we mainly be from previously disturbed areas.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal require the removal of any tree hollows?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<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> <p>A search of the NSW Government SEED biodiversity values map has identified Mirrool and Binya Creek as Biodiverse riparian land near the proposal. Mirrool and Binya Creeks are within 6km of the proposal location as shown in Figure 3-1. These would not be impacted by the proposed works given the topography of the site and minor nature of works. There are no known areas of outstanding biodiversity value or areas mapped as 'littoral rainforest' or 'coastal wetland' under chapter 2 of SEPP (Resilience and Hazards) near the proposed work.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal provide any additional barriers to the movement of wildlife?</p> <p>As the proposal would be a reconstruction of the existing road there would be no construction of additional barriers to the movement of wildlife.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal disturb any natural waterways or aquatic habitat?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Would the proposal impact (directly or indirectly) any potential microbat roosting or breeding habitat such as on bridges and culverts?</p> <p>The protected matters search result has identified that the Corban's Long-eared Bat, South-eastern Long-eared Bats or their habitat may occur within the proposal area. Transports Microbat Management Guidelines note that road structures unlikely to be used by microbat species as significant roosts or breeding habitat include culverts less than 900mm in diameter. Only culverts with a diameter of 900mm or greater may provide suitable habitat for microbat species. The works propose to remove and upgrade nine existing culverts. None of these culverts would be 900mm or greater in diameter so it is unlikely the proposal would impact directly or indirectly on any threatened microbats.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

Traffic	
F1	No mature trees will be removed as part of this proposal. All mature trees will be identified and where necessary protected with physical markings such as night line or bunting.
F2	Where the extent of regrowth vegetation is not clear, the clearing limit will be delineated with physical markers. The markers would be placed prior to works beginning.
F3	A pre-clearing survey would be done by Transport environment officers or by suitably qualified environment staff. This pre-clearing survey would be done at the beginning of each stage of the works or prior to any clearing occurring.
F4	Weeds would be identified prior to the work beginning and a weed management plan would be developed to ensure weeds are not spread within or from the proposal area.

3.8 Traffic and transport

Table 3-13: 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 result in minor disruption to traffic flow. Potential impacts to traffic flow would be temporary for the construction period. Likely impacts would be a single lane closure using traffic control to regulate the alternate flow of traffic on and offsite. Traffic disruptions would be expected to start in March 2024 and the construction period in each financial year would be 10 weeks. The total length of road subject to traffic control would be approximately two kilometres but this is dependent on construction and traffic staging. The major impact to traffic would be stopping to allow one lane traffic. This does impact the travelling public and can create annoyance for individuals. This impact is common and unavoidable across the road network so it is generally accepted as necessary by the community.</p> <p>The Garoolgan rest area and four additional siding roads that intersect with the works at different stages of the works will be impacted. The western most end of the Garoolgan rest area will be used as temporary compound site. The remainder of the rest area will be open and functional for the public. When the works are occurring adjacent to the rest area it will be closed. The duration of this closure would be approximately two weeks.</p> <p>Pavement reconstruction would occur in standard operating hours 7am-6pm. The NSW Traffic Volume Viewer has identified that the highest volume of traffic moving through the area occurs between the hours of 2-5pm. This suggests that the works would impact the highest volume of vehicles transiting along the Burley Griffin Way (NSW, 2011).</p> <p>A traffic guidance scheme will be developed for the proposal and it will take into consideration higher impact aspects such as school buses, the freight industry, agricultural harvest periods and periods such as school and public holidays. These can all be regulated by the Road Occupancy Licence that will be required for the project.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during operation?</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<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>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

Traffic	
T1	Where possible, current traffic movements and property accesses will be maintained during the works. Any disturbance will be minimised to prevent unnecessary traffic delays.
T2	A traffic guidance scheme will be prepared in accordance with Transport <i>Traffic control at work sites manual</i> (version 6.1, 2022) and Australian Standard 1742.3 <i>Manual of uniform control devices</i> .

3.9 Socio-economic

Table 3-14: Socio-economic

Description of existing environmental and potential impacts		
<p>Is the proposal likely to impact on local business?</p> <p>Local businesses within the vicinity of the proposal include the Garoolgan GrainCorp storage facility, see Figure 2-5. Impacts associated with the proposal on the GrainCorp storage area would be temporary and minor due to the short duration of works and continuation of side road access via tie-ins.</p> <p>Access to the GrainCorp site via Euratha Rd will maintain access throughout the construction periods. A representative from GrainCorp has been contacted regarding the proposed works.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to require any property acquisition?</p> <p>No property acquisition is required as all works would be done in the current road corridor.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to alter any access for properties (either temporarily or permanently)?</p> <p>The proposal would be unlikely to alter the access for properties either temporarily or permanently as access to properties is to be maintained throughout the duration of the proposed works. Current property access to be maintained includes unknown driveway at (Lon -34.265290 Lat 146.498612), GrainCorp access via Euratha Rd and a residential property on Euratha Rd.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to alter any on-street parking arrangements (either temporarily or permanently)?</p> <p>Works would be conducted on the Burley Griffin Way, no on-street parking is present near the proposed works.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Is the proposal likely to change pedestrian movements or pedestrian access (either temporarily or permanently)?</p> <p>Due to the proposed compound site being installed, pedestrian access would be temporarily changed at all stages of the proposal to the western end of the Garoolgan rest area where there are currently two picnic tables, see Figure 2-2.</p> <p>The remainder of the rest area would remain open and functional for the public, except for the final stage of the project when road works are occurring adjacent to the rest area. The duration of this closure would be approximately two weeks.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Is the proposal likely to impact on any items or places of social value to the community (either temporarily or permanently)?</p> <p>No parks, community centres, places of public worship, recreational facilities or anything alike are near the proposal.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Minor works review of environmental factors

Is the proposal likely to reduce or change visibility of any businesses, farms, tourist attractions or the like (either temporarily or permanently)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to impact trees planted by a community group, Landcare group or by council or a tree that is a memorial or part of a memorial group e.g., has a plaque?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the proposal likely to impact trees that form part of a streetscape, an avenue or roadside planting?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

Safeguards to be implemented are:

Socio economic and Community consultation	
C1	Notification will be given to affected community members prior to the works taking place. The notification is to include: <ul style="list-style-type: none"> • details of the proposal • duration of works and working hours • 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 will 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.
C4	The community must be notified of all work outside standard hours which have the potential to impact noise-sensitive receivers. Notification zones must be determined using the <i>Construction and Maintenance Noise Estimator</i> (EMF-NV-TT-0067). Notification requirements must comply with <i>Transport Construction noise and vibration guidelines (for roads and maritime) 2022</i> (EMF-NV-GD-0056).

3.10 Landscape character and visual amenity

Table 3-15: Landscape character and visual amenity

Description of existing environmental and potential impacts		
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.)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal require the removal of mature trees or stands of vegetation, either native or introduced?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Would the proposal result in large areas of shotcrete visible from the road or adjacent properties?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Would the proposal involve new noise walls or visible changes to existing noise walls?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would the proposal involve the removal or reuse of large areas of road corridor, landscape, either verges or medians?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
If involving lighting, would the proposal create unwanted light spillage on residential properties at night (in construction or operation)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Would any new structures or features to be constructed, result in over shadowing to adjoining properties or areas?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Safeguards

No additional safeguards.

3.11 Waste

Table 3-16: Waste

Description of existing environmental and potential impacts					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>																																		
<p>Is the proposal likely to generate >200 tonnes of waste material (contaminated and /or non-contaminated material)?</p> <p>An estimate of 'box out' material that would be excavated along southern and northern edge lines is 1,500m³. This equates to around 2,250 metric tonnes of usable spoil.</p> <p>The 'boxed out' material would be classified as general solid waste (non-putrescible) of Excavated Public Road Materials (EPRM) under the NSW EPA waste classification guidelines. All excavated material would be used as fill in the new 6:1 batter. Any additional EPRM would be spread on the outside of the southern table drain.</p> <p>Other waste that is not able to be recovered would likely be disposed of at the Narrandera Waste Facility, located at 16 Redhill Rd, Narrandera (Lot 340 / DP 821540 and Lot 311 / DP 751719), approximately 2.5 km north east of the Narrandera township (Narrandera Shire Council, 2020). Waste classifications likely to be disposed of at a licensed waste facility include General Solid Waste (putrescible), General Solid Waste (non-putrescible), special Waste and Hazardous Waste.</p> <p>Waste to landfill would only be pursued for materials that cannot be reused, reprocessed or recycled and for which landfill is the most feasible disposal option as per Transport's Waste Management Guidelines form (EMF-WM-GD-0055). Refer to table 1.3 for waste categories directly related to the proposal area.</p> <p>The proposal would minimise excavation and reduce unnecessary removal of existing vegetation where feasible. Where possible, excavated natural material (ENM) would be separated and retained for re-use on-site after construction to allow for natural soils and nutrients to be returned to the site and re-establishment of local vegetation.</p> <p>Table 6. Waste Definitions and Classifications of proposal area.</p> <table border="1"> <thead> <tr> <th colspan="4">Waste definition</th> <th rowspan="2">Waste Classification</th> </tr> <tr> <th>Waste Source</th> <th>Category</th> <th>Type</th> <th>Sub-type</th> </tr> </thead> <tbody> <tr> <td>Construction and demolition waste</td> <td>Building and demolition materials</td> <td>Spoil</td> <td>Asphalt, Bituminous waste</td> <td>General solid waste (non-putrescible)</td> </tr> <tr> <td>Construction and demolition waste</td> <td>Building and demolition materials</td> <td>Spoil</td> <td>Rock and/gravel material such as asphalt and road base</td> <td>General solid waste (non-putrescible)</td> </tr> <tr> <td>Construction and demolition waste</td> <td>Building and demolition materials</td> <td>Spoil</td> <td>Concrete</td> <td>General solid waste (non-putrescible)</td> </tr> <tr> <td>Construction and demolition waste</td> <td>Building and demolition materials</td> <td>Spoil</td> <td>Excavated Public Road Materials (EPRM)</td> <td>General solid waste (non-putrescible)</td> </tr> <tr> <td>Construction and demolition waste</td> <td>Building and demolition materials</td> <td>Trees and shrubs</td> <td>Chipped or shredded organic material</td> <td>General solid waste (non-putrescible)</td> </tr> </tbody> </table>					Waste definition				Waste Classification	Waste Source	Category	Type	Sub-type	Construction and demolition waste	Building and demolition materials	Spoil	Asphalt, Bituminous waste	General solid waste (non-putrescible)	Construction and demolition waste	Building and demolition materials	Spoil	Rock and/gravel material such as asphalt and road base	General solid waste (non-putrescible)	Construction and demolition waste	Building and demolition materials	Spoil	Concrete	General solid waste (non-putrescible)	Construction and demolition waste	Building and demolition materials	Spoil	Excavated Public Road Materials (EPRM)	General solid waste (non-putrescible)	Construction and demolition waste	Building and demolition materials	Trees and shrubs	Chipped or shredded organic material	General solid waste (non-putrescible)		
Waste definition				Waste Classification																																				
Waste Source	Category	Type	Sub-type																																					
Construction and demolition waste	Building and demolition materials	Spoil	Asphalt, Bituminous waste	General solid waste (non-putrescible)																																				
Construction and demolition waste	Building and demolition materials	Spoil	Rock and/gravel material such as asphalt and road base	General solid waste (non-putrescible)																																				
Construction and demolition waste	Building and demolition materials	Spoil	Concrete	General solid waste (non-putrescible)																																				
Construction and demolition waste	Building and demolition materials	Spoil	Excavated Public Road Materials (EPRM)	General solid waste (non-putrescible)																																				
Construction and demolition waste	Building and demolition materials	Trees and shrubs	Chipped or shredded organic material	General solid waste (non-putrescible)																																				
<p>Is the proposal likely to require a licence from EPA?</p>					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>																																		
<p>Is the proposal likely to require the removal of asbestos?</p>					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>																																		
<p>This project is likely to have a general fill deficit so there may be an opportunity to transport excess material from other road projects nearby to make up the deficit. Transporting stockpiled excess materials from Transport's road stockpiles to this project may provide a positive sustainability outcome. Stockpiling excess materials at temporary or permanent Transport stockpiles should be avoided unless an immediate use for the material has been identified.</p>																																								

Safeguards

Safeguards to be implemented are:

Waste management	
M1	A Waste Management Plan will be prepared that follows the Transport <i>Waste management guideline</i> (EMF-WM-GD-0055).
M2	Resource management hierarchy principles will 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 <i>Waste Avoidance and Resource Recovery Act 2001</i>).
M3	If vegetation is to be mulched and transported off site for beneficial reuse, it will be assessed for the presence of weeds, pest, and other disease and a Mulch Management Plan prepared in accordance with the <u>NSW EPA Mulch Order and Exemption</u> .
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 Transport's <i>Waste management guideline</i> (EMF-WM-GD-0055) and templates EMF-WM-TT-0098 and EMF-WM-TT-0127. 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.

3.12 Climate change and greenhouse gas emissions

Table 3-17: Climate change and greenhouse gas emissions

Description of existing environmental and potential impacts		
Is the proposal located in an area likely to be permanently or tidally inundated in the future or subject to increased duration and intensity of flooding?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Have opportunities for reduced energy consumption during construction and operation been considered.</p> <p>Opportunities for reduced energy consumption during construction and operation have been considered through actions such as the selection of materials, using the nearest transport construction team to conduct the works and using plant that is necessary to complete the works of the proposal. Material recovery would also be practiced on site minimising the number of new construction materials to be used in the works.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Safeguards

No additional safeguards.

3.13 Cumulative impact

Table 3-18: Cumulative impact

Description of existing environmental and potential impacts		
Are there other projects and developments in the study area which could add to potential impacts in both construction and operation?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
There would be no other projects and developments in the study area which could add to potential impacts in both construction and operation.		

Safeguards

No additional safeguards.

4. Summary of safeguards and environmental management measures

4.1 Safeguards and environmental management measures

This section provides a summary of the site-specific environmental safeguards and management measures identified in described in chapter 3 of this minor works 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 4-1: Summary of site-specific safeguards for proposed work

Factor	Safeguards
Soil	
<ul style="list-style-type: none"> • E1 Erosion and sediment control measures will be implemented and maintained to: <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)). • E2 Erosion and sedimentation controls will 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 will not be removed until the works are complete, and areas stabilized. • E4 A progressive erosion and sediment control plan will be prepared for the works. • E5 The maintenance of established stockpile sites will be in accordance with the Transport Stockpile Site Management Guideline (EMS-TG-10) (2015). 	
Noise and vibration	
<ul style="list-style-type: none"> • N1 Works will 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 have measures in place to minimise noise impacts. • N2 Noise impacts will be minimised in accordance with Transport Construction and Maintenance Noise Estimator (EMF-NV-TT-0067) and Transport Construction noise and vibration guidelines (for roads and maritime) 2022 (EMF-NV-GD-0056). • N3 Measures will be implemented to minimise or prevent vibration impacts, including: <ul style="list-style-type: none"> ○ allowing adequate distance that vibration producing equipment can come to buildings ○ using non-vibration-producing equipment. 	
Air Quality	
<ul style="list-style-type: none"> • A1 Measures, including watering or covering exposed areas, will be used to minimise or prevent air pollution and dust. • A2 Works, including the spraying of paint and other materials, will not 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 will not to be burnt on site. • A4 Vehicles transporting waste or other materials that may produce odours or dust will be covered during transportation. • A5 Stockpiles or areas that may generate dust will be managed to suppress dust emissions in accordance with the Transport Stockpile Site Management Guideline (EMS-TG-10). 	
Non-Aboriginal Heritage	

<ul style="list-style-type: none"> • H1 If unexpected heritage items are uncovered during the works, all works must cease in the vicinity of the material/find and the steps in the Transport Unexpected heritage items procedure (EMF-HE-PR-0076) must be followed.
<p>Aboriginal cultural heritage</p>
<ul style="list-style-type: none"> • B1 If Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the Transport Aboriginal cultural heritage officer and Senior Manager Environment and Sustainability contacted immediately. Refer to steps in the Transport Unexpected heritage items procedure (EMF-HE-PR-0076) which must be followed.
<p>Biodiversity</p>
<ul style="list-style-type: none"> • F1 No mature trees will be removed as part of this proposal. All mature trees will be identified and where necessary protected with physical markings such as night line or bunting. • F2 Where the extent of regrowth vegetation is not clear, the clearing limit will be delineated with physical markers. The markers would be placed prior to works beginning. • F3 A pre-clearing survey would be done by Transport environment officers or by suitably qualified environment staff. This pre-clearing survey would be done at the beginning of each stage of the works or prior to any clearing occurring. • F4 Weeds would be identified prior to the work beginning and a weed management plan would be developed to ensure weeds are not spread within or from the proposal area.
<p>Traffic and transport</p>
<ul style="list-style-type: none"> • T1 Where possible, current traffic movements and property accesses will be maintained during the works. Any disturbance will be minimised to prevent unnecessary traffic delays. • T2 A traffic guidance scheme will be prepared in accordance with Transport Traffic control at work sites manual (version 6.1, 2022) and Australian Standard 1742.3 Manual of uniform control devices.
<p>Socio-economic</p>
<ul style="list-style-type: none"> • C1 Notification will be given to affected community members prior to the works taking place. The notification is to include: <ul style="list-style-type: none"> • details of the proposal • duration of works and working hours • 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> • C2 All complaints will be recorded on complaints register and attended to promptly. • C3 Existing access for nearby and adjoining properties is to be always maintained during the works unless otherwise agreed to by the affected property owner. • C4 The community must be notified of all work outside standard hours which have the potential to impact noise-sensitive receivers. Notification zones must be determined using the Construction and Maintenance Noise Estimator (EMF-NV-TT-0067). Notification requirements must comply with Transport Construction noise and vibration guidelines (for roads and maritime) 2022 (EMF-NV-GD-0056).
<p>Waste</p>
<ul style="list-style-type: none"> • M1 A Waste Management Plan will be prepared that follows the Transport Waste management guideline (EMF-WM-GD-0055). • M2 Resource management hierarchy principles will 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. <p>(in accordance with the Waste Avoidance and Resource Recovery Act 2001).</p> • M3 If vegetation is to be mulched and transported off site for beneficial reuse, it will be assessed for the presence of weeds, pest, and other disease and a Mulch Management Plan prepared in accordance with the NSW EPA Mulch Order and Exemption. • 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 Transport's Waste management guideline (EMF-WM-GD-0055) and templates EMF-

WM-TT-0098 and EMF-WM-TT-0127. 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.

4.2 Licensing and approvals

Table 4-2: Summary of licensing and approvals required.

Instrument	Requirement	Timing
<i>Crown Land Management Act 2016</i> (Divisions 3.4, 5.5 and 5.6)	Lease or licence to occupy areas of Crown land. This is likely relevant for occupation or works occurring in the unfenced travelling stock reserve north of the rail line.	Prior any works on Crown Land.

4.3 Other requirements

Table 4-3: Other requirements

Requirement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Environmental management plan sent to Environment and Sustainability Manager South or their delegate (ESO) for review.		

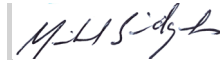
5. Certification, review and determination

5.1 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: Michael Suidgeest
Position: Environment and Sustainability Manager
Company name: Transport for NSW
Date: 21.12.2023

Minor works REF reviewed by:

Signature



Name: Joe Mullany
Position: Project Manager
Company name: Transport for NSW
Date: 21.12.2023

5.2 Environment and sustainability 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 this minor works REF will have some environmental impacts which can be ameliorated satisfactorily. Having regard to the safeguards 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 of 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 Climate Change, Energy, the Environment and Water 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.

5.3 Environment and Sustainability staff recommendation

It is recommended that the proposal to reconstruct the pavement of the Burley Griffin Way at Garoolgan as 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 in accordance with the EP&A Act, EP&A Regulation and the Guidelines approved under clause 170 of the EP&A Regulation. The minor works REF has 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.

If the proposal has not commenced within two years of the determination date the SMES must be consulted to identify any new or updated assessment or approval requirements.

Recommended by:

Signature *N. Rudd*

Name: Nadine Rudd
Position: Acting Environment and Sustainability Manager South
Date: 8.01.2024

Noted by:

Signature 

Name: Russell Farnell
Position: Transport for NSW Senior Project Manager
Date: 22/12/23

5.4 Decision statement

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 *Stephen Onions*

Name: Stephen Onions
Position: Senior Manager Project Services South
Date: 9th January, 2024

5.5 EP&A Regulation publication requirement

Table 5-1: EP&A Regulation publication requirement

Requirement		
Does this minor works REF need to be published under section 171(4) of the EP&A Regulation?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Appendix A: Proposal site details



Minor works review of environmental factors

Appendix B: Consideration of State and Commonwealth environmental factors

Environmental Planning and Assessment Regulation 2021 section 171(2) 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 B1: Consideration of section 171 of the EP&A Regulation factors

Factor	Description of impact	Duration and extent
a) Environmental impact on the community.	The proposed works would cause minor environmental impact on the community through noise, air and traffic impacts. Sensitive receivers located in the vicinity of the works would be most effected by noise and air pollution. Traffic delays are expected to impact the community and sensitive receivers temporarily adding minor delays to transit times.	Negative, short-term, minor.
b) The transformation of the locality.	Transformation of the locality would be limited to roadside vegetation clearing within the road corridor. Other transformation of the locality would include installation of a compound site at the west end of Garoolgan rest area.	Negative, short-term, minor.
c) Any environmental impact on the ecosystems of the locality.	There will be limited impact on vegetation and some habitat but this will not impact ecosystem function.	Nil
d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality.	The proposal is not expected to have any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality in the area due to the minor extent of the works within the current road corridor.	Nil
e) Any effect on any locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations.	Searches conducted in section 3.5 and 3.6 of this report confirm that there would be no locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value within the vicinity of the proposed works.	Nil
Any impact on the habitat of protected fauna (within the meaning of the	There is minor vegetation removal required for the proposal. This vegetation is habitat for native fauna but the impact will be limited to vegetation that is growing in previously disturbed areas.	Minor, negative.

Factor	Description of impact	Duration and extent
Biodiversity and Conservation Act 2016).		
f) Any endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air.	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 the minor nature of the works and minimal impact to surrounding environments.	Nil
g) Any long-term effects on the environment	The proposal is not expected to have any long term effects on the environment. The proposed works would reinsate the area once complete.	Nil
h) Any degradation of the quality of the environment.	The proposal would have minor short term impacts but these road building activities would be limited to the road reserve. Impacts outside the construction period and the construction footprint are unlikely.	Nil
i) Any risk to the safety of the environment.	The proposed works would improve road user safety in regard to Transports Network Performance Measures and Network Planning Targets.	Positive, long-term, minor.
j) Any reduction in the range of beneficial uses of the environment.	Beneficial uses of the proposal area currently are for transit on the Burley Griffin Way and use of the Garoolgan rest area. Beneficial uses would be temporarily impacted by the proposed works through lane closures, installation of traffic control measures and establishment of a construction compund site.	Negative, short-term, minor.
k) Any pollution of the environment.	Pollution of the environment as result of the proposed works would be limited to noise and air pollution.	Negative, short-term, minor.
l) Any environmental problems associated with the disposal of waste	Waste generated by the proposed works will be reused, reprocessed, recycled or recoverd for use on the proposal site or other transport related projects. Waste that is unable to meet the above criteria would be disposed of at the designated licensed waste facility (Narrandera Waste Facility).	Nil
m) Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply.	Resources that would be used for the proposal are unlikely to become in short supply as result of the works. The main resources that would be used for the proposal is road base materials. A large amount of repurposed excavated public road material would be used to construct batters and potentially fill 'box out' areas.	Nil
n) The cumulative environmental effect with other existing or likely future activities.	There are no other major developments planned near the project that Transport are aware of. Transport has no other major projects planned for the area.	Nil
o) Any impact on coastal processes and coastal hazards, including those under projected	Coastal processes and coastal hazards, including those under projected climate change conditions are not relevent at this site.	Nil

Factor	Description of impact	Duration and extent
climate change conditions.		
p) Applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1	The proposal aligns with the applicable planning statements of the Narrandera Shire Council – Community strategic plan 2034. Including the aspirations for current and future infrastructure such as point 4.1 to have an improved and appropriately maintained road network, 4.1.1 maximise opportunities to upgrade the local and regional road network and 4.1.2 plan and undertake road maintenance and upgrades (Community strategic plan 2034).	Long-term, positive.
q) Other relevant environmental factors	None	N/A

Matters of National Environmental Significance

Table B2 is a summary of the relevant Matters of NES that have been covered in section 3 of the minor works REF.

Table B2: Matters of national environmental significance

Environmental factor	Impact
a) Any impact on a World Heritage property?	Nil
b) Any impact on a National Heritage place?	Nil
c) Any impact on a wetland of international importance (often called ‘Ramsar’ wetlands)?	Nil
d) Any impact on nationally threatened species, ecological communities or migratory species? There is not a significant impact on nationally-listed threatened species, ecological communities and/or migratory species.	Nil
e) Any impact on a Commonwealth marine area?	Nil
f) Does the proposal involve a nuclear action (including uranium mining)?	Nil
Additionally, any impact (direct or indirect) on the environment of Commonwealth land?	Nil

Appendix C: Basic AHIMS Search and PACHCI assessment



Your Ref/PO Number : MR84 Garoolgan
Client Service ID : 824050

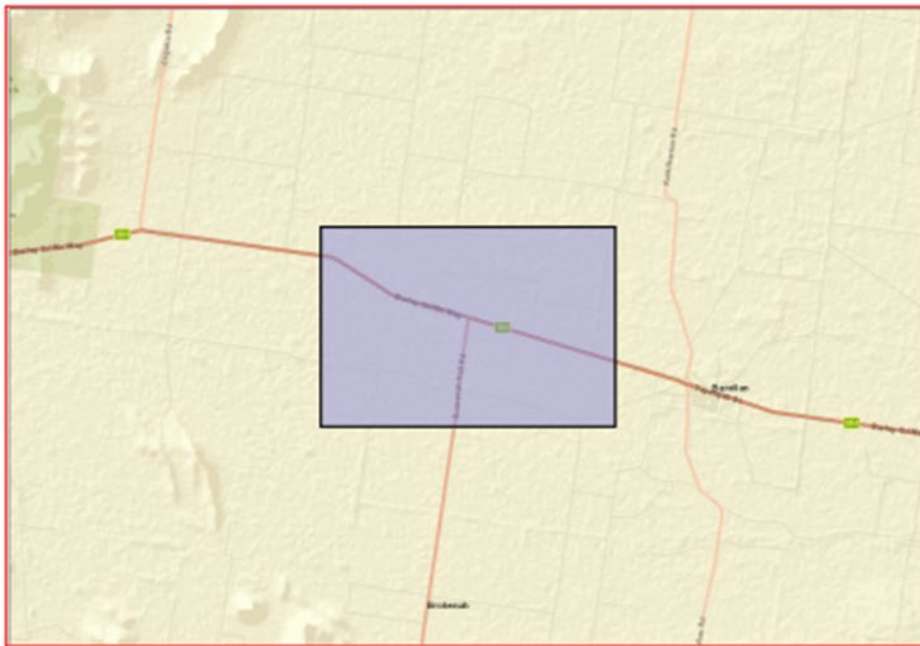
Joe Mullany
193 Morgan Street
Wagga Wagga New South Wales 2650
Attention: Joe Mullany
Email: joe.p.mullany@transport.nsw.gov.au

Date: 27 September 2023

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat. Long From : -34.2975, 146.4105 - Lat. Long To : -34.2266, 146.5341, conducted by Joe Mullany on 27 September 2023.

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:

0	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



5 December 2023

Joe Mullany
Project manager
Contract Manager
Maintenance & Delivery | Network & Assets
Regional and Outer Metropolitan
Transport for NSW

Dear Joe,

Preliminary assessment results for Garoolgan Pavement Rehabilitation.

The key features of this project are listed below.

- Widen pavement and increase sealed width to accommodate for 0.5 metre centre line, 3.5 metre traffic lanes, 1 metre sealed shoulder and 0.5 metre verges (9.5-metre-wide seal and 10.5 metre wide formation).
- The existing centreline would remain unchanged.
- Maintain the existing intersection treatment and seal unsealed side road for a distance of 10 metres from the edge line.
- Construct tie-ins to side roads and property access roads.
- Flatten batters on embankments to 6:1
- Provide 5m clear zone from new edge line.
- Maintain existing property access. Property accesses would be sealed 5 metre in from the edge line.
- Maintain existing laybys for maintenance purposes.
- Maintain and relocate existing signposting, and install new signposting as required.
- Replace existing line marking, raised pavement markers and audio tactile line marking.
- Replace existing guardrail.
- Replace and extend nine existing culverts (184689, 184690, 184691, 184692, 184693, 184694, 184695, 184696, 184697) by 2.4m either side and replace the headwalls.
- Minor disruption to traffic including single lane closure with alternate flows controlled by a traffic light signal system.
- Small tree saplings (diameter<100mm), shrubs and grasses would be removed within the existing table drain on the norther side of the road. All disturbed areas would be stabilised on completion of the work.
- Waste would be disposed of at a local licensed waste facility.
- Clear and reinstate existing stockpile sites (SWA_142 and GrainCorp) on completion of work.
- Clear and reinstate the compound site on completion of work.

Transport for NSW

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

13 22 13

- The small quantity of excavated (boxed out) material would be spread out and blended into the existing landscape outside of the table drain on the southern side of the road. The existing topsoil would be placed over the top and reinstated.

Based on Stage 1 of the Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) and incorporating the Aboriginal Heritage Information Management System (AHIMS) data, it has been 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 searches 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 (previous road construction).

Safeguards:

Please be vigilant for further potential Aboriginal objects when construction does commence.

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 Lee Reavley, Aboriginal Cultural Heritage Advisor 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*.

Yours sincerely / faithfully

Lee Reavley

Lee Reavley
Aboriginal Cultural Heritage Advisor – South

Appendix D: Heritage Databases

Australian Heritage Database Results

Heritage Item	Location	Type of Listing
Butherwah Homestead - Butherwah Rd	Urana, NSW, Australia	(Indicative Place)
		Register of the National Estate
		(Non-statutory archive)
CBC Bank (former) - 142 East St	Narrandera, NSW, Australia	(Registered)
		Register of the National Estate
		(Non-statutory archive)
CWA Rest House - Yapunyah St	Barellan, NSW, Australia	(Registered)
		Register of the National Estate
		(Non-statutory archive)
Dry Lagoon Area - Sturt Hwy	Narrandera, NSW, Australia	(Indicative Place)
		Register of the National Estate
		(Non-statutory archive)
Narrandera Courthouse and Police Station Group - Larmer St	Narrandera, NSW, Australia	(Registered)
		Register of the National Estate
		(Non-statutory archive)
Narrandera Nature Reserve	Narrandera, NSW, Australia	(Registered)
		Register of the National Estate
		(Non-statutory archive)
Narrandera Post Office - 140 East St	Narrandera, NSW, Australia	(Registered)
		Register of the National Estate
		(Non-statutory archive)
Narrandera Rail Bridge	Narrandera, NSW, Australia	(Registered)
		Register of the National Estate
		(Non-statutory archive)
Narrandera Showground - Victoria Ave	Narrandera, NSW, Australia	(Indicative Place)
		Register of the National Estate
		(Non-statutory archive)
Railway Station and Station Masters Residence - Whitton St	Narrandera, NSW, Australia	(Registered)
		Register of the National Estate
		(Non-statutory archive)
St Johns Uniting Church and Hall - Cadell St	Narrandera, NSW, Australia	(Indicative Place)
		Register of the National Estate
		(Non-statutory archive)

PMST Results –Heritage Properties & Places

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)	5
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	29
Listed Migratory Species:	8

State Heritage Inventory Results

NSW Heritage Act Listed Items

Item Name ▲	Location	Local Government Area	Type	SHR ID
📍 Berembed Weir and Site	Murrumbidgee River NARRANDERA NSW 2700	Narrandera	Built	00957
📍 CWA Rest House	Yapunyah Street BARELLAN NSW 2665	Narrandera	Built	01876
📍 Derrendi Cottage	30-32 Twynam Street NARRANDERA NSW 2700	Narrandera	Built	00441
📍 Narrandera rail bridge over Murrumbidgee River	June-Hay railway NARRANDERA NSW 2700	Narrandera	Built	01050
📍 Narrandera Railway Station and yard group	Whitton St (Newell Highway) NARRANDERA NSW 2700	Narrandera	Complex / Group	01209
📍 Narrandera Showground Industrial Hall	Elizabeth Street NARRANDERA NSW 2700	Narrandera	Built	01952
📍 Wooden Wicket - Berembed Weir Site	Murrumbidgee River GRONG GRONG NSW 2652	Narrandera	Built	00968

135 items were listed by local Government and State Agencies therefore the search for heritage items in this section was refined to only show items within 20km radius of the proposal, the results are displayed below.

Items Listed by Local Government and State Agencies

Item Name ▲	Location	Local Government Area	Type	Record owner
📍 Barellan Police Station	Bendee Street and Myall Street BARELLAN NSW 2665	Narrandera	Built	SGOV
📍 Barellan Post Office	108 Yapunyah Street BARELLAN NSW 2665	Narrandera	Built	LGOV
📍 Barellan Uniting Church	54 Mulga Street BARELLAN NSW 2665	Narrandera	Built	LGOV
📍 CWA Rest House	Yapunyah Street BARELLAN NSW 2665	Narrandera	Built	LGOV
📍 Former Bank	70 Yapunyah Street BARELLAN NSW 2665	Narrandera	Built	LGOV
📍 Former Billiards Shop	90 Yapunyah Street BARELLAN NSW 2665	Narrandera	Built	LGOV
📍 Former Masonic Hall	63 Mulga Street BARELLAN NSW 2665	Narrandera	Built	LGOV
📍 Former Refreshment Rooms	60 Yapunyah Street BARELLAN NSW 2665	Narrandera	Built	LGOV
📍 General Store and Newsagency	100 Yapunyah Street BARELLAN NSW 2665	Narrandera	Built	LGOV
📍 Item	Yapunyah Street BARELLAN NSW 2665	Narrandera	Unknown	GAZ
📍 St Clement's Anglican Church	51 Wilga Street BARELLAN NSW 2665	Narrandera	Built	LGOV
📍 St Therese's Catholic Church	45 Mulga Street BARELLAN NSW 2665	Narrandera	Built	LGOV

Appendix E: Biodiversity database search results

EPBC Act Protected Matters Report created: 10-Oct-2023

Listed threatened Species.

Scientific Name	Common Name	Threatened Category	Migratory Status
<i>Pedionomus torquatus</i>	Plains-wanderer	Critically Endangered	
<i>Galaxias rostratus</i>	Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow	Critically Endangered	
<i>Lathamus discolor</i>	Swift Parrot	Critically Endangered	
<i>Calidris ferruginea</i>	Curlew Sandpiper	Critically Endangered	Migratory
<i>Crinia sloanei</i>	Sloane's Froglet	Endangered	
<i>Lophochroa leadbeateri leadbeateri</i>	Major Mitchell's Cockatoo (eastern), Eastern Major Mitchell's Cockatoo	Endangered	
<i>Phascolarctos cinereus</i>	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Endangered	
<i>Austrostipa wakoolica</i>	null	Endangered	
<i>Hemiaspis damelii</i>	Grey Snake	Endangered	
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Endangered	
<i>Lepidium monoplacoides</i>	Winged Pepper-cress	Endangered	
<i>Rostratula australis</i>	Australian Painted Snipe	Endangered	
<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin, Hooded Robin (south-eastern)	Endangered	
<i>Macquaria australasica</i>	Macquarie Perch	Endangered	
<i>Pomaderris cocoparrana</i>	null	Endangered	
<i>Grantiella picta</i>	Painted Honeyeater	Vulnerable	
<i>Neophema chrysostoma</i>	Blue-winged Parrot	Vulnerable	
<i>Aphelocephala leucopsis</i>	Southern Whiteface	Vulnerable	
<i>Falco hypoleucos</i>	Grey Falcon	Vulnerable	
<i>Leipoa ocellata</i>	Malleefowl	Vulnerable	
<i>Swainsona murrayana</i>	Slender Darling-pea, Slender Swainson, Murray Swainson-pea	Vulnerable	
<i>Polytelis swainsonii</i>	Superb Parrot	Vulnerable	
<i>Aprasia parapulchella</i>	Pink-tailed Worm-lizard, Pink-tailed Legless Lizard	Vulnerable	
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable	
<i>Stagonopleura guttata</i>	Diamond Firetail	Vulnerable	
<i>Litoria raniformis</i>	Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog	Vulnerable	
<i>Lepidium aschersonii</i>	Spiny Peppercress	Vulnerable	
<i>Calyptorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo	Vulnerable	
<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat, South-eastern Long-eared Bat	Vulnerable	

<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (south-eastern)	Vulnerable	
---------------------------------------	-----------------------------------	------------	--

Listed Threatened Ecological Communities

Community Name	Threatened Category	Presence
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community likely to occur within area
Weeping Myall Woodlands	Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area
Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community likely to occur within area

Listed Marine Species

Scientific Name	Common Name	Threatened Category	Migratory Status
<i>Myiagra cyanoleuca</i>	Satin Flycatcher		Migratory
<i>Motacilla flava</i>	Yellow Wagtail		Migratory
<i>Apus pacificus</i>	Fork-tailed Swift		Migratory
<i>Neophema chrysostoma</i>	Blue-winged Parrot	Vulnerable	
<i>Merops ornatus</i>	Rainbow Bee-eater		
<i>Bubulcus ibis</i>	Cattle Egret		
<i>Rostratula australis</i>	Australian Painted Snipe	Endangered	
<i>Calidris melanotos</i>	Pectoral Sandpiper		Migratory
<i>Lathamus discolor</i>	Swift Parrot	Critically Endangered	
<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe		Migratory
<i>Actitis hypoleucos</i>	Common Sandpiper		Migratory
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle		
<i>Calidris ferruginea</i>	Curlew Sandpiper	Critically Endangered	Migratory
<i>Chalcites osculans</i>	Black-eared Cuckoo		
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper		Migratory

Listed Migratory Species

Scientific Name	Common Name	Threatened Category	Migratory Status
<i>Myiagra cyanoleuca</i>	Satin Flycatcher		Migratory
<i>Motacilla flava</i>	Yellow Wagtail		Migratory
<i>Apus pacificus</i>	Fork-tailed Swift		Migratory
<i>Calidris melanotos</i>	Pectoral Sandpiper		Migratory
<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe		Migratory
<i>Actitis hypoleucos</i>	Common Sandpiper		Migratory
<i>Calidris ferruginea</i>	Curlew Sandpiper	Critically Endangered	Migratory
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper		Migratory

BioNet Search Results

Threatened Species within 10km² of proposal.

Scientific Name	Common Name	NSW Status	Comm Status
<i>Circus assimilis</i>	Spotted Harrier	Vulnerable, Protected	
<i>Lophochroa leadbeateri</i>	Major Mitchell's Cockatoo	Vulnerable, Protected, Sensitivity Class 2	
<i>Polytelis swainsonii</i>	Superb Parrot	Vulnerable, Protected, Sensitivity Class 3	V
<i>Epthianura albifrons</i>	White-fronted Chat	Vulnerable, Protected	
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	Vulnerable, Protected	

NSW SEED Results

NSW State Vegetation type Map (SEED)

Vegetation Formation	Vegetation Class	PCT Name	PCT ID	Associated TEC's
Arid Shrublands (Acacia sub-formation)	North-west Plain Shrublands	Derived mixed shrubland on loamy-clay soils in the Cobar Peneplain Bioregion	229	Yes
Semi-arid Woodlands (Shrubby sub-formation)	Inland Rocky Hill Woodlands	Dwyers Red Gum - White Cypress Pine - Currawang shrubby woodland mainly in the NSW South Western Slopes Bioregion	185	No
Dry Sclerophyll Forests (Shrubby sub-formation)	Western Slopes Dry Sclerophyll Forests	Buloke - White Cypress Pine woodland in the NSW South Western Slopes Bioregion	54	No

Appendix F: Noise Assessment Table

Transport Construction Noise Estimator Tool results for an R0 representative noise environment



**Transport
for NSW**

Please pick from drop-down list in orange cells

Noise area category	R0
RBL or L₅₀ Background level (dB(A))	30
L₅₀(15minute) Noise Management Level (dB(A))	35
Scenario	Bulk earthworks
Is there line of sight to receiver?	Yes

Distanced Based Assessment (Construction Scenario)

Steps for Screening Assessment:

- Schedule noisy works to occur in standard hours where possible or before 1pm and implement Standard Measures.
 - Select the representative noise area category. The worksheet titled 'Representative Noise Environ.' provides a number of examples to help select the noise area category.
 - Select the scenario, if not found in drop-down list, refer to 'Source List' and select a representative scenario with similar plant combination.
 - Is there line of sight to receiver? Select the appropriate scenario from the drop down list. Identify and implement standard mitigation measures where feasible and reasonable. Include any shielding implemented as part of the standard mitigation measures by changing the selection in the 'Is there line of sight to receiver' drop-down list. Solid barrier can be in the form of road cutting, solid construction hoarding, acoustic curtain, timber lapped and capped fence, shipping container, site office, etc. Please note that vegetation and trees are not considered to be a form of solid barrier and any gaps would compromise the acoustic integrity of the solid barrier.
 - Determine if there are any receivers (both residential and non-residential receivers) within the affected distance for each relevant time period. Consider background noise measurements to check assumption in Step #2 if:
 - (a) there are many affected receivers and the impact duration at any one receiver is more than 3 weeks; or
 - (b) there are a few affected receivers and the impact duration at any one receiver is more than 6 weeks.
 Note that consideration need to be given to the construction staging plan when determining impact duration.
 - Identify if there are any receivers within the additional mitigation measures distances and identify feasible and reasonable measures at each receiver
 - Where night works are involved, identify sleep disturbance affected distance.
 - Document the outcomes of these steps.
- (Note that suitable noise management levels for other noise-sensitive businesses not identified in the Construction and Maintenance Noise Estimator should be investigated on a project-by-project basis. Please contact a Roads and Maritime noise specialist for more information)

Abbreviation	Measure
N	Notification
SN	Specific notifications
PC	Phone calls
IB	Individual briefings
RO	Respite offer
R1	Respite period 1
R2	Respite period 2
DR	Duration respite
AA	Alternative accommodation
V	Verification

Note that spot check verification of noise levels and individual briefings are not required for projects with less than 3 weeks impact duration

Residential receiver

	Affected distance (m)	L ₅₀ (15minute) noise level above background (L ₅₀)												L ₅₀ (15minute) 75 dB(A) or greater (Highly affected)			Sleep disturbance L ₅₀ 65 dB(A)		
		5 to 10 dB(A) Noticeable			10 to 20 dB(A) Clearly audible			20 to 30 dB(A) Moderately intrusive			> 30 dB(A) Highly intrusive			Measures	Within distance (m)	Mitigation level (dB(A))	Affected distance (m)		
		Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))						
Undeveloped green fields, rural areas with isolated dwellings	Day	1010																	
	Day (OOHW)	1430																	
	Evening	1430																	
	Night	1430	N	1430	35	N, R1, DR	1010	40	N, R1, DR	485	50	N, R1, DR, PC, SN	230	60	N, PC, RO	60	75		
Highly Affected	60													N, PC, RO	60	75	230		
Developed settlements (urban and suburban)	Day	1355																	
	Day (OOHW)	1910																	
	Evening	1910																	
	Night	1910	N	1910	35	N, R1, DR	1355	40	N, R1, DR	635	50	N, R1, DR, PC, SN	280	60	N, PC, RO	60	75		
Highly Affected	70													N, PC, RO	70	75	280		
Propagation across a valley / over water	Day	1900																	
	Day (OOHW)	2005																	
	Evening	2005																	
	Night	2005	N	2005	35	N, R1, DR	1900	40	N, R1, DR	880	50	N, R1, DR, PC, SN	370	60	N, PC, RO	70	75		
Highly Affected	70													N, PC, RO	70	75	370		

Minor works review of environmental factors

Transport
for NSW

Non-residential receiver Undeveloped green fields, rural areas with isolated dwellings	Standard hours			L _{Aeq(15minute)} noise level above NML						L _{Aeq(15minute)} 75 dB(A) or greater (Highly affected)		
	Period	NML	Affected distance (m)	< 10 dB(A)			10 to 20 dB(A)			Measure	Within distance (m)	Mitigation level (dB(A))
				Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))			
Classroom at schools and other educational institutions	Day	55	335				N	155	65	N, PC, RO	60	75
Hospital wards and operating theatres	Day	65	155							N, PC, RO	60	75
Place of worship	Day	55	335				N	155	65	N, PC, RO	60	75
Active recreation	Day	65	155							N, PC, RO	60	75
Passive recreation	Day	60	230				N	105	70	N, PC, RO	60	75
Industrial premise	Day	75	60							N, PC, RO	60	75
Offices, retail outlets	Day	70	105							N, PC, RO	60	75