natural solutions for environmental challenges

# Richmond Valley Council – Upper Cherry Tree Road, Landslip
# Review of Environmental Factors
Ecoteam | September 2024

# Document Controls

## Approval and authorisation

| | |
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**Report Authors**
Ana Assis

**Internal Review**
Zachary Lyons

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The information contained in this publication is based on knowledge and understanding at the time of writing. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate council officer or government advisory body.

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# 1. Introduction

The purpose of the Review of Environmental Factors (REF) is to describe the proposed activity (the activity), to document the likely impacts of the activity on the environment, to detail mitigation measures to be implemented, and to determine whether or not the activity can proceed. For the purposes of this work Richmond Valley Council (RVC) 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 activity and assessment of associated environmental impacts has been undertaken in the context of clause 171 of the Environmental Planning and Assessment Regulation 2021, the factors in *Best Practice Guidelines for Part 5 of the Environmental Planning and Assessment Act 1979* (Department of Urban Affairs and Planning (DUAP), 1995/1996), *Roads and Related Facilities EIS Guideline* (DUAP, 1996) NSW *Biodiversity Conservation Act 2016 (BC Act)*, the *Fisheries Management Act 1994* (FM Act), the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and *Land Acquisition (Just Terms Compensation) Act 1991.*

In doing so the REF helps to fulfil the requirements of section 5.5 of the EP&A Act including that RVC 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 activity 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 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; and,
- The potential for the activity 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 activity must be reconsidered, or a Project REF must be prepared.

# 2. The activity

Ecoteam has been engaged by Terania Consulting on behalf of RVC to prepare a Review of Environmental Factors (REF) for a proposed activity (the activity). The activity will remediate a 100 m section of roadway and adjacent riparian zone on Upper Cherry Tree Road, Upper Mongogarie NSW, 2470. The activity is funded under Disaster Recovery Funding Arrangements (DRFA) provided by Commonwealth Government.

## Activity location

The activity is located in the RVC Local Government Area (LGA) on the far north coast of NSW, on Upper Cherry Tree Road 32 km southwest of Casino. The extent of the activity area site is approximately 100 m long located on the eastern boundary of Lot 1 DP 832403, adjacent to and within the riparian zone of Cherry Tree Creek. See **Table 2.1-1** for location details. **Figure 1** presents the landscape context of the activity.

Table 2.1-1 Activity location details.

| Location details | Description |
|---|---|
| **Title** | RVC – Upper Cherry Tree Road, Landslip – REF |
| **Damage Number (DM)** | NA |
| **Road name and number** | Upper Cherry Tree Road, Upper Mongogarie. |
| **Lot/DP** | Lot 1 DP 5125 (northern boundary) |
| **Closest crossroad(s):** | Upper Mongogarie Road (1.3 km south) |
| **Land required for acquisition** | NA |
| **Waterway name:** | Cherry Tree Creek |
| **Local government Area:** | Richmond Valley Council |
| **Local Aboriginal Land Council** | Casino-Boolangle |
| **Current Zoning (Richmond Valley LEP 2012)** | RU1 – Primary Production, W1 – Natural Waterways |
| **Road Hierarchy** | Upper Cherry Tree Road: Local Road, On-ground, Unsealed Surface, One Lane (Transport NSW ID 67900). |
| **Coordinates as Latitude/Longitude** | Lat -28.968511, Long 152.852063 |

**Figure 1.** Location of the activity area on Upper Cherry Tree Road (red outline) and landscape context (RVC IntraMaps).

## 2.1 Description of activity

The activity area on Upper Cherry Tree Road, Upper Mongogarie incurred extensive damage during the 2022 high rainfall events. Failure of a culvert and bank saturation resulted in a gully erosion approximately 8 m deep from cherry tree creek to the roadway. Soil debris was washed into the creek, leaving a heavily eroded riparian bank below the road. Conditions at the activity area are stable; however, could deteriorate and cause increased risk and damage over time to Upper Cherry Tree Road infrastructure, residential properties and environment if not remediated.

The area requiring remediation is approximately 100 m long (**Figure 1**). The activity will involve remediation of the roadway easement and adjacent riparian zone through the installation of rock armouring. The proposed activity plans are shown in **Appendix A.**

## Main works

The activity is planned to start in Q3 – Q4 of 2024 and run for up to 2 – 4 months. Ancillary activities will include a TMP, erosion and sediment control plan and operation of a compound area off site.

### Landslip remediation

A culvert will be installed beneath Upper Cherry Tree Road, followed by rock armoring on the Cherry Tree Creek bank to prevent further erosion. Reinforced concrete pipes will be installed under the road, which will drain onto the new rock armoring. Approximately 8 m of uncontrolled fill placed after the landslip event will be excavated and benched to allow more suitable fill material to be placed. A thick layer of armor rock will then be installed from top of the bank down the slope and extending to the underlying creek bed. Geofabric will separate the amour rock from the fill material beneath. A capping layer of soil will be installed at top of the bank adjacent to Upper Cherry Tree Road. Vegetation at the top of the slip may be removed to allow access for machinery and risk reduction works. Vegetation that has established across the landslip since the event will be removed. Damaged fence lines will be reinstated along property boundaries affected by the activity. See **Appendix A** for preliminary design plans. See **Appendix B** for site photographs.

Excavated creek bank material will be either reused within the rock armouring or removed to an appropriate stockpile compound for waste classification. Imported rock will be transferred to site for use as required. Silt containment curtains will be installed in the creek for the duration of the activity. Additional erosion and sediment control measures will be deployed where appropriate. Activity area will be stabilised before moving on to minimise erosion and downstream impacts.

### Traffic management

A Traffic Management Plan (TMP) will be in place for the duration of the activity. The road will remain open through the existing side access track or through alternating single lane access to facilitate risk reduction. Following completion of the activity and remediation of site, normal traffic conditions will be reinstated.

### Site Remediation

Traffic and erosion and sediment controls would be removed following the completion of works. All temporary hard stand area and compound areas would be carefully removed to re-establish the ground profile. Removed vegetation will be replaced or remediated with endemic plantings to stabilise the riparian zone and/or replenish habitat.

### Anticipated works

The anticipated works associated with the activity include:

- Carry out traffic control in accordance with TMP;
- Install sediment and erosion controls;
- Clear vegetation;
- Install new culvert;
- Excavate and bench across slip;
- Install thick armour rock;
- Place capping fill at top of slip;
- Replace impacted boundary fences;
- Stabilise and revegetate activity area;
- Remove erosion and sediment controls;
- Reinstate safe traffic access; and
- Align with the aims and objectives outlined in SEPPIT (2021) and other legislation and guidelines listed in this REF.

### Plant and machinery List

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

## Objectives of activity

The objective of the activity is to remediate and improve safety on a 100 m section of roadway and adjacent riparian zone, damaged during the 2022 extreme weather events on Upper Cherry Tree Road, Upper Mongogarie NSW, 2470.

## Ancillary facilities

Table 2.1-1 Ancillary facilities

| Ancillary facilities | | |
|---|---|---|
| **Will the activity require the use or installation of a compound site?**<br><br>Plant and/or equipment will be stored within the roadway easement or at a pre-established and approved compound area in proximity to the activity.<br><br>Compound related activities such as vehicle and material storage will not require removal of significant vegetation. | ☒Yes | ☐No |
| **Will the activity require the use or installation of a stockpile site?**<br><br>All waste material and debris would be removed from the activity via truck haulage and either temporarily stockpiled at an approved roadside stockpile site or disposed at the Nammoona Waste and Resource Recovery Facility, or the closest approved waste disposal facility.<br><br>The temporary stockpile sites would be established, operated and decommissioned in accordance with RVC Guidelines and the RMS Stockpile Site Management Guideline dated May 2015. | ☒Yes | ☐No |

| | | |
|---|---|---|
| **Are any other ancillary facilities required (e.g., temporary plants, parking areas, access tracks)?**<br><br>Parking areas will be required for workers and plant machinery. These will be located within the pre-established and approved compound area or within the roadway easement in proximity to the activity. | ☒Yes | ☐No |

## Proposed duration of activity

The estimated duration of the activity is 2 – 4 months beginning Q3 to Q4 of 2024. Given timeframes are indicative only and are contingent on a number of factors including but not limited to planning and logistical issues, construction issues, weather, local events, and unexpected finds. Any continuity or extension of the activity will need to be revaluated to the fullest extent possible and be re-negotiated with the landholders.

## Estimated length of construction period

The estimated length of construction is approximately 2 – 4 months. The estimated length of construction is indicative only and contingent on a number of matters including resolution of any construction issues potentially encountered during the works as well as weather conditions and local events.

# 2.2 Need and options

## Options considered

The two options considered for the activity include:

- Option 1 – Do nothing and retain existing roadway and riparian zone as is with no remediation or maintenance; and
- Option 2 – Remediate the activity area as outlined in the proposal design.

**Option 1:** Do Nothing. This option is considered unsuitable. The road surface and riparian zone on Upper Cherry Tree Road, are currently degraded, and increasing unsafe for motorist and the environment. Further damage to infrastructure and environment is likely without proportionate actions to remediate the activity area and associated infrastructure. This option would have significant ongoing future environmental, economic and social impacts as the issues compound.

**Option 2**: This option is considered to be the preferred option with regards to addressing the activity objectives. This will allow for the remediation of the roadway and riparian zone and improve safety for motorists. This would also avoid ongoing costs and environmental impacts incurred through regular repairs and degradation.

**Preferred Option**: With appropriate design, consultation, safeguards and legislative requirements in place; The preferred option would be Option 2. Option 2 would provide long term infrastructure benefits to the community with minimal environmental impacts. This will deliver on RVC's desired aims, objectives and the requirements of this activity.

The preferred option is **Option 2.**

## Justification for the activity

The proposal is considered justified as it is reinstating essential community infrastructure that was damaged during extreme weather events. The level of environmental impact is not considered to be significant and can be minimised with the adoption of the safeguards identified in this document. The activity has received funding from the DRFA for replacement of the disaster damaged asset. The activity aligns with objectives for RVC to provide safer roads and better environmental outcomes.

# 2.3 Statutory and planning framework

## State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPPTI)

SEPPTI (2021) aims to facilitate the effective delivery of infrastructure across the state, including for roads and road infrastructure facilities. Clause 94 of the SEPPTI 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 works 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 Richmond Valley Council, it can be assessed under Division 5.1 of the EP&A Act. Development consent from council is not required.

The activity 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.

## Other relevant legislation and environmental planning instruments

**Richmond Valley Local Environmental Plan (RVLEP) 2012**

The proposed works are permitted under the Richmond Valley Local Environmental Plan (RVLEP) 2012. Consent is not required as the proposal is being undertaken through the provision of the SEPPTI (2021).

**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)**

Biodiversity Conservation Act 2016 (BC Act) The assessment of potential impacts to threatened species and endangered ecological communities (EECs) listed under the BC Act is required in accordance with Part 7.3(1) of the BC Act and s1.7 of the EP&A Act and is covered by this REF. An ecological assessment and review of relevant databases relating to the possible occurrence of State listed threatened species, populations and/or ecological communities was undertaken for the purposes of this review (refer to Section 3). The result of this assessment and review concluded that no State listed threatened species, populations and/or communities are likely to be significantly impacted by the activity, therefore a Species Impact Assessment is not required.

Matters of National Environmental Significance (MNES) have been considered in Section 4.2 of this REF. Additionally, an assessment and review of relevant databases relating to the possible occurrence of Nationally listed threatened species, populations and/or ecological communities was undertaken for the purposes of this review (refer to Section 3 and **Appendix C**). The assessments concluded that no MNES or Commonwealth Land would be likely to be impacted by the activity. See **Appendix C**, **D**, and **E** for threatened species summaries and complete search result data.

**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.

**Environmental Planning and Assessment Act 1979 (NSW)**

The *Environmental Planning and Assessment Act 1979* (EP&A Act) and the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation) provide the framework for development and environmental assessment in NSW. As RVC is the proponent, the works have been assessed as 'development permissible without consent' under Part 5 of the EP&A Act. Therefore, the activity has been assessed in accordance with Sections 5.5, 5.6 and 5.7 of that Act by examining and considering to the fullest extent possible all matters which are likely to affect the environment. Environmental Planning Instruments made under the EP&A Act 1979 may also be relevant and are addressed below.

**Land Acquisition (Just Terms Compensation) Act 1991 (NSW)**

Any land acquisitions would be pursued under the Land Acquisition (Just Terms Compensation) *Act 1991* and a land swap negotiated under a Deed of Agreement. Access to property and use of access tracs would be conducted with consent from land holder/s. Works procedures will ensure no encroachment or impacts will occur to other surrounding lands adjoining properties without prior consultation and agreements.

**State Environmental Planning Policy (Koala Habitat Protection) 2020**

*State Environmental Planning Policy (Koala Habitat Protection) 2020* aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for *Phascolarctos cinereus* (Koala) to ensure a permanent free-living population over their present range and reverse the current trend of Koala population decline. *Koala Habitat Protection SEPP* applies to development under *part 4 of the EP&A Act 1979*. As the activity is not 'development', Koala Habitat Protection SEPP does not apply. Regardless, consideration of impacts to koala and koala habitat may still be relevant under the BC Act 2016.

**Local Land Services Act 2013 (NSW)**

The objects of the *Local Land Services Act 2013* include 'to ensure the proper management of natural resources in the social, economic and environmental interests of the State, consistently with the principles of ecologically sustainable development. The Act regulates the clearing of native vegetation; however, section 60(O)(b)(ii) excludes the need for consent where the clearing is an activity carried out by a determining authority within the meaning of *Part 5 of the EP&A Act 1979*.

**Fisheries Management Act 1994 (NSW)**

*Fisheries Management Act 1994* (FM Act) has been considered throughout this report with particular regard to section 3. The objectives of the Act are to conserve, develop and share the fishery resources of the State for the benefit of present and future generations. The primary objective of the FM Act is to conserve fish stocks and key fish habitats, to conserve threatened species, populations and ecological communities of fish and marine vegetation, and to promote ecologically sustainable development, including the conservation of biological diversity. The FM Act regulates activity's which can take place within and adjacent to waterways where impact to water quality and aquatic habitat could occur.

# 2.4 Community and agency consultation

## State Environment Planning Policy (Transport and Infrastructure) 2021 (SEPPTI) consultation

Part 2 of the SEPPTI 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 2.4-1 Consultation required with Council.

| **Is consultation with Council required under sections 2.10 – 2.12 and 2.14 of the SEPPTI?** | | |
|---|---|---|
| **Are the works likely to have a substantial impact on the stormwater management services provided by council?**<br><br>The activity will improve stormwater infrastructure through the installation of a replacement culvert that drains into Cherry Tree Creek with extensive scour protection. | ☐Yes | ☒No |
| **Are the works likely to generate traffic to an extent that will strain the capacity of the existing road system in a local government area?**<br><br>It is likely that minor traffic impacts along Upper Cherry Tree Road would be experienced during the activity.<br><br>A TMP will need to be developed to manage vehicle, pedestrian and bicycle traffic to ensure that the local community is not significantly impacted.<br><br>A TMP will be in place for the duration of the activity. The road will remain open through the existing side access track or through alternating single lane access to facilitate risk reduction. Following completion of the activity and remediation of site, normal traffic conditions will be reinstated. | ☐Yes | ☒No |
| **Will the works involve a connection to council-owned sewerage system? If so, will this connection have a substantial impact on the capacity of the system?** | ☐Yes | ☒No |
| **Will the works involve a connection to a council-owned water supply system? If so, will this require the use of a substantial volume of water?** | ☐Yes | ☒No |
| **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 | ☒No |
| **Will the works involve more than a minor or inconsequential excavation of a road or adjacent footpath for which the council is the roads authority and responsible for maintenance?**<br><br>Excavations are required to remove degraded riparian zone.<br><br>Excavated material will be subject to testing/classification prior to reuse or disposal off site or outside of a roadway easement. | ☒Yes | ☐No |

| | | |
|---|---|---|
| **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 | ☒No |
| **Is the activity within the coastal vulnerability area and is inconsistent with a certified coastal management program applying to that land?**<br><br>Note: See interactive map here: *https://www.planning.nsw.gov.au/policy-and-legislation/coastal-management*. Note the coastal vulnerability area has not yet been mapped.<br><br>Note: A certified coastal zone management plan is taken to be a certified coastal management program. | ☐Yes | ☒No |
| **Are the works located on flood liable land? If so, will the works change flooding patterns to more than a minor extent?**<br><br>Note: Flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the manual entitled Floodplain Development Manual: the management of flood liable land published by the New South Wales Government.<br><br>Review of RVC IntraMaps indicates the activity area is outside the scope of the flood study area. The activity involves remediation of the Cherry Tree Creek riparian zone. High rainfall events may trigger flooding in waterways. It is advised that works be scheduled to avoid seasonal wet weather events. | ☐Yes | ☒No |

Table 2.4-2 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 SEPPTI?** | | |
|---|---|---|
| **Are the works located on flood liable land? If so, do the works comprise more than minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance.** | ☐Yes | ☒No |
| **Are the works adjacent to a national park, nature reserve or other area reserved under the National Parks and Wildlife Act 1974, or on land acquired under that Act?** | ☐Yes | ☒No |
| **Are the works on land in Zone C1 National Parks and Nature Reserves or in a land use zone equivalent to that zone?** | ☐Yes | ☒No |
| **Are the works adjacent to an aquatic reserve or a marine park declared under the Marine Estate Management Act 2014?** | ☐Yes | ☒No |
| **Is the activity in the foreshore area as defined by the Sydney Harbour Foreshore Authority Act 1998 (now known as the Place Management NSW Act 1998)?** | ☐Yes | ☒No |

| | | |
|---|---|---|
| **Are the works for the purpose of residential development, an educational establishment, a health services facility, a correctional facility or group home in bush fire prone land?** | ☐Yes | ☒No |
| **Would the works increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? (Note: the dark sky region is within 200 kilometres of the Siding Spring Observatory)** | ☐Yes | ☒No |
| **Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in clause 5.15 of Lockhart LEP 2012, Narrandera LEP 2013 and Urana LEP 2011).** | ☐Yes | ☒No |
| **Are the works on land in a mine subsidence district within the meaning of the Coal Mine Subsidence Compensation Act 2017?** | ☐Yes | ☒No |

Table 2.4-3 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 | ☒No |
| **Does the proposal include a bus depot?** | ☐Yes | ☒No |
| **Does the proposal include a permanent road maintenance depot or associated infrastructure, such as garages, sheds, tool houses, storage yards, training facilities and workers amenities** | ☐Yes | ☒No |

## Other agency and community consultation

These works have been discussed with the RVC customer service and communications team. Prior to commencing site work, the project team will notify the communications team who will arrange for traffic alerts and notify necessary residents in proximity to the works.

Works may require further consultation with the following agencies:

- Fisheries NSW;
- North Coast Local Land Services;
- NSW Crown Lands; and
- Transport for NSW.

# 3. Environmental assessment

This section provides a detailed description of the potential environmental impacts associated with the construction and operation of the activity. All aspects of the environment potentially impacted upon by the activity 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 C**. Site-specific safeguards are provided to ameliorate the identified potential impacts in **Section 3** and summarised in **Section 5**.

## 3.1 Soil

Table 3.1-1 Soil

| Description of existing environmental and potential impacts | | |
|---|---|---|
| **Are there any known occurrences of salinity or acid sulfate soils (ASS) in the area?**<br><br>A search of the NSW eSpade Spatial Viewer Website identified that there is no known occurrences of acid sulphate soils within the proximity of the activity.<br><br>Acid sulphate soils are predominantly located near coastal areas. | ☐Yes | ☒No |
| **Does the activity involve the disturbance of large areas (e.g., >2ha) for earthworks?** | ☐Yes | ☒No |
| **Does the site have constraints for erosion and sedimentation controls such as steep gradients or narrow corridors?**<br><br>The activity area is located within a gently undulating floodplain, with a steep gradient from the roadway into Cherry Tree Creek, with potential run-on and run-off impacts.<br><br>A search for land and soil capability in the NSW eSpade Spatial Viewer Website identified slight but significant limitations for water erosion hazards and moderate limitations for overall hazards.<br><br>The activity area is in a moderately disturbed agricultural landscape with sensitive receiving environments. Agricultural land use such as cattle grazing can increase the risk of erosion through the trampling of the soft sediment in river and creek banks. Necessary erosion and sediment controls can be implemented to minimise pollution risk, such as creating cattle exclusion zones in the riparian zone to allow for bank stabilisation. | ☒Yes | ☐No |
| **Are there any sensitive receiving environments that are located in or nearby the likely activity footprint or that would likely receive stormwater discharge from the project?**<br><br>A search of the NSW Planning Portal Spatial Viewer identified sensitive receiving environments that could receive stormwater discharge from the activity.<br><br>Sensitive receiving environments in proximity include Cherry Tree Creek located adjacent to the activity, and agricultural land. Due to the topography of the landscape | ☒Yes | ☐No |

and distance from the activity, it is likely that Cherry Tree Creek would receive stormwater discharge without appropriate safeguards in place.

Sensitive receiving environments in the greater vicinity of the activity include (but are not limited to), waterways, drinking water catchments, National Parks, and forests.

**Is there any evidence within or nearby the likely footprint of potential contamination?** ☐Yes ☒No

A search of the following databases was undertaken to identify any potential sites of contamination within 1km of the proposed site;

- NSW EPA Contaminated Land Record of Notices;
- NSW DPI Cattle Dip site mapping data; and
- RVC IntraMaps (Potential Contaminated layer).

Searches of the NSW EPA Contaminated Land Record of Notices did not identify any potential sites of contamination in proximity to the activity.

Search of the RVC IntraMaps identified mapped potential contamination in proximity to the activity area (**Figure 2**).

**Figure 2.** Potential contaminted land mapping in proximity to activity area (red outline) (RVC IntraMaps).

Table 3.1-2. List of potential contaminated land from RVC IntraMaps.

| Lot/ DP | Cause of Contamination | Proximity to Activity | Remediation Status |
|---|---|---|---|
| Lot 21 DP 1174839, Lot 43 DP 755618, Lot 48 DP 755618. | Cattle Dip Site Affected Land – T1 | >600 m | Potentially Contaminated |

| | | |
|---|---|---|
| The activity will be contained to the road reserve and is not expected to impact on the Dip Sites or any mapped potentially contaminated lands.<br><br>Should any unexpected suspected contaminated material be encountered such as asbestos or petrochemical leachate, etc., stop work and obtain assessment and management advice from a contamination professional. | | |
| **Is the likely activity footprint in or nearby highly sloping landform?**<br><br>The activity will take place on a riparian embankment within a gently undulating floodplain region. The embankment is narrow with a steep slope from the top of landscape to waterway. Basic erosion and sediment controls including floating silt containment curtains can be implemented to minimise pollution risk. | ☒Yes | ☐No |
| **Is the activity likely to result in more than 2.5ha (area) of exposed soil?** | ☐Yes | ☒No |
| Site management and rehabilitation will incorporate best management erosion and sediment control practices such as those found in the Landcom's "Blue Book" (4th Edition) (2008) on erosion and sediment control. | | |

# Safeguards

Safeguards to be implemented are:

1. Erosion and sediment control measures are to be implemented and maintained to:
   - Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets;
   - Reduce water velocity and capture sediment on site;
   - Minimise the amount of material transported from the site to surrounding pavement surfaces; and
   - Divert clean water around the site.
2. Erosion and sediment control measures are not to be removed until the works are complete, and areas are stabilised.
3. Erosion and sedimentation controls to be checked daily and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.
4. Work areas are to be stabilised progressively during the works.
5. Erosion and sedimentation controls are to be checked and maintained on a regular basis (such as post installation prior to works and or post >10mm rainfall events), using the Erosion and Sediment Control Inspection form*.*
6. Existing ground cover vegetation will be retained to the greatest extent possible to minimise the area of exposed soils.
7. A progressive erosion and sediment control plan is to be prepared for all relevant components of the works. All safeguards related to erosion and sediment control would be undertaken in accordance with the Landcom, Soils and Construction Guidelines (the Blue Book).
8. If contaminated areas are encountered during construction, appropriate control measures would be implemented to manage the immediate risks of contamination. All other works that may impact on the contaminated area would cease until the nature and extent of the contamination has been confirmed and any necessary site-specific controls or further actions identified in consultation with the RVC Environment Officer/Manager and/or EPA.
9. Floating silt containment curtains are to be installed in the creek to prevent any sediment from entering the waterway.

# 3.2 Waterways and water quality

Table 3.2-1 Waterways and water quality.

| Description of existing environment and potential impacts | | |
|---|---|---|
| **Is the activity located within, adjacent to or near a waterway?**<br><br>The activity area is adjacent to Cherry Tree Creek (**Figure 3**).<br><br> <br><br>**Figure 3.** Waterways in proximity to activity area (red outline), Cherry Tree Creek, Drainage Lines and Hydro Areas (blue) (RVC IntraMaps).<br><br>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 Cherry Tree Creek and other waterways in proximity to the activity.<br><br>Silt containment curtains would be installed at the base of Cherry Tree Creek for the duration of the activity, to maintain water quality and fish passage.<br><br>Excavations and dredging are required to remove the degraded riparian bank. Excavations, imported materials, and stockpiles will need to be managed to avoid downstream sedimentation impacts on gullies and waterways. Mitigation measures would include diverting clean water around the works and retaining polluted stormwater within the boundaries of the works for storage and strategic release. | ☒Yes | ☐No |
| **Is the location known to flood or be prone to water logging?**<br><br>The activity is mapped adjacent to a waterway (**Figure 3**). High rainfall events may trigger flooding in waterways. It is advised that works be scheduled to avoid seasonal wet weather events. | ☒Yes | ☐No |
| **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))?** | ☐Yes | ☒No |

| | | |
|---|---|---|
| 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***).<br><br>Using the NSW Planning Portal Spatial Viewer the activity is located well outside the catchment areas of concern. | | |
| **Would the activity be undertaken on a bridge or ferry?** | ☐Yes | ☒No |
| **Is the activity likely to require the extraction of water from a local water course (not mains)?** | ☐Yes | ☒No |

## Safeguards

Safeguards to be implemented are:

10. There is to be no release of dirty water into drainage lines and/or waterways.
11. Water quality control measures are to be used to prevent any materials (e.g., concrete, grout, sediment etc) entering drain inlets or waterways.
12. Excess debris from cleaning and washing is to be removed immediately.
13. All fill brought to site is to be clean and free of fines and sediments prior to being placed.
14. Any wash down of plant, equipment or materials is to be undertaken in a bunded area, with sediment regularly collected and removed from site.
15. All fuels, chemicals and liquids are to be stored in an impervious bunded area a minimum of 50 metres away from:
    - Rivers, creeks, or any areas of concentrated water flow;
    - Flooded or poorly drained areas; and
    - Slopes above 10%.
16. An emergency spill kit is to be kept on site at all times and maintained throughout the construction work. The spill kit must be appropriately sized for the volume of substances at the work site.
17. All workers will be advised of the location of the spill kit and trained in its use.
18. The work area should be free of excess concrete, sediment, and other waste materials when construction work is completed to prevent any impacts on stormwater water quality after construction.
19. Floating silt containment curtains would be installed in the creek for the duration of the activity to maintain water quality.

# 3.3 Noise and vibration

Table 3.3-1 Noise and vibration.

| **Description of existing environmental and potential impacts** | | |
|---|---|---|
| **Are there any residential properties or other noise sensitive areas near the location of the activity that may be affected by the activity (i.e., church, school, hospital)?**<br><br>The activity is located in a sparsely populated rural landscape on a local road with no major community or commercial premises in close proximity that are likely to be impacted by noise. Noise generated from heavy vehicle movement and construction machinery may cause minor, short term impacts to residents close to the activity. | ☒Yes | ☐No |

There is one sensitive receiver within 100 of the activity which may experience impacts associated with noise. See Table 3.3-2 for details and **Figure 4** for locations.

Table 3.3-2 Noise sensitive receivers

| Sensitive receiver | Type | Distance from activity (m) |
|---|---|---|
| 1 Dwelling | Residential | <100 m |

**Figure 4.** Sensitive receiver (residential dwelling) in proximity to activty area (red outline) likely affected by constrctuion noise (RVC IntraMaps).

**Is the activity going to be undertaken only during standard working hours?** ☒Yes ☐No

Construction of the activity will take place during normal work hours.

The working hours will be confined to Monday to Friday 7 am to 6 pm, Saturday 8 am to 1 pm with No work on Sundays or public holidays.

The proposed hours are in accordance with the Interim Construction Noise Guideline and Council working hours.

**Is any explosive blasting required for the activity?** ☐Yes ☒No

**Would construction noise or vibration from the activity affect sensitive receivers?** ☐Yes ☒No

**Noise:**

The construction activity would generate minor noise impacts for 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.

It is unlikely the closest sensitive receivers will experience more than minor noise impacts and during the day for the duration of the activity with potential for minor impacts during key stages of the demolition stages of the activity. The results of the noise estimator stated that noise affected up to 200 m, with moderate affects up to 95 m. Residences within proximity would require notification of works (**Appendix F**).

The environment around the roadside easement is regularly subjected to increased noise and vibration impacts due to proximity to roadway and associated noise and vibration creation sources including vehicle and truck traffic, roadway maintenance, and agricultural and horticultural activities. 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 Transport NSW Construction Noise and Vibration guideline.

**Vibration:**

**Table 3.3-3** 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.

Table 3.3-3 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 |
| **Small Hydraulic Hammer** | (300 kg - 5 to 12t excavator) | 2 m | 5 m | 7 m |
| **Medium Hydraulic Hammer** | (900 kg – 12 to 18t excavator) | 7 m | 19 m | 23 m |
| **Large Hydraulic Hammer** | (1600 kg – 18 to 34t excavator) | 22 m | 60 m | 73 m |
| **Vibratory Pile Driver** | Sheet piles | 20 m | 50 m | 100 m |
| **Pile Boring** | ≤ 800 mm | 2 m (nominal) | 5 m | 7 m |
| **Jackhammer** | Hand held | 1 m (nominal) | 2 m | 3 m |
| **Profiler** | Wirtgen W210 | 4 m | - | - |
| **Asphalt Paver** | Vogele Super 1800-3 | 1 m | - | - |
| **Steel Drum Roller** | Hamm HD70 (Oscillating Mode) | 2 m | - | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Steel Drum Roller** | Hamm HD70 (Static Mode) | 1 m | - | - | | |
| **Would operation of the activity alter the noise environment for sensitive receivers? This might include, but not be limited to, altering the line or level of an existing carriageway, changing traffic flow, adding extra lanes, increasing traffic volume, increasing the number of heavy vehicles, removing obstacles that provide shielding including changing the angle of view of the traffic, changing the type of pavement, increasing traffic speeds by more than 10km/hr, or installing audio-tactile line markings.** | | | | | ☐Yes | ☒No |
| **Would the activity result in vibration being experienced by any surrounding properties or infrastructure during operation?** | | | | | ☐Yes | ☒No |

## Safeguards

Safeguards to be implemented are:

20. Works, including the loading and unloading of rock from stockpile sites, is to be carried out during normal work hours (i.e. 7am to 6pm Monday to Friday; 8am to 1pm Saturdays).
21. Any work that is performed outside normal work hours or on Sundays or public holidays must have measures in place to minimise noise impacts. Any works proposed outside of standard working hours for safety and efficiency reasons, would be subject to approval, notification and preparation of a management plan.
22. A management procedure will be in place for noise and vibration complaints that may arise from the construction work. Each complaint must be investigated and appropriate noise and/or vibration amelioration measures be put in place to mitigate future exceedances. This may include noise level monitoring if required.
23. All complaints are to be recorded on complaints register and attended to promptly.
24. All employees, contractors, and subcontractors are to receive an environmental induction.
25. The induction must at least include:
    - All project specific and relevant standard noise and vibration mitigation measures;
    - Relevant licence and approval conditions;
    - Permissible hours of work;
    - Any limitations on high noise generating activities;
    - Location of nearest sensitive receivers;
    - Construction employee parking areas;
    - Designated loading/unloading areas and procedures;
    - Site opening/closing times (including deliveries); and
    - Environmental incident procedures.

# 3.4 Air Quality

Table 3.4-1 Air quality.

| **Description of existing environmental and potential impacts** | | |
|---|---|---|
| **Is the activity likely to result in large areas (>2ha) of exposed soils?** | ☐Yes | ☒No |
| **Are there any dust sensitive receivers located within the vicinity of the activity during the construction period?**<br><br>Local air quality near the activity area is considered as ‘good AQC’ at the nearest monitoring station (Lismore) using the NSW SEED Rural Air Quality Network. Potential impacts associated with the amount of area likely to be | ☐Yes | ☒No |

| | | |
|---|---|---|
| exposed includes short term minor generation of air impurities such as dust and small solid particles.<br><br>The existing landscape includes large areas of vegetated and lands as well cleared agricultural land used for pastures. Agricultural uses 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 key stages of the activity at the site but this is mitigated with standard measures such as spraying water to suppress dust. Safeguards outlined below will minimise dust creation and emissions for the short duration of the activity. No increased, ongoing air pollution associated with the activity is expected during operation of the roadway. | | |
| **Is there likely to be an emission to air during construction?**<br><br>Air quality impacts include emissions of CO, $NO^2$ and $SO^2$ associated with combustion of diesel fuel and petrol from construction vehicles, plant and equipment and dust emissions associated with the activity. | ☒Yes | ☐No |

## Safeguards

Safeguards to be implemented are:

26. Measures (including watering or covering exposed areas) are to be used to minimise or prevent air pollution and dust.
27. Works (including the spraying of paint and other materials) are not to be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely.
28. Vegetation or other materials are not to be burnt on site.
29. Vehicles transporting waste or other materials that may produce odours or dust are to be covered during transportation.
30. Construction vehicles, plant and equipment should be maintained in good working order and switched off when not in use. No idling of construction vehicles is to be permitted.
31. Stockpiles or areas that may generate dust are to be managed to suppress dust emissions in accordance with RVC Guidelines.

# 3.5 Non-Aboriginal heritage

Table 3.5-1 Non Aboriginal heritage.

| **Description of existing environmental and potential impacts** | | |
|---|---|---|
| **Have online heritage database searches been completed?**<br><br>• NSW Heritage database;<br>• Commonwealth EPBC heritage list;<br>• Australian Heritage Places Inventory;<br>• Local Environmental Plan(s) heritage items; and<br>• ePlanning spatial viewer. | ☒Yes | ☐No |
| **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 activity?** | ☐Yes | ☒No |

| | | |
|---|---|---|
| No non-Aboriginal heritage or heritage conservation areas listed on any relevant heritage databases/registers are located in proximity of the activity. | | |
| **Are there any items of potential non-Aboriginal heritage significance which are not listed on relevant heritage databases/registers that are in the vicinity of the activity?** | ☐Yes | ☒No |
| **Is the activity likely to occur in or near features that indicate potential archaeological remains?** | ☐Yes | ☒No |
| There are no known non-Aboriginal heritage items located in proximity to the works.<br><br>Land acquisition discussions may reveal significant heritage within the property and will need to be considered in consultation landholder if required. | | |

## Safeguards

Safeguards to be implemented are:

32. If non-Aboriginal suspected heritage items and or suspected of historical nature are uncovered during the works, all works in the vicinity of the find must cease and the Project Manager contacted immediately. The Standard Management Procedure - Unexpected Heritage Items (RMS, 2015) will be followed:

- Stop work and contact PM and or RVC SFO;
- Contact engaged Heritage Consultant;
- Compete preliminary assessment and recording of the item;
- Formulate archaeological or heritage management plan;
- Formally notify the regulator by letter, if required; and
- Implement recommendations of the archaeological or heritage management plan; and
- Resume works.

# 3.6 Aboriginal heritage

Table 3.6-1 Aboriginal Heritage.

| **Description of existing environmental and potential impacts** | | |
|---|---|---|
| **Would the activity involve disturbance in any area that has not been subject to previous ground disturbances?**<br><br>The activity will take within the previously disturbed roadway easement and riparian zone. | ☐Yes | ☒No |
| **Have online AHIMS search been completed?**<br><br>An AHIMS search (ID# 929620) was completed for the identified works area. The activity area does not contain any known registered aboriginal objects or places (**Appendix G**). | ☒Yes | ☐No |
| **Is there potential for the activity to impact on any items of Aboriginal heritage?** | ☐Yes | ☒No |

| | | |
|---|---|---|
| **Would the activity involve the removal of mature native trees?**<br><br>There will be no significant impacts to the vegetation in proximity to the activity. Vegetation trimming should be avoided where possible. | ☐Yes | ☒No |
| **Would the activity impact on any features that may indicate any potential archaeological remains?**<br><br>The activity site has the potential to contain unknown Aboriginal objects. However, the past disturbance of the site reduces the heritage potential. The activity does not pose any potential impacts to known Aboriginal or non-Aboriginal heritage. | ☐Yes | ☒No |
| An AHIMS search has been conducted, returning nil sites in proximity of the activity. There are no registered sites listed within proximity of the activity. No further assessment is deemed necessary. No impact on Aboriginal heritage issues is expected. | | |

## Safeguards

Safeguards to be implemented are:

33. If suspected Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the Unexpected Heritage items Procedure be applied:

- Stop work and contact PM and or RVC;
- Contact engaged Heritage Consultant and where required LALC member;
- Compete preliminary assessment and recording of the item;
- Formulate archaeological or heritage man plan;
- Formally notify the regulator by letter, if required;
- Implement recommendations of the archaeological or heritage man plan; and
- Resume works.

# 3.7 Biodiversity

Table 3.7-1 Biodiversity.

| **Description of existing environmental and potential impacts** | | |
|---|---|---|
| **Have relevant database searches been carried out?**<br><br>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:<br><br>• BioNet threatened species records within the locality (10km radius);<br>• BioNet Vegetation Classification database (including a search to identify potential TECs present);<br>• NSW State Vegetation type Map (SEED);<br>• NSW WeedWise (DPI) website; and<br>• Commonwealth EPBC Act Protected Matters Search Tool (PMST).<br>In addition, review of the following mapping was undertaken:<br><br>• NSW Koala Habitat Information Base; and<br>• NSW DPI Fisheries threatened species distribution maps. | ☒Yes | ☐No |

| | | |
|---|---|---|
| Searches were conducted on the 11th of September 2024.<br><br>A site inspection was conducted on 27 August 2024. Ecoteam employees attended the site with preliminary designs plans. The entire length of the activity area was inspected with focus on any areas likely impacted by vegetation removal.<br><br>Analysis of threatened species records was undertaken to identify threatened species that could occur at the activity area. A Threatened Species 'Likelihood of Occurrence Assessment' was undertaken in **Appendix C**. | | |
| **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 activity? Both Federal and State listed matters must be considered.**<br><br>**Protected matters search tool**<br><br>PMST results contain any nationally protected matters under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) that may occur in or near a selected area (activity location). Full Protected matters search tool results are attached in **Appendix D**. The EPBC Protected Matters Report search identified the following features within 10 kilometres of the activity area:<br><br>• 57 listed threatened species (7 Critically Endangered, 17 Endangered, and 33 Vulnerable);<br>• 6 Threated Ecological Communities (TECs);<br>• 15 listed migratory species; and<br>• 21 Listed marine species.<br><br>**BioNet**<br><br>NSW BioNet database searches identified sightings database for 23 threatened species and 18 TECs known or predicted within 10 kilometres of the activity and listed as threatened under the BC and/or EPBC Acts. Full lists of threatened species and communities identified in the locality are attached in **Appendix E**. The BioNet Report search identified the following within 10 kilometres of the activity area:<br><br>• 0 Amphibia species;<br>• 0 Reptilia species;<br>• 14 Bird species;<br>• 6 Mammal species;<br>• 0 Insecta species;<br>• 3 Flora species;<br>• 17 TECs Known; and<br>• 1 TEC predicted.<br><br>Threatened species previously recorded within 10 kilometres of the proposal with the potential to occur on site are listed in **Table 3.7-2**.<br><br>Table 3.7-2 BioNet database records of threatened species detected near the activity. | ☒Yes | ☐No |

| Scientific and common name | Status * | Listing | Distance from activity |
|---|---|---|---|
| *Phascolarctos cinereus*<br>Koala | E<br>E | EPBC Act<br>BC Act | >100 m |

*V=Vulnerable, E=Endangered, CE=Critically Endangered.

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

SEED mapping identifies 6 PCTs in proximity to the activity area. There are large patches of native forest and agricultural land surrounding the activity. See below for PCTs in proximity:

- Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest;
- Clarence Sandstone Blackbutt-Bloodwood Forest;
- Far North Hinterland Grey Gum Grassy Forest;
- Clarence Lowland Ironbark-Spotted Gum Grassy Forest;
- Clarence Sandstone Rises Spotted Gum Grassy Forest; and
- Northern Lowland Swamp Turpentine Wet Forest.

**NSW DPI Fisheries threatened species**

Searches of the NSW DPI Fisheries threatened species distribution maps revealed potential habitat for the Southern Purple Spotted Gudgeon (*Mogurnda adspersa*) within Cherry Tree Creek and the activity area (**Figure 5**).

**Site Assessment**

The previous vegetation communities close to the activity area have been impacted by clearing for development of the road and the adjacent residential and agricultural infrastructure as well as by the landslip. The area surrounding the activity is a roadway that is continually cleared, and a riparian bank that has been degraded by the landslip, dominated by pasture grasses and juvenile native tree species. There are large, forested areas surrounding the activity that remain undisturbed from development.

Site assessment identified a number of vegetation species proximity to the activity area including a both native and invasive species. Native species included: Coast banksia (*Banksia integrifolia*), Wattle tree (*Acacia* spp.), Coachwood (*Ceratopetalum apetalum*), Bracken Fern (*Pteridium esculentum*), Sundew (*Drosera auriculata*), *Persicaria* spp., and other unidentified sedges and rushes. Invasive species included: Lantana (*Lantana camara*) and various pasture grass and herbaceous species.

| | | |
|---|---|---|
| **Is the activity likely to impact nationally listed threatened species, ecological communities, or migratory species?**<br><br>An assessment of the likelihood of occurrence of threatened species at the site has been undertaken based on review of BioNet records (**Appendix C**), and habitat features identified during site assessment. Species listed in the EPBC Protected Matter report were assessed only when BioNet records for that species occurred within the search area.<br><br>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 significantly increase or be introduced.<br><br>An assessment of significance under s.7.3 of the Biodiversity Conservation Act 2016 has been undertaken in **Appendix C**. The assessment concluded that it is unlikely to result in a significant impact on the local occurrence of assessed threatened species and communities. | ☒Yes | ☐No |
| **Does the activity involve pruning, trimming or removal of any tree/s?**<br><br>The activity will take place primarily within the already disturbed areas of the roadway easement and riparian zone which has been degraded by the landslip. There is minor vegetation in the activity area that may be removed. There are native juvenile tree species that have established since the landslip occurred in 2022, as well as mature trees on the riparian edge. It is recommended that these trees are relocated/replanted in the riparian zone following completion of the activity.<br><br>A targeted search for threatened flora species likely to occur across the activity was undertaken. One fauna species has been identified within 100m of the activity (**Table 3.7-2**).<br><br>There may be some regrowth trees and shrubs removed in previously disturbed areas to carry out works. Mature trees may be removed. Any vegetation removal required for material laydown and parking will be inspected by council staff prior to works beginning.<br><br>Removed vegetation will be replaced or remediated with endemic plantings to stabilise the riparian zone and/or replenish habitat. | ☒Yes | ☐No |
| **Would the activity require the removal of any other vegetation?**<br><br>There will be some regrowth trees and groundcovers removed but this we mainly be from previously disturbed areas.<br><br>Any vegetation that requires removed should be replaced/compensated with endemic plantings to stabilise site and reduce chance of further weed invasion. The site will be revegetated with native endemic vegetation where possible. | ☒Yes | ☐No |
| **Would the activity affect any tree hollows or hollow logs?** | ☐Yes | ☒No |

| | | |
|---|---|---|
| No dead trees or hollow logs were observed in the activity area. Some mature or hollow bearing trees may be removed from the lip of the land slip.<br><br>large woody debris (snags) within the waterway and deposited on the banks were observed. These will be retained onsite and reposited across the rock armouring and waterway and bank where required.<br><br>Dead wood/trees across the activity area would be dropped or repositioned where required and kept on site to retain and improve potential habitat. This will also reduce waste.<br><br>Dead trees, fallen logs, and snags within waterways provide valuable habitat and ecosystem functions for numerous native threatened species. | | |
| **Are there any known areas of outstanding biodiversity value or areas mapped as 'littoral rainforest' or 'coastal wetland' in the Coastal Management SEPP in or within the vicinity of the activity?** | ☐Yes | ☒No |
| **Would the activity provide any additional barriers to the movement of wildlife?**<br><br>The activity involves the installation of rock armouring that will match the existing slope of the riparian bank. There should be no additional barriers to the movement of wildlife. | ☐Yes | ☒No |
| **Would the activity disturb any natural waterways or aquatic habitat?**<br><br>The activity area is adjacent to Cherry Tree Creek. The scope of works has temporary risks for erosion and sedimentation during construction. An assessment of the NSW DPI Fisheries threatened species distribution maps found one freshwater threatened species (Southern Purple Spotted Gudgeon) mapped in the activity area. Cherry Tree Creek is listed as key fish habitat (**Figure 5**).<br><br> <br><br>**Figure 5.** Freshwater threatened species distribution map near the activity area (red outline), key fish habitat (blue) Southern Purple Spotted Gudgeon (purple line) (Fisheries NSW Spatial Data Portal). | ☒Yes | ☐No |

| | | |
|---|---|---|
| Impacts to this waterway would be limited by implementing standard mitigation measures that minimise the extent and nature of polluted water entering Cherry Tree Creek and other waterways in proximity to the activity.<br><br>A Part 7 Fisheries Permit will be required under section 200, and 219 of the *Fisheries Management Act 1994*, as dredging and reclamation works and obstruction of fish passage would occur on Cherry Tree Creek, as part of the activity.<br><br>Excavations are required to remove the degraded riparian bank, for the installation of rock armouring. Silt containment curtains would be installed in the creek for the duration of the activity to protect freshwater species.<br><br>The breeding season for the Southern Purple Spotted Gudgeon spans from November to March. This coincides with the wet season. It has been recommended that works occur outside of this period to avoid flood risk and downstream impacts on habitat. There is no aquatic flora or fauna likely to be impacted as a result of the activity. | | |
| **Would the activity disturb any crevices or other locations (such as on bridges and culverts) for potential bat habitat?** | ☐Yes | ☒No |
| A Threatened Species Test of Significance was deemed necessary to adequately address potential significant impacts posed by the activity (7.3 of the *Biodiversity Conservation Act 2016*) (**Appendix C**). Given the scope of the activity and impacts on surrounding environment, there are no likely significant risks posed with the appropriate safeguards followed. | | |

# Safeguards

Safeguards to be implemented are:

34. There is to be no disturbance or damage to threatened species or areas of outstanding value.
35. Works are not to harm threatened fauna (including where they inhabit bridges or other structures e.g., timber fence posts or maritime piles).
36. As part of the site induction process, provide all site personnel with information on the Biodiversity Values of the study area, including potential threatened species, no-go areas, and responsibilities under relevant environmental legislation, including but not limited to the EP&A Act, BC Act and EPBC Act and associated management plans for individual species.
37. Should unexpected, threatened fauna be located at any time during construction, cease work immediately in the area to prevent further harm to the individual. Contact Council's Environmental Officer and a suitably qualified ecologist to determine if further assessment or management plans are required.
38. All pathogens (e.g., Chytrid, Myrtle Rust and Phytophthora) are to be managed in accordance with NSW Biodiversity Guidelines and DECC Statement of Intent 1: Infection of native plants by Phytophthora cinnamomi (for Phytophthora).
39. Declared noxious weeds are to be managed according to requirements under the Biosecurity Act, 2015.
40. Works are not to create an ongoing barrier to the movement of wildlife.
41. Exclusion zones are to be established around sensitive vegetation and habitat areas including: vegetation stands, wildlife corridors, koala trees and riparian zones where possible
42. Construction works should be confined to daylight hours with minimal lighting associated with operation of the activity and site compounds to be left on during night-time hours.
43. All equipment should be thoroughly cleaned before being brought to site to minimise the potential to spread biosecurity risks including weed seeds, soil-based pathogens, or fire ants.
44. Procedures to adequately manage and store waste products and material in designated areas on the site should be established.

45. All equipment should be thoroughly cleaned before being brought to site to minimise the potential to spread biosecurity risks including weed seeds, soil-based pathogens, or fire ants.
46. All waste and construction materials are removed from the site and disposed of at a licensed facility.
47. All environmental controls such as sediment fencing are removed from the site once stabilisation has occurred.
48. The activity area should be checked prior to works commencing for any signs of fire ants or fire ant nests. If observed, works in the area must cease and DPI notified immediately on 1800 680 244 or https://forms.bfs.dpi.nsw.gov.au/forms/9247. Characteristics of the ants or nests can be found at ***https://www.dpi.nsw.gov.au/dpi/bfs/insect-pests/rifa/Seen-them-call-us***.
49. Floating silt containment curtains would be installed in the creek for the duration of the activity to protect freshwater species.

# 3.8 Trees

Table 3.8-1 Trees.

| **Description of existing environmental and potential impacts** | | |
|---|---|---|
| **Does the activity involve pruning, trimming or removal of any tree/s?**<br><br>There will be no significant impacts to the vegetation in proximity to the activity. Some overhanging trees from the riparian bank and/or roadway may be removed. There are native juvenile tree species that have established since the landslip occurred in 2022, as well as mature trees on the riparian edge. It is recommended that these trees are relocated/replanted in the riparian zone following completion of the activity.<br><br>Removed vegetation will be replaced or remediated with endemic plantings to stabilise the riparian zone and/or replenish habitat. | ☒Yes | ☐No |
| **Do the trees form part of a streetscape, an avenue or roadside planting?** | ☐Yes | ☒No |
| **Have the trees been planted by a community group, Landcare group or by council or is the tree a memorial or part of a memorial group e.g., has a plaque?** | ☐Yes | ☒No |
| **Do the trees form part of a heritage listing or have other heritage value?** | ☐Yes | ☒No |

## Safeguards

Safeguards to be implemented are:

50. No go zones are to be established to protect trees within and adjacent the activity area. No building materials or other items are to be placed or stored within the no go areas and all measures must be taken to prevent damage to trees and other vegetation (including root systems).
51. No soil or fill material is to be placed within the dripline of a tree or to cause changes in the surface level.
52. Prior to tree clearing, trees to be removed would be clearly marked (with spray paint on trunks).
53. Strategic pruning of mature trees is to be in accordance with Part 5 of the Australian Standard 4373-2007 Pruning of amenity trees, with arborist report and ecologist advice
54. If any damage occurs to native vegetation within the no go zones or outside of the proposal extent, the Project Manager will be notified and will establish strategies for mitigation of impacts, site restoration and reporting as required.
55. Vehicles and plant/equipment are to be kept away from environmentally sensitive areas and outside the dripline of trees

# 3.9 Traffic and transport

Table 3.9-1 Traffic and transport.

| Description of existing environmental and potential impacts | | |
|---|---|---|
| **Is the activity likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during construction?**<br><br>It is likely that minor traffic impacts along Upper Cherry Tree Road would be experienced during the activity.<br><br>A TMP will need to be developed to manage vehicle, pedestrian and bicycle traffic to ensure that the local community is not significantly impacted.<br><br>A TMP in place for the duration of the activity. The road will remain open through the existing side access track or through alternating single lane access. Following completion of the activity and remediation of site, normal traffic conditions will be reinstated.<br><br>Alternate routes to access properties in proximity to the activity are easily accessible without major delay. | ☒Yes | ☐No |
| **Is the activity likely to result in detours or disruptions to traffic flow (vehicular, cycle and pedestrian) or access during operation?** | ☐Yes | ☒No |
| **Is the activity 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?** | ☐Yes | ☒No |
| The above issues will be addressed through production of a TMP prior to commencement of construction and demolition works. This plan would outline appropriate signage, fencing and traffic management measures that would be implemented to ensure the safety of traffic infrastructure users. | | |

## Safeguards

Safeguards to be implemented are:

56. Where possible, current traffic movements and property accesses are to be maintained during the works. Any disturbance is to be minimised to prevent unnecessary traffic delays.
57. A traffic control plan will be prepared in accordance with the 'Traffic control at work sites manual' (RTA, 2010a) and Australian Standard 1742.3 Manual of uniform control devices.
58. Works associated with activity should be staged where possible to minimise impacts on the markets.

# 3.10 Socio-economic

Table 3.10-1 Socio-economic.

| Description of existing environmental and potential impacts | | |
|---|---|---|
| **Is the activity likely to impact on local business?**<br><br>Impacts associated with the activity will be temporary and minor due to the short duration of works and continuation of road access under a TMP.<br><br>Access to the local business and properties will be maintained throughout the construction of the activity. | ☐Yes | ☒No |
| **Is the activity likely to require any property acquisition?** | ☐Yes | ☒No |
| **Is the activity likely to alter any access for properties (either temporarily or permanently)?**<br><br>Access to properties will be provisionally maintained throughout the stages of the activity. | ☒Yes | ☐No |
| **Is the activity likely to alter any on-street parking arrangements (either temporarily or permanently)?**<br><br>There is no delineated on-street parking within the site or surrounding area. | ☐Yes | ☒No |
| **Is the activity likely to change pedestrian movements or pedestrian access (either temporarily or permanently)?**<br><br>Safeguards will mitigate significant temporary impacts to pedestrian and cyclist movements through the site. | ☐Yes | ☒No |
| **Is the activity likely to impact on any items or places of social value to the community (either temporarily or permanently)?**<br><br>No parks, community centres, places of public worship, recreational facilities or anything alike are located near the activity. | ☐Yes | ☒No |
| **Is the activity likely to reduce or change visibility of any businesses, farms, tourist attractions or the like (either temporarily or permanently)?** | ☐Yes | ☒No |

## Safeguards

Safeguards to be implemented are:

59. Notification will be given to affected community members prior to the works taking place. Notification should be a minimum of 7 calendar days prior to the start of works. The notification is to include:

- Details of the activity;
- The duration of works and working hours;
- Any changed traffic or access arrangements;
- How to lodge a complaint or obtain more information; and

- Contact name and details.

60. All complaints are to be recorded on a complaints register and attended to promptly.
61. Existing access to dwelling located on property is to be maintained at all times during the activity unless otherwise agreed to by the affected property owner.
62. Access to property during scheduled events by community is to be maintained as required.
63. 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).

## 3.11 Landscape character and visual amenity

Table 3.11-1 Landscape character and visual amenity.

| Description of existing environmental and potential impacts | | |
|---|---|---|
| **Is the activity over or near an important physical or cultural element or landscape? (heritage items and areas, distinctive or historic built form, National Parks, conservation areas, scenic highways etc)?** | ☐Yes | ☒No |
| **Would the activity 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?**<br><br>The activity involves the installation of rock armouring that will extend from the roadway to the creek bed. This may obstruct the character of the Cherry Tree Creek riparian zone. However, as the activity is remediating a 50 m section of the riparian bank, and is located in a sparse rural landscape, there would be minor effects to the landscape character. | ☐Yes | ☒No |
| **Would the activity require the removal of mature trees or stands of vegetation, either native or introduced?** | ☒Yes | ☐No |
| **Would the activity result in large areas of shotcrete visible from the road or adjacent properties?** | ☐Yes | ☒No |
| **Would the activity involve new noise walls or visible changes to existing noise walls?** | ☐Yes | ☒No |
| **Would the activity involve the removal or reuse of large areas of road corridor, landscape, either verges or medians?** | ☐Yes | ☒No |
| **Would the activity 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 | ☒No |
| **If involving lighting, would the activity create unwanted light spillage on residential properties at night (in construction or operation)?** | ☐Yes | ☒No |
| **Would any new structures or features being constructed result in over shadowing to adjoining properties or areas?** | ☐Yes | ☒No |

Any short-term negative impacts of the activity and its operation will likely be outweighed by the long-term positive impacts to the community and surrounds.

## Safeguards

Safeguards to be implemented are:

64. Material choices for the road and pedestrian infrastructure will integrate with adjoining materials.
65. Contain all work within the REF assessed Activity area.
66. Restore work sites to as close to their original condition as possible followed by revegetation.
67. Keep site clean and remove rubbish and waste daily.
68. Any OOHW lighting of the site will minimise light spill and ensure that no residential property or other environmentally sensitive receiver is affected by lighting.

# 3.12 Waste

Table 3.12-1 Waste.

| **Description of existing environmental and potential impacts** | | |
|---|---|---|
| **Is the activity likely to generate >200 tonnes of waste material (contaminated and /or non-contaminated material)?** | ☐Yes | ☒No |
| **Is the activity likely to require a licence from EPA?**<br><br>[As described in Schedule 1 of the *Protection of the Environment Operations Act 1997*. If yes, provide details and ensure that EPA is consulted prior to determination of the REF.] | ☐Yes | ☒No |
| **Is the activity likely to require the removal of asbestos?** | ☐Yes | ☒No |

## Safeguards

Safeguards to be implemented are:

69. Procedures to adequately manage and store waste products and material in designated areas on the site should be established.
70. Resource management hierarchy principles are to be followed:

- Avoid unnecessary resource consumption as a priority.
- Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling, and energy recovery); and
- Disposal is undertaken as a last resort (in accordance with the Waste Avoidance & Resource Recovery Act 2001).

71. 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.
72. Waste material, other than vegetation and tree mulch, is not to be left on site once the works have been completed.
73. There is to be no disposal or re-use of construction waste on to other land.
74. Waste is not to be burnt on site.
75. Wastes are to be disposed of at appropriately licensed waste facilities.
76. Working areas are to be maintained, kept free of rubbish and cleaned up at the end of each working day.

77. All environmental controls such as sediment fencing are removed from the site once stabilisation has occurred.

## 3.13 General

General safeguards that apply to the site are present below.

### Safeguards

Safeguards to be implemented are:

78. If the scope of the works changes at any time, review of the project under appropriate guidelines and legislation and complete any further requirements including consultation/approval by landholder prior to undertaking works associated with the changed scope.
79. A Construction Environmental Management Plan is to be prepared in accordance with the specifications set out in the *QA Specification G36 – Environmental Protection (Management System), QA Specification G38 – Soil and Water Management (Soil and Water Plan) and QA Specification G10 - Traffic Management* and implemented prior to the commencement of works.
80. Vehicles and plant/equipment are to be kept away from environmentally sensitive areas and outside the dripline of trees.

# 4. Consideration of State and Commonwealth environmental factors

## 4.1 Environmental Planning and Assessment Regulation 2000 checklist

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

Table 4.1-1 Consideration of section 171 of the EP&A Regulation factors.

| Environmental factor | Description of impact | Impact |
|---|---|---|
| **(a) Any environmental impact on a community?** | The activity would cause minor environmental impact on the community through noise, air, and traffic impacts. Sensitive receivers located in proximity to the activity would be most affected by noise pollution. Traffic delays are expected to impact the community and sensitive receivers adding to minor delay for transit times.<br><br>The activity would have a positive environmental impact on the community in the long-term as the safety, accessibility and functionality of the damaged road and infrastructure in the LGA will be restored and improved. | Negative, short-term, minor.<br><br>Positive, long-term, minor. |
| **(b) Any transformation of a locality?** | Transformation of the locality would be limited to roadside vegetation clearing within the road corridor and improvements to the riparian zone. Impacts would be minimised with the implementation of the safeguards as detailed in this REF. | Negative, short-term, minor. |
| **(c) Any environmental impact on the ecosystems of a locality?** | There will be limited impact on vegetation and some habitat, but this will not impact ecosystem function. The potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF. | Negative, short-term, minor. |
| **(d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?** | The activity 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 and riparian zone. Any potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF. | Negligible impact. |
| **(e) Any effect on a locality, place or** | Searches conducted in sections 3.5 and 3.6 of this report confirm that there would be no locality, place or | Negligible impact. |

| | | |
|---|---|---|
| **building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?** | building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value within proximity impacted by the activity. | |
| **(f) Any impact on habitat of any protected animals (within the meaning of the *Biodiversity Conservation Act 2016*)?** | The activity is unlikely to impact on habitat of any protected fauna as the works are largely confined to the existing road footprint, which has been subject to previous disturbance. The activity would not have any significant impact on the habitat of any protected animals due to the limited scope of the activity and safeguards listed in this REF. | Negligible short-term impacts. |
| **(g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?** | The activity 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. Any potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF. | Negligible impact. |
| **(h) Any long-term effects on the environment?** | The activity is not expected to have any long term effects on the environment. The activity would reinstate/remediate existing infrastructure once complete. Any potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF. | Negligible impact. |
| **(i) Any degradation of the quality of the environment?** | The activity would have minor short term impacts to the quality of environment directly within and adjoining the activity area. These activities would be limited to the road reserve. Impacts outside the construction period and the construction footprint are unlikely. Any potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF. | Negative, short-term, minor. |
| **(j) Any risk to the safety of the environment?** | The activity will have a positive impact due to the reinstatement/remediation of existing essential community infrastructure. These impacts will be ongoing. Any potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF. | Positive, long-term, minor. |

| | | |
|---|---|---|
| **(k) Any reduction in the range of beneficial uses of the environment?** | The activity is on a local road reserve in a rural landscape and has limited beneficial uses beyond being part of the road corridor. There is not expected to be any changes to the beneficial use of the site. Any potential impacts would be minimised with the implementation of the safeguards given in Section 3 of this REF. | Negligible impact. |
| **(l) Any pollution of the environment?** | There is limited potential for the activity to cause water, air, soil, light, or visual pollution of the environment during construction due to the scope of works. Potential impacts of these types of pollution would be further minimised with the implementation of the safeguards given in Section 3 of this REF. | Minor short-term local impact. |
| **(m) Any environmental problems associated with the disposal of waste?** | The waste generated during the activity would be contained and removed for disposal to approved recycling facilities or to licensed landfill in accordance with the safeguards in Section 3 of this REF. No environmental problems are anticipated for the disposal of waste. | Negative, short-term, minor. |
| **(n) Any increased demands on resources, natural or otherwise which are, or are likely to become, in short supply?** | The activity would not significantly increase demands on resources, which are, or are likely to become, in short supply. Most materials and any temporary structures can be reused on or off site. Relatively small amounts of new materials would be required for the activity. The safeguards listed in Section 3 of this REF would be implemented to minimise any impacts. | Negligible impact. |
| **(o) Any cumulative environmental effect with other existing or likely future activities?** | The activity has the potential to have cumulative environmental effects with other existing or likely future activities, however the effects would be minimal due to the scope of works for the activities covered in this REF. Potential impacts on the environment would be minimised with the implementation of the safeguards given in Section 3 in this REF. | Negligible impact. |
| **(p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?** | Coastal processes and coastal hazards, including those under projected climate change conditions are not relevant at this site. | No impact. |
| **(q) Any impact on other relevant environmental factors?** | None predicted. | None predicted. |

# 4.2 Matters of National Environmental Significance checklist

Under the environmental assessment provisions of the EPBC Act, the following matters of national environmental significance are required to be considered to:

- Assist in determining whether the activity should be referred to the Australian Government Department of the Environment and Energy
- For nationally listed threatened species, ecological communities and migratory species, whether the impacts are significant and should be assessed via a Project REF.

Table 4.2-1 Matters of National Environmental Significance checklist.

| 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? | No significant impacts predicted. |
| (e) Any impact on a Commonwealth marine area? | Nil. |
| (f) Does the activity involve a nuclear action (including uranium mining)? | Nil. |
| Additionally, any impact (direct or indirect) on the environment of Commonwealth land? | Positive long-term impact. |

# 5. Summary of safeguards and environmental management measures

This section provides a summary of the site-specific environmental safeguards and management measures identified in described in chapters 3 of this REF. These safeguards will be implemented to reduce potential environmental impacts throughout construction and operation. Any potential licence and/or approval requirements required prior to construction are also listed.

## 5.1 Site specific safeguards summary

Table 5.1-1 Summary of safeguards and environmental management measures.

| Factor | Safeguards |
|---|---|
| **Soil** | 1. Erosion and sediment control measures are to be implemented and maintained to:<br>• Prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets;<br>• Reduce water velocity and capture sediment on site;<br>• Minimise the amount of material transported from the site to surrounding pavement surfaces; and<br>• Divert clean water around the site.<br>2. Erosion and sediment control measures are not to be removed until the works are complete, and areas are stabilised.<br>3. Erosion and sedimentation controls to be checked daily and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request.<br>4. Work areas are to be stabilised progressively during the works.<br>5. Erosion and sedimentation controls are to be checked and maintained on a regular basis (such as post installation prior to works and or post >10mm rainfall events), using the Erosion and Sediment Control Inspection form.<br>6. Existing ground cover vegetation will be retained to the greatest extent possible to minimise the area of exposed soils.<br>7. A progressive erosion and sediment control plan is to be prepared for all relevant components of the works. All safeguards related to erosion and sediment control would be undertaken in accordance with the Landcom, Soils and Construction Guidelines (the Blue Book).<br>8. If contaminated areas are encountered during construction, appropriate control measures would be implemented to manage the immediate risks of contamination. All other works that may impact on the contaminated area would cease until the nature and extent of the contamination has been confirmed and any necessary site-specific controls or further actions identified in consultation with the RVC Environment Officer/Manager and/or EPA.<br>9. Floating silt containment curtains are to be installed in the creek to prevent any sediment from entering the waterway. |
| **Waterways and water quality** | 10. There is to be no release of dirty water into drainage lines and/or waterways.<br>11. Water quality control measures are to be used to prevent any materials (e.g., concrete, grout, sediment etc) entering drain inlets or waterways.<br>12. Excess debris from cleaning and washing is to be removed immediately. |

| | |
|---|---|
| | 13. All fill brought to site is to be clean and free of fines and sediments prior to being placed.<br>14. Any wash down of plant, equipment or materials is to be undertaken in a bunded area, with sediment regularly collected and removed from site.<br>15. All fuels, chemicals and liquids are to be stored in an impervious bunded area a minimum of 50 metres away from:<br>• Rivers, creeks, or any areas of concentrated water flow;<br>• Flooded or poorly drained areas; and<br>• Slopes above 10%.<br>16. An emergency spill kit is to be kept on site at all times and maintained throughout the construction work. The spill kit must be appropriately sized for the volume of substances at the work site.<br>17. All workers will be advised of the location of the spill kit and trained in its use.<br>18. The work area should be free of excess concrete, sediment, and other waste materials when construction work is completed to prevent any impacts on stormwater water quality after construction.<br>19. Floating silt containment curtains would be installed in the creek for the duration of the activity to maintain water quality. |
| **Noise and vibration** | 20. Works, including the loading and unloading of rock from stockpile sites, is to be carried out during normal work hours (i.e. 7am to 6pm Monday to Friday; 8am to 1pm Saturdays).<br>21. Any work that is performed outside normal work hours or on Sundays or public holidays must have measures in place to minimise noise impacts. Any works proposed outside of standard working hours for safety and efficiency reasons, would be subject to approval, notification and preparation of a management plan.<br>22. A management procedure will be in place for noise and vibration complaints that may arise from the construction work. Each complaint must be investigated and appropriate noise and/or vibration amelioration measures be put in place to mitigate future exceedances. This may include noise level monitoring if required.<br>23. All complaints are to be recorded on complaints register and attended to promptly.<br>24. All employees, contractors, and subcontractors are to receive an environmental induction.<br>25. The induction must at least include:<br>• All project specific and relevant standard noise and vibration mitigation measures;<br>• Relevant licence and approval conditions;<br>• Permissible hours of work;<br>• Any limitations on high noise generating activities;<br>• Location of nearest sensitive receivers;<br>• Construction employee parking areas;<br>• Designated loading/unloading areas and procedures;<br>• Site opening/closing times (including deliveries); and<br>• Environmental incident procedures. |
| **Air quality** | 26. Measures (including watering or covering exposed areas) are to be used to minimise or prevent air pollution and dust.<br>27. Works (including the spraying of paint and other materials) are not to be carried out during strong winds or in weather conditions where high levels of dust or air borne particulates are likely.<br>28. Vegetation or other materials are not to be burnt on site.<br>29. Vehicles transporting waste or other materials that may produce odours or dust are to be covered during transportation. |

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|---|---|
| | 30. Construction vehicles, plant and equipment should be maintained in good working order and switched off when not in use. No idling of construction vehicles is to be permitted.<br>31. Stockpiles or areas that may generate dust are to be managed to suppress dust emissions in accordance with RVC Guidelines. |
| **Non-Aboriginal Heritage** | 32. If non-Aboriginal suspected heritage items and or suspected of historical nature are uncovered during the works, all works in the vicinity of the find must cease and the Project Manager contacted immediately. The Standard Management Procedure - Unexpected Heritage Items (RMS, 2015) will be followed:<br>• Stop work and contact PM and or RVC SFO;<br>• Contact engaged Heritage Consultant;<br>• Compete preliminary assessment and recording of the item;<br>• Formulate archaeological or heritage management plan;<br>• Formally notify the regulator by letter, if required; and<br>• Implement recommendations of the archaeological or heritage management plan; and<br>• Resume works. |
| **Aboriginal Heritage** | 33. If suspected Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must cease and the Unexpected Heritage items Procedure be applied:<br>• Stop work and contact PM and or RVC;<br>• Contact engaged Heritage Consultant and where required LALC member;<br>• Compete preliminary assessment and recording of the item;<br>• Formulate archaeological or heritage man plan;<br>• Formally notify the regulator by letter, if required;<br>• Implement recommendations of the archaeological or heritage man plan; and<br>• Resume works. |
| **Biodiversity** | 34. There is to be no disturbance or damage to threatened species or areas of outstanding value.<br>35. Works are not to harm threatened fauna (including where they inhabit bridges or other structures e.g., timber fence posts or maritime piles).<br>36. As part of the site induction process, provide all site personnel with information on the Biodiversity Values of the study area, including potential threatened species, no-go areas, and responsibilities under relevant environmental legislation, including but not limited to the EP&A Act, BC Act and EPBC Act and associated management plans for individual species.<br>37. Should unexpected, threatened fauna be located at any time during construction, cease work immediately in the area to prevent further harm to the individual. Contact Council's Environmental Officer and a suitably qualified ecologist to determine if further assessment or management plans are required.<br>38. All pathogens (e.g., Chytrid, Myrtle Rust and Phytophthora) are to be managed in accordance with NSW Biodiversity Guidelines and DECC Statement of Intent 1: Infection of native plants by Phytophthora cinnamomi (for Phytophthora).<br>39. Declared noxious weeds are to be managed according to requirements under the Biosecurity Act, 2015.<br>40. Works are not to create an ongoing barrier to the movement of wildlife. |

| | |
|---|---|
| | 41. Exclusion zones are to be established around sensitive vegetation and habitat areas including: vegetation stands, wildlife corridors, koala trees and riparian zones where possible<br>42. Construction works should be confined to daylight hours with minimal lighting associated with operation of the activity and site compounds to be left on during night-time hours.<br>43. All equipment should be thoroughly cleaned before being brought to site to minimise the potential to spread biosecurity risks including weed seeds, soil-based pathogens, or fire ants.<br>44. Procedures to adequately manage and store waste products and material in designated areas on the site should be established.<br>45. All equipment should be thoroughly cleaned before being brought to site to minimise the potential to spread biosecurity risks including weed seeds, soil-based pathogens, or fire ants.<br>46. All waste and construction materials are removed from the site and disposed of at a licensed facility.<br>47. All environmental controls such as sediment fencing are removed from the site once stabilisation has occurred.<br>48. The activity area should be checked prior to works commencing for any signs of fire ants or fire ant nests. If observed, works in the area must cease and DPI notified immediately on 1800 680 244 or https://forms.bfs.dpi.nsw.gov.au/forms/9247. Characteristics of the ants or nests can be found at ***https://www.dpi.nsw.gov.au/dpi/bfs/insect-pests/rifa/Seen-them-call-us***.<br>49. Floating silt containment curtains would be installed in the creek for the duration of the activity to protect freshwater species. |
| **Trees** | 50. No go zones are to be established to protect trees within and adjacent the activity area. No building materials or other items are to be placed or stored within the no go areas and all measures must be taken to prevent damage to trees and other vegetation (including root systems).<br>51. No soil or fill material is to be placed within the dripline of a tree or to cause changes in the surface level.<br>52. Prior to tree clearing, trees to be removed would be clearly marked (with spray paint on trunks).<br>53. Strategic pruning of mature trees is to be in accordance with Part 5 of the Australian Standard 4373-2007 Pruning of amenity trees, with arborist report and ecologist advice<br>54. If any damage occurs to native vegetation within the no go zones or outside of the proposal extent, the Project Manager will be notified and will establish strategies for mitigation of impacts, site restoration and reporting as required.<br>55. Vehicles and plant/equipment are to be kept away from environmentally sensitive areas and outside the dripline of trees. |
| **Traffic and transport** | 56. Where possible, current traffic movements and property accesses are to be maintained during the works. Any disturbance is to be minimised to prevent unnecessary traffic delays.<br>57. A traffic control plan will be prepared in accordance with the 'Traffic control at work sites manual' (RTA, 2010a) and Australian Standard 1742.3 Manual of uniform control devices.<br>58. Works associated with activity should be staged where possible to minimise impacts on the markets |
| **Socio-economic** | 59. Notification will be given to affected community members prior to the works taking place. Notification should be a minimum of 7 calendar days prior to the start of works. The notification is to include:<br>• Details of the activity<br>• The duration of works and working hours |

| | |
|---|---|
| | • Any changed traffic or access arrangements<br>• How to lodge a complaint or obtain more information<br>• Contact name and details.<br>60. All complaints are to be recorded on a complaints register and attended to promptly.<br>61. Existing access to dwelling located on property is to be maintained at all times during the activity unless otherwise agreed to by the affected property owner.<br>62. Access to property during scheduled events by community is to be maintained as required.<br>63. 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). |
| **Landscape character and visual amenity** | 64. Material choices for the road and pedestrian infrastructure will integrate with adjoining materials.<br>65. Contain all work within the REF assessed Activity area.<br>66. Restore work sites to as close to their original condition as possible followed by revegetation.<br>67. Keep site clean and remove rubbish and waste daily.<br>68. Any OOHW lighting of the site will minimise light spill and ensure that no residential property or other environmentally sensitive receiver is affected by lighting. |
| **Waste** | 69. Procedures to adequately manage and store waste products and material in designated areas on the site should be established.<br>70. Resource management hierarchy principles are to be followed:<br>• Avoid unnecessary resource consumption as a priority.<br>• Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling, and energy recovery); and<br>• Disposal is undertaken as a last resort (in accordance with the Waste Avoidance & Resource Recovery Act 2001).<br>71. 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.<br>72. Waste material, other than vegetation and tree mulch, is not to be left on site once the works have been completed.<br>73. There is to be no disposal or re-use of construction waste on to other land.<br>74. Waste is not to be burnt on site.<br>75. Wastes are to be disposed of at appropriately licensed waste facilities.<br>76. Working areas are to be maintained, kept free of rubbish and cleaned up at the end of each working day.<br>77. All environmental controls such as sediment fencing are removed from the site once stabilisation has occurred. |
| **General** | 78. If the scope of the works changes at any time, review of the project under appropriate guidelines and legislation and complete any further requirements including consultation/approval by landholder prior to undertaking works associated with the changed scope.<br>79. A Construction Environmental Management Plan is to be prepared in accordance with the specifications set out in the QA Specification G36 – Environmental Protection (Management System), QA Specification G38 – Soil and Water Management (Soil and Water Plan) and QA |

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| | Specification G10 - Traffic Management and implemented prior to the commencement of works.<br>80. Vehicles and plant/equipment are to be kept away from environmentally sensitive areas and outside the dripline of trees. |

## 5.2 Licensing and approvals

Table 5.2-1 Summary of licensing and approvals required.

| Instrument | Requirement | Timing |
|---|---|---|
| **Fisheries Management Act 1994** | Suitable offsets or compensation may be required to be negotiated with NSW DPI Fisheries due impacts to Key Fish Habitat.<br><br>Notification to the Minister for Primary Industries prior to any dredging or reclamation works (Part 7 Permit).<br><br>A Part 7 permit will be required under section 200, and 219 as dredging and reclamation works and obstruction of fish passage would occur as part of the activity. | Prior to start of the activity. |
| **EPA Waste Classification Guidelines (2014)** | Waste classification of excavated material is required prior to material being reused or disposed. | As required throughout activity stages. |

# 6. Certification, review, and decision

## 6.1 Certification

This minor works REF provides a true and fair review of the activity 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 activity.

| | | |
|---|---|---|
| **Prepared By:** | Signed: | |
| | Name: | Ana Assis |
| | Designation: | Environmental Scientist |
| | Company name: | Ecoteam |
| | Date: | 12th September 2024 |
| **Reviewed By:** | Signed: | |
| | Name: | Zachary Lyons |
| | Designation: | Environmental Scientist |
| | Company name: | Ecoteam |
| | Date: | 12th September 2024 |

## 6.2 Environment consultant review

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

In considering the activity, 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 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 activity described in the REF will have some environmental impacts which can be ameliorated satisfactorily. Having regard to the safeguard and management measures proposed, this assessment has considered that these impacts are unlikely to be significant and therefore an approval for the activity does not need to be sought under Division 5.2 of the *Environmental Planning and Assessment Act 1979*.

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

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

The REF is considered to meet all relevant requirements.

# 6.3 Determination

## Review of assessment

It is recommended that the activity 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.

**Assessing officer review:** Signed:

Name:

Designation:

Date:

## 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 Richmond Valley Council may proceed with the activity.

**Determining officer:** Signed:

Name:

Designation:

Date:

# **Appendix A.** Activity Plans/Strategic Concept Report

# CHERRY TREE CREEK REMEDIATION

## 115 UPPER CHERRY TREE ROAD, UPPER MONGOGARIE NSW 2470

FOR SANTIN EARTHMOVING

SITE LOCALITY
SCALE 1:5000

| DRAWINGS LIST | |
|---|---|
| DRAWING No. | DRAWING TITLE |
| CIVIL DRAWINGS | |
| 24090-02-CC-AA-01 | LOCALITY PLAN & DRAWINGS LIST |
| 24090-02-CC-AA-02 | PROJECT NOTES |
| 24090-02-CC-CI-01 | CONCEPT CREEK BANK REMEDIATION |
| 24090-02-CC-CI-02 | DRAINS MODELLING RESULTS & DATA |
| 24090-02-CC-ES-01 | EROSION & SEDIMENT CONTROL PLAN |

| PROJECT INFORMATION SUMMARY |
|---|
| CHERRY TREE CREEK REMEDIATION |
| APPROXIMATELY 48m OF CREEK REMEDIATION |
| NEAR LOT 1 DP 832403 |
| LOCAL AUTHORITY: RICHMOND VALLEY COUNCIL |
| COUNCIL REFERENCE NUMBER: N/A |

CAD File Name: 24090-02-CC-AA-01.dwg
Plot Date: 03 Oct, 2024

| REVISIONS | | | | |
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| REV | DESCRIPTION | BY | APP. | DATE |
| A | FIRST ISSUE | DW | CP | 03.10.2024 |

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CLIENT
SANTIN EARTHMOVING

SITE
115 UPPER CHERRY TREE ROAD
UPPER MONGOGARIE NSW 2470
1 DP 832403

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115 UPPER CHERRY TREE ROAD
LOCALITY PLAN &
DRAWING LIST

| DRAWING NUMBER | REV |
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| 24090-02-CC-AA-01 | A |
| FOR INFORMATION ONLY | A1 |

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## GENERAL NOTES

1. THIS DRAWING SET SHALL BE READ IN CONJUNCTION WITH THE FOLLOWING DOCUMENTS:
   - PROVIDED ENGINEERING DRAWINGS;
   - TECHNICAL SPECIFICATIONS;
   - SUPPLEMENTARY SPECIFICATIONS; AND
   - WRITTEN INSTRUCTIONS.
2. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT LOCAL GOVERNMENT AREA SPECIFICATIONS FOR THE WORKS TO BE UNDERTAKEN, TOGETHER WITH THE REQUIREMENTS OF ALL THE RELEVANT CODES OF PRACTICE REFERRED TO THEREIN AND THE REQUIREMENTS OF THE NORTHERN RIVERS DESIGN GUIDELINES AND RELEVANT TfNSW SPECIFICATIONS.
3. ALL WORKS TO BE IN ACCORDANCE WITH THE NORTHERN RIVERS LOCAL GOVERNMENT DESIGN AND CONSTRUCTION MANUAL AND RELEVANT TfNSW SPECIFICATIONS.
4. ALL LOCATIONS, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK. DISCREPANCIES SHALL BE REFERRED TO THE SITE SUPERINTENDENT.
5. THE EXISTING SERVICES SHOWN ON ALL PLANS ARE INDICATIVE ONLY AND MAY NOT CAPTURE ALL SERVICES PRESENT ON SITE. THE CONTRACTOR SHALL CONFIRM THE LOCATION AND DEPTH OF ALL EXISTING SERVICES IN THE VICINITY OF THE WORKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
6. DO NOT OBTAIN DIMENSIONS FROM SCALING.
7. ANY PERMIT AND APPROVALS REQUIRED FOR CONSTRUCTION OF PERMANENT OR TEMPORARY WORKS SHALL BE OBTAINED BY THE CONTRACTOR.
8. THE CONTRACTOR SHALL HAVE THE LOCAL AUTHORITY'S APPROVAL TO A TRAFFIC MANAGEMENT CONTROL PLAN PRIOR TO THE COMMENCEMENT OF ANY WORK.
9. THE NORTHERN RIVERS LOCAL GOVERNMENT STANDARD DETAILS SHALL BE ADOPTED UNLESS NOTED OTHERWISE.
10. ALL SIGNS AND LINE MARKING SHALL BE IN ACCORDANCE WITH MUTCD AS1742.
11. DRAWINGS ARE DESIGNED BASED OFF SURVEY DATA. ALLOWANCES SHOULD BE MADE FOR CHANGES IN NATURAL SURFACE FROM TIME OF SURVEY TO CONSTRUCTION.
12. LOCATION AND EXTENTS OF WORKS ARE SHOWN INDICATIVELY. IT IS CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND EXTENTS OF WORKS ON-SITE.
13. THE CONTRACTOR IS RESPONSIBLE FOR SAFEGUARDING ALL PLANT EQUIPMENT, OR OTHER PROPERTY. THE CONTRACTOR CAN PROVIDE, AND PAY FOR, ANY SECURITY CONSIDERED NECESSARY, SUBJECT TO THE PRINCIPALS REPRESENTATIVE APPROVAL.
14. IF EXISTING FENCING IS DAMAGED OR ALTERED BY THE CONTRACTOR, OR IF THERE IS NO EXISTING FENCING, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY SITE FENCING TO THE SATISFACTION OF THE PRINCIPALS REPRESENTATIVE DURING THE CONTRACT TO PREVENT UNAUTHORISED ENTRY INTO THE AREA OF WORKS, AND SHALL REINSTATE THE FENCING AND REMOVE TEMPORARY FENCING ON CONCLUSION OF THE WORKS.
15. THE CONTRACTOR SHALL ERECT APPROPRIATE SIGNS, IN ACCORDANCE WITH AS1319 , AT SIGNIFICANT LOCATIONS AROUND THE WORKING AREAS AND TEMPORARY SITE FACILITIES. THE PRINCIPALS REPRESENTATIVE SHALL AGREE TO ALL WORDS ON WORD-MESSAGE SIGNS BEFORE SIGN MANUFACTURE OR PURCHASE.
16. ALL WORKS CARRIED OUT UNDER THIS CONTRACT ADJACENT TO OR ADJOINING EXISTING WORKS, MUST MAKE SMOOTH TRANSITIONS WITH THE EXISTING SURFACE OR INFRASTRUCTURE.
17. ALL TREES SHALL BE PRESERVED UNLESS SHOWN OR DIRECTED OTHERWISE BY THE PRINCIPALS REPRESENTATIVE. THE CONTRACTOR SHALL ARRANGE FOR THE PRINCIPALS REPRESENTATIVE TO APPROVE ALL CLEARING WORKS PRIOR TO STARTING. ALL CLEARED TREES SHALL BE CHIPPED AND SPREAD ON-SITE AS DIRECTED BY THE PRINCIPALS REPRESENTATIVE.
18. DIVERSION OF WATER RUNOFF AND THE PRESERVATION OF WORKS IS THE CONTRACTOR'S RESPONSIBILITY. STORMWATER FLOW ALONG EXISTING SWALE DRAINS SHALL NOT BE DISTURBED.
19. CONSTRUCTION SHALL BE CARRIED OUT AS TO AVOID NUISANCE AND / OR DAMAGE TO THE ENVIRONMENT. THE CONTRACTOR SHALL ACT IN ACCORDANCE WITH THE APPROPRIATE ENVIRONMENTAL LEGISLATION / STANDARDS.
20. THE CONTRACTOR MUST PLAN AND UNDERTAKE THE WORKS TO AVOID EROSION OF THE SITE AND ITS SURROUNDINGS. EROSION AND SEDIMENT CONTROL SHALL BE PUT IN PLACE IN ACCORDANCE WITH LANDCOM BLUE BOOK; MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION.
21. ALL WASTE MATERIALS SHALL BE DISCARDED OFF-SITE TO A SITE APPROVED BY THE PRINCIPAL. ALL FEES AND CHARGES SHALL BE ABSORBED BY THE CONTRACTOR.
22. THE CONTRACTOR SHALL PROVIDE THE PRINCIPALS REPRESENTATIVE WITH APPROVED 'WORK-AS-EXECUTED' DRAWINGS PRIOR TO ISSUE OF THE FINAL CERTIFICATE.
23. THE CONTRACTOR MUST EXAMINE THE SLOPE BY OBSERVING THE SLOPE DAILY BEFORE BEGINNING WORKS ON THE SITE. CONTRACTOR IS TO MONITOR:
   - THE TOTAL OF OVERNIGHT RAINFALL FROM THE SITE GAUGE.
   - IF ANY CRACKS HAVE EMERGED IN THE SLOPE / GROUND ABOVE SINCE THE PREVIOUS DAY.
   - IF ANY CRACKS HAVE EMERGED IN THE SLOPE / GROUND BELOW THE ROAD LEVEL SINCE THE PREVIOUS DAY.
24. THE CONTRACTOR SHALL MAKE CONTACT WITH THE PRINCIPALS REPRESENTATIVE IMMEDIATELY IF ANY SLOPE CHANGES OR UNEXPECTED CHANGES ARE OBSERVED.
25. THE CONTRACTOR IS REQUIRED TO STOP WORK AND MOVE EQUIPMENT TO A DESIGNATED PLACE AWAY FROM THE WORKS AREA WHEN HEAVY OR CONTINUED RAIN IS FORECASTED AND AT THE END OF EACH WORKING DAY. WITH CHANGING SITE CONDITION THE CONTRACTOR IS TO MODIFY AND UPDATE RISK MITIGATION PLANS AS NECESSARY THROUGHOUT THE PROJECT.
26. BEFORE AND DURING EXPECTED RAINFALL EXPOSED EARTH SLOPE FACES SHALL BE COVERED WITH SUITABLE SHEETING (A39 GEOFABRIC OR PLASTIC SHEETING OR SIMILAR APPROVED) WHICH SHALL BE SUFFICIENTLY ANCHORED DOWN AGAINST THE WIND. SUITABLE SHEETING SHALL REMAIN ON SITE AT ALL TIMES DURING THE CONSTRUCTION.
27. WHERE SPECIFIC PRODUCTS OR ITEMS ARE SPECIFIED ON THE DRAWINGS, THE CONTRACTOR MAY PROPOSE DIFFERENT PRODUCTS FOR CONSIDERATION BY THE PRINCIPAL. ALTERNATIVE PRODUCTS WILL NEED TO BE APPROVED BY THE PRINCIPAL.
28. TRAFFIC CONTROL TO BE IN ACCORDANCE WITH THE RELEVANT LOCAL GOVERNMENT SPECIFICATIONS. NRLG CONSTRUCTION SPECIFICATION C201.
29. WHERE DETAILED, GEOFABRIC IS TO BE SELECTED AND INSTALLED IN COMPLIANCE WITH TfNSW SPECIFICATION R63.

## EARTHWORKS NOTES

1. STRIP THE CONSTRUCTION AREA OF ALL GRASS, SHRUBS, RUBBISH, DELETERIOUS MATERIAL AND UNSUITABLE TOPSOIL AS NOMINATED BY THE ENGINEER. DISPOSE OF ALL SUCH MATERIAL OFF SITE UNLESS NOTED OTHERWISE.
2. TOPSOIL APPROVED BY THE ENGINEER FOR REUSE, IS TO BE STOCKPILED ON SITE AS DIRECTED BY THE SUPERINTENDENT.
3. THE CONTRACTOR IS TO CONFIRM THE MATERIAL WON ON SITE IS SUITABLE FOR RE-USE PRIOR TO USING IT FOR FILLING ACTIVITIES.
4. PLACE FILL IN LAYERS OF LOOSE THICKNESS APPROPRIATE TO THE TYPE OF COMPACTION EQUIPMENT BEING USED AND NOT GREATER THAN 150mm. COMPACT EACH FILLING LAYER TO THE MINIMUM DRY DENSITY SPECIFIED. THE MOISTURE CONTENT OF FILL MATERIAL SHOULD BE MAINTAINED WITHIN THE RANGE OF +/- 2% OF THE OPTIMUM MOISTURE CONTENT OR AS SPECIFIED BY THE GEOTECHNICAL TESTING AUTHORITY.
5. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT THE SITE AND SURROUNDING AREAS FROM DAMAGE RESULTING FROM STORMWATER RUNOFF. TEMPORARY DIVERSION DRAINS AND OR OTHER DRAINAGE CONTROL DEVICES ARE TO BE IMPLEMENTED BY THE CONTRACTOR DURING CONSTRUCTION TO MINIMISE THE EFFECTS OF WEATHER. NO EXTENSIONS OF TIME WILL BE GRANTED SHOULD DAMAGE TO THE WORKS AND SURROUNDING AREAS RESULT FROM THE CONTRACTOR'S NEGLIGENCE IN NOT PROVIDING ADEQUATE PROTECTION.
6. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL IMPORTED MATERIAL IS SUITABLE FOR USE ONSITE. ONLY VIRGIN EXCAVATED NATURAL MATERIAL (WITHIN THE MEANING OF THE P.O.E.O. ACT) OR OTHER MATERIAL SUBJECT TO A RESOURCE AND RECOVERY EXEMPTION (EG. EXCAVATED NATURAL MATERIAL) IS PERMITTED FOR THE USE AS FILL ONSITE.
7. EXCESS SPOIL MATERIAL GENERATED DURING CONSTRUCTION IS TO BE DISPOSED OF AS DIRECTED BY THE SUPERINTENDENT.
8. ALL FILL MATERIAL PLACED ON THE SITE COMPRISING ONLY NATURAL EARTH AND ROCK IS TO BE FREE OF CONTAMINANTS (AS DEFINED BY SECTION 11 OF THE ENVIRONMENTAL PROTECTION ACT (EPA) 1994). NOXIOUS, HAZARDOUS, DELETERIOUS AND ORGANIC MATERIALS. SUITABLE FILL MATERIAL IS DEEMED TO COMPLY WITH THE REQUIREMENTS OF CLAUSE 4.3, AS3798, GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.

## DRAINAGE NOTES

1. ALL EXISTING STORMWATER PITS AND PIPES ARE TO HAVE THEIR LOCATION, SIZE AND LEVEL VERIFIED ON SITE PRIOR TO COMMENCING WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXITING STORMWATER FLOWS THROUGH AND AROUND THE SITE.

## SURVEY DATUM NOTES

1. SERVICES SHOWN HEREON HAVE BEEN LOCATED WHERE POSSIBLE, HOWEVER RELEVANT AUTHORITIES SHOULD BE CONTACTED FOR DETAILED LOCATION OF ALL SERVICES PRIOR TO ANY EXCAVATION, DEMOLITION OR CONSTRUCTION ON SITE.
2. TITLE BOUNDARIES AS SHOWN HEREON WERE NOT MARKED AT THE TIME OF SURVEY AND ARE INDICATIVE ONLY.
3. SURVEY UNDERTAKEN BY BYRON BAY SURVEYORS ON 02/02/2023.
4. HORIZONTAL AND VERTICAL DATUM AS PER BYRON BAY SURVEYING PLAN BUF002_MON RD_DS.DWG.
5. IF ANY OF THE GIVEN SURVEY MARKS ARE GOING TO BE DISTURBED BY THE CONSTRUCTION. THE CONTRACTOR IS TO TRANSFER SUCH SURVEY MARKS TO A SUITABLE POSITION CLEAR OF CONSTRUCTION AND SHALL NOTE, AND NOTIFY THE PRINCIPALS REPRESENTATIVES IN WRITING, OF THE NEW LOCATION AND SURVEYED LOCATION.

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Plot Date: 03 Oct, 2024
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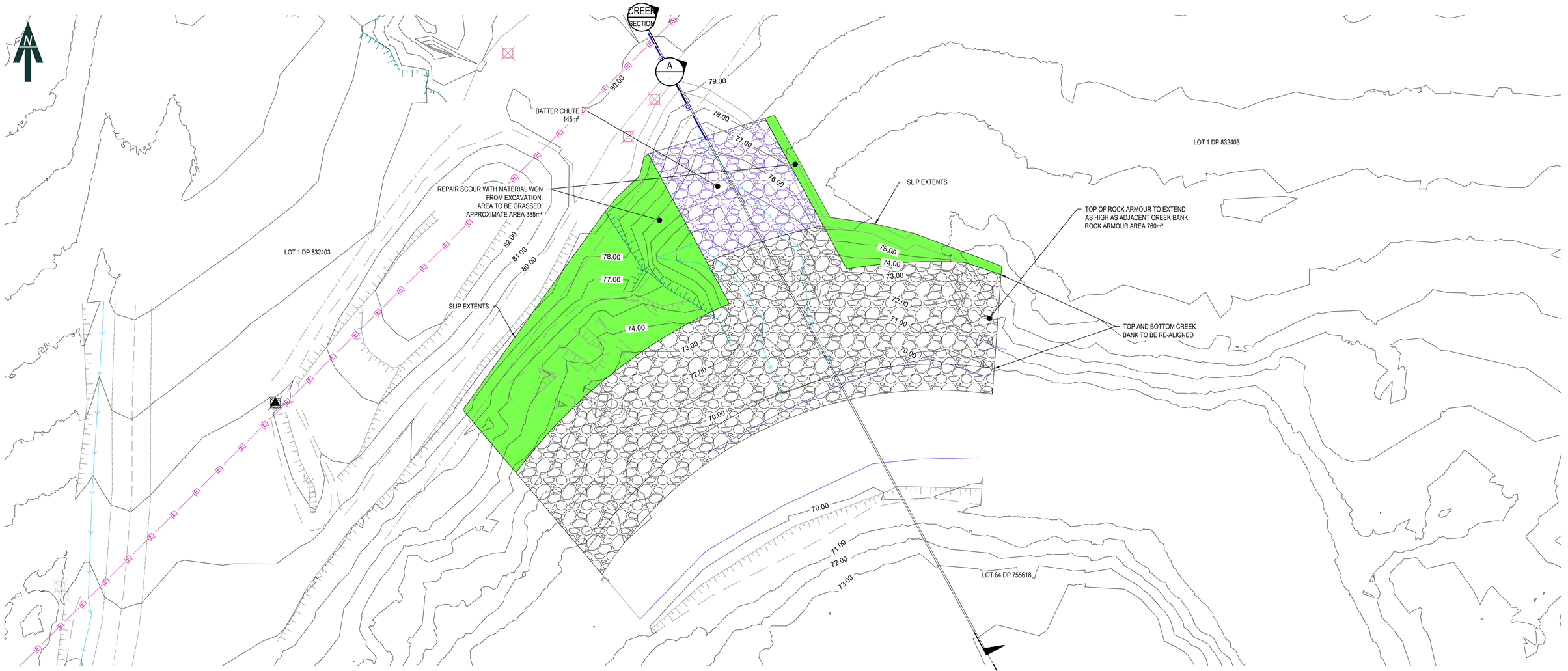


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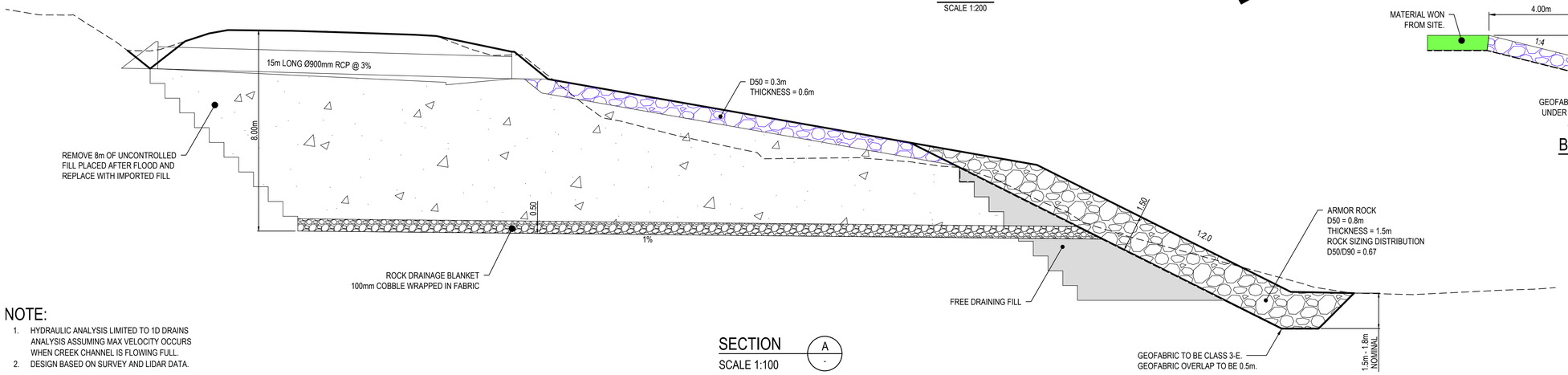


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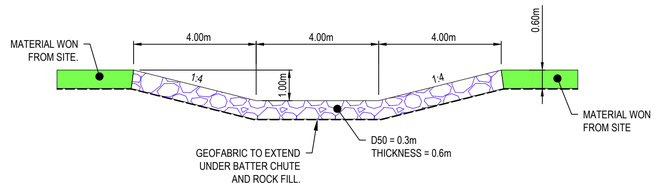


## BATTER CHUTE DETAILS
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## NOTE:
1. HYDRAULIC ANALYSIS LIMITED TO 1D DRAINS ANALYSIS ASSUMING MAX VELOCITY OCCURS WHEN CREEK CHANNEL IS FLOWING FULL.
2. DESIGN BASED ON SURVEY AND LIDAR DATA.

CAD File Name: 24090-02-CC-CI-01.dwg

Plot Date: 03 Oct, 2024

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CONCEPT CREEK BANK REMEDIATION

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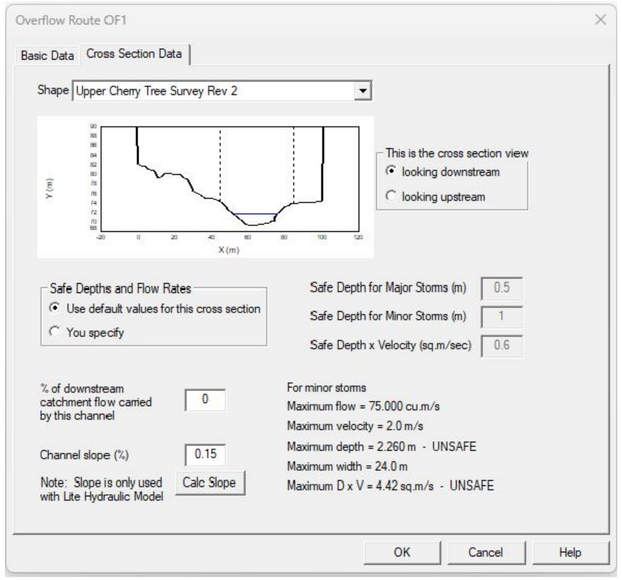


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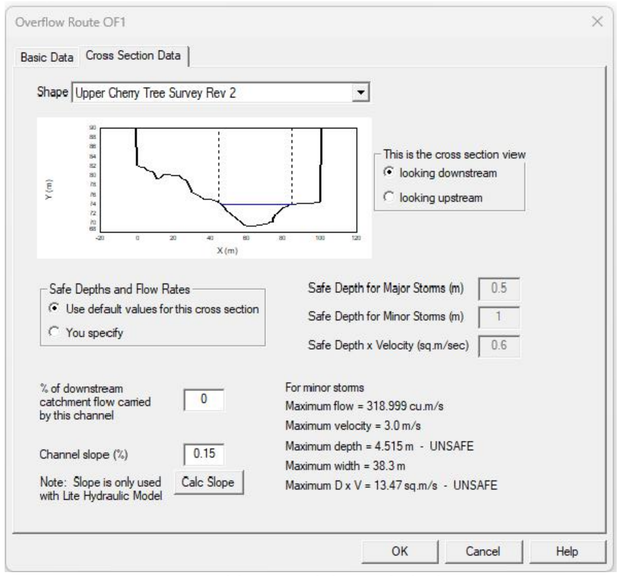
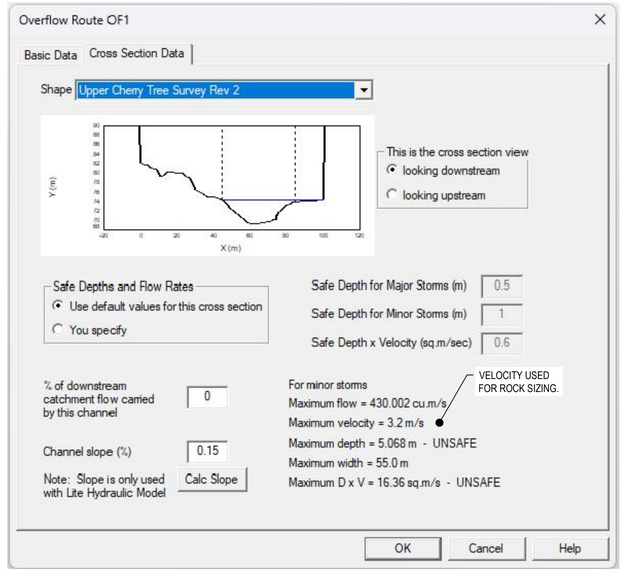
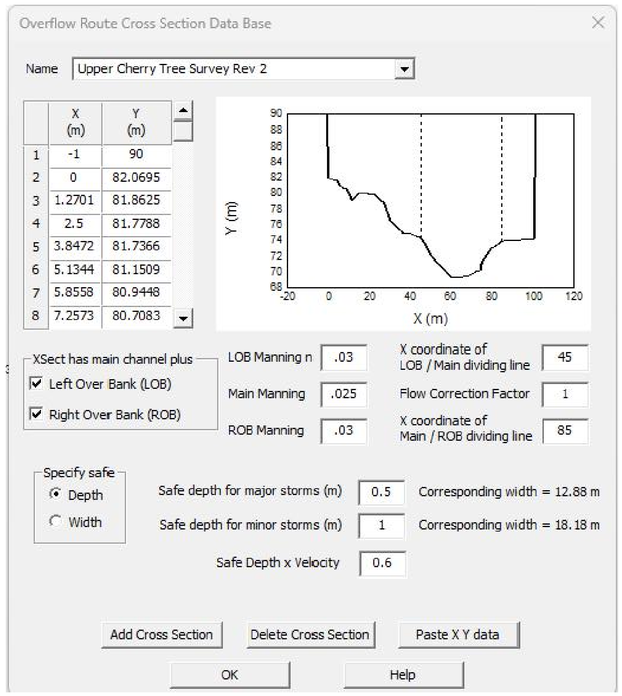



WATERCOM DRAINS CREEK SECTION
CHANNEL HALF FULL




WATERCOM DRAINS CREEK SECTION
CHANNEL FULL & RHS SPILLING




WATERCOM DRAINS CREEK SECTION DATA

CAD File Name: 24090-02-CC-CI-02.dwg
Plot Date: 03 Oct, 2024

| REVISIONS | | | | |
|---|---|---|---|---|
| A | FIRST ISSUE | DW | CP | 03.10.2024 |
| REV | DESCRIPTION | BY | APP. | DATE |

SCALES

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CLIENT
SANTIN EARTHMOVING

SITE
115 UPPER CHERRY TREE ROAD
UPPER MONGOGARIE NSW 2470
1 DP 832403

TERANIA

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UNDER PROFESSIONAL STANDARDS LEGISLATION

115 UPPER CHERRY TREE ROAD
DRAINS MODELLING RESULTS & DATA

DRAWING NUMBER: 24090-02-CC-AA-02
REV: A
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A1

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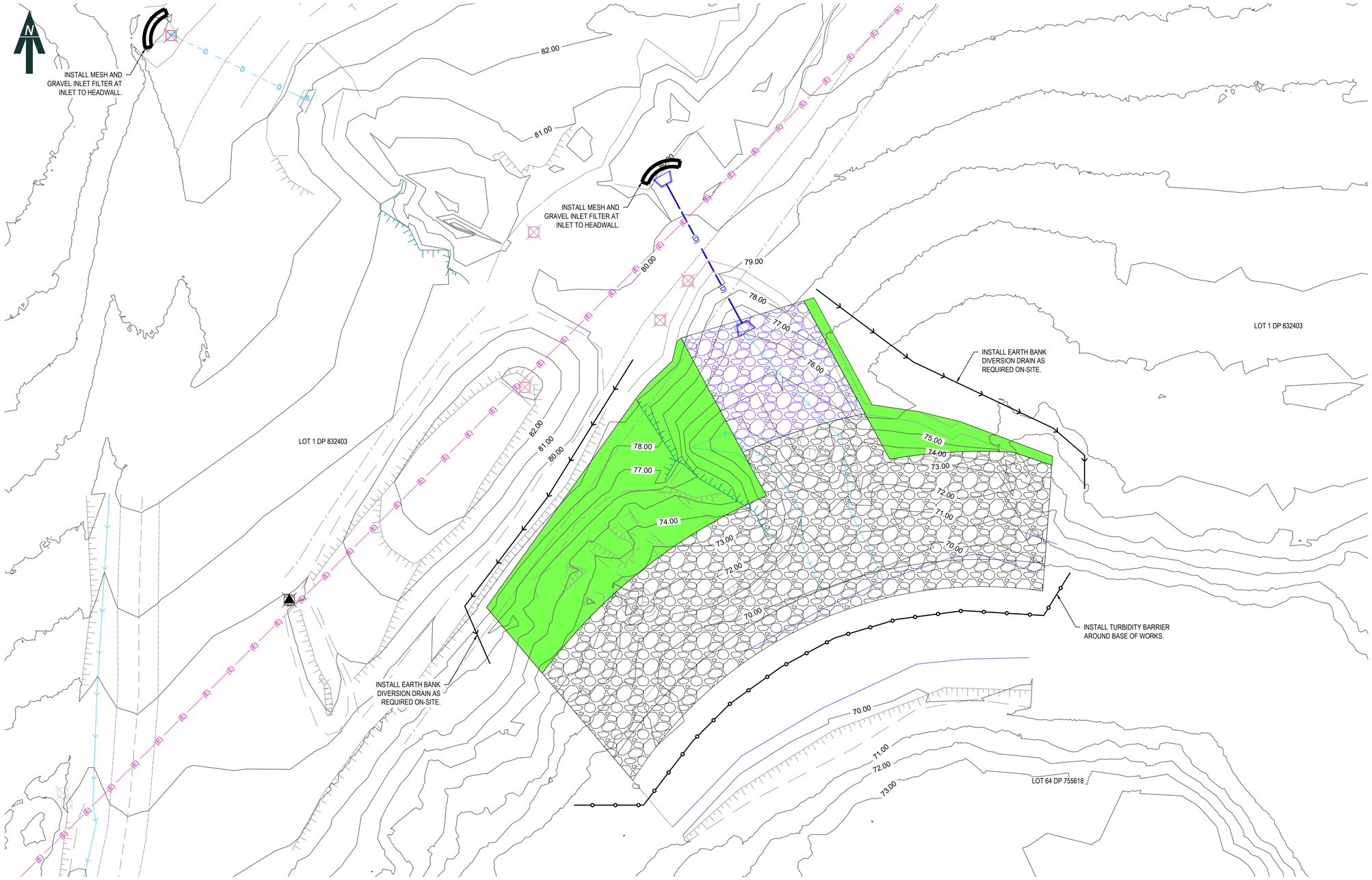


## LEGEND:

- TURBIDITY BARRIER - SD 6-10
- MESH AND GRAVEL INLET FILTER - SD 6-11
- EARTH BANK - SD 5-5

## EROSION & SEDIMENT CONTROL NOTES

1. EROSION AND SEDIMENT CONTROL SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE LANDCOM BLUEBOOK.
2. CONSTRUCTION IS TO BE PROGRAMMED TO PROVIDE INSTALLATION OF PERIMETER LANDSCAPING / SURFACE TREATMENTS AS EARLY AS PRACTICAL.
3. THE CONTRACTOR'S WORKS PROGRAM IS TO BE REVIEWED AT THE PRE-START MEETING. ALTERATIONS TO THE PROGRAM MAY BE REQUIRED TO ENSURE SATISFACTORY EROSION AND SEDIMENT CONTROL.
4. SAFETY ISSUES MUST BE CONSIDERED AND MONITORED FOR EACH DEVICE TO THE SATISFACTION OF THE SUPERINTENDENT.
5. SEDIMENTATION MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND MAINTAINED AT A SUITABLE LEVEL/ CONDITION THROUGHOUT CONSTRUCTION.
6. DRAINAGE STRUCTURE PROTECTION IS TO BE CLEANED FOLLOWING EACH SIGNIFICANT RUNOFF PRODUCING STORM.
7. ACCESS TO THE SITE IS TO BE PROVIDED BY THE CONTRACTOR. APPROVAL IS TO BE OBTAINED FROM COUNCIL FOR THE LOCATION OF THE SITE ACCESS POINT AND WASH DOWN AREA WHICH IS TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. ALL VEHICLES ARE TO BE WASHED DOWN PRIOR TO LEAVING THE SITE.
8. THE CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE CONTROLS TO DIVERT FLOW FROM UNDISTURBED AREAS AROUND DISTURBED AREAS AND DIRECT FLOW FROM DISTURBED AREAS TOWARD CONTROL DEVICES.

## EROSION & SEDIMENT CONTROL LAYOUT PLAN

SCALE 1:200

CAD File Name: 24090-02-CC-ES-01.dwg

Plot Date: 03 Oct, 2024

| REVISIONS | | | | |
|---|---|---|---|---|
| REV | DESCRIPTION | BY | APP. | DATE |
| A | FIRST ISSUE | DW | CP | 03.10.2024 |

SCALES

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CLIENT
SANTIN EARTHMOVING

SITE
115 UPPER CHERRY TREE ROAD
UPPER MONGOGARIE NSW 2470
1 DP 832403

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115 UPPER CHERRY TREE ROAD

EROSION & SEDIMENT CONTROL PLAN

| DRAWING NUMBER | REV |
|---|---|
| 24090-02-CC-ES-01 | A |
| FOR INFORMATION ONLY | A1 |

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# **Appendix B.** Site Photographs

**Plate A.** (27/08/24) View south of the activity area from the northern extent.

**Plate B.** (27/08/24) View north of activity area from southern extent.

**Plate C** (27/08/24) View southeast of the landslip into Cherry Tree Creek. Note the fence line that will need to be replaced.

**Plate D** (27/08/24) View east of the landslip into Cherry Tree Creek. Note regrowth of vegetation that will require removal.

**Plate E** (27/08/24) View west of landslip from Cherry Tree Creek.

**Plate F** (27/08/24) View northwest of the landslip from Cherry Tree Creek.

**Plate G** (27/08/24) View northeast of the landslip from Cherry Tree Creek. Note the debris that will require removal.

**Plate H** (27/08/24) View north of the activity area from the southern extent. Note the mound of soil accumulated from the landslip event.

# **Appendix C.** Threatened Species Assessments

Table C.1-1 Plant community types and threatened ecological communities mapped in the study area.

| PCT Name | Vegetation Formation | Vegetation Class | PCT ID | Associated TEC's |
|---|---|---|---|---|
| Northern Hinterland Hills Bloodwood-Red Gum Grassy Forest | Dry Sclerophyll Forests (Shrub/grass sub-formation) | Clarence Dry Sclerophyll Forests | 3427 | Yes |
| Clarence Sandstone Blackbutt-Bloodwood Forest | Dry Sclerophyll Forests (Shrubby sub-formation) | North Coast Dry Sclerophyll Forests | 3563 | Yes |
| Far North Hinterland Grey Gum Grassy Forest | Wet Sclerophyll Forests (Grassy sub-formation) | Northern Hinterland Wet Sclerophyll Forests | 3233 | Yes |
| Clarence Lowland Ironbark-Spotted Gum Grassy Forest | Dry Sclerophyll Forests (Shrub/grass sub-formation) | Clarence Dry Sclerophyll Forests | 3420 | Yes |
| Clarence Sandstone Rises Spotted Gum Grassy Forest | Dry Sclerophyll Forests (Shrub/grass sub-formation) | Clarence Dry Sclerophyll Forests | 3422 | Yes |
| Northern Lowland Swamp Turpentine Wet Forest | Wet Sclerophyll Forests (Shrubby sub-formation) | North Coast Wet Sclerophyll Forests | 3102 | Yes |

Table C.1-2 Threatened Ecological Communities mapped in the study area.

| Threatened Ecological Community | Status* | | Occurs on Site (Yes/No) | Significant Impact Assessment considered necessary (Yes/No) |
|---|---|---|---|---|
| | NSW BC Act | EPBC Act | | |
| Coastal Cypress Pine Forest in the New South Wales North Coast Bioregion | E3 | | No | No |
| Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | E3 | | No | No |
| Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland | | E | No | No |
| Dunn's white gum (Eucalyptus dunnii) moist forest in north-east New South Wales and south-east Queensland | | E | No | No |
| Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | E3 | | No | No |
| Grey box-grey gum wet forest of subtropical eastern Australia | | E | No | No |
| Grey Box-Grey Gum Wet Sclerophyll Forest in the NSW North Coast Bioregion | E3 | | No | No |
| Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | E3 | | No | No |
| Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions | E3 | | No | No |
| Lowland Rainforest of Subtropical Australia | | CE | No | No |
| Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion | E3 | | No | No |
| Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions | E3 | | No | No |
| Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion | E3 | | No | No |
| Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions | | E | No | No |

| Threatened Ecological Community | Status* NSW BC Act | EPBC Act | Occurs on Site (Yes/No) | Significant Impact Assessment considered necessary (Yes/No) |
|---|---|---|---|---|
| Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | E3 | | No | No |
| Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | E3 | | No | No |
| Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions | E3 | | No | No |
| White Gum Moist Forest in the NSW North Coast Bioregion | E3 | | No | No |

*V=Vulnerable, E=Endangered, CE=Critically Endangered.

Table C.1-3 likelihood of occurrence criteria for listed species.

| Likelihood of Occurrence | Criteria |
|---|---|
| **Recorded** | The species was observed in the study area during the current study. (Study area means the subject site and any additional areas which are likely to be affected by the activity, either directly or indirectly. The study area should extend as far as is necessary to take all potential impacts into account). |
| **High** | It is highly likely that a species inhabits the study area and is dependent on identified suitable habitat (i.e., for breeding or important life cycle periods such as winter flowering resources), has been recorded recently in the locality (10 km) and is known or likely to maintain resident populations in the study area. Also included species known or likely to visit the study area during regular seasonal movements or migrations. |
| **Moderate** | Potential habitat is present in the study area. species unlikely to maintain sedentary populations, however, may seasonally use resources within the study area opportunistically or during migration. The species is unlikely to be dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on habitat within the study area, or habitat is in a modified or degraded state. Includes cryptic flowering flora species that were not seasonally targeted by surveys and that have not been recorded. |
| **Low** | It is unlikely that the species inhabits the study area and has not been recorded recently in the locality (10 km). It may be an occasional visitor, but habitat similar to the study area is widely distributed in the local area, meaning that the species is not dependent (i.e., for breeding or important life cycle periods such as winter flowering resources) on available habitat. Specific habitat is not present in the study area, or the species are a non-cryptic perennial flora species that were specifically targeted by surveys and not recorded. |
| **None** | Suitable habitat is absent from the study area. Based on a field assessment of the habitat constraints or micro inhabitants on the study area, the habitat is identified as being substantially degraded such that the species is unlikely to utilise the study area (or specific vegetation zones), or an expert report that is prepared states the species is unlikely to be present in the study area or specific vegetation zones. |

Table C.1-4 Threatened species habitat, occurrence, and Test of Significance criteria assessment.

| Name | Status | | No. of records (BioNet) | Habitat requirement and Ecology | Suitable habitat? (Yes/No) | Likelihood of Occurrence | Test of Significance required? (Yes/No) |
|---|---|---|---|---|---|---|---|
| | BC Act | EPBC Act | | | | | |
| **Amphibia** | | | | | | | |
| **Reptilia** | | | | | | | |
| **Aves** | | | | | | | |
| *Ephippiorhynchus asiaticus*<br><br>Black-necked Stork<br><br>[0183] | E | | 7 | Floodplain wetlands (swamps, billabongs, watercourses and dams) of the major coastal rivers are the key habitat in NSW for the Black-necked Stork. Secondary habitat includes minor floodplains, coastal sandplain wetlands and estuaries.<br><br>Storks usually forage in water 5-30cm deep for vertebrate and invertebrate prey. Eels regularly contribute the greatest biomass to their diet, but they feed on a wide variety of animals, including other fish, frogs and invertebrates (such as beetles, grasshoppers, crickets and crayfish).<br><br>Black-necked Storks build large nests high in tall trees close to water. Trees usually provide clear observation of the surroundings and are at low elevation (reflecting the floodplain habitat). | No | Low | No |
| ^*Anthochaera Phrygia*<br><br>Regent Honeyeater<br><br>[0603] | CE | CE | 1 | The Regent Honeyeater is a generalist forager, although it feeds mainly on the nectar from a relatively small number of eucalypts that produce high volumes of nectar.<br><br>There are several known key breeding areas, four of them in NSW - Capertee Valley, Lower Hunter Valley, Mudgee/Wollar and Bundarra-Barraba regions. The species breeds between July and January in Box-Ironbark and other temperate woodlands and riparian gallery forest. Regent Honeyeaters usually nest in horizontal branches or forks in tall mature eucalypts and Sheoaks. Also nest in mistletoe haustoria.<br><br>An open cup-shaped nest is constructed of bark, grass, twigs and wool by the female. Two or three eggs are laid and incubated by the female for 14 days. Nestlings are brooded and fed by both parents at an average rate of 23 times per hour and fledge after 16 days. Fledglings fed by both parents 29 times per hour. | No | No | No |
| *Hieraaetus morphnoides*<br><br>Little Eagle<br><br>[0225] | V | | 1 | Occupies open eucalypt forest, woodland or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used. | No | Low | No |

| Name | Status | | No. of records (BioNet) | Habitat requirement and Ecology | Suitable habitat? (Yes/No) | Likelihood of Occurrence | Test of Significance required? (Yes/No) |
|---|---|---|---|---|---|---|---|
| | BC Act | EPBC Act | | | | | |
| | | | | Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter.<br><br>Lays two or three eggs during spring, and young fledge in early summer.<br><br>Preys on birds, reptiles and mammals, occasionally adding large insects and carrion. | | | |
| *Glossopsitta pusilla*<br><br>Little Lorikeet<br><br>[0260] | V | | 8 | Forages primarily in the canopy of open Eucalyptus forest and woodland, yet also finds food in Angophora, Melaleuca and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity.<br><br>Isolated flowering trees in open country, e.g. paddocks, roadside remnants and urban trees also help sustain viable populations of the species.<br><br>Feeds mostly on nectar and pollen, occasionally on native fruits such as mistletoe, and only rarely in orchards<br><br>Nests in proximity to feeding areas, if possible, most typically selecting hollows in the limb or trunk of smooth-barked Eucalypts. Entrance is small (3 cm) and usually high above the ground (2–15 m). These nest sites are often used repeatedly for decades, suggesting that preferred sites are limited. Riparian trees often chosen, including species like Allocasuarina.<br><br>Nesting season extends from May to September. In years when flowering is prolific, Little Lorikeet pairs can breed twice, producing 3-4 young per attempt. However, the survival rate of fledglings is unknown. | No | Low | No |
| *Climacteris picumnus victoriae*<br><br>Brown Treecreeper (eastern subspecies)<br><br>[8127] | V | V | 7 | Found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species; also found in mallee and River Red Gum (Eucalyptus camaldulensis) Forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses; usually not found in woodlands with a dense shrub layer; fallen timber is an important habitat component for foraging; also recorded, though less commonly, in similar woodland habitats on the coastal ranges and plains.<br><br>Sedentary, considered to be resident in many locations throughout its range; present in all | No | Low | No |

| Name | Status | | No. of records (BioNet) | Habitat requirement and Ecology | Suitable habitat? (Yes/No) | Likelihood of Occurrence | Test of Significance required? (Yes/No) |
|---|---|---|---|---|---|---|---|
| | BC Act | EPBC Act | | | | | |
| | | | | seasons or year-round at many sites; territorial year-round, though some birds may disperse locally after breeding.<br><br>When foraging in trees and on the ground, they peck and probe for insects, mostly ants, amongst the litter, tussocks and fallen timber, and along trunks and lateral branches; up to 80% of the diet is comprised of ants; other invertebrates (including spiders, insects larvae, moths, beetles, flies, hemipteran bugs, cockroaches, termites and lacewings) make up the remaining percentage; nectar from Mugga Ironbark (*Eucalyptus sideroxylon*) and paperbarks, and sap from an unidentified eucalypt are also eaten, along with lizards and food scraps; young birds are fed ants, insect larvae, moths, craneflies, spiders and butterfly and moth larvae.<br><br>Hollows in standing dead or live trees and tree stumps are essential for nesting. | | | |
| *Melithreptus gularis gularis*<br><br>Black-chinned Honeyeater (eastern subspecies)<br><br>[8303] | V | | 1 | Occupies mostly upper levels of drier open forests or woodlands dominated by box and ironbark eucalypts, especially Mugga Ironbark (*Eucalyptus sideroxylon*), White Box (*E. albens*), Inland Grey Box *(E. microcarpa*), Yellow Box (*E. melliodora*), Blakely's Red Gum (*E. blakelyi*) and Forest Red Gum (E. tereticornis).<br><br>Also inhabits open forests of smooth-barked gums, stringybarks, ironbarks, river sheoaks (nesting habitat) and tea-trees.<br><br>A gregarious species usually seen in pairs and small groups of up to 12 birds.<br><br>Feeding territories are large making the species locally nomadic. Recent studies have found that the Black-chinned Honeyeater tends to occur in the largest woodland patches in the landscape as birds forage over large home ranges of at least 5 hectares.<br><br>Moves quickly from tree to tree, foraging rapidly along outer twigs, underside of branches and trunks, probing for insects. Nectar is taken from flowers, and honeydew is gleaned from foliage.<br><br>Breeds solitarily or co-operatively, with up to five or six adults, from June to December.<br><br>The nest is placed high in the crown of a tree, in the uppermost lateral branches, hidden by foliage. It is a compact, suspended, cup-shaped nest. | No | Low | No |

| Name | Status | | No. of records (BioNet) | Habitat requirement and Ecology | Suitable habitat? (Yes/No) | Likelihood of Occurrence | Test of Significance required? (Yes/No) |
|---|---|---|---|---|---|---|---|
| | BC Act | EPBC Act | | | | | |
| *Pomatostomus temporalis temporalis*<br><br>Grey-crowned Babbler (eastern subspecies)<br><br>[8388] | V | | 17 | Inhabits open Box-Gum Woodlands on the slopes, and Box-Cypress-pine and open Box Woodlands on alluvial plains. Woodlands on fertile soils in coastal regions.<br><br>Build and maintain several conspicuous, dome-shaped stick nests about the size of a football. A nest is used as a dormitory for roosting each night. Nests are usually located in shrubs or sapling eucalypts, although they may be built in the outermost leaves of low branches of large eucalypts. Nests are maintained year round, and old nests are often dismantled to build new ones.<br><br>Breed between July and February. | No | Low | No |
| *Daphoenositta chrysoptera*<br><br>Varied Sittella<br><br>[0549] | V | | 1 | Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland.<br><br>Feeds on arthropods gleaned from crevices in rough or decorticating bark, dead branches, standing dead trees and small branches and twigs in the tree canopy.<br><br>Builds a cup-shaped nest of plant fibres and cobwebs in an upright tree fork high in the living tree canopy, and often re-uses the same fork or tree in successive years.<br><br>Generation length is estimated to be 5 years. | No | Low | No |
| *Artamus cyanopterus cyanopterus*<br><br>Dusky Woodswallow<br><br>[8519] | V | | 2 | Primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and ground-cover of grasses or sedges and fallen woody debris. It has also been recorded in shrublands, heathlands and very occasionally in moist forest or rainforest. Also found in farmland, usually at the edges of forest or woodland.<br><br>Primarily eats invertebrates, mainly insects, which are captured whilst hovering or sallying above the canopy or over water. Also frequently hovers, sallies and pounces under the canopy, primarily over leaf litter and dead timber. Also occasionally take nectar, fruit and seed.<br><br>Depending on location and local climatic conditions (primarily temperature and rainfall), the dusky woodswallow can be resident year round or migratory. In NSW, after breeding, birds migrate to the north of the state and to southeastern Queensland, while Tasmanian birds migrate to southeastern NSW after breeding. Migrants | No | Low | No |

| Name | Status | | No. of records (BioNet) | Habitat requirement and Ecology | Suitable habitat? (Yes/No) | Likelihood of Occurrence | Test of Significance required? (Yes/No) |
|---|---|---|---|---|---|---|---|
| | BC Act | EPBC Act | | | | | |
| | | | | generally depart between March and May, heading south to breed again in spring. There is some evidence of site fidelity for breeding. Although dusky woodswallows generally breed as solitary pairs or occasionally in small flocks, large flocks may form around abundant food sources in winter. Large flocks may also form before migration, which is often undertaken with other species. | | | |
| *Calyptorhynchus lathami lathami*<br><br>South-eastern Glossy Black-Cockatoo<br><br>[8862] | V | V | 16 | Inhabits open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur. Black Sheoak (*Allocasuarina littoralis*) and Forest Sheoak (*A. torulosa*) are important foods.<br><br>Inland populations feed on a wide range of sheoaks, including Drooping Sheoak, *Allocasuaraina diminuta*, and *A. gymnathera*. Belah is also utilised and may be a critical food source for some populations.<br><br>In the Riverina, birds are associated with hills and rocky rises supporting Drooping Sheoak, but also recorded in open woodlands dominated by Belah (Casuarina cristata).<br><br>Feeds almost exclusively on the seeds of several species of she-oak (Casuarina and Allocasuarina species), shredding the cones with the massive bill.<br><br>Dependent on large hollow-bearing eucalypts for nest sites. A single egg is laid between March and May. | No | Low | No |
| *Lophoictinia isura*<br><br>Square-tailed Kite<br><br>[0230] | V | | 1 | Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses.<br><br>In arid north-western NSW, has been observed in stony country with a ground cover of chenopods and grasses, open acacia scrub and patches of low open eucalypt woodland.<br><br>Is a specialist hunter of passerines, especially honeyeaters, and most particularly nestlings, and insects in the tree canopy, picking most prey items from the outer foliage.<br><br>Appears to occupy large hunting ranges of more than 100 square km.<br><br>Breeding is from July to February, with nest sites generally located along or near watercourses, in a fork or on large horizontal limbs. | No | Low | No |
| *Ninox connivens* | V | | 1 | Inhabits woodland and open forest, including fragmented remnants and partly cleared | No | Low | No |

| Name | Status | | No. of records (BioNet) | Habitat requirement and Ecology | Suitable habitat? (Yes/No) | Likelihood of Occurrence | Test of Significance required? (Yes/No) |
|---|---|---|---|---|---|---|---|
| | BC Act | EPBC Act | | | | | |
| Barking Owl<br><br>[0246] | | | | farmland. It is flexible in its habitat use, and hunting can extend in to closed forest and more open areas. Sometimes able to successfully breed along timbered watercourses in heavily cleared habitats (e.g. western NSW) due to the higher density of prey found on these fertile riparian soils.<br><br>Roost in shaded portions of tree canopies, including tall midstory trees with dense foliage such as Acacia and Casuarina species. During nesting season, the male perches in a nearby tree overlooking the hollow entrance.<br><br>Two or three eggs are laid in hollows of large, old trees. Living eucalypts are preferred though dead trees are also used. Nest sites are used repeatedly over years by a pair, but they may switch sites if disturbed by predators (e.g. goannas).<br><br>Nesting occurs during mid-winter and spring. Laying occurs during August and fledging in November. The female incubates for 5 weeks, roosts outside the hollow when chicks are 4 weeks old, then fledging occurs 2-3 weeks later. Young are dependent on their parents for several months. | | | |
| *Ninox strenua*<br><br>Powerful Owl<br><br>[0248] | V | | 6 | The Powerful Owl inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest.<br><br>The Powerful Owl requires large tracts of forest or woodland habitat but can occur in fragmented landscapes as well. The species breeds and hunts in open or closed sclerophyll forest or woodlands and occasionally hunts in open habitats. It roosts by day in dense vegetation comprising species such as Turpentine *Syncarpia glomulifera*, Black She-oak *Allocasuarina littoralis*, Blackwood *Acacia melanoxylon*, Rough-barked Apple *Angophora floribunda*, Cherry Ballart *Exocarpus cupressiformis* and a number of eucalypt species.<br><br>Powerful Owls are monogamous and mate for life. Nesting occurs from late autumn to mid-winter, but is slightly earlier in north-eastern NSW (late summer - mid autumn). | No | Low | No |
| *Tyto novaehollandiae*<br><br>Masked Owl<br><br>[0250] | V | | 2 | Lives in dry eucalypt forests and woodlands from sea level to 1100 m.<br><br>A forest owl, but often hunts along the edges of forests, including roadsides. The typical diet consists of tree-dwelling and ground mammals, especially rats. | No | Low | No |

| Name | Status | | No. of records (BioNet) | Habitat requirement and Ecology | Suitable habitat? (Yes/No) | Likelihood of Occurrence | Test of Significance required? (Yes/No) |
|---|---|---|---|---|---|---|---|
| | BC Act | EPBC Act | | | | | |
| | | | | Pairs have a large home-range of 1000 hectares or more, depending on prey availability.<br><br>Roosts and breeds in moist eucalypt forested gullies, using large tree hollows or sometimes caves for nesting. | | | |
| **Mammalia** | | | | | | | |
| *Phascolarctos cinereus*<br><br>Koala<br><br>[1162] | E | E | 147 | Inhabit eucalypt woodlands and forests.<br><br>Feed on the foliage of more than 70 eucalypt species and 30 non-eucalypt species, but in any one area will select preferred browse species.<br><br>Inactive for most of the day, feeding and moving mostly at night.<br><br>Spend most of their time in trees, but will descend and traverse open ground to move between trees.<br><br>Home range size varies with quality of habitat, ranging from less than two ha to several hundred hectares in size.<br><br>Generally solitary, but have complex social hierarchies based on a dominant male with a territory overlapping several females and sub-ordinate males on the periphery.<br><br>Females breed at two years of age and produce one young per year. | Yes<br><br>Adjacent activity area | Moderate<br><br>Mapped in proximity | No<br><br>Activity will not impact habitat for species |
| *Petauroides Volans*<br><br>Southern Greater Glider<br><br>[1133] | E | E | 26 | Feeds exclusively on eucalypt leaves, buds, flowers and mistletoe.<br><br>Shelter during the day in tree hollows and will use up to 18 hollows in their home range. Recorded using hollows with a minimum diameter of 8 cm.<br><br>Occupy a relatively small home range with an average size of 1 to 3 ha.<br><br>Give birth to a single young in late autumn or early winter which remains in the pouch for approximately 4 months and is independent at 9 months of age.<br><br>Usually solitary, though mated pairs and offspring will share a den during the breeding season and until the young are independent.<br><br>Can glide up to a horizontal distance of 100m including changes of direction of as much as 90 degrees.<br><br>Very loyal to their territory. | No | Low | No |

| Name | Status | | No. of records (BioNet) | Habitat requirement and Ecology | Suitable habitat? (Yes/No) | Likelihood of Occurrence | Test of Significance required? (Yes/No) |
|---|---|---|---|---|---|---|---|
| | BC Act | EPBC Act | | | | | |
| *Petaurus australis*<br><br>Yellow-bellied Glider<br><br>[1136] | V | V | 7 | Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils.<br><br>Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south.<br><br>Feed primarily on plant and insect exudates, including nectar, sap, honeydew and manna with pollen and insects providing protein.<br><br>Extract sap by incising (or biting into) the trunks and branches of favoured food trees, often leaving a distinctive 'V'-shaped scar.<br><br>Live in small family groups of two - six individuals and are nocturnal.<br><br>Den, often in family groups, in hollows of large trees.<br><br>Very mobile and occupy large home ranges between 20 to 85 ha to encompass dispersed and seasonally variable food resources. | No | Low | No |
| *Petaurus norfolcensis*<br><br>Squirrel Glider<br><br>[1137] | V | | 2 | Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas.<br><br>Prefers mixed species stands with a shrub or Acacia midstory.<br><br>Live in family groups of a single adult male one or more adult females and offspring.<br><br>Require abundant tree hollows for refuge and nest sites.<br><br>Diet varies seasonally and consists of Acacia gum, eucalypt sap, nectar, honeydew and manna, with invertebrates and pollen providing protein. | No | Low | No |
| Nyctophilus bifax<br><br>Eastern Long-eared Bat<br><br>[1336] | V | | 1 | Lowland subtropical rainforest and wet and swamp eucalypt forest, extending into adjacent moist eucalypt forest.<br><br>Coastal rainforest and patches of coastal scrub are particularly favoured.<br><br>Roosts in tree hollows, the hanging foliage of palms, in dense clumps of foliage of rainforest trees, under bark and in shallow depressions on trunks and branches, among epiphytes, in the roots of strangler figs, among dead fronds of tree ferns and less often in buildings. | No | Low | No |

| Name | Status | | No. of records (BioNet) | Habitat requirement and Ecology | Suitable habitat? (Yes/No) | Likelihood of Occurrence | Test of Significance required? (Yes/No) |
|---|---|---|---|---|---|---|---|
| | BC Act | EPBC Act | | | | | |
| *Miniopterus australis*<br>Little Bent-winged Bat<br>[1346] | V | | 1 | Moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub. Generally found in well-timbered areas.<br>Little Bentwing-bats roost in caves, tunnels, tree hollows, abandoned mines, stormwater drains, culverts, bridges and sometimes buildings during the day, and at night forage for small insects beneath the canopy of densely vegetated habitats.<br>They often share roosting sites with the Common Bentwing-bat and, in winter, the two species may form mixed clusters.<br>In NSW the largest maternity colony is in close association with a large maternity colony of Eastern Bentwing-bats (*Miniopterus schreibersii*) and appears to depend on the large colony to provide the high temperatures needed to rear its young.<br>Only five nursery sites /maternity colonies are known in Australia. | No | Low | No |
| **Insecta** | | | | | | | |
| **Flora** | | | | | | | |
| *Cyperus aquatilis*<br>Water Nutgrass<br>[7013] | E | | 2 | Grows in ephemerally wet sites, such as roadside ditches and seepage areas from small cliffs and rock outcrops in sandstone areas. | No | Low | No |
| *Polygala linariifolia*<br>Native Milkwort<br>[5260] | E | | 1 | Sandy soils in dry eucalypt forest and woodland with a sparse understorey. The species has been recorded from the Inverell and Torrington districts growing in dark sandy loam on granite in shrubby forest of Eucalyptus caleyi, Eucalyptus dealbata and Callitris, and in yellow podsolic soil on granite in layered open forest.<br>Flowers are known to occur from September to February.<br>Has been recorded as rare, sparse, occasional and common in populations. | No | Low | No |
| *Eucalyptus glaucina*<br>Slaty Red Gum<br>[4096] | V | V | 9 | Grows in grassy woodland and dry eucalypt forest. Grows on deep, moderately fertile and well-watered soils. | No | Low | No |

*V=Vulnerable, E=Endangered, CE=Critically Endangered.

# Test of Significance

From **Appendix C, D, and E** and the site assessment, assessments of significance are required for the following threatened species/communities:

The threatened species test of significance is used to determine if a development or activity is likely to significantly affect threatened species or ecological communities, or their habitats.

*The test of significance is applied as part of the* Biodiversity Offsets Scheme entry requirements *and for* Part 5 activities *under the* Environmental Planning and Assessment Act 1979 *(EP&A Act).* The test of significance is set out in s. 7.3 of the Biodiversity Conservation Act 2016 (BC Act).

The following is to be taken into account for the purposes of determining whether a development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

a. in the case of a threatened species, whether the development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,
b. in the case of an endangered ecological community or critically endangered ecological community, whether the development or activity:
    i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
    ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
c. in relation to the habitat of a threatened species or ecological community:
    i. the extent to which habitat is likely to be removed or modified as a result of the development or activity, and
    ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the development or activity, and
    iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,
d. whether the development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),
e. whether the development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Table C.2-1 Threatened Species Test of Significance.

| | Factor | Yes | No |
|---|---|---|---|
| **1** | **In the case of a threatened species, whether the development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction:** | ☒Yes | ☐No |
| Assessment of likelihood of occurrence and suitable habitat for threatened species found in proximity to activity found one species likely to be either directly or indirectly impacted by the activity. A test of significance is deemed necessary for any species found in proximity to activity that may be impacted. The Southern Purple Spotted Gudgeon (*Mogurnda adspersa*) is listed as Endangered under the BC Act and is mapped within the activity area on Cherry Tree Creek.<br><br>Southern Purple Spotted Gudgeon (*Mogurnda adspersa*) is a small freshwater fish native to Australia. Two populations of Southern Purple Spotted Gudgeon occur in NSW; an eastern population found in coastal catchments north of the Clarence River, and a western population found throughout Murray-Darling Basin. This species is threatened by several factors including predation by introduced fish species; habitat disturbance and loss of favourable habitat, particularly aquatic plants; thermal pollution; decreased water quality due to agricultural practices, etc.<br><br>The activity will require dredging and reclamation and may temporarily obstruct fish passage. The activity involves the installation of rock armouring that extends from the road to the creek bed. The riparian zone within the activity area is moderately degraded due to a high presence of historic land clearing and introduced invasive species. Should any Southern Purple Spotted Gudgeon | | |

be found in the activity area, appropriate measures are to be taken to protect species from further damage, as outlined in section 3 of REF.

The listed threatening factors are present either within or adjacent to the activity area currently and during seasonal events. It is unlikely the activity would exacerbate or introduce additional issues such that a local population could be significantly impacted or be put at risk of extinction.

| | Factor | Yes | No |
|---|---|---|---|
| **2** | **In the case of an endangered ecological community or critically endangered ecological community, whether the development or activity:**<br>**i. Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**<br>ii. **Is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,** | ☐Yes | ☒No |

There are 6 threatened ecological communities (TEC) mapped to occur in proximity to the activity in the EPBC search tool (**Appendix D**) and 18 listed as known or predicted to exist in proximity to the activity under the BioNet search tool (**Appendix E**). Assessment of vegetation and site characteristics indicates no TECs to be present within proximity to the activity area:

The previous vegetation communities close to the activity area have been impacted by clearing for development of the road and the adjacent residential and agricultural infrastructure as well as by the landslip. As such there are no clear PCTs or associated TECs across the activity area at risk of direct or indirect impacts. This REF determined that minor vegetation to be impacted is well represented in the landscape and removal of this vegetation is unlikely to cause a significant impact to any potential undetected TEC in the area.

| | Factor | Yes | No |
|---|---|---|---|
| **3** | **In relation to the habitat of a threatened species or ecological community:**<br>**i. The extent to which habitat is likely to be removed or modified as a result of the development or activity, and**<br>**ii. Whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the development or activity, and**<br>**iii. The importance of the habitat to be removed, modified, fragmented, or isolated to the long-term survival of the species or ecological community in the locality.** | ☒Yes | ☐No |

Works will have minor vegetation impacts to carry out the activity as outlined in this REF. Vegetation impacts will primarily consist of clearing of groundcover vegetation on the roadway verges and maintenance zone (table drains), and pruning of overhanging vegetation where required.

These impacts will be very minor with safeguards and management strategies in place during the works to mitigate impacts. These include daily visual assessments, no go zones to reduce soil erosion and compaction, and washing/cleaning of machinery prior to entering and leaving site to minimise distribution of weed species.

Works should be completed outside of the Southern Purple Spotted Gudgeon breeding season (November-March). Should any Southern Purple Spotted Gudgeon be found, appropriate measures are to be taken to protect species from further damage, as outlined in section 3 of REF.

With appropriate safeguards in place the activity will not contribute to further fragmentation of habitats and will not further inhibit the movement or life cycle of species in the already highly disturbed aquatic and terrestrial area.

| | **Factor** | **Yes** | **No** |
|---|---|---|---|
| **4** | **Whether the development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),** | ☐Yes | ☒No |

The activity is not mapped within areas of outstanding biodiversity value. No vegetation or habitat features to be impact contain significant biodiversity value as discussed. Safeguards will ensure no impacts should occur either directly or indirectly to any areas of outstanding biodiversity value.

| | **Factor** | **Yes** | **No** |
|---|---|---|---|

| 5 | **Whether the development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.** | ☐Yes | ☒No |
|---|---|---|---|

The activity will not exacerbate any key threatening processes (KTPs) for the listed threatened species found in proximity to the works site.

A threat may be listed as a KTP under the NSW Biodiversity Conservation Act 2016 if it:

- Adversely affects threatened species or ecological communities
- Could cause species or ecological communities to become threatened.

A list of KTPs identified at the activity site through a BioNet search and weather a KTP will be exacerbated by the activity is listed below **Table C.2-2**.

Table C.2-2 Listed Key Threatening Process associated with activity.

| Listed Key Threatening Process | Likelihood of the activity to contribute to a KTP | | |
|---|---|---|---|
| | Likely | Possible | Unlikely |
| Aggressive exclusion of birds from woodland and forest habitat by abundant Noisy Miners, *Manorina melanocephala* (Latham, 1802) | | | ✓ |
| Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands | | | ✓ |
| Anthropogenic Climate Change | ✓ | | |
| Bushrock removal | | | ✓ |
| Clearing of native vegetation | | | ✓ |
| Competition and grazing by the feral European Rabbit, *Oryctolagus cuniculus* (L.) | | | ✓ |
| Competition and habitat degradation by Feral Goats, *Capra hircus* Linnaeus 1758 | | | ✓ |
| Competition from feral honey bees, *Apis mellifera* L. | | | ✓ |
| Forest eucalypt dieback associated with over-abundant psyllids and Bell Miners | | | ✓ |
| Habitat degradation and loss by Feral Horses (brumbies, wild horses), Equus caballus Linnaeus 1758 | | | ✓ |
| Herbivory and environmental degradation caused by feral deer | | | ✓ |
| High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition | | | ✓ |
| Importation of Red Imported Fire Ants *Solenopsis invicta* Buren 1972 | | | ✓ |
| Infection by Psittacine Circoviral (beak and feather) Disease affecting endangered psittacine species and populations | | | ✓ |
| Infection of frogs by amphibian chytrid causing the disease chytridiomycosis | | | ✓ |
| Infection of native plants by *Phytophthora cinnamomi* | | | ✓ |
| Introduction and establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae | | | ✓ |

| | | | |
|---|---|---|---|
| Introduction of the Large Earth Bumblebee *Bombus terrestris* (L.) | | | ✓ |
| Invasion and establishment of exotic vines and scramblers | | ✓ | |
| Invasion and establishment of Scotch Broom (*Cytisus scoparius*) | | | ✓ |
| Invasion and establishment of the Cane Toad (*Bufo marinus*) | | | ✓ |
| Invasion of native plant communities by African Olive *Olea europaea subsp. cuspidata* (Wall. ex G. Don) Cif. | | | ✓ |
| Invasion of native plant communities by *Chrysanthemoides monilifera* | | | ✓ |
| Invasion of native plant communities by exotic perennial grasses | | | ✓ |
| Invasion of the Yellow Crazy Ant, *Anoplolepis gracilipes* (Fr. Smith) into NSW | | | ✓ |
| Invasion, establishment and spread of Lantana (*Lantana camara* L. sens. Lat) | | ✓ | |
| Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants | | | ✓ |
| Loss of Hollow-bearing Trees | | | ✓ |
| Loss or degradation (or both) of sites used for hill-topping by butterflies | | | ✓ |
| Predation and hybridisation by Feral Dogs, *Canis lupus familiaris* | | | ✓ |
| Predation by *Gambusia holbrooki* Girard, 1859 (Plague Minnow or Mosquito Fish) | | | ✓ |
| Predation by the European Red Fox *Vulpes Vulpes* (Linnaeus, 1758) | | | ✓ |
| Predation by the Feral Cat *Felis catus* (Linnaeus, 1758) | | | ✓ |
| Predation, habitat degradation, competition and disease transmission by Feral Pigs, *Sus scrofa* Linnaeus 1758 | | | ✓ |
| Removal of dead wood and dead trees | | | ✓ |

The activity may be characteristic of 1 likely KTPs:

- Anthropogenic climate change.

The activity would incrementally contribute to anthropogenic climate change, through the generation of carbon dioxide during operation of machinery and vehicles and associated fuel consumption however the impact is not considered significant.

The activity may be characteristic of 2 possible KTPs:

- Invasion and establishment of exotic vines and scramblers; and
- Invasion, establishment and spread of Lantana.

The activity may require the clearing of minor non-significant native vegetation within the roadway easement as stated in section 3 of REF.

The activity currently contains numerous invasive species. Safeguards outlined in section 3 of REF should mitigate risk of spread of invasive species. Revegetation works may reduce threat re-colonisation of impacted areas following the activity.

Lantana is not currently established in activity area, but it has potential to colonise the riparian zone following disturbance. Safeguards outlined in section 3 of REF should mitigate risk of spread of invasive species. Revegetation works may reduce threat re-colonisation of impacted areas following the activity.

The assessment of KTPs indicates that the activity would not significantly contribute or exacerbate any KTPs. The activity is unlikely to significantly adversely affect threatened species or ecological communities. The activity is unlikely to cause species or ecological communities to become threatened.

# **Appendix D.** EPBC Protected Matters Report

# EPBC Act Protected Matters Report

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

Report created: 11-Sep-2024

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements

# Summary

## Matters of National Environment Significance

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

| | |
|---|---|
| World Heritage Properties: | None |
| National Heritage Places: | None |
| Wetlands of International Importance (Ramsar | None |
| Great Barrier Reef Marine Park: | None |
| Commonwealth Marine Area: | None |
| Listed Threatened Ecological Communities: | 6 |
| Listed Threatened Species: | 57 |
| Listed Migratory Species: | 15 |

## Other Matters Protected by the EPBC Act

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

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

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

| | |
|---|---|
| Commonwealth Lands: | None |
| Commonwealth Heritage Places: | None |
| Listed Marine Species: | 21 |
| Whales and Other Cetaceans: | None |
| Critical Habitats: | None |
| Commonwealth Reserves Terrestrial: | None |
| Australian Marine Parks: | None |
| Habitat Critical to the Survival of Marine Turtles: | None |

## Extra Information

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

| | |
|---|---|
| State and Territory Reserves: | 2 |
| Regional Forest Agreements: | 1 |
| Nationally Important Wetlands: | None |
| EPBC Act Referrals: | 2 |
| Key Ecological Features (Marine): | None |
| Biologically Important Areas: | None |
| Bioregional Assessments: | 1 |
| Geological and Bioregional Assessments: | None |

# Details

## Matters of National Environmental Significance

### Listed Threatened Ecological Communities [ Resource Information ]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

| Community Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community | Endangered | Community may occur within area | In buffer area only |
| Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland | Endangered | Community likely to occur within area | In buffer area only |
| Dunn's white gum (Eucalyptus dunnii) moist forest in north-east New South Wales and south-east Queensland | Endangered | Community likely to occur within area | In buffer area only |
| Grey box-grey gum wet forest of subtropical eastern Australia | Endangered | Community likely to occur within area | In feature area |
| Lowland Rainforest of Subtropical Australia | Critically Endangered | Community likely to occur within area | In feature area |
| Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions | Endangered | Community likely to occur within area | In feature area |

### Listed Threatened Species [ Resource Information ]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| BIRD | | | |
| Anthochaera phrygia | | | |
| Regent Honeyeater [82338] | Critically Endangered | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Botaurus poiciloptilus<br>Australasian Bittern [1001] | Endangered | Species or species habitat may occur within area | In feature area |
| Calidris acuminata<br>Sharp-tailed Sandpiper [874] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Calidris ferruginea<br>Curlew Sandpiper [856] | Critically Endangered | Species or species habitat may occur within area | In feature area |
| Calyptorhynchus lathami lathami<br>South-eastern Glossy Black-Cockatoo [67036] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Climacteris picumnus victoriae<br>Brown Treecreeper (south-eastern) [67062] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Cyclopsitta diophthalma coxeni<br>Coxen's Fig-Parrot [59714] | Critically Endangered | Species or species habitat may occur within area | In feature area |
| Erythrotriorchis radiatus<br>Red Goshawk [942] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Falco hypoleucos<br>Grey Falcon [929] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Gallinago hardwickii<br>Latham's Snipe, Japanese Snipe [863] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Grantiella picta<br>Painted Honeyeater [470] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Hirundapus caudacutus<br>White-throated Needletail [682] | Vulnerable | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| [Lathamus discolor](#)<br>Swift Parrot [744] | Critically Endangered | Species or species habitat likely to occur within area | In feature area |
| [Melanodryas cucullata cucullata](#)<br>South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093] | Endangered | Species or species habitat may occur within area | In feature area |
| [Rostratula australis](#)<br>Australian Painted Snipe [77037] | Endangered | Species or species habitat likely to occur within area | In feature area |
| [Stagonopleura guttata](#)<br>Diamond Firetail [59398] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| [Tringa nebularia](#)<br>Common Greenshank, Greenshank [832] | Endangered | Species or species habitat may occur within area | In buffer area only |
| [Turnix melanogaster](#)<br>Black-breasted Button-quail [923] | Vulnerable | Species or species habitat may occur within area | In feature area |
| CRUSTACEAN | | | |
| [Euastacus gumar](#)<br>Bloodclaw Crayfish, Blood Crayfish [68363] | Endangered | Species or species habitat known to occur within area | In feature area |
| FISH | | | |
| [Maccullochella ikei](#)<br>Clarence River Cod, Eastern Freshwater Cod [26170] | Endangered | Species or species habitat may occur within area | In buffer area only |
| FROG | | | |
| [Mixophyes balbus](#)<br>Stuttering Frog, Southern Barred Frog (in Victoria) [1942] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| [Mixophyes fleayi](#)<br>Fleay's Frog [25960] | Endangered | Species or species habitat may occur within area | In buffer area only |
| [Mixophyes iteratus](#)<br>Giant Barred Frog, Southern Barred Frog [1944] | Vulnerable | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| INSECT | | | |
| [Argynnis hyperbius inconstans](#) | | | |
| Australian Fritillary [88056] | Critically Endangered | Species or species habitat may occur within area | In buffer area only |
| MAMMAL | | | |
| [Chalinolobus dwyeri](#) | | | |
| Large-eared Pied Bat, Large Pied Bat [183] | Endangered | Species or species habitat likely to occur within area | In feature area |
| [Dasyurus maculatus maculatus (SE mainland population)](#) | | | |
| Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184] | Endangered | Species or species habitat known to occur within area | In feature area |
| [Notamacropus parma](#) | | | |
| Parma Wallaby [89289] | Vulnerable | Species or species habitat may occur within area | In feature area |
| [Petauroides volans](#) | | | |
| Greater Glider (southern and central) [254] | Endangered | Species or species habitat known to occur within area | In feature area |
| [Petaurus australis australis](#) | | | |
| Yellow-bellied Glider (south-eastern) [87600] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| [Petrogale penicillata](#) | | | |
| Brush-tailed Rock-wallaby [225] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| [Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)](#) | | | |
| Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104] | Endangered | Species or species habitat known to occur within area | In feature area |
| [Potorous tridactylus tridactylus](#) | | | |
| Long-nosed Potoroo (northern) [66645] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| [Pteropus poliocephalus](#) | | | |
| Grey-headed Flying-fox [186] | Vulnerable | Foraging, feeding or related behaviour known to occur within area | In feature area |
| PLANT | | | |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Acacia ruppii<br>Rupp's Wattle [7559] | Endangered | Species or species habitat may occur within area | In buffer area only |
| Arthraxon hispidus<br>Hairy-joint Grass [9338] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Bosistoa transversa<br>Three-leaved Bosistoa, Yellow Satinheart [16091] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Clematis fawcettii<br>Stream Clematis [4311] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| Coleus nitidus listed as Plectranthus nitidus<br>Nightcap Plectranthus, Silver Plectranthus [91380] | Endangered | Species or species habitat may occur within area | In feature area |
| Cryptostylis hunteriana<br>Leafless Tongue-orchid [19533] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Dichanthium setosum<br>bluegrass [14159] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Eucalyptus glaucina<br>Slaty Red Gum [5670] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Grevillea quadricauda<br>[64651] | Vulnerable | Species or species habitat likely to occur within area | In buffer area only |
| Hibbertia marginata<br>[21970] | Vulnerable | Species or species habitat likely to occur within area | In buffer area only |
| Macadamia integrifolia<br>Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326] | Vulnerable | Species or species habitat may occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Macadamia tetraphylla<br>Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Myrsine richmondensis<br>Purple-leaf Muttonwood, Lismore Muttonwood [83888] | Endangered | Species or species habitat known to occur within area | In feature area |
| Olax angulata<br>Minnie Waters Olax [10666] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| Owenia cepiodora<br>Onionwood, Bog Onion, Onion Cedar [11344] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Paspalidium grandispiculatum<br>a grass [10838] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Persicaria elatior<br>Knotweed, Tall Knotweed [5831] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Rhodamnia rubescens<br>Scrub Turpentine, Brown Malletwood [15763] | Critically Endangered | Species or species habitat known to occur within area | In feature area |
| Rhodomyrtus psidioides<br>Native Guava [19162] | Critically Endangered | Species or species habitat may occur within area | In feature area |
| Thesium australe<br>Austral Toadflax, Toadflax [15202] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Vincetoxicum woollsii listed as Tylophora woollsii<br>[40080] | Endangered | Species or species habitat may occur within area | In buffer area only |
| REPTILE | | | |
| Coeranoscincus reticulatus<br>Three-toed Snake-tooth Skink [59628] | Vulnerable | Species or species habitat may occur within area | In buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Delma torquata<br>Adorned Delma, Collared Delma [1656] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Saltuarius kateae<br>Kate's Leaf-tail Gecko [89489] | Endangered | Species or species habitat known to occur within area | In feature area |

## Listed Migratory Species [ Resource Information ]

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| **Migratory Marine Birds** | | | |
| Apus pacificus<br>Fork-tailed Swift [678] | | Species or species habitat likely to occur within area | In feature area |
| **Migratory Terrestrial Species** | | | |
| Cuculus optatus<br>Oriental Cuckoo, Horsfield's Cuckoo [86651] | | Species or species habitat may occur within area | In feature area |
| Hirundapus caudacutus<br>White-throated Needletail [682] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Monarcha melanopsis<br>Black-faced Monarch [609] | | Species or species habitat known to occur within area | In feature area |
| Motacilla flava<br>Yellow Wagtail [644] | | Species or species habitat may occur within area | In feature area |
| Myiagra cyanoleuca<br>Satin Flycatcher [612] | | Species or species habitat likely to occur within area | In feature area |
| Rhipidura rufifrons<br>Rufous Fantail [592] | | Species or species habitat known to occur within area | In feature area |
| Symposiachrus trivirgatus as Monarcha trivirgatus<br>Spectacled Monarch [83946] | | Species or species habitat known to occur within area | In feature area |
| **Migratory Wetlands Species** | | | |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Actitis hypoleucos<br>Common Sandpiper [59309] | | Species or species habitat may occur within area | In feature area |
| Calidris acuminata<br>Sharp-tailed Sandpiper [874] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Calidris ferruginea<br>Curlew Sandpiper [856] | Critically Endangered | Species or species habitat may occur within area | In feature area |
| Calidris melanotos<br>Pectoral Sandpiper [858] | | Species or species habitat may occur within area | In feature area |
| Gallinago hardwickii<br>Latham's Snipe, Japanese Snipe [863] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Pandion haliaetus<br>Osprey [952] | | Species or species habitat likely to occur within area | In buffer area only |
| Tringa nebularia<br>Common Greenshank, Greenshank [832] | Endangered | Species or species habitat may occur within area | In buffer area only |

## Other Matters Protected by the EPBC Act

| Listed Marine Species | | | [ Resource Information ] |
|---|---|---|---|
| Scientific Name | Threatened Category | Presence Text | Buffer Status |
| Bird | | | |
| Actitis hypoleucos<br>Common Sandpiper [59309] | | Species or species habitat may occur within area | In feature area |
| Anseranas semipalmata<br>Magpie Goose [978] | | Species or species habitat may occur within area overfly marine area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Apus pacificus<br>Fork-tailed Swift [678] | | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Bubulcus ibis as Ardea ibis<br>Cattle Egret [66521] | | Species or species habitat may occur within area overfly marine area | In feature area |
| Calidris acuminata<br>Sharp-tailed Sandpiper [874] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Calidris ferruginea<br>Curlew Sandpiper [856] | Critically Endangered | Species or species habitat may occur within area overfly marine area | In feature area |
| Calidris melanotos<br>Pectoral Sandpiper [858] | | Species or species habitat may occur within area overfly marine area | In feature area |
| Gallinago hardwickii<br>Latham's Snipe, Japanese Snipe [863] | Vulnerable | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Haliaeetus leucogaster<br>White-bellied Sea-Eagle [943] | | Species or species habitat known to occur within area | In feature area |
| Hirundapus caudacutus<br>White-throated Needletail [682] | Vulnerable | Species or species habitat known to occur within area overfly marine area | In feature area |
| Lathamus discolor<br>Swift Parrot [744] | Critically Endangered | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Merops ornatus<br>Rainbow Bee-eater [670] | | Species or species habitat may occur within area overfly marine area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Monarcha melanopsis<br>Black-faced Monarch [609] | | Species or species habitat known to occur within area overfly marine area | In feature area |
| Motacilla flava<br>Yellow Wagtail [644] | | Species or species habitat may occur within area overfly marine area | In feature area |
| Myiagra cyanoleuca<br>Satin Flycatcher [612] | | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Pandion haliaetus<br>Osprey [952] | | Species or species habitat likely to occur within area | In buffer area only |
| Pterodroma cervicalis<br>White-necked Petrel [59642] | | Species or species habitat may occur within area | In feature area |
| Rhipidura rufifrons<br>Rufous Fantail [592] | | Species or species habitat known to occur within area overfly marine area | In feature area |
| Rostratula australis as Rostratula benghalensis (sensu lato)<br>Australian Painted Snipe [77037] | Endangered | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Symposiachrus trivirgatus as Monarcha trivirgatus<br>Spectacled Monarch [83946] | | Species or species habitat known to occur within area overfly marine area | In feature area |
| Tringa nebularia<br>Common Greenshank, Greenshank [832] | Endangered | Species or species habitat may occur within area overfly marine area | In buffer area only |

# Extra Information

## State and Territory Reserves [ Resource Information ]

| Protected Area Name | Reserve Type | State | Buffer Status |
|---|---|---|---|
| Hogarth Range | Nature Reserve | NSW | In feature area |
| Mallanganee | National Park | NSW | In buffer area only |

## Regional Forest Agreements [ Resource Information ]

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

| RFA Name | State | Buffer Status |
|---|---|---|
| North East NSW RFA | New South Wales | In feature area |

## EPBC Act Referrals [ Resource Information ]

| Title of referral | Reference | Referral Outcome | Assessment Status | Buffer Status |
|---|---|---|---|---|
| Controlled action | | | | |
| 330 kV Transmission Line, 205km in Length | 2010/5326 | Controlled Action | Completed | In feature area |
| Not controlled action | | | | |
| Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia | 2015/7522 | Not Controlled Action | Completed | In feature area |

## Bioregional Assessments [ Resource Information ]

| SubRegion | BioRegion | Website | Buffer Status |
|---|---|---|---|
| Clarence-Moreton | Clarence-Moreton | BA website | In feature area |

# Caveat

## 1 PURPOSE

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

The report contains the mapped locations of:

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

## 2 DISCLAIMER

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

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

## 3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

## 4 LIMITATIONS

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

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

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

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

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

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

# Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact us page.

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Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

# **Appendix E.** BioNet Reports

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Public Report of all Valid Records of Entities in selected area [North: -28.92 West: 152.80 East: 152.90 South: -29.02] returned a total of 1,124 records of 363 species.

Report generated on 11/09/2024 2:53 PM

| Kingdom | Class | Family | Species Code | Scientific Name | Exotic | Common Name | NSW status | Comm. status | Records | Info |
|---|---|---|---|---|---|---|---|---|---|---|
| Animalia | Amphibia | Myobatrachidae | 3131 | *Crinia parinsignifera* | | Eastern Sign-bearing Froglet | P | | 3 | |
| Animalia | Amphibia | Myobatrachidae | 3074 | *Mixophyes fasciolatus* | | Great Barred Frog | P | | 1 | |
| Animalia | Amphibia | Myobatrachidae | 3035 | *Uperoleia fusca* | | Dusky Toadlet | P | | 1 | |
| Animalia | Amphibia | Limnodynastidae | 3061 | *Limnodynastes peronii* | | Brown-striped Frog | P | | 2 | |
| Animalia | Amphibia | Limnodynastidae | 3063 | *Limnodynastes tasmaniensis* | | Spotted Grass Frog | P | | 2 | |
| Animalia | Amphibia | Limnodynastidae | 3112 | *Platyplectrum ornatum* | | Ornate Burrowing Frog | P | | 1 | |
| Animalia | Amphibia | Hylidae | 3171 | *Litoria caerulea* | | Green Tree Frog | P | | 1 | |
| Animalia | Amphibia | Hylidae | 3180 | *Litoria dentata* | | Bleating Tree Frog | P | | 1 | |
| Animalia | Amphibia | Hylidae | 3183 | *Litoria fallax* | | Eastern Dwarf Tree Frog | P | | 2 | |
| Animalia | Amphibia | Hylidae | 3187 | *Litoria gracilenta* | | Dainty Green Tree Frog | P | | 1 | |
| Animalia | Amphibia | Hylidae | 3191 | *Litoria latopalmata* | | Broad-palmed Frog | P | | 1 | |
| Animalia | Amphibia | Hylidae | 3199 | *Litoria nasuta* | | Rocket Frog | P | | 1 | |
| Animalia | Amphibia | Hylidae | 3204 | *Litoria peronii* | | Peron's Tree Frog | P | | 1 | |
| Animalia | Amphibia | Hylidae | 3214 | *Litoria tyleri* | | Tyler's Tree Frog | P | | 1 | |
| Animalia | Reptilia | Scincidae | 2450 | *Lampropholis delicata* | | Dark-flecked Garden Sunskink | P | | 1 | |
| Animalia | Reptilia | Agamidae | 2252 | *Intellagama lesueurii* | | Eastern Water Dragon | P | | 1 | |
| Animalia | Reptilia | Pythonidae | 5095 | *Morelia spilota mcdowelli* | | Eastern Carpet Python | P | | 1 | |
| Animalia | Reptilia | Elapidae | 2674 | *Hemiaspis signata* | | Black-bellied Swamp Snake | P | | 1 | |
| Animalia | Aves | Megapodiidae | 0008 | *Alectura lathami* | | Australian Brush-turkey | P | | 1 | |
| Animalia | Aves | Phasianidae | 0011 | *Synoicus ypsilophora* | | Brown Quail | P | | 1 | |
| Animalia | Aves | Anatidae | 0202 | *Chenonetta jubata* | | Australian Wood Duck | P | | 1 | |
| Animalia | Aves | Podargidae | 0313 | *Podargus strigoides* | | Tawny Frogmouth | P | | 4 | |
| Animalia | Aves | Caprimulgidae | 0330 | *Eurostopodus mystacalis* | | White-throated Nightjar | P | | 7 | |
| Animalia | Aves | Aegothelidae | 0317 | *Aegotheles cristatus* | | Australian Owlet-nightjar | P | | 15 | |
| Animalia | Aves | Ciconiidae | 0183 | *Ephippiorhynchus asiaticus* | | Black-necked Stork | E1,P | | 7 | |
| Animalia | Aves | Accipitridae | 0221 | *Accipiter fasciatus* | | Brown Goshawk | P | | 1 | |
| Animalia | Aves | Accipitridae | 0224 | *Aquila audax* | | Wedge-tailed Eagle | P | | 2 | |
| Animalia | Aves | Accipitridae | 0225 | *Hieraaetus morphnoides* | | Little Eagle | V,P | | 1 | |
| Animalia | Aves | Accipitridae | 0230 | *^^Lophoictinia isura* | | Square-tailed Kite | V,P,3 | | 1 | |
| Animalia | Aves | Charadriidae | 0133 | *Vanellus miles* | | Masked Lapwing | P | | 1 | |
| Animalia | Aves | Turnicidae | 0014 | *Turnix varius* | | Painted Button-quail | P | | 1 | |
| Animalia | Aves | Cacatuidae | 0269 | *Cacatua galerita* | | Sulphur-crested Cockatoo | P | | 1 | |
| Animalia | Aves | Cacatuidae | 8862 | *^Calyptorhynchus lathami lathami* | | South-eastern Glossy Black-Cockatoo | V,P,2 | V | 16 | |
| Animalia | Aves | Cacatuidae | 0267 | *Zanda funerea* | | Yellow-tailed Black-Cockatoo | P | | 3 | |
| Animalia | Aves | Psittacidae | 0281 | *Alisterus scapularis* | | Australian King-Parrot | P | | 2 | |
| Animalia | Aves | Psittacidae | 0260 | *Glossopsitta pusilla* | | Little Lorikeet | V,P | | 8 | |
| Animalia | Aves | Psittacidae | 0288 | *Platycercus eximius* | | Eastern Rosella | P | | 3 | |
| Animalia | Aves | Psittacidae | T039 | *Platycercus sp.* | | Unidentified Rosella | P | | 1 | |
| Animalia | Aves | Psittacidae | 0256 | *Trichoglossus chlorolepidotus* | | Scaly-breasted Lorikeet | P | | 4 | |
| Animalia | Aves | Psittacidae | 9947 | *Trichoglossus haematodus* | | Rainbow Lorikeet | P | | 3 | |
| Animalia | Aves | Cuculidae | 0345 | *Chalcites minutillus* | | Little Bronze-Cuckoo | P | | 2 | |
| Animalia | Aves | Cuculidae | 0347 | *Eudynamys orientalis* | | Eastern Koel | P | | 1 | |
| Animalia | Aves | Strigidae | 0246 | *^^Ninox connivens* | | Barking Owl | V,P,3 | | 1 | |
| Animalia | Aves | Strigidae | 9922 | *Ninox novaeseelandiae* | | Southern Boobook | P | | 7 | |
| Animalia | Aves | Strigidae | 0248 | *^^Ninox strenua* | | Powerful Owl | V,P,3 | | 6 | |
| Animalia | Aves | Tytonidae | 0250 | *^^Tyto novaehollandiae* | | Masked Owl | V,P,3 | | 2 | |
| Animalia | Aves | Alcedinidae | 0322 | *Dacelo novaeguineae* | | Laughing Kookaburra | P | | 11 | |
| Animalia | Aves | Alcedinidae | 0326 | *Todiramphus sanctus* | | Sacred Kingfisher | P | | 1 | |
| Animalia | Aves | Meropidae | 0329 | *Merops ornatus* | | Rainbow Bee-eater | P | | 6 | |
| Animalia | Aves | Coraciidae | 0318 | *Eurystomus orientalis* | | Dollarbird | P | | 1 | |
| Animalia | Aves | Climacteridae | 8127 | *Climacteris picumnus victoriae* | | Brown Treecreeper (eastern subspecies) | V,P | V | 7 | |
| Animalia | Aves | Climacteridae | 0558 | *Cormobates leucophaea* | | White-throated Treecreeper | P | | 4 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Animalia | Aves | Ptilonorhynchidae | 0684 | *Sericulus chrysocephalus* | Regent Bowerbird | P | | 1 |
| Animalia | Aves | Maluridae | 0529 | *Malurus cyaneus* | Superb Fairy-wren | P | | 1 |
| Animalia | Aves | Maluridae | 0536 | *Malurus lamberti* | Variegated Fairy-wren | P | | 7 |
| Animalia | Aves | Maluridae | 0541 | *Malurus melanocephalus* | Red-backed Fairy-wren | P | | 2 |
| Animalia | Aves | Acanthizidae | 0470 | *Acanthiza lineata* | Striated Thornbill | P | | 2 |
| Animalia | Aves | Acanthizidae | 0475 | *Acanthiza pusilla* | Brown Thornbill | P | | 1 |
| Animalia | Aves | Acanthizidae | 0484 | *Acanthiza reguloides* | Buff-rumped Thornbill | P | | 3 |
| Animalia | Aves | Acanthizidae | 0454 | *Gerygone mouki* | Brown Gerygone | P | | 1 |
| Animalia | Aves | Acanthizidae | 0453 | *Gerygone olivacea* | White-throated Gerygone | P | | 2 |
| Animalia | Aves | Acanthizidae | 0488 | *Sericornis frontalis* | White-browed Scrubwren | P | | 1 |
| Animalia | Aves | Pardalotidae | 0565 | *Pardalotus punctatus* | Spotted Pardalote | P | | 6 |
| Animalia | Aves | Pardalotidae | 0976 | *Pardalotus striatus* | Striated Pardalote | P | | 3 |
| Animalia | Aves | Meliphagidae | 0591 | *Acanthorhynchus tenuirostris* | Eastern Spinebill | P | | 1 |
| Animalia | Aves | Meliphagidae | 0603 | *^Anthochaera phrygia* | Regent Honeyeater | E4A,P,2 | CE | 1 |
| Animalia | Aves | Meliphagidae | 0614 | *Caligavis chrysops* | Yellow-faced Honeyeater | P | | 5 |
| Animalia | Aves | Meliphagidae | 0633 | *Manorina melanophrys* | Bell Miner | P | | 7 |
| Animalia | Aves | Meliphagidae | 0605 | *Meliphaga lewinii* | Lewin's Honeyeater | P | | 4 |
| Animalia | Aves | Meliphagidae | 0579 | *Melithreptus albogularis* | White-throated Honeyeater | P | | 2 |
| Animalia | Aves | Meliphagidae | 8303 | *Melithreptus gularis gularis* | Black-chinned Honeyeater (eastern subspecies) | V,P | | 1 |
| Animalia | Aves | Meliphagidae | 0578 | *Melithreptus lunatus* | White-naped Honeyeater | P | | 1 |
| Animalia | Aves | Meliphagidae | 0586 | *Myzomela sanguinolenta* | Scarlet Honeyeater | P | | 3 |
| Animalia | Aves | Meliphagidae | 0645 | *Philemon corniculatus* | Noisy Friarbird | P | | 5 |
| Animalia | Aves | Meliphagidae | 0632 | *Phylidonyris niger* | White-cheeked Honeyeater | P | | 1 |
| Animalia | Aves | Meliphagidae | 0613 | *Ptilotula fusca* | Fuscous Honeyeater | P | | 10 |
| Animalia | Aves | Pomatostomidae | 8388 | *Pomatostomus temporalis temporalis* | Grey-crowned Babbler (eastern subspecies) | V,P | | 17 |
| Animalia | Aves | Cinclosomatidae | 0436 | *Cinclosoma punctatum* | Spotted Quail-thrush | P | | 1 |
| Animalia | Aves | Falcunculidae | 0416 | *Falcunculus frontatus frontatus* | Eastern Shrike-tit | P | | 2 |
| Animalia | Aves | Psophodidae | 0421 | *Psophodes olivaceus* | Eastern Whipbird | P | | 7 |
| Animalia | Aves | Neosittidae | 0549 | *Daphoenositta chrysoptera* | Varied Sittella | V,P | | 1 |
| Animalia | Aves | Campephagidae | 0424 | *Coracina novaehollandiae* | Black-faced Cuckoo-shrike | P | | 3 |
| Animalia | Aves | Campephagidae | 0425 | *Coracina papuensis* | White-bellied Cuckoo-shrike | P | | 5 |
| Animalia | Aves | Campephagidae | 0429 | *Edolisoma tenuirostris* | Cicadabird | P | | 2 |
| Animalia | Aves | Pachycephalidae | 0408 | *Colluricincla harmonica* | Grey Shrike-thrush | P | | 11 |
| Animalia | Aves | Pachycephalidae | 0398 | *Pachycephala pectoralis* | Golden Whistler | P | | 1 |
| Animalia | Aves | Pachycephalidae | 0401 | *Pachycephala rufiventris* | Rufous Whistler | P | | 3 |
| Animalia | Aves | Oriolidae | 0671 | *Oriolus sagittatus* | Olive-backed Oriole | P | | 3 |
| Animalia | Aves | Artamidae | 8519 | *Artamus cyanopterus cyanopterus* | Dusky Woodswallow | V,P | | 2 |
| Animalia | Aves | Artamidae | 0700 | *Cracticus nigrogularis* | Pied Butcherbird | P | | 2 |
| Animalia | Aves | Artamidae | 0702 | *Cracticus torquatus* | Grey Butcherbird | P | | 2 |
| Animalia | Aves | Artamidae | 0705 | *Gymnorhina tibicen* | Australian Magpie | P | | 4 |
| Animalia | Aves | Artamidae | 0694 | *Strepera graculina* | Pied Currawong | P | | 1 |
| Animalia | Aves | Rhipiduridae | 0361 | *Rhipidura albiscapa* | Grey Fantail | P | | 8 |
| Animalia | Aves | Rhipiduridae | 0364 | *Rhipidura leucophrys* | Willie Wagtail | P | | 7 |
| Animalia | Aves | Corvidae | 9902 | *Corvus orru* | Torresian Crow | P | | 4 |
| Animalia | Aves | Corvidae | 0868 | *Corvus tasmanicus* | Forest Raven | P | | 1 |
| Animalia | Aves | Monarchidae | 0415 | *Grallina cyanoleuca* | Magpie-lark | P | | 2 |
| Animalia | Aves | Monarchidae | 9955 | *Myiagra inquieta* | Restless Flycatcher | P | | 5 |
| Animalia | Aves | Monarchidae | 0365 | *Myiagra rubecula* | Leaden Flycatcher | P | | 1 |
| Animalia | Aves | Petroicidae | 0392 | *Eopsaltria australis* | Eastern Yellow Robin | P | | 8 |
| Animalia | Aves | Petroicidae | 0377 | *Microeca fascinans* | Jacky Winter | P | | 3 |
| Animalia | Aves | Petroicidae | 0384 | *Petroica rosea* | Rose Robin | P | | 1 |
| Animalia | Aves | Hirundinidae | 0359 | *Petrochelidon nigricans* | Tree Martin | P | | 1 |
| Animalia | Aves | Dicaeidae | 0564 | *Dicaeum hirundinaceum* | Mistletoebird | P | | 2 |
| Animalia | Aves | Estrildidae | 0662 | *Neochmia temporalis* | Red-browed Finch | P | | 7 |
| Animalia | Mammalia | Tachyglossidae | 1003 | *Tachyglossus aculeatus* | Short-beaked Echidna | P | | 1 |
| Animalia | Mammalia | Dasyuridae | 1061 | *Sminthopsis murina* | Common Dunnart | P | | 1 |
| Animalia | Mammalia | Peramelidae | 1093 | *Isoodon macrourus* | Northern Brown Bandicoot | P | | 2 |
| Animalia | Mammalia | Peramelidae | T081 | *Isoodon/Perameles sp.* | unidentified Bandicoot | P | | 3 |

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|---|---|---|---|---|---|---|---|---|---|
| Animalia | Mammalia | Peramelidae | 1097 | *Perameles nasuta* | | Long-nosed Bandicoot | P | | 2 |
| Animalia | Mammalia | Phascolarctidae | 1162 | *Phascolarctos cinereus* | | Koala | E1,P | E | 147 |
| Animalia | Mammalia | Petauridae | 1136 | *Petaurus australis* | | Yellow-bellied Glider | V,P | V | 7 |
| Animalia | Mammalia | Petauridae | 1138 | *Petaurus breviceps* | | Sugar Glider | P | | 5 |
| Animalia | Mammalia | Petauridae | 1137 | *Petaurus norfolcensis* | | Squirrel Glider | V,P | | 2 |
| Animalia | Mammalia | Pseudocheiridae | 1133 | *Petauroides volans* | | Southern Greater Glider | E1,P | E | 26 |
| Animalia | Mammalia | Acrobatidae | 1147 | *Acrobates pygmaeus* | | Feathertail Glider | P | | 2 |
| Animalia | Mammalia | Phalangeridae | T082 | *Trichosurus sp.* | | brushtail possum | P | | 8 |
| Animalia | Mammalia | Phalangeridae | 1113 | *Trichosurus vulpecula* | | Common Brushtail Possum | P | | 9 |
| Animalia | Mammalia | Macropodidae | T108 | *Macropod sp.* | | unidentified macropod | P | | 1 |
| Animalia | Mammalia | Macropodidae | 1265 | *Macropus giganteus* | | Eastern Grey Kangaroo | P | | 8 |
| Animalia | Mammalia | Macropodidae | 1259 | *Notamacropus parryi* | | Whiptail Wallaby | P | | 1 |
| Animalia | Mammalia | Macropodidae | 1261 | *Notamacropus rufogriseus* | | Red-necked Wallaby | P | | 1 |
| Animalia | Mammalia | Vespertilionidae | 1349 | *Chalinolobus gouldii* | | Gould's Wattled Bat | P | | 1 |
| Animalia | Mammalia | Vespertilionidae | 1336 | *Nyctophilus bifax* | | Eastern Long-eared Bat | V,P | | 1 |
| Animalia | Mammalia | Vespertilionidae | 1362 | *Scotorepens greyii* | | Little Broad-nosed Bat | P | | 1 |
| Animalia | Mammalia | Miniopteridae | 1346 | *Miniopterus australis* | | Little Bent-winged Bat | V,P | | 1 |
| Animalia | Mammalia | Muridae | 1412 | *Mus musculus* | * | House Mouse | | | 1 |
| Animalia | Mammalia | Canidae | 1905 | *Canis familiaris* | * | Dog | | | 1 |
| Animalia | Mammalia | Canidae | 1531 | *Canis lupus* | * | Dingo, domestic dog | | | 4 |
| Animalia | Mammalia | Canidae | 1532 | *Vulpes vulpes* | * | Fox | | | 6 |
| Animalia | Mammalia | Leporidae | 1510 | *Oryctolagus cuniculus* | * | Rabbit | | | 1 |
| Animalia | Mammalia | Bovidae | 1518 | *Bos taurus* | * | European cattle | | | 1 |
| Animalia | Unknown | Unknown Fauna | T355 | *Bird sp.* | | Unidentified Bird | | | 1 |
| Plantae | Flora | Acanthaceae | 1003 | *Brunoniella australis* | | Blue Trumpet | | | 1 |
| Plantae | Flora | Annonaceae | 14224 | *Uvaria leichhardtii* | | | | | 1 |
| Plantae | Flora | Anthericaceae | 3535 | *Caesia parviflora* | | Pale Grass-lily | | | 2 |
| Plantae | Flora | Anthericaceae | 3556 | *Laxmannia gracilis* | | Slender Wire Lily | | | 5 |
| Plantae | Flora | Anthericaceae | 7355 | *Tricoryne elatior* | | Yellow Autumn-lily | | | 1 |
| Plantae | Flora | Apiaceae | 1132 | *Hydrocotyle tripartita* | | Pennywort | | | 1 |
| Plantae | Flora | Apiaceae | 1143 | *Platysace ericoides* | | | | | 5 |
| Plantae | Flora | Apocynaceae | MARS | *Marsdenia spp.* | | | | | 1 |
| Plantae | Flora | Apocynaceae | 1185 | *Parsonsia straminea* | | Common Silkpod | | | 1 |
| Plantae | Flora | Asparagaceae | 15290 | *Arthropodium sp. South-east Highlands* | | | | | 1 |
| Plantae | Flora | Asphodelaceae | 3540 | *Dianella caerulea* | | Blue Flax-lily | | | 8 |
| Plantae | Flora | Asphodelaceae | 7337 | *Dianella caerulea var. producta* | | | | | 1 |
| Plantae | Flora | Asphodelaceae | 8725 | *Dianella longifolia var. longifolia* | | | | | 2 |
| Plantae | Flora | Asteraceae | 1283 | *Bidens pilosa* | * | Cobbler's Pegs | | | 1 |
| Plantae | Flora | Asteraceae | 8559 | *Chrysocephalum apiculatum* | | Common Everlasting | | | 1 |
| Plantae | Flora | Asteraceae | 13698 | *Cyanthillium cinereum* | | little ironweed | | | 2 |
| Plantae | Flora | Asteraceae | 15365 | *Cyanthillium cinereum var. cinereum* | * | | | | 3 |
| Plantae | Flora | Asteraceae | 8818 | *Rhodanthe polyphylla* | | | | | 1 |
| Plantae | Flora | Asteraceae | 1666 | *Senecio lautus* | | Variable Groundsel | | | 1 |
| Plantae | Flora | Campanulaceae | 14464 | *Lobelia andrewsii* | | Trailing Lobelia | | | 1 |
| Plantae | Flora | Campanulaceae | 7072 | *Lobelia dentata* | | | | | 1 |
| Plantae | Flora | Campanulaceae | 14415 | *Lobelia purpurascens* | | whiteroot | | | 8 |
| Plantae | Flora | Campanulaceae | 1934 | *Wahlenbergia gracilis* | | Sprawling Bluebell | | | 1 |
| Plantae | Flora | Casuarinaceae | 2012 | *Allocasuarina littoralis* | | Black She-Oak | | | 1 |
| Plantae | Flora | Casuarinaceae | 2017 | *Allocasuarina torulosa* | | Forest Oak | | | 8 |
| Plantae | Flora | Celastraceae | 14670 | *Denhamia silvestris* | | Narrow-leaved Orangebark | | | 1 |
| Plantae | Flora | Commelinaceae | 2209 | *Commelina cyanea* | | Native Wandering Jew | | | 2 |
| Plantae | Flora | Cyperaceae | 8856 | *Abildgaardia ovata* | | | | | 1 |
| Plantae | Flora | Cyperaceae | 9186 | *Abildgaardia vaginata* | | | | | 1 |
| Plantae | Flora | Cyperaceae | 2313 | *Carex breviculmis* | | | | | 1 |
| Plantae | Flora | Cyperaceae | 7013 | *Cyperus aquatilis* | | Water Nutgrass | E1 | | 2 |
| Plantae | Flora | Cyperaceae | 2353 | *Cyperus brevifolius* | * | | | | 1 |
| Plantae | Flora | Cyperaceae | 2363 | *Cyperus enervis* | | | | | 1 |
| Plantae | Flora | Cyperaceae | 2366 | *Cyperus exaltatus* | | | | | 1 |
| Plantae | Flora | Cyperaceae | 2368 | *Cyperus flaccidus* | | Lax Flat-sedge | | | 1 |
| Plantae | Flora | Cyperaceae | 2374 | *Cyperus gracilis* | | Slender Flat-sedge | | | 1 |
| Plantae | Flora | Cyperaceae | 9146 | *Cyperus haspan subsp. haspan* | | | | | 2 |

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|---|---|---|---|---|---|---|---|
| Plantae | Flora | Cyperaceae | 2377 | *Cyperus imbecillis* | | | 1 |
| Plantae | Flora | Cyperaceae | 2383 | *Cyperus lucidus* | Leafy Flat Sedge | | 1 |
| Plantae | Flora | Cyperaceae | 8483 | *Cyperus polystachyos* | | | 1 |
| Plantae | Flora | Cyperaceae | 2395 | *Cyperus sanguinolentus* | | | 1 |
| Plantae | Flora | Cyperaceae | 2404 | *Cyperus trinervis* | | | 3 |
| Plantae | Flora | Cyperaceae | 2411 | *Eleocharis cylindrostachys* | | | 1 |
| Plantae | Flora | Cyperaceae | 2412 | *Eleocharis dietrichiana* | | | 1 |
| Plantae | Flora | Cyperaceae | 2420 | *Eleocharis philippinensis* | | | 1 |
| Plantae | Flora | Cyperaceae | 7435 | *Fimbristylis dichotoma* | Common Fringe-sedge | | 2 |
| Plantae | Flora | Cyperaceae | 6495 | *Fuirena ciliaris* | | | 1 |
| Plantae | Flora | Cyperaceae | 2430 | *Fuirena incrassata* | | | 1 |
| Plantae | Flora | Cyperaceae | 2431 | *Gahnia aspera* | Rough Saw-sedge | | 1 |
| Plantae | Flora | Cyperaceae | 2442 | *Gahnia sieberiana* | Red-fruit Saw-sedge | P | 1 |
| Plantae | Flora | Cyperaceae | 2454 | *Isolepis inundata* | Club-rush | | 1 |
| Plantae | Flora | Cyperaceae | 6402 | *Lepidosperma laterale* | Variable Sword-sedge | | 5 |
| Plantae | Flora | Cyperaceae | 2491 | *Schoenus apogon* | Fluke Bogrush | | 1 |
| Plantae | Flora | Cyperaceae | 2514 | *Scleria mackaviensis* | | | 1 |
| Plantae | Flora | Dilleniaceae | 2533 | *Hibbertia diffusa* | Wedge Guinea Flower | | 3 |
| Plantae | Flora | Dilleniaceae | 2542 | *Hibbertia obtusifolia* | Hoary Guinea Flower | | 1 |
| Plantae | Flora | Dilleniaceae | 2545 | *Hibbertia riparia* | | | 1 |
| Plantae | Flora | Dioscoreaceae | 6446 | *Dioscorea transversa* | Native Yam | | 1 |
| Plantae | Flora | Ericaceae | 2586 | *Brachyloma daphnoides* | Daphne Heath | | 1 |
| Plantae | Flora | Ericaceae | 2605 | *Epacris pulchella* | Wallum Heath | | 1 |
| Plantae | Flora | Ericaceae | 2613 | *Leucopogon biflorus* | | | 1 |
| Plantae | Flora | Ericaceae | 2616 | *Leucopogon ericoides* | Pink Beard-heath | | 1 |
| Plantae | Flora | Ericaceae | LEUC | *Leucopogon spp.* | | | 1 |
| Plantae | Flora | Ericaceae | 2646 | *Melichrus urceolatus* | Urn Heath | | 5 |
| Plantae | Flora | Ericaceae | 2649 | *Monotoca scoparia* | | | 4 |
| Plantae | Flora | Ericaceae | 2663 | *Trochocarpa laurina* | Tree Heath | | 4 |
| Plantae | Flora | Fabaceae (Faboideae) | 12020 | *Crotalaria montana var. angustifolia* | | | 1 |
| Plantae | Flora | Fabaceae (Faboideae) | 2828 | *Daviesia umbellulata* | | | 2 |
| Plantae | Flora | Fabaceae (Faboideae) | 8592 | *Daviesia villifera* | | | 3 |
| Plantae | Flora | Fabaceae (Faboideae) | 2860 | *Glycine clandestina* | Twining glycine | | 5 |
| Plantae | Flora | Fabaceae (Faboideae) | 7208 | *Glycine microphylla* | Small-leaf Glycine | | 1 |
| Plantae | Flora | Fabaceae (Faboideae) | 7844 | *Glycine tomentella* | Woolly Glycine | | 1 |
| Plantae | Flora | Fabaceae (Faboideae) | 2866 | *Gompholobium latifolium* | Golden Glory Pea | | 1 |
| Plantae | Flora | Fabaceae (Faboideae) | 2868 | *Gompholobium pinnatum* | Pinnate Wedge Pea | | 1 |
| Plantae | Flora | Fabaceae (Faboideae) | 15314 | *Grona varians* | | | 2 |
| Plantae | Flora | Fabaceae (Faboideae) | 2873 | *Hardenbergia violacea* | False Sarsaparilla | | 3 |
| Plantae | Flora | Fabaceae (Faboideae) | 2876 | *Hovea linearis* | | | 1 |
| Plantae | Flora | Fabaceae (Faboideae) | 2892 | *Jacksonia scoparia* | Dogwood | | 3 |
| Plantae | Flora | Fabaceae (Faboideae) | 15369 | *Maekawaea rhytidophylla* | | | 5 |
| Plantae | Flora | Fabaceae (Faboideae) | 15128 | *Oxytes brachypoda* | Large Tick-trefoil | | 1 |
| Plantae | Flora | Fabaceae (Faboideae) | 15315 | *Pullenia gunnii* | | | 3 |
| Plantae | Flora | Fabaceae (Faboideae) | 3009 | *Pultenaea petiolaris* | | | 1 |
| Plantae | Flora | Fabaceae (Faboideae) | 3023 | *Pultenaea villosa* | Hairy Bush-pea | | 4 |
| Plantae | Flora | Fabaceae (Faboideae) | 8691 | *Zornia dyctiocarpa var. dyctiocarpa* | Zornia | | 2 |
| Plantae | Flora | Fabaceae (Mimosoideae) | 3713 | *Acacia baueri* | | | 1 |
| Plantae | Flora | Fabaceae (Mimosoideae) | 3744 | *Acacia complanata* | Flat-stemmed Wattle | | 1 |

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|---|---|---|---|---|---|---|---|---|---|
| Plantae | Flora | Fabaceae (Mimosoideae) | 3745 | *Acacia concurrens* | | Curracabah | | | 13 |
| Plantae | Flora | Fabaceae (Mimosoideae) | 3790 | *Acacia hispidula* | | | | | 1 |
| Plantae | Flora | Fabaceae (Mimosoideae) | 3792 | *Acacia implexa* | | Hickory Wattle | | | 2 |
| Plantae | Flora | Fabaceae (Mimosoideae) | 3794 | *Acacia irrorata* | | Green Wattle | | | 2 |
| Plantae | Flora | Fabaceae (Mimosoideae) | 6472 | *Acacia irrorata subsp. irrorata* | | Green Wattle | | | 2 |
| Plantae | Flora | Fabaceae (Mimosoideae) | 3824 | *Acacia melanoxylon* | | Blackwood | | | 2 |
| Plantae | Flora | Goodeniaceae | 3196 | *Goodenia rotundifolia* | | | | | 2 |
| Plantae | Flora | Haemodoraceae | 3236 | *Haemodorum planifolium* | | | | | 2 |
| Plantae | Flora | Haloragaceae | 3248 | *Gonocarpus teucrioides* | | Germander Raspwort | | | 1 |
| Plantae | Flora | Iridaceae | 3303 | *Patersonia sericea* | | Silky Purple-Flag | | | 3 |
| Plantae | Flora | Juncaceae | 3318 | *Juncus bufonius* | * | Toad Rush | | | 1 |
| Plantae | Flora | Juncaceae | 3340 | *Juncus planifolius* | | | | | 1 |
| Plantae | Flora | Juncaceae | 3341 | *Juncus polyanthemus* | | | | | 1 |
| Plantae | Flora | Juncaceae | 3342 | *Juncus prismatocarpus* | | | | | 1 |
| Plantae | Flora | Juncaceae | 3348 | *Juncus subsecundus* | | Finger Rush | | | 1 |
| Plantae | Flora | Juncaceae | 3350 | *Juncus usitatus* | | | | | 1 |
| Plantae | Flora | Lamiaceae | 3397 | *Plectranthus parviflorus* | | | | | 1 |
| Plantae | Flora | Lamiaceae | 14963 | *Teucrium junceum* | | | | | 1 |
| Plantae | Flora | Lauraceae | 3467 | *Cassytha glabella* | | | | | 2 |
| Plantae | Flora | Lindsaeaceae | 6401 | *Lindsaea microphylla* | | Lacy Wedge Fern | | | 1 |
| Plantae | Flora | Loganiaceae | 15351 | *Orianthera pusilla* | | | | | 1 |
| Plantae | Flora | Lomandraceae | 7709 | *Lomandra confertifolia subsp. pallida* | | Matrush | | | 4 |
| Plantae | Flora | Lomandraceae | 6302 | *Lomandra filiformis* | | Wattle Matt-rush | | | 2 |
| Plantae | Flora | Lomandraceae | 7931 | *Lomandra filiformis subsp. filiformis* | | | | | 1 |
| Plantae | Flora | Lomandraceae | 6306 | *Lomandra laxa* | | | | | 1 |
| Plantae | Flora | Lomandraceae | 6308 | *Lomandra longifolia* | | Spiny-headed Mat-rush | | | 2 |
| Plantae | Flora | Lomandraceae | 8802 | *Lomandra multiflora subsp. multiflora* | | Many-flowered Mat-rush | | | 6 |
| Plantae | Flora | Lomandraceae | 6312 | *Lomandra obliqua* | | | | | 2 |
| Plantae | Flora | Loranthaceae | 6977 | *Amyema conspicua subsp. conspicua* | | | | | 1 |
| Plantae | Flora | Loranthaceae | 6394 | *Amyema miquelii* | | Box Mistletoe | | | 3 |
| Plantae | Flora | Loranthaceae | 3613 | *Dendrophthoe vitellina* | | | | | 1 |
| Plantae | Flora | Luzuriagaceae | 6015 | *Eustrephus latifolius* | | Wombat Berry | | | 6 |
| Plantae | Flora | Luzuriagaceae | 6016 | *Geitonoplesium cymosum* | | Scrambling Lily | | | 1 |
| Plantae | Flora | Myrtaceae | 3975 | *Angophora woodsiana* | | | | | 7 |
| Plantae | Flora | Myrtaceae | 9687 | *Corymbia gummifera* | | Red Bloodwood | | | 4 |
| Plantae | Flora | Myrtaceae | 9689 | *Corymbia henryi* | | Large-leaved Spotted Gum | | | 7 |
| Plantae | Flora | Myrtaceae | 9601 | *Corymbia intermedia* | | Pink Bloodwood | | | 5 |
| Plantae | Flora | Myrtaceae | 9692 | *Corymbia maculata* | | Spotted Gum | | | 1 |
| Plantae | Flora | Myrtaceae | 9688 | *Corymbia variegata* | | | | | 4 |
| Plantae | Flora | Myrtaceae | 8599 | *Eucalyptus carnea* | | Thick-leaved Mahogany | | | 4 |
| Plantae | Flora | Myrtaceae | 4074 | *Eucalyptus crebra* | | Narrow-leaved Ironbark | | | 2 |
| Plantae | Flora | Myrtaceae | 4087 | *Eucalyptus eugenioides* | | Thin-leaved Stringybark | | | 1 |
| Plantae | Flora | Myrtaceae | 4096 | *Eucalyptus glaucina* | | Slaty Red Gum | V | V | 9 |
| Plantae | Flora | Myrtaceae | 4128 | *Eucalyptus microcorys* | | Tallowwood | | | 2 |
| Plantae | Flora | Myrtaceae | 4155 | *Eucalyptus pilularis* | | Blackbutt | | | 6 |
| Plantae | Flora | Myrtaceae | 4157 | *Eucalyptus planchoniana* | | Bastard Tallowwood | | | 1 |
| Plantae | Flora | Myrtaceae | 4162 | *Eucalyptus propinqua* | | Small-fruited Grey Gum | | | 5 |
| Plantae | Flora | Myrtaceae | 4166 | *Eucalyptus pyrocarpa* | | Large-fruited Blackbutt | | | 1 |
| Plantae | Flora | Myrtaceae | 8694 | *Eucalyptus resinifera subsp. hemilampra* | | | | | 2 |
| Plantae | Flora | Myrtaceae | 4180 | *Eucalyptus siderophloia* | | Grey Ironbark | | | 4 |
| Plantae | Flora | Myrtaceae | 4191 | *Eucalyptus tereticornis* | | Forest Red Gum | | | 4 |
| Plantae | Flora | Myrtaceae | 6364 | *Eucalyptus tindaliae* | | Stringybark | | | 2 |
| Plantae | Flora | Myrtaceae | 4196 | *Eucalyptus umbra* | | Broad-leaved White Mahogany | | | 2 |
| Plantae | Flora | Myrtaceae | 7245 | *Leptospermum polygalifolium* | | Tantoon | | | 1 |
| Plantae | Flora | Myrtaceae | 8486 | *Leptospermum trinervium* | | Slender Tea-tree | | | 3 |
| Plantae | Flora | Myrtaceae | 4242 | *Lophostemon confertus* | | Brush Box | | | 8 |

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|---|---|---|---|---|---|---|---|
| Plantae | Flora | Myrtaceae | 4243 | *Lophostemon suaveolens* | Swamp Mahogany, Swamp Turpentine | | 2 |
| Plantae | Flora | Myrtaceae | 6688 | *Syncarpia glomulifera* | Turpentine | | 3 |
| Plantae | Flora | Oleaceae | 6909 | *Notelaea longifolia f. intermedia* | | | 1 |
| Plantae | Flora | Orchidaceae | 4389 | *Caleana major* | Large Duck Orchid | P | 1 |
| Plantae | Flora | Orchidaceae | 6525 | *Chiloglottis trilabra* | | P | 1 |
| Plantae | Flora | Orchidaceae | 6399 | *^Cymbidium canaliculatum* | Tiger Orchid | P,2 | 3 |
| Plantae | Flora | Orchidaceae | 4539 | *Pterostylis baptistii* | King Greenhood | P | 1 |
| Plantae | Flora | Phyllanthaceae | 2695 | *Breynia oblongifolia* | Coffee Bush | | 3 |
| Plantae | Flora | Phyllanthaceae | 7866 | *Glochidion ferdinandi* | Cheese Tree | | 1 |
| Plantae | Flora | Phyllanthaceae | 9360 | *Glochidion ferdinandi var. ferdinandi* | Cheese Tree | | 1 |
| Plantae | Flora | Phyllanthaceae | 2746 | *Phyllanthus gunnii* | | | 1 |
| Plantae | Flora | Phyllanthaceae | 8216 | *Phyllanthus hirtellus* | Thyme Spurge | | 6 |
| Plantae | Flora | Phyllanthaceae | 6751 | *Phyllanthus virgatus* | Wiry Spurge | | 3 |
| Plantae | Flora | Phyllanthaceae | 7395 | *Poranthera microphylla* | Small Poranthera | | 1 |
| Plantae | Flora | Phyllanthaceae | 9834 | *Sauropus hirtellus* | | | 4 |
| Plantae | Flora | Pittosporaceae | 11201 | *Auranticarpa rhombifolia* | Diamond-leaf Pittosporum | | 1 |
| Plantae | Flora | Plantaginaceae | 6009 | *Veronica plebeia* | Trailing Speedwell | | 1 |
| Plantae | Flora | Poaceae | 7289 | *Alloteropsis semialata* | Cockatoo Grass | | 1 |
| Plantae | Flora | Poaceae | 4749 | *Anisopogon avenaceus* | Oat Speargrass | | 1 |
| Plantae | Flora | Poaceae | 4755 | *Aristida benthamii* | Three-awned spear grass | | 2 |
| Plantae | Flora | Poaceae | 4756 | *Aristida calycina* | | | 1 |
| Plantae | Flora | Poaceae | 4770 | *Aristida ramosa* | Purple Wiregrass | | 4 |
| Plantae | Flora | Poaceae | 4773 | *Aristida vagans* | Threeawn Speargrass | | 3 |
| Plantae | Flora | Poaceae | 10398 | *Austrostipa rudis subsp. nervosa* | | | 1 |
| Plantae | Flora | Poaceae | 11194 | *Axonopus fissifolius* | Narrow-leafed Carpet Grass | | 1 |
| Plantae | Flora | Poaceae | 4841 | *Cymbopogon refractus* | Barbed Wire Grass | | 11 |
| Plantae | Flora | Poaceae | 4896 | *Dichanthium tenue* | Small Bluegrass | | 1 |
| Plantae | Flora | Poaceae | 4898 | *Dichelachne micrantha* | Shorthair Plumegrass | | 2 |
| Plantae | Flora | Poaceae | 4902 | *Digitaria breviglumis* | | | 1 |
| Plantae | Flora | Poaceae | 4913 | *Digitaria parviflora* | Small-flowered Finger Grass | | 4 |
| Plantae | Flora | Poaceae | DIGI | *Digitaria spp.* | | | 1 |
| Plantae | Flora | Poaceae | 4929 | *Echinopogon caespitosus* | Bushy Hedgehog-grass | | 2 |
| Plantae | Flora | Poaceae | 4946 | *Entolasia marginata* | Bordered Panic | | 3 |
| Plantae | Flora | Poaceae | 4947 | *Entolasia stricta* | Wiry Panic | | 14 |
| Plantae | Flora | Poaceae | 7578 | *Eragrostis benthamii* | | | 2 |
| Plantae | Flora | Poaceae | 7921 | *Eragrostis brownii* | Brown's Lovegrass | | 3 |
| Plantae | Flora | Poaceae | 4960 | *Eragrostis leptostachya* | Paddock Lovegrass | | 2 |
| Plantae | Flora | Poaceae | 4978 | *Eremochloa bimaculata* | Poverty Grass | | 1 |
| Plantae | Flora | Poaceae | 6803 | *Imperata cylindrica* | Blady Grass | | 9 |
| Plantae | Flora | Poaceae | 9320 | *Ischaemum australe var. villosum* | | | 2 |
| Plantae | Flora | Poaceae | 5037 | *Microlaena stipoides* | Weeping Grass | | 1 |
| Plantae | Flora | Poaceae | 7707 | *Microlaena stipoides var.* | Weeping Grass | | 1 |
| Plantae | Flora | Poaceae | 5044 | *Oplismenus aemulus* | | | 1 |
| Plantae | Flora | Poaceae | 5045 | *Oplismenus imbecillis* | | | 1 |
| Plantae | Flora | Poaceae | 5055 | *Panicum effusum* | Hairy Panic | | 3 |
| Plantae | Flora | Poaceae | 5066 | *Panicum simile* | Two-colour Panic | | 4 |
| Plantae | Flora | Poaceae | 5074 | *Paspalidium breviflorum* | | | 1 |
| Plantae | Flora | Poaceae | 5078 | *Paspalidium criniforme* | | | 1 |
| Plantae | Flora | Poaceae | 5173 | *Sorghum leiocladum* | Wild Sorghum | | 2 |
| Plantae | Flora | Poaceae | 5179 | *Sporobolus creber* | Slender Rat's Tail Grass | | 1 |
| Plantae | Flora | Poaceae | 7770 | *Themeda triandra* | | | 12 |
| Plantae | Flora | Polygalaceae | 5260 | *Polygala linariifolia* | Native Milkwort | E1 | 1 |
| Plantae | Flora | Polygonaceae | 7568 | *Persicaria decipiens* | Slender Knotweed | | 1 |
| Plantae | Flora | Polygonaceae | 5286 | *Persicaria strigosa* | | | 1 |
| Plantae | Flora | Primulaceae | 11953 | *Myrsine variabilis* | | | 1 |
| Plantae | Flora | Proteaceae | 5412 | *Hakea eriantha* | | | 1 |
| Plantae | Flora | Proteaceae | 8594 | *Hakea florulenta* | | | 1 |
| Plantae | Flora | Proteaceae | 5445 | *Lomatia silaifolia* | Crinkle Bush | P | 2 |
| Plantae | Flora | Proteaceae | 8596 | *Persoonia stradbrokensis* | | P | 8 |
| Plantae | Flora | Proteaceae | 5475 | *Persoonia tenuifolia* | Fine-leaf Geebung | P | 3 |
| Plantae | Flora | Proteaceae | 5477 | *Petrophile canescens* | Conesticks | P | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Plantae | Flora | Pteridaceae | 7997 | *Adiantum aethiopicum* | Common Maidenhair | P | 1 |
| Plantae | Flora | Pteridaceae | 6382 | *Cheilanthes distans* | Bristly Cloak Fern | | 1 |
| Plantae | Flora | Pteridaceae | 8007 | *Cheilanthes sieberi subsp. sieberi* | Rock Fern | | 2 |
| Plantae | Flora | Rhamnaceae | 7686 | *Alphitonia excelsa* | Red Ash | | 10 |
| Plantae | Flora | Rubiaceae | 5698 | *Opercularia diphylla* | Stinkweed | | 1 |
| Plantae | Flora | Rubiaceae | 5703 | *Pomax umbellata* | Pomax | | 4 |
| Plantae | Flora | Rubiaceae | 5706 | *Psychotria loniceroides* | Hairy Psychotria | | 1 |
| Plantae | Flora | Rubiaceae | 7519 | *Spermacoce brachystema* | | | 1 |
| Plantae | Flora | Santalaceae | 5860 | *Exocarpos cupressiformis* | Cherry Ballart | | 3 |
| Plantae | Flora | Sapindaceae | 5886 | *Cupaniopsis parvifolia* | Small-leaved Tuckeroo | | 1 |
| Plantae | Flora | Scrophulariaceae | 11048 | *Bacopa procumbens* * | | | 1 |
| Plantae | Flora | Scrophulariaceae | 8602 | *Eremophila debilis* | Amulla | | 1 |
| Plantae | Flora | Smilacaceae | 7592 | *Smilax australis* | Lawyer Vine | | 2 |
| Plantae | Flora | Smilacaceae | 6022 | *Smilax glyciphylla* | Sweet Sarsparilla | | 1 |
| Plantae | Flora | Stylidiaceae | 6157 | *Stylidium graminifolium* | Grass Triggerplant | | 3 |
| Plantae | Flora | Thymelaeaceae | 6182 | *Pimelea linifolia* | Slender Rice Flower | | 1 |
| Plantae | Flora | Thymelaeaceae | 6814 | *Pimelea linifolia subsp. linifolia* | | | 1 |
| Plantae | Flora | Verbenaceae | 6248 | *Lantana camara* * | Lantana | | 6 |
| Plantae | Flora | Violaceae | 9769 | *Hybanthus stellarioides* | | | 3 |
| Plantae | Flora | Violaceae | 6270 | *Viola betonicifolia* | Native Violet | | 1 |
| Plantae | Flora | Vitaceae | 14093 | *Clematicissus opaca* | Pepper Vine | | 1 |
| Plantae | Flora | Xanthorrhoeaceae | 8770 | *Xanthorrhoea latifolia* | | P | 4 |
| Plantae | Flora | Xanthorrhoeaceae | 9309 | *Xanthorrhoea latifolia subsp. latifolia* | | P | 1 |
| Plantae | Flora | Xanthorrhoeaceae | 6318 | *Xanthorrhoea macronema* | | P | 1 |
| Plantae | Flora | Xanthorrhoeaceae | XANT | *Xanthorrhoea spp.* | | P | 1 |
| Plantae | Flora | Zamiaceae | 6329 | *Macrozamia fawcettii* | | P | 7 |

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Public Report of all Valid Records of Communities in selected area [North: -28.92 West: 152.80 East: 152.90 South: -29.02] returned 0 records for 18 entities.

Report generated on 11/09/2024 2:54 PM

| Kingdom | Class | Family | Species Code | Scientific Name | Exotic | Common Name | NSW status | Comm. status | Records | Info |
|---|---|---|---|---|---|---|---|---|---|---|
| Community | | | | *Coastal Cypress Pine Forest in the New South Wales North Coast Bioregion* | | Coastal Cypress Pine Forest in the New South Wales North Coast Bioregion | E3 | | K | |
| Community | | | | *Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* | | Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | E3 | | K | |
| Community | | | | *Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland* | | Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland | | E | K | |
| Community | | | | *Dunn's white gum (Eucalyptus dunnii) moist forest in north-east New South Wales and south-east Queensland* | | Dunn's white gum (Eucalyptus dunnii) moist forest in north-east New South Wales and south-east Queensland | | E | K | |
| Community | | | | *Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* | | Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | E3 | | K | |
| Community | | | | *Grey box-grey gum wet forest of subtropical eastern Australia* | | Grey box-grey gum wet forest of subtropical eastern Australia | | E | K | |
| Community | | | | *Grey Box-Grey Gum Wet Sclerophyll Forest in the NSW North Coast Bioregion* | | Grey Box-Grey Gum Wet Sclerophyll Forest in the NSW North Coast Bioregion | E3 | | K | |
| Community | | | | *Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* | | Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | E3 | | K | |
| Community | | | | *Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions* | | Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions | E3 | | K | |
| Community | | | | *Lowland Rainforest of Subtropical Australia* | | Lowland Rainforest of Subtropical Australia | | CE | K | |
| Community | | | | *Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion* | | Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion | E3 | | K | |
| Community | | | | *Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions* | | Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions | E3 | | P | |
| Community | | | | *Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion* | | Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion | E3 | | K | |
| Community | | | | *Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions* | | Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions | | E | K | |

| | | | | | |
|---|---|---|---|---|---|
| Community | *Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* | Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | E3 | K | |
| Community | *Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* | Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | E3 | K | |
| Community | *Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions* | Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions | E3 | K | |
| Community | *White Gum Moist Forest in the NSW North Coast Bioregion* | White Gum Moist Forest in the NSW North Coast Bioregion | E3 | K | |

# **Appendix F.** Noise Assessment

# Distance Based Assessment (Noisiest Plant)

Please pick from drop-down list in orange cells

| Noise area category | | R2 |
|---|---|---|
| RBL or $L_{A90}$ Background level (dB(A)) | Day | 45 |
| | Evening | 40 |
| | Night | 35 |
| $L_{Aeq(15minute)}$ Noise Mangement Level (dB(A)) | Day | 55 |
| | Day (OOHW) | 50 |
| | Evening | 45 |
| | Night | 40 |
| Noisiest plant | | Concrete Saw |
| Is there line of sight to receiver? | | Yes |

| 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 | | | $L_{Aeq\ 15minute}$ noise level above background ($L_{Ase}$) | | | | | | | | | | | | $L_{Aeq\ 15minute}$ 75 dB(A) or greater (Highly affected) | | | Sleep disturbance $L_{Amax}$ 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 | | | | | | |
| | | 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)) | Measures | Within distance (m) | Mitigation level (dB(A)) | Affected distance (m) |
| Undeveloped green fields, rural areas with isolated dwellings | Day | 200 | | | | | | | N | 95 | 65 | N, PC, RO | 30 | 75 | N, PC, RO | 30 | 75 | |
| | Day (OOHW) | 290 | | | | N, R1, DR | 200 | 55 | N, R1, DR | 95 | 65 | N, R1, DR, PC, SN | 30 | 75 | N, PC, RO | 30 | 75 | |
| | Evening | 420 | | | | N, R1, DR | 290 | 50 | N, R1, DR | 140 | 60 | N, R1, DR, PC, SN | 55 | 70 | N, PC, RO | 30 | 75 | |
| | Night | 610 | N | 610 | 40 | N, R2, DR | 420 | 45 | N, PC, SN, R2, DR | 200 | 55 | AA, N, PC, SN, R2, DR | 95 | 65 | N, PC, RO | 30 | 75 | 160 |
| | Highly Affected | 30 | | | | | | | | | | | | | N, PC, RO | 30 | 75 | |
| Developed settlements (urban and suburban) | Day | 240 | | | | | | | N | 105 | 65 | N, PC, RO | 35 | 75 | N, PC, RO | 35 | 75 | |
| | Day (OOHW) | 380 | | | | N, R1, DR | 240 | 55 | N, R1, DR | 105 | 65 | N, R1, DR, PC, SN | 35 | 75 | N, PC, RO | 35 | 75 | |
| | Evening | 545 | | | | N, R1, DR | 360 | 50 | N, R1, DR | 155 | 60 | N, R1, DR, PC, SN | 60 | 70 | N, PC, RO | 35 | 75 | |
| | Night | 805 | N | 805 | 40 | N, R2, DR | 545 | 45 | N, PC, SN, R2, DR | 240 | 55 | AA, N, PC, SN, R2, DR | 105 | 65 | N, PC, RO | 35 | 75 | 185 |
| | Highly Affected | 35 | | | | | | | | | | | | | N, PC, RO | 35 | 75 | |
| Propagation across a valley / over water | Day | 310 | | | | | | | N | 115 | 65 | N, PC, RO | 45 | 75 | N, PC, RO | 45 | 75 | |
| | Day (OOHW) | 485 | | | | N, R1, DR | 310 | 55 | N, R1, DR | 115 | 65 | N, R1, DR, PC, SN | 45 | 75 | N, PC, RO | 45 | 75 | |
| | Evening | 750 | | | | N, R1, DR | 485 | 50 | N, R1, DR | 190 | 60 | N, R1, DR, PC, SN | 70 | 70 | N, PC, RO | 45 | 75 | |
| | Night | 1125 | N | 1125 | 40 | N, R2, DR | 750 | 45 | N, PC, SN, R2, DR | 310 | 55 | AA, N, PC, SN, R2, DR | 115 | 65 | N, PC, RO | 45 | 75 | 230 |
| | Highly Affected | 45 | | | | | | | | | | | | | N, PC, RO | 45 | 75 | |

# **Appendix G.** AHIMS Reports

# AHIMS Web Services (AWS)
## Search Result

Your Ref/PO Number : 24322

Client Service ID : 929620

Ecoteam - Lismore

Date: 11 September 2024

13 ewing street
Lismore New South Wales 2480

Attention: Ana Sofia Assis

Email: ana@ecoteam.com.au

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Lat, Long From : -28.9689, 152.8514 - Lat, Long To : -28.9678, 152.8533, conducted by Ana Sofia Assis on 11 September 2024.**

**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) 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 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

info@ecoteam.com.au

02 66 215 123

Customer feedback

Ecoteam

13 Ewing Street

Lismore NSW 2480