NSW NATIONAL PARKS & WILDLIFE SERVICE

# Point Plomer Precinct Revitalisation

## Review of Environmental Factors

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Environment and Heritage Group
Department of Planning and Environment
Locked Bag 5022, Parramatta NSW 2124
Phone: +61 2 9995 5000 (switchboard)
Phone: 1300 361 967 (Environment and Heritage enquiries)
TTY users: phone 133 677, then ask for 1300 361 967
Speak and listen users: phone 1300 555 727, then ask for 1300 361 967
Email: info@environment.nsw.gov.au
Website: www.environment.nsw.gov.au

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# Contents

# List of tables



# List of figures

# 1. Brief description of the proposed activity

| | |
|---|---|
| **Proposal name and brief description** | Point Plomer Precinct Revitalisation<br>The Point Plomer Precinct Revitalisation would preserve the low-key coastal experience whilst protecting the site from further deterioration. |
| **Location of activity** | Point Plomer campground is located within Limeburners Creek National Park on the mid north coast of New South Wales, as shown in Figure 1 on the next page. |
| **Name of NPWS park or reserve** | Limeburners Creek National Park |
| **Description of any unreserved land** | This Review of Environmental Factors (REF) is only applicable to lands acquired under Part 11 of the *National Parks and Wildlife Act 1974* (NPW Act). |
| **NPWS area** | Hastings–Macleay Area |
| **Council** | Port Macquarie-Hastings Council |
| **NSW State electorate** | Port Macquarie electorate |
| **Estimate capital cost of project*** | $1.3 million |
| **Estimated duration of project** | 6 months |
| **Proposed commencement date** | Early 2023 |
| **Proposed completion date** | Mid–late 2023 |

* Publication of the REF is required for proposals with a capital investment value of >$5 million and which commence after 1 July 2022.

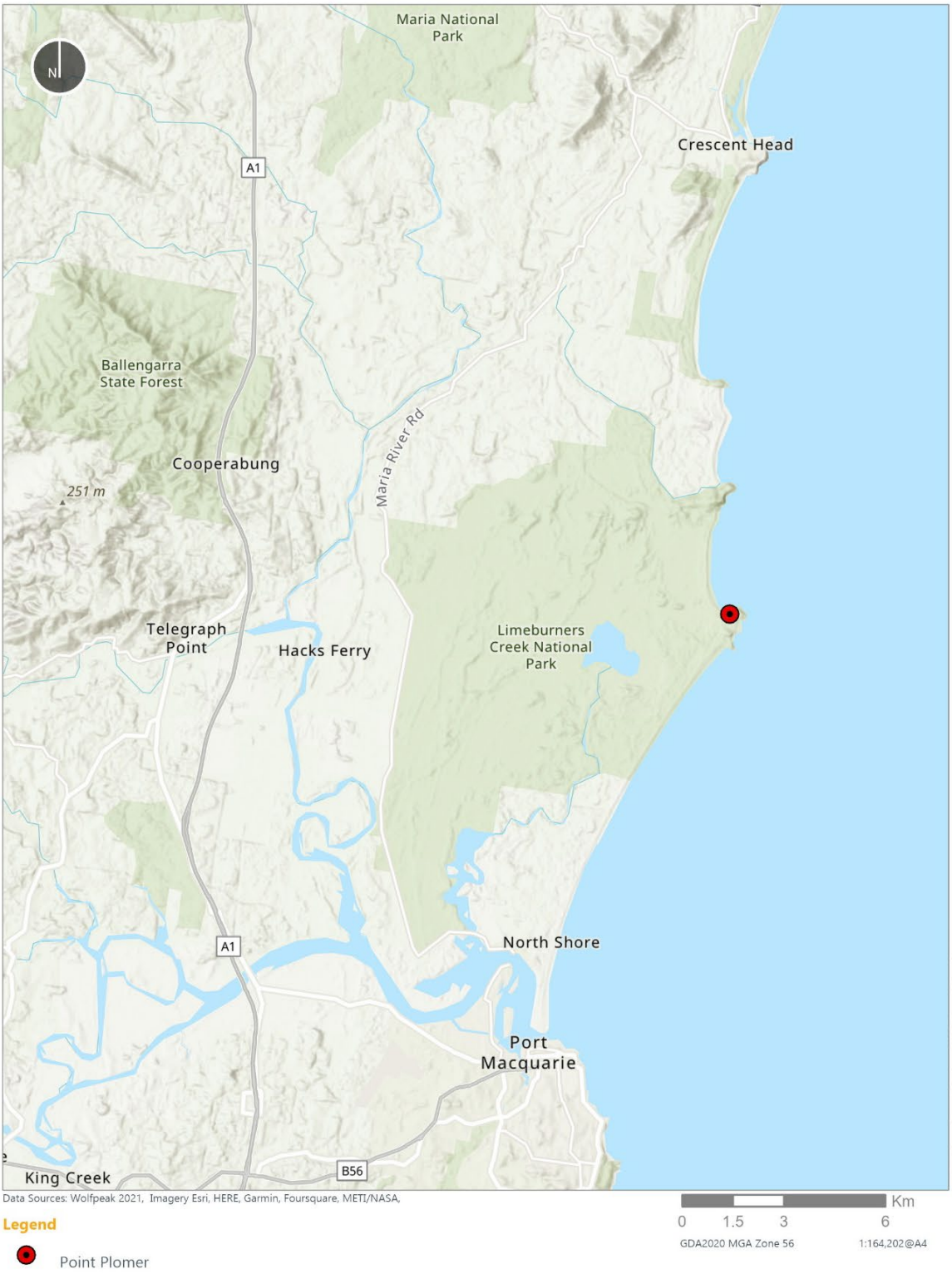


**Figure 1 Location of the activity**

# 2. Proponent's details

| | |
|---|---|
| **Contact name** | National Parks and Wildlife Service |
| **Position** | |
| **Street address** | 22 Blackbutt Road<br>Port Macquarie NSW 2444 |
| **Postal address** (if different to above) | |
| **Contact numbers** (both office and mobile numbers) | Office: 02 6588 5555 |
| **Email** | npws.hastingsmacleay@environment.nsw.gov.au |

### NPWS/Environment and Heritage Group (EHG) proponents

| | |
|---|---|
| **Area Manager or Unit Manager** | |

# 3. Permissibility and assessment pathway

## 3.1 Permissibility under NSW legislation

The following sections outline how the activity is permissible under applicable NSW legislation.

### 3.1.1 NPW Act and NPW Regulation

☒ Objects of the Act (s 2A)

Under the NPW Act, the Minister has the responsibility for the care, control and management of all national parks and may arrange for the carrying out of such works as is considered necessary for the effective management and maintenance of the area. The proposed activity would assist in the management of Limeburners Creek National Park, specifically regarding s 2A(b) the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including:

i places, objects and features of significance to Aboriginal people

ii places of social value to the people of New South Wales.

☒ Management principles

The purpose of reserving land as a national park is to identify, protect and conserve areas containing outstanding or representative ecosystems, natural or cultural features or landscapes or phenomena that provide opportunities for public appreciation and inspiration and sustainable visitor or tourist use and enjoyment, so as to enable those areas to be managed in accordance with Division 2 s 30E(2) of the NPW Act. The proposal is permissible under s 30E as it facilitates the management principles of (2):

b. the conservation of places, objects, features and landscapes of cultural value

d. the promotion of public appreciation and understanding of the national park's natural and cultural values

e. provision for sustainable visitor or tourist use and enjoyment that is compatible with the conservation of the national park's natural and cultural values.

☒ Title and relevant sections of plan of management or statement of management intent

The Point Plomer Precinct Revitalisation project would be undertaken in line with Section 4.3 of the *Limeburners Creek National Park Plan of Management* (PoM) whereby the park will be managed to ensure that it is appropriate and consistent with the NPW Act, including use for 'recreation in a natural setting'.

The proposal is, however, not in line with the policies of Section 4.3.2 of the PoM, in that Point Plomer 'will provide a maximum of 53 sites, will not be extended beyond its current area, and will not continue to be upgraded beyond the level identified in this plan'.

Resulting from increasing visitation pressure on the carrying capacity of Point Plomer and a subsequent deterioration of the condition of the campground, the PoM is currently under review by NPWS. The review aims to accommodate the necessary changes to undertake the required improvements to the Point Plomer precinct. Following public consultation, it is anticipated that amendments to the PoM would be adopted by the Minister for Environment and Heritage prior to commencement of the proposed activity.

☐ Title and relevant section of any applicable conservation action plan (CAP) for an asset of intergenerational significance (AIS) and the relevant AIS site number.

NA

☐ Leasing, licensing and easement provisions (Part 12)

NA

☒ (**for internal NPWS/EHG projects only)** NPWS/EHG management powers and responsibilities (s 8 and s 12)

Section 8 (3) of the NPW Act requires that the Secretary shall: (b) arrange for the carrying out of such works as the Secretary considers necessary for or in connection with the management and maintenance of a national park.

Section 12 of the NPW Act sets out the objectives for management powers and functions of internal NPWS projects including:

f. the provision of facilities and opportunities for sustainable visitor or tourist use and enjoyment on land reserved under this Act.

The approval of the proposal is appropriate under the scope of power for NPWS as it would enhance the provision of facilities and opportunities for use of the park, consistent with the objectives of the NPW Act in the conservation of objects, places or features of cultural value in national parks.

### 3.1.2 *Wilderness Act 1987* (for activities in wilderness areas)

NA

### 3.1.3 *Biodiversity Conservation Act 2016*

The purpose of the *Biodiversity Conservation Act 2016* (BC Act) is to maintain a healthy, productive and resilient environment for the greatest wellbeing of the community, now and into the future, consistent with the principles of ecologically sustainable development.

The Point Plomer Precinct Revitalisation would ensure that Limeburners Creek National Park can adequately support the increased level of visitation and protect the park from ad hoc expansion of camping areas and damage to the surrounding environment. The proposal is consistent with the purposes of the BC Act (s 1.3):

g. to regulate human interactions with wildlife by applying a risk-based approach
h. to support conservation and threat abatement action to slow the rate of biodiversity loss and conserve threatened species and ecological communities in nature.

### 3.1.4 *Rural Fires Act 1997*

The proposal would have no significant impact on protecting life, property and infrastructure or protection of the environment in regard to the *Rural Fires Act 1997*.

## 3.2 *Environmental Planning and Assessment Act 1979*

### 3.2.1 Assessment pathway

It is confirmed that a REF is the applicable assessment pathway if each of the following apply.

☒ The activity may be undertaken without development consent under the provisions of s 2.73(1)(a) of *State Environmental Planning Policy (Transport and Infrastructure) 2021* (the Transport & Infrastructure SEPP) as it is

☒ on land reserved under the NPW Act or acquired under Part 11 of the NPW Act

AND

☒ for a purpose authorised under the NPW Act.

This REF has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity. This has included consideration (where relevant) of conservation agreements and plans of management under the NPW Act, the BC Act, wilderness areas, areas of outstanding biodiversity value, impacts on threatened species and ecological communities and their habitats and other protected fauna and native plants.

☒ The activity is not designated development under Schedule 3 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation).

☒ The activity is not state significant infrastructure under Schedule 3(7) of *State Environmental Planning Policy (Planning Systems) 2021*.

☒ The activity is not designated development under the s 2.7(2) of the *State Environmental Planning Policy (Resilience and Hazards) 2021* (the Resilience & Hazards SEPP), as:

☒ it is not on land mapped as littoral rainforest or coastal wetland, OR

☐ it is on land mapped as littoral rainforest or coastal wetland, AND that land is reserved (not acquired) under the NPW Act, AND the activity is consistent with the adopted plan of management (s 2.7(6) of the Resilience & Hazards SEPP), OR

☐ it is on land mapped as littoral rainforest or coastal wetland, AND the activity is routine maintenance with adverse effects restricted to the minimum possible (s 2.7(4) of the Transport & Infrastructure SEPP), OR

☐ it is coastal protection works by a public authority and is either identified in a coastal management program, or is beach nourishment, temporary placement of sandbags or routine maintenance and repair of existing coastal protection works (s 2.16(2)(a) of the Resilience & Hazards SEPP).

☒ The activity is not declared to be exempt development under an environmental planning instrument or fails to fully meet the requirements for exempt development.

### 3.2.2 Strategic plans

Is the activity proposed on land covered by a local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the EP&A Act?

☒ No

☐ Yes

NA

## 3.3 Other relevant NSW legislation

### 3.3.1 *Coal Mine Subsidence Compensation Act 2017*

The activity does not involve the erection or alteration of an improvement within a mine subsidence district.

### 3.3.2 *Fisheries Management Act 1994*

The activity would not affect fish, fish habitat, fish passage or marine vegetation, including threatened species.

### 3.3.3 *Heritage Act 1977*

Searches have been undertaken of the NSW State Heritage Inventory and Schedule 5: Environmental heritage of the *Port Macquarie-Hastings Local Environmental Plan 2011*.

No listed heritage items have been recorded within or near the proposed works area.

### 3.3.4 *Marine Estate Management Act 2014*

The activity does not affect or directly adjoin a marine park or aquatic reserve.

## 3.4 Does Commonwealth legislation apply?

### 3.4.1 *Environment Protection and Biodiversity Conservation Act 1999*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) applies, as the activity is on land that contains the following, or the activity may affect nationally listed threatened species and ecological communities, or listed migratory species.

The EPBC Act provides an assessment and approvals system for actions that impact on matters of national environmental significance (MNES) and actions that have a significant impact on Commonwealth land. The approval of the Minister for the Australian Government Department of the Environment is required if an action is likely to have a significant impact on or involve: world heritage properties, national heritage places, wetlands of international importance, nationally threatened species and ecological communities, migratory species, Commonwealth marine areas, the Great Barrier Reef Marine Park, nuclear action, or a water resource, in relation to coal seam gas development and large coalmining development.

Under the EPBC Act, any action that has a significant impact on an MNES on Commonwealth land triggers the Act, and therefore requires a Commonwealth environmental impact assessment. There are no significant impacts on MNES on or near the proposed works and therefore the EPBC Act is not triggered by this proposal.

A search of the Department of Climate Change, Energy, the Environment and Water (DCCEEW) Australian Heritage Database has been undertaken which identified one (1) Indigenous Place within or near the proposed activity. Impacts to Aboriginal cultural heritage have been assessed in the supporting Aboriginal Cultural Heritage Assessment (ACHA) document.

Evaluations of species and communities listed under the EPBC Act have been incorporated into Section 9.7 of this REF and the threatened species assessment in Appendix A. An EPBC Act Protected Matters Report is included in Appendix B.

## 3.5 Consistency with NPWS policy

| Policy name | How proposal is consistent |
|---|---|
| Vehicle Access Policy | The proposal is consistent with the objectives of the Vehicle Access Policy in that the precinct revitalisation would:<br>• not cause unacceptable impacts on the environment and cultural heritage<br>• be designed with sensitivity to the landscape<br>• be appropriate and necessary to meet park management needs. |
| Tree Risk Management Policy | Trimming of tree branches may be necessary to minimise risk of injury from falling limbs. In accordance with the NPWS duty of care, tree risk management would be based on a systematic identification of hazards and realistic association of risks. Revegetation of the precinct would incorporate a redesign of the patterns of visitor use, and species selected would include low-risk properties. |
| Visitor Accommodation Policy | The proposal is consistent with the objectives of the Visitor Accommodation Policy in that the precinct revitalisation would:<br>• be consistent with relevant park management policies<br>• ensure natural and cultural values are protected<br>• minimise environmental impacts at the site and in the surrounding area<br>• take measures to mitigate impacts on other park users<br>• be appropriately low-key and suitable for the location<br>• create opportunities to enhance visitor understanding, enjoyment and appreciation of park values. |
| Visitor Safety policy | Point Plomer campground is open to the public. The works would be assessed and managed through the risk management system of the Department of Planning and Environment (the department). |

## 3.6 Summary of licences and approvals

### 3.6.1 Approval under the NPW Act

| Brief description of the type of approval sought |
|---|
| Internal NPWS approval or authorisation, including expenditure |

### 3.6.2 Other approvals

NA

### 3.6.3 Publication triggers

**Table 1 Triggers for publication of the REF**

| Permit or approval | Applicable? |
|---|---|
| *Fisheries Management Act 1994*, ss 144, 201, 205 or 219 | No |
| *Heritage Act 1977*, s 57 (commonly known as a 'section 60') | No |
| NPW Act, s 90 (AHIP) | Yes |
| *Protection of the Environment Operations Act 1997*, ss 47–49 or 122 | No |

This *Review of Environment Factors: Point Plomer Precinct Revitalisation* must be published on the NPWS website as the activity requires an Aboriginal Heritage Impact Permit (AHIP) under s 90 of the NPW Act, as identified in subs 171(4) of the EP&A Regulation. An AHIP is required and has been prepared as a supporting document.

# 4. Consultation – general

## 4.1 Consultation required under the Transport & Infrastructure SEPP

Consultation with the following authorities is required, as the proposal will affect the items ticked below.

### 4.1.1 Local council (ss 2.10, 2.11, 2.12 and 2.14)

☐ local council infrastructure or services (such as stormwater, sewer, roads and footpaths)

☐ heritage items listed under the local environmental plan (LEP)

☐ flood patterns on flood-liable land

☐ land within the mapped coastal vulnerability area and the activity is inconsistent with a certified coastal management program for the land.

At the commencement of the Transport & Infrastructure SEPP, no Coastal Vulnerability Area Map was adopted and therefore no coastal vulnerability area has been identified.

### 4.1.2 National park or other C1-zoned land (ss 2.15(2)(a) and 2.15(2)(b))

☒ land zoned C1 (formerly E1) or on/adjacent to land reserved or acquired under the NPW Act

Outcomes of consultation with NPWS: As the proponent, NPWS is in support of the proposed activity.

### 4.1.3 Roads or maritime (s 2.15(2)(c) or Schedule 3)

Is the activity:

☐ a fixed or floating structure in navigable waters

☐ traffic-generating development on main roads?

### 4.1.4 Siding Spring Observatory (s 2.15(2)(d))

☐ increase the amount of artificial light in the dark night sky within 200 km of the Siding Spring Observatory

### 4.1.5 Defence communications buffer (s 2.15(2)(e))

☐ located within the buffer around the defence communications facility near Morundah as mapped under the Lockhart, Narrandera or Urana LEPs

### 4.1.6 Mine subsidence area (s 2.15(2)(f))

☐ land in a mine subsidence district within the meaning of the *Coal Mine Subsidence Compensation Act 2017*

## 4.2 Consultation requirements under NPW Act for leases and licences

If the activity requires a lease or licence under s 151 or s 151H of the NPW Act, indicate if it requires:

☐ public consultation under s 151F

☐ referral to the National Parks and Wildlife Advisory Council or another advisory committee under s 151G.

## 4.3 Targeted consultation

### 4.3.1 Adjacent landowners

Directly adjacent to the Point Plomer campground and day use area is a Crown lease in perpetuity that is the site of a number of houses and holiday cabins which are owned and operated by local residents. These private properties rely on the access road and would be temporarily impacted by the proposed activity.

A consultation period was provided to the community and adjacent landowners. Comments and feedback were received online through the NPWS website and have been considered in the design of the proposal.

### 4.3.2 Wider community consultation and/or notification of works

The proposed activity would temporarily adversely impact community and tourist access to both the campground and day use areas. Notification would be provided to affected community members prior to works taking place, and would include:

- details of the proposal
- the duration of works and working hours
- any changed traffic or access arrangements
- how to lodge a complaint or obtain more information
- a contact name and details.

Notification would be a minimum of 7 calendar days prior to the commencement of works and would include temporary signage in place for the duration of the activity. Notification would also be placed on the NPWS website containing the above information.

### 4.3.3 Interest groups and/or notification

An ACHA report has been prepared to assess potential impacts of the activity on Aboriginal cultural heritage. The report included consultation with associated Registered Aboriginal Parties and the local Aboriginal community. The outcomes of the ACHA and Aboriginal consultation determined that an AHIP would be required prior to the commencement of the activity.

# 5. Consultation – Aboriginal communities

## 5.1 Native title notification requirements

1. Is the land subject to an Indigenous land use agreement (ILUA)?

☒ No

☐ Yes

2. Has native title been **extinguished**?

☒ No or unclear

☐ Yes

3. Has there been a determination of native title applicable to the land or is there a native title claim pending (check the National Native Title Tribunal website)?

☒ No

☐ Yes

4. If native title is not confirmed as extinguished, is the activity occurring on land reserved as park on or before 23 December 1996 AND is an activity in accordance with the purpose of reservation AND
   a. is either a 'public work' as per Subdivision 24J of the *Native Title Act 1993* (Cth) (e.g. a building or other structure that is fixed to the landscape, a road or bridge, a well or a bore, or involves major earthworks)
   OR
   b. involves the grant of a lease?

☒ No

☐ Yes

5. If native title is not confirmed as extinguished and the circumstances of Question 4 do not otherwise apply, is the activity either:
   a. a facility for service to the public (as defined in Subdivision 24K of the *Native Title Act 1993*)
   OR
   b. a low-level activity (as defined in Subdivision 24L of the *Native Title Act 1993*)?

☐ No

☒ Yes

The activity is considered a low-level activity (as defined in Subdivision 24L of the *Native Title Act 1993*):

(1)(a) the Act takes place before, and does not continue after, an approved determination of native title is made in relation to the land or waters, if the determination is that native title exists.

## 5.2 Parks under other joint management arrangements

Is the park's management subject to another joint management arrangement such as a memorandum of understanding?

☒ No

☐ Yes

## 5.3 Other parks

NA

# 6. Proposed activity (or activities)

## 6.1 Location of activity

| | | | |
|---|---|---|---|
| **Description of location** | Limeburners Creek National Park covers 9,123 ha of coastal land between the town of Port Macquarie and the village of Crescent Head on the mid north coast of New South Wales. Access to the park is via Kempsey and then Crescent Head 12 km to the north of the park. The campground exists on the Point Plomer headland and currently provides 90 campsites as well as facilities including picnic tables, a boat ramp, car parks, showers and toilets.<br>The national park has an extensive history of recreational use, with Port Macquarie-Hastings Council providing a camping area at Point Plomer to accommodate the informal recreational use of visitors. | | |
| **Site commonly known as**<br>If applicable | Point Plomer campground | | |
| **Park name**<br>Lands reserved under NPW Act | Limeburners Creek National Park | | |
| **Other tenures**<br>Include lands acquired under Part 11 of the NPW Act | | | |
| **Lot/DP**<br>If available | Lot 24 DP 1212039 and Lot 113 DP 754451 | | |
| **Street address**<br>If available | Point Plomer campground, Limeburners Creek NSW 2444 | | |
| **Site reference** | Easting:<br>497217 | Northing:<br>6535666 | MGA zone:<br>56J |

## 6.2 Description of the proposed activity

### 6.2.1 The proposed activity: pre-construction, construction, operation and remediation

NPWS proposes to manage the revitalisation of the Point Plomer campground precinct to preserve the unique feel of the campground whilst making it more sustainable into the future. The project has been prompted by increased visitation, which has placed pressure on the carrying capacity of Point Plomer. The proposed works would improve usability, drainage and access to the campground.

The following works are proposed for the activity.

#### Pre-construction

- A site survey of the site has been undertaken, which did not identify any threatened flora or fauna either within or immediately adjacent to the campground precinct
- Environmental safeguards including the installation of sediment fencing and sediment traps would be installed to prevent sediment moving off-site through drainage lines. Additional erosion and sediment controls are to be installed where required, consistent with the NPWS *Erosion and sediment control on unsealed roads* field guide
- Day use facilities would be assessed by NPWS and redeveloped or upgraded if deemed necessary for the management of risks to public safety, park values, and enhancing visitor experience

#### Construction

- Construction of a new entry road to the campground off Point Plomer Road would be undertaken through realignment approximately 30 m south of its existing position and would require clearing of native vegetation. The adjustment to the road is intended to mitigate the current pedestrian–vehicle conflict and dust saturation of adjacent campsites during periods of low rain
- The new road layout would facilitate modification of some existing campsites, improving size and usability
- Two (2) box culverts designed as a dual culvert system would be installed to restore the natural flow of water from the east of Point Plomer road into the wetlands located to the west of the road
- A new layover bay and check-in office building would be constructed at the top of the new entry road
- Concrete dish/catch drains would be installed on the northern and southern areas of the campground to facilitate improved stormwater drainage
- A new parking area and pathway would be installed on the north-west portion of the campground to improve infrastructure for visitors, which would include new bollards to prevent cars driving onto the beach
- The swale at the eastern portion of the campground would be filled with clean fill to level the camping sites and improve visitor experience. A low berm would be installed on the top side of the area to direct water away from the campsites
- 3 m of vegetation would be installed to create a buffer to the adjoining private property on the south-eastern side of campground to provide privacy for campers and residents, marking a clear divide between the 2 properties

- Each campsite would be numbered with corner markers, similar to pavers, which would delineate boundaries between the sites
- Bollards across the site would be removed and relocated to improve access and the visual amenity of the campground
- Trees would be planted across the campground to facilitate a natural screening between each campsite, and between campsites and the day use areas. Trees selected would include a diverse combination of local native species

#### Operation

- The campground is expected to be used year-round, reaching maximum capacity during peak school holiday periods. The check-in office would be in constant use during work hours and throughout the calendar year

#### Remediation

- Following the construction of the new entry road, revegetation works would commence within the campground to remediate flora impacted during construction
- Once completed, inspection and maintenance of the works would be integrated in accordance with NPWS's existing maintenance policies to maintain the quality of the environment during operation

### 6.2.2 The activity footprint (size of the area of impact)

The operation of the campground would be limited to a maximum of 90 campsites, whilst current design plans indicate up to 85 sites. The preliminary design plans propose a variety of camping options, including a walk-in group site, drive-through sites, double sites, and the standard single sites as shown in the design plans attached in Appendix C.

The estimated activity footprint is approximately 4.7 ha and would remain within the current perimeter of the campground boundaries, with the exception of relocating the entrance road approximately 30 m south of its existing position. The culvert works would be contained to the existing road reserve.

### 6.2.3 Proposed construction methods, materials and equipment

A substantial amount of filling would take place on the existing campsites and internal road to level the campground and avoid excavation. The swale on the eastern end of the campground would require appropriate drainage installation and the importation of clean fill to level the site. Clean fill would typically be imported to the site via truck and dog prior to being placed in position by small plant. Machinery would be used where required to improve trafficable surfaces.

New stormwater drainage would incorporate concrete dish/catch drains comprising 900 mm wide by 140 mm deep drains.

Revegetation would occur using a diverse combination of local native plants and trees.

### 6.2.4 Receival, storage and on-site management for materials used in construction

Materials and equipment used would be stored temporarily on site within pre-existing cleared areas in the campground. The campground would be closed during construction; however, access would be maintained to the inholding during this time. Larger materials and plant may be stored adjacent to the existing garbage disposal area behind temporary fencing, or in the existing NPWS compound.

Stockpiled road base and clean fill would be protected from run-off using sediment traps and sediment fencing. Existing material components are to be reused where practicable or removed from the park as directed by NPWS staff. Where concrete components are unable to be reused, items would be recycled into crushed rubble that can be used for alternative purposes.

### 6.2.5 Earthworks or site clearing including extent of vegetation to be removed

The campground has been extensively disturbed by the construction of existing infrastructure. By importing clean fill and filling low-lying areas and campsites, significantly reduced and minimal earthworks will be required.

The new access road would require approximately 0.2 ha of site clearing and levelling. Vegetation removal would be limited to the minimum required and larger trees would be preferentially avoided by rerouting the road where practicable.

The culvert works would have minimal impacts on native vegetation and would be contained within the road reserve.

### 6.2.6 Environmental safeguards and mitigation measures

Areas to be revegetated are clearly allocated within the existing activity plans to offset the clearing required for the construction of the new entry road. The impacts of the new road construction are considered minimal as mitigation would occur through the replacement and planting of 5,000 native trees within and near the campground.

Moving the day visitors car park would benefit the condition of the present location, which has been over-utilised and degraded until now.

The following environmental safeguards and mitigation measures have been developed for the proposed activity:

- the proposed works area has been surveyed and inspected for natural, cultural and heritage values by suitably qualified persons prior to this REF being conducted
- compliance with the specifications of this REF and any associated approval conditions would be periodically audited during the construction period
- signage informing the public of the project with key contacts would be erected for the duration of the project prior to construction
- temporary exclusion fencing would be installed where required to assist in the management of any emergent safety issues
- any equipment and materials required for the works would be suitably cleaned prior to introduction to the site
- all project staff and supervisors to be briefed on the relevant provisions of the REF and its conditions prior to works commencing
- works would be conducted during periods of low visitation so that impacts to the community are minimised
- contractor controls would include vehicle washdown to prevent weed and pathogen spread, and keeping all machinery in good working order to ensure no oil spillage
- spill kits for the containment of fuel and oil would be available on site
- all litter and waste would be removed from site upon completion of works
- use of sediment fences and sediment traps would be implemented where necessary. All sediment control measures would be installed in line with the NPWS *Erosion and sediment control on unsealed roads* field guide

- peripheral disturbance to adjoining vegetation would be minimised
- revegetation of exposed surfaces would be encouraged by maintaining suitable grades and covering exposed soil surfaces with weed-free mulch or matting to protect soils
- stockpiles would be located on previously disturbed areas, away from areas that receive concentrated run-off, and would be maintained with appropriate sediment control for the duration of works
- every attempt would be made to ensure that gravel, sand, and mulch materials are weed free. Monitoring post-works would be undertaken to deal with any weed incursions should they occur
- works would not be undertaken at night
- works would be undertaken in the shortest timeframe practicable to minimise impacts to the inholding and access to the site by the community
- any soil disturbance and run-off would be mitigated by erosion control measures set up during construction
- an NPWS officer qualified in site identification would be present during vegetation clearing to determine if any objects of Aboriginal cultural significance are identified. If any Aboriginal cultural heritage items or artefacts are identified, works are to cease immediately, and contact made with the Local Aboriginal Land Council (LALC) and the department. Works would not recommence until appropriate procedures have been followed as per the department's Community Consultation Guidelines and clearance provided by both the LALC and the department
- all recommendations provided in the Ecological Assessment for Point Plomer Campground Upgrade, attached in Appendix B, would be followed, including:
    - general clearing measures
    - sedimentation and erosion controls
    - supplementary plantings
    - weed control.

### 6.2.7 Sustainability measures – including choice of materials and water/energy efficiency

The following sustainability measures would be followed for the proposed activity: Labour and materials would be sourced from local suppliers where practicable.

### 6.2.8 Construction timetable and staging and hours of operation

Works are proposed to commence in early 2023 and would be completed over a period of 6 months. Works would be undertaken during the hours outlined below to minimise impacts to visitors and tourists:

Monday – Friday: 7 am to 5 pm

No work on Saturdays, Sundays or public holidays to reduce disturbance to the inholding

Work outside the hours listed above would be restricted to:

- low impact construction activities
- emergency work to avoid the loss of life/property
- works timed to reduce disruption to essential services.

# 7. Reasons for the activity and consideration of alternatives

## 7.1 Objectives and reasons for the proposal

The precinct plan has been developed with the following objectives and to cater for the challenges of now and for the next 20 years:

- preserve the laid-back low-key coastal camping experience and visual amenity
- improve drainage across the site
- provide clear delineation between camping and day use areas
- provide bookable camping sites
- provide a variety of camping options
- improve road layout and campsite levelling
- provide greater capacity for car parking
- improve drainage impeded by Point Plomer Road.

The proposal would deter the ad hoc expansion of camping areas by meeting the increasing visitation demands, which would concurrently reduce damage to the surrounding bushland and contribute to a reduction in the general degradation of recreational areas in the national park.

## 7.2 Consideration of alternatives

### Option 1: Install drainage infrastructure only

The campground is well known for its poor drainage capacity and resultant erosion of soils. Upgrades to drainage infrastructure are necessary and urgent for the maintenance of campsites and the preservation of the environmental integrity of the area. This option would be effective in remediating one aspect of the campground's existing issues. Installing drainage infrastructure only would not work without site levelling, as water would not be directed off the campsites and into the drainage infrastructure.

### Option 2: Campsite levelling

The campground is well known for having uneven campsites that are poorly delineated. Levelling the campsite alone would not solve the current issues regarding poor drainage. This option would not solve stormwater run-off and would fail to meet the objectives of the PoM and the recreational values of the park.

### Option 3: Do nothing

The 'do nothing' approach is not consistent with the management principles of a national park under the NPW Act and NPW Regulation, or the NPWS policies identified in Section 3.5 of this REF. The do nothing approach would perpetuate the negative impacts associated with poor drainage and water-bogging, dust creation and erosion of the entry road, deteriorating facilities, and conflict regarding carparking and camping, and would also impede effective park management.

## 7.3 Justification for preferred option

The proposed Point Plomer Precinct Revitalisation in Limeburners Creek National Park has been determined to be the preferred option based on the following:

- the continued use of the existing campground design and infrastructure is not suitable for the current carrying capacity of the campground and requires improving to maintain the safety, accessibility and longevity of the site
- many campsites are currently uneven and subject to degradation, and without revitalisation may fall into a greater condition of disrepair, with permanent consequences for visitation rates and ecological rehabilitation
- the proposed option utilises areas of existing disturbance and can minimise required clearing of flora communities.

# 8. Description of the existing environment

## 8.1 Overview of the project area

Point Plomer precinct is located in Limeburners Creek National Park on the mid north coast, north of the town of Port Macquarie, and is situated next to the Point Plomer headland. The precinct is managed by NPWS; however, an adjacent Crown lease in perpetuity is excluded from the national park, containing a number of houses and holiday cabins. The campground, day use area, and adjacent holiday cabins are the closest sensitive receivers to the proposed activity.

The closest meteorological station is the Port Macquarie Airport site approximately 16.5 km south-west of Point Plomer. The site is detailed as follows:

**Site name:** Port Macquarie Airport AWS (Comparison)

**Site number:** 060139

**Latitude:** 31.43° S **Longitude:** 152.87° E

**Elevation:** 4 m

**Commenced:** 1995 **Status:** Closed 17 Mar 2022

Mean maximum and minimum temperatures, and mean rainfall statistics for the area are detailed below for the years 1995–2022.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mean max. temp (°C)** | 27.9 | 27.6 | 26.5 | 24.4 | 21.7 | 19.4 | 19.0 | 20.4 | 22.7 | 24.1 | 25.4 | 26.8 | 23.8 |
| **Mean min. temp (°C)** | 18.6 | 18.5 | 17.2 | 13.9 | 10.4 | 8.2 | 6.4 | 6.6 | 9.3 | 12.1 | 15.1 | 17.0 | 12.8 |
| **Mean rainfall (mm)** | 147.8 | 175.1 | 197.0 | 131.0 | 103.1 | 135.4 | 61.9 | 58.8 | 57.2 | 76.6 | 142.9 | 121.6 | 1,408.4 |

## 8.2 Natural values

### 8.2.1 Geology, geomorphology and topography

The headlands of the park are remnants of the Devonian Touchwood Formation and are composed of partly metamorphosed greywacke with argillite and cherty bands most likely deposited in shallow to moderately deep marine environments. Karst features, including a natural arch and sea cave, are present in a limestone outcrop at Big Hill.

The geology proximate to the activity includes Carboniferous sedimentary rocks including feldspar-rich sandstone, siltstone, mudstone and conglomerate units. The western edge of the campground comprises Cenozoic undifferentiated sediments/sedimentary rocks comprising unconsolidated mud, silt, sand and gravel of an uncertain age and origin.

The surface geology of the Point Plomer campground is predominantly marine-deposited and aeolian-reworked coastal sand dunes of the Holocene age. Quaternary geology of the area is shown in Figure 2.

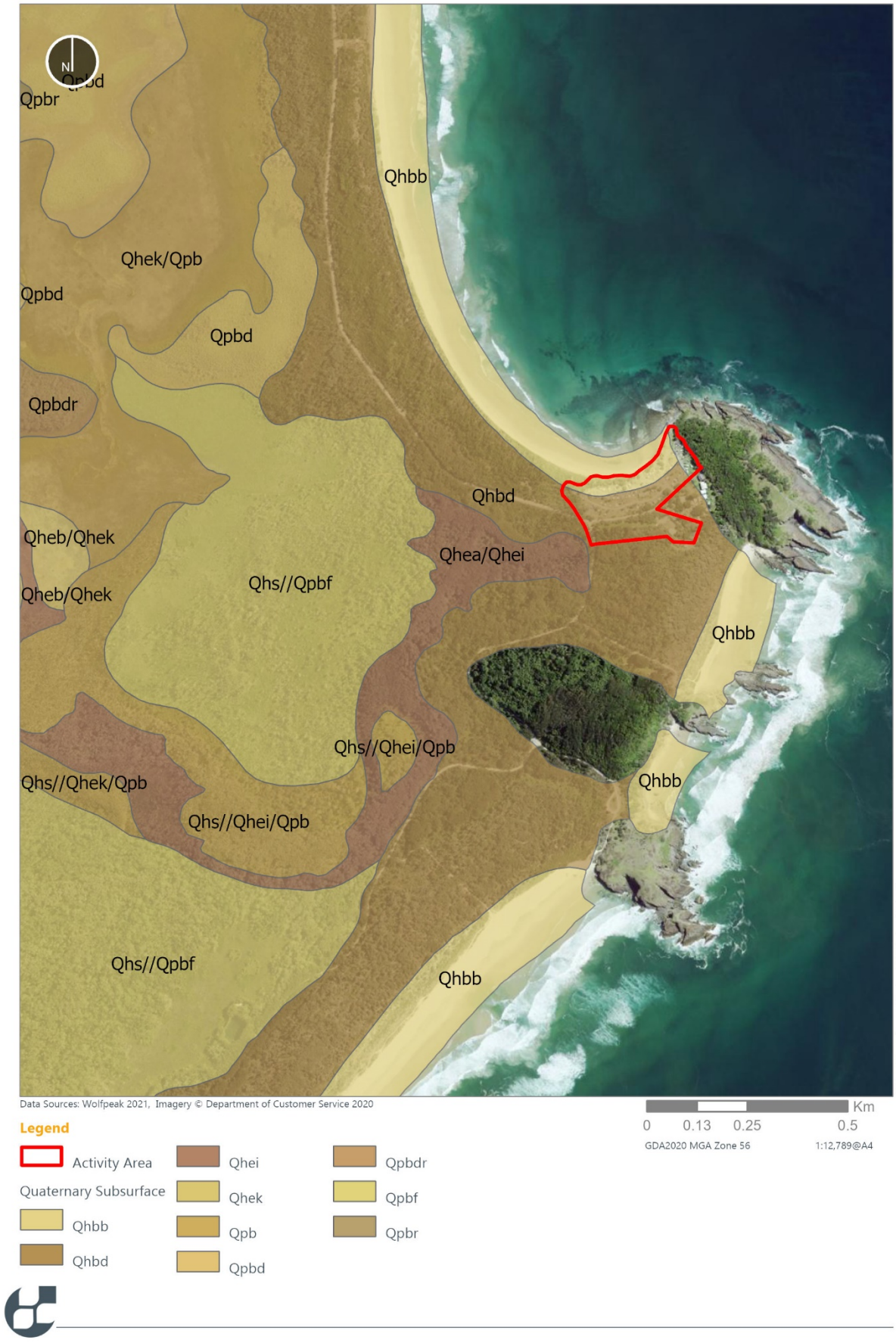


**Figure 2 Quaternary geology**

### 8.2.2 Soil types and properties (including contamination)

Soils within the park are composed of fine sands, silts and clays. These were originally deposited by the ancestral Hastings River as its mouth migrated from the area of Crescent Head to Port Macquarie. Soil distribution within the campground comprises podzols with coloured B horizons (Uc2.21) rather than the pans that occur consistently in undisturbed sites, with some variation in soil material thickness and relationships. Disturbed areas can have subsoil materials exposed at the surface or have the soil buried by drifts of loose pale sand (ns2) or loose yellow sand (ns4). Soils along Plomer Road and in the vicinity of the proposed road realignment have limited variability of soil type. Some range in the depth and relationships of soil materials, with rainforest vegetation occurring in more protected and more fertile areas. Soils in this area are deep (<300 cm), rapidly drained podzols (Uc2.21; Uc5.11).

Soil profiles, as classified under the Australia Soil Classification, proximate to the proposed activity are predominately rudosols, while the western edge comprises podosols. Soil profiles occurring across the site have previously been disturbed and altered from past land uses, including sand mining. The soil profiles occurring in proximity to the activity are shown in Figure 3.


**Figure 3 Soil profiles**

### 8.2.3 Watercourses, waterbodies and wetlands (including their catchment values)

The majority of Limeburners Creek National Park consists of low-lying swampy land that is less than 10 m above sea level. Eight (8) wetlands have been identified within the park under the Resilience & Hazards SEPP. The park is drained by Limeburners Creek, which is subject to tidal influences from the Hastings River. The tides determine the water levels in Saltwater Lake, which is approximately 2.8 km west of the activity site, and the surrounding wetlands. The Limeburners Creek–Saltwater Lake system is typically saline but becomes fresh for long periods following heavy rain. The northern boundary of the park is a flood mitigation channel that drains the wetlands to the north of the park.

Limeburners Creek National Park is predominantly located within the Hastings River Catchment; however, the Point Plomer campground and access road is located outside the catchment area.

Watercourses and waterbodies occurring throughout the park are shown in Figure 4.


**Figure 4 Watercourses and waterbodies**

### 8.2.4 Coasts and estuaries

Barries Beach is located to the north of Point Plomer campground and extends for 3 km up to Big Hill. The beach receives slight protection from an offshore reef. Much of the beach is well-exposed and has a rip-dominated double bar system, while the southern corner is backed by the Point Plomer camping area. Back Beach occurs to the south of Point Plomer where a cultural camp is located.

Under the Resilience & Hazards SEPP, the Point Plomer precinct is identified as a Coastal Environment Area and a Coastal Use Area.

### 8.2.5 Biodiversity

#### Terrestrial biodiversity

Approximately 70% of the park is swamp, which supports areas of sclerophyll forest and woodland dominated by broad-leaved paperbark (*Melaleuca quinquenervia*) and swamp oak (*Casuarina glauca*), swamp shrubland dominated by heath banksia (*Banksia ericifolia*), wet heath dominated by grass trees (*Xanthorrhoea fulva*), tea tree (*Leptospermum* spp.) or fern-leaved banksia (*Banksia oblongifolia*), and sedges. Generally, the western side of the park is drier than the centre and eastern sections, with eucalypt species dominating.

Vegetation within the study area is in various condition states. The campground and associated infrastructure are highly disturbed, having been cleared in the past, while adjacent forest is generally intact. Vegetation occurring on site has been identified as: swamp sclerophyll forest – PCT No.1064: Paperbark swamp forest of the coastal lowlands of the NSW North Coast Bioregion and Sydney Basin Bioregion.

A site inspection of the swamp sclerophyll forest within and to the south of the activity does not qualify as an endangered ecological community (EEC). It meets some of the floristic criteria of the EEC Swamp Sclerophyll on Coastal Floodplains; however, it occurs on Quaternary dune sands and not on a coastal floodplain or alluvial soils.

Littoral rainforests comprising Far North Sands Tuckeroo-Banksia Littoral Rainforest is mapped in close proximity to the activity site; however, a site inspection did not identify this community, and it is not identified as such by the Coastal Wetlands and Littoral Rainforests Area Map under the Resilience & Hazards SEPP.

The dominant plant communities occurring in proximity to the proposed activity are shown in Figure 5.

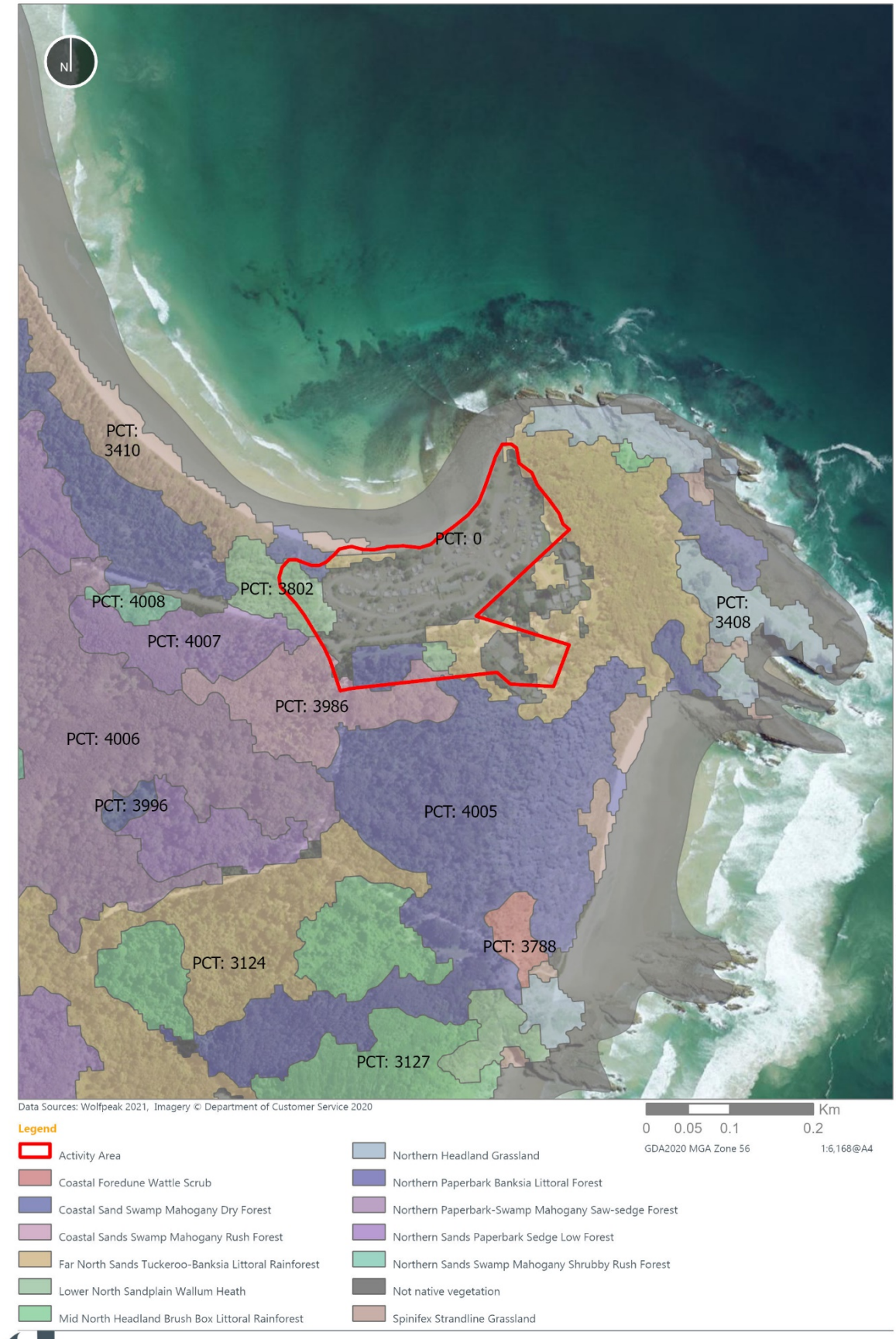


**Figure 5 Vegetation communities**

## Areas of outstanding biodiversity value or critical habitat

The proposed activity would not directly or indirectly impact an area of outstanding biodiversity value or critical habitat, as none are mapped as occurring within or proximate to the activity site.

## Environmental assets of intergenerational significance

At the time of this REF, no mapped assets of intergenerational significance (AIS) occur within or proximate to the proposed activity.

## Threatened ecological communities

A site inspection by a qualified ecologist has determined that the communities in proximity to the proposal do not qualify as threatened ecological communities (TECs) under the EPBC Act or EECs under the BC Act.

## Threatened species and populations

The variety of soils and drainage of the national park is reflected in a broad variety of vegetation communities, including littoral and subtropical rainforest, mangrove forest and woodland, wet and dry sclerophyll forests and woodland, shrublands, swamplands, coastal heathland, saltmarsh and dune grasses. The park protects important habitat for a range of threatened flora and fauna species.

### *Flora*

Four (4) threatened flora species have been recorded in a 10 x 10 km area of the proposed activity and are listed in Table 2, while threatened flora occurring within the activity footprint are shown in Figure 6.

**Table 2 Threatened flora species**

| Species name | BC Act status | EPBC Act status |
|---|---|---|
| White-flowered wax plant (*Cynanchum elegans)* | Endangered | Endangered |
| Silverbush (*Sophora tomentosa*) | Endangered | – |
| Native guava (*Rhodomyrtus psidioides*) | Critically endangered | Critically endangered |
| Scented acronychia (*Acronychia littoralis*) | Endangered | Endangered |

No threatened flora species were identified on site during the field survey.


**Figure 6 Threatened flora records**

### *Fauna*

A BioNet search (Appendix D) identified 40 threatened fauna species occurring in a 10 x 10 km area of the activity site, while those occurring in close proximity to the proposal are shown in Figure 7. The following 14 species have been identified as potential occurrences within the proposed activity area:

- wallum froglet (*Crinia tinnula*)
- fork-tailed swift (*Apus pacificus*)
- white-throated needletail (*Hirundapus caudacutus*)
- powerful owl (*Ninox strenua*)
- masked owl (*Tyto novaehollandiae*)
- koala (*Phascolarctos cinereus*)
- squirrel glider (*Petaurus norfolcensis*)
- grey-headed flying-fox (*Pteropus poliocephalus*)
- common blossom-bat (*Syconycteris australis*)
- little bent-winged bat (*Miniopterus australis*)
- large bent-winged bat (*Miniopterus orianae oceanensis*)
- eastern coastal free-tailed bat (*Micronomus norfolkensis*)
- greater broad-nosed bat (*Scoteanax rueppellii*)
- yellow-bellied sheathtail-bat (*Saccolaimus flaviventris*)

No threatened fauna species were observed during the site survey.


**Figure 7 Threatened fauna records**

## 8.3 Cultural values

### 8.3.1 Aboriginal cultural heritage

Limeburners Creek National Park contains a number of outstanding Aboriginal sites. The known period of occupation and use by Aboriginal peoples in the area is some 5,000–6,000 years. A number of Aboriginal sites occur near the Point Plomer area, including middens, artefact scatters, grinding grooves, rock engraving and shelter, a fish trap and other isolated artefacts.

A search of the Aboriginal Heritage Information Management System (AHIMS) was conducted on 13 May 2022 and is attached in the AHCA report. The report identified 5 Aboriginal sites and no Aboriginal places in or near the proposed activity.

Three (3) Aboriginal sites occur within the footprint of the proposed activity and have been assessed in the ACHA report. Impacts to the Stone Artefact Site would be avoided by the proposed works, while 2 middens would be partially impacted by the proposal. Potential impacts to the middens have been minimised by excluding ground surface disturbances, with fill being used instead to build up the ground surface. The ACHA has determined it is unlikely that Aboriginal objects would extend into the adjacent remnant swamp sclerophyll forest to the south of the existing access road.

Precautionary safeguards are provided in Section 9 to ensure that any potential impacts are mitigated.

### 8.3.2 Historic heritage values

Limeburners Creek National Park derives its unusual name from the activities of some of the first Europeans in the area in the early days of the Port Macquarie penal settlement, when lime for building mortar was in great demand. Lime was produced in the area by burning enormous quantities of oyster shells gathered from oyster beds and coastal deposits, including Aboriginal middens. Following lime production, the next major European activity in the area was gold mining, although there is little evidence that much gold was won from the area.

## 8.4 Social values

### 8.4.1 Recreation values

The park provides opportunities for a limited range of outdoor recreation, including camping, fishing, swimming, surfing, canoeing, cycling and walking. Visitation to Point Plomer is growing on average 5–10% year on year, with 2020 alone experiencing a jump of 20%. Additionally, the Hastings–Macleay strip of coast experiences extremely high search rates for campgrounds on the coast.

Many visitors are day-trippers who seek Point Plomer as a location for picnicking, fishing and surfing. The current day use area is not visually defined and is thus often used by campers. The revitalisation of the campground would clearly accommodate both camping and day use by allocating adequate space for the necessary infrastructure.

### 8.4.2 Scenic and visually significant areas

The seasonal popularity of Point Plomer is closely linked to the scenic quality of the campground and the accessibility of 2 popular beaches for safe swimming, surfing and recreational fishing. The proposed design aims to maximise the scenic amenity of the campground through improved shade trees, rehabilitation areas and the relocation of parking areas.

### 8.4.3 Education and scientific values

Limeburners Creek National Park provides for scientific study of coastal processes, wetland systems and vegetation succession. It provides outstanding opportunities for environmental education and field studies, particularly in relation to geomorphology, vegetation, bird life and past Aboriginal culture.

### 8.4.4 Interests of external stakeholders

There are a number of private holiday cabins on the Crown lease adjoining the Point Plomer camping area, which rely on the access road to the campground. Works involving the access road, new layover area, site office and campground access would directly impact the private property adjacent to the activity site.

Adjoining land uses of the park are predominantly tea tree plantations, cattle grazing and small-scale agriculture. The region supports localised and small-business tourism. Barries Bay is used for commercial mullet hauling primarily during the autumn months of March to May, as well as recreational fishing by visitors and Indigenous groups. Generally, the interests of external stakeholders would not be significantly impacted by the proposal; however, should works occur during peak commercial fishing seasons, NPWS would liaise with commercial fishing operators to facilitate access.

## 8.5 Matters of national environmental significance

The project would not significantly impact on any MNES under the EPBC Act (see Appendix A), hence a referral to DCCEEW is not required.

# 9. Impact assessment

## 9.1 Physical and chemical impacts during all stages of the activity

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| 1. impact on soil quality or land stability? | ☒ | Low adverse<br>Positive | The clearing of the proposed new access road would result in small disturbances to soil integrity, as the operation of machinery may involve compaction and limited areas of upper-level soil churn. Minor run-off and erosion may result from the clearing.<br>Generally, the proposal would improve drainage throughout the site and improve land stability by reducing the impacts of stormwater run-off. | • An erosion and sedimentation control plan must be supplied prior to commencing works<br>• Erosion and sediment control measures in accordance with the NPWS *Erosion and sediment control on unsealed roads* field guide are to be implemented and maintained to:<br>○ prevent sediment moving off site and sediment laden water entering the coastal wetlands to the west<br>○ reduce water velocity and capture sediment on site<br>○ divert clean water appropriately around the site |
| 2. affect a waterbody, watercourse, wetland or natural drainage system – either physically or chemically (e.g. due to run-off or pollution)? | ☒ | Low adverse<br>Positive | During the activity there is potential for deposition of soil, and fill entering the coastal wetlands to the west of the campground resulting in sedimentation.<br>The activity is located approximately 350 m north-east of the Hastings River Catchment; however, the works are not expected to adversely impact the catchment in the long term.<br>The works would improve the stormwater drainage of the campground, thus eliminating uncontrolled run-off impacting the nearby wetlands. | • Sedimentation and erosion, and waste management safeguards would be effectively implemented to minimise associated water quality impacts<br>• All equipment would be maintained in good working condition and operated according to manufacturer's specifications<br>• Refuelling of plant and equipment is to occur a minimum of 40 m from drainage lines<br>• Stockpiles are not to be located within 10 m of a drainage line, and would be located in previously disturbed areas, away from areas that receive concentrated run-off |

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| | | | | • Sediment fencing and sediment traps would be used to protect drainage lines during the works. Road drainage structures would be used to divert road run-off away from sensitive areas<br>• No work is to be undertaken during, or immediately following, periods of high rainfall |
| 3. change flood or tidal regimes, or be affected by flooding? | ☒ | Negligible | There would be no changes to flood or tidal regimes, nor is the activity predicted to be impacted by flooding events. A small section of the proposed access road and parts of Point Plomer Road occur within flood prone land. | • Erosion and sediment controls as per the NPWS *Erosion and sediment control on unsealed roads* field guide<br>• Culverts placed on Point Plomer Road would facilitate flow to alleviate water impacts during high-flow periods |
| 4. affect or be affected by coastal processes and coastal hazards, including those under climate change projections (e.g. sea level rise)? | ☒ | Negligible | The works are located within a mapped Coastal Environment Area; however, there would be no changes to coastal processes, including those under climate change projections. | • No significant earthworks would occur<br>• Erosion and sediment controls as per the NPWS *Erosion and sediment control on unsealed roads* field guide |
| 5. involve the use, storage or transport of hazardous substances, or use or generate chemicals which may build up residues in the environment? | ☒ | Negligible | Machinery involved in the works may accidentally spill fluids hazardous to the environment. | • Store oils and fuels in a suitably bunded, covered, and secure area with sufficient capacity to contain at least 110% of the volume of the largest container<br>• Spills and leaks are to be contained within the worksite and site clean-up to occur<br>• Spill kits to be available on site and/or in construction vehicles |
| 6. involve the generation or disposal of gaseous, liquid or solid wastes or emissions? | ☒ | Negligible | Soil, rock and other material excavated during the road construction would be stockpiled near to the works area and reused where practicable. No hazardous waste is anticipated to be generated. | • Waste would be managed in accordance with relevant NSW legislation and government policies including using the waste hierarchy principles<br>• Characterise and manage waste in accordance with the NSW EPA's Waste Classification Guidelines |

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| | | | | • Waste generated during construction would be collected and disposed of at a suitably licensed waste facility<br>• Where feasible, recyclable material is to be segregated to maximise recycling opportunities |
| 7. involve the emission of dust, odours, noise, vibration or radiation? | ☒ | Low adverse | Some noise and dust would be produced by plant and machinery.<br>The works are adjacent to private property and holiday cabins. | • The campground would be closed during importation of fill required to level the sites<br>• Erosion and sedimentation control measures are to be implemented and maintained in accordance with the NPWS *Erosion and sedimentation control on unsealed roads* field guide<br>• Works would not occur during periods of high wind. Dust generating works would be undertaken when the wind is blowing away from sensitive receivers, e.g. the adjacent holiday cabins<br>• Water carts are to be utilised during dust generating activities to minimise dust spreading<br>• No additives are to be used in conjunction with water spraying due to the proximity of the works area to coastal wetlands and littoral rainforests<br>• Construction works generating high levels of noise would be restricted to the following working hours:<br>  ○ Monday to Friday 7am to 5pm<br>  ○ no work on Saturdays, Sundays or public holidays<br>• Work outside the hours listed above would be restricted to:<br>  ○ low impact construction activities<br>  ○ emergency work to avoid the loss of lives/property |

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| | | | | ○ works timed to reduce disruption to essential services<br>○ limit the use of 'beeper' style reversing systems, and configure the works site to maximise forward movements |

## 9.2 Biodiversity impacts during all stages of the activity

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| 1. affect any declared area of outstanding biodiversity value or critical habitat or environmental asset of intergenerational significance? | ☐ | NA | NA | |
| 2. result in the clearing or modification of vegetation, including ecological communities and plant community types of conservation significance? | ☒ | Low adverse<br>Positive | Some vegetation would be removed or modified during the activity, particularly through the realignment of the access road.<br>The remnant swamp sclerophyll forest does not meet the criteria of a TEC and impacts are considered negligible.<br>The proposal would improve camping facilities for visitors and contribute to protecting the park from ad hoc expansion of camping areas and damage to the surrounding environment resulting from illegal camping. | • Vegetation removal would be limited to the minimum required<br>• Larger trees would be preferentially avoided through sensitive routing of the new entrance road<br>• A suitably experienced NPWS officer or ecologist would assist in the identification of hollow-bearing trees, dead trees and dead wood to be avoided<br>• Parking and storage of materials would be restricted to existing cleared areas |
| 3. endanger, displace or disturb terrestrial or aquatic fauna, including fauna of conservation significance, or create a barrier to their movement? | ☒ | Low adverse | No terrestrial fauna or fauna of conservation significance was observed during the site surveys.<br>No barrier to movement would be created as a result of the activity as the majority of the works would occur in previously disturbed areas.<br>Identified fauna of conservation significance are considered highly mobile and capable of crossing human-modified habitat. | • A suitably experienced NPWS officer or ecologist would assist with animal welfare management<br>• Timber removed for the road alignment would be reintroduced as habitat for fauna where practicable |

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| 4. result in the removal of protected flora or plants or fungi of conservation significance? | ☒ | Low adverse | Some vegetation would be removed or modified during the activity. The vegetation within the adjacent coastal swamp sclerophyll forest does not meet the criteria of conservation significance. | • Removal of vegetation for the realignment of the access road would take a line of best fit that is verified by a suitably qualified NPWS officer.<br>• Threatened species identified would be flagged and a buffer zone created to protect plants or fungi of conservation significance |
| 6. contribute to a key threatening process to biodiversity or ecological integrity? | ☒ | Low adverse | There is potential for indirect impacts during works that could contribute to a key threatening process; for example, the introduction and establishment of weeds or the introduction of diseases and pathogens.<br>Removal of native vegetation is required.<br>Human induced activities as a result of energy use would occur; however, would not be sufficient to significantly contribute to anthropogenic climate change. | • Hygiene protocols would be required to reduce the risk of spreading weeds, diseases and pathogens<br>• Vegetation removal would be limited to the minimum necessary<br>• No removal of hollow-bearing trees or significant dead wood would occur<br>• Minimise the use of machinery and plant where practicable. Turn off machinery when not in use and reduce throttle speed of machines |
| 7. introduce weeds, pathogens, pest animals or genetically modified organisms into an area? | ☒ | Low adverse | There is a risk of the introduction of diseases such as phytophthora, myrtle rust, and chytrid via contaminated tools, plant, vehicles, shoes and clothing, both in construction and remediation stages.<br>There is low weed cover throughout the site, hence the risk of introducing weeds through machinery.<br>The works are generally confined to the existing campground footprint and would not significantly contribute to improving access for pest animals. | • All equipment, tools, vehicles and footwear to be washed down/sterilised before transport to site<br>• The area would be monitored for weeds post-construction to ensure establishment would not occur |

## 9.3 Community impacts during all stages of the activity

| Is the proposed activity likely to… | Applicable?* | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|---|---|---|---|
| 1. affect community services or infrastructure? | ☒ | Low adverse<br>Positive | Construction of the proposed activity would temporarily impede access to the Point Plomer campground, adjacent private properties including the holiday cabins, and the beach 4WD access for the duration of the works.<br>Once complete, the proposal would improve access to community services and infrastructure. | • Consultation would occur with adjacent stakeholders prior to commencement of the activity to establish communication lines<br>• During construction, appropriate signage would be displayed indicating the nature and duration of the works, including contact phone numbers<br>• Construction areas would be fenced off to the public<br>• A Traffic Management Plan (TMP) may require implementation to facilitate the flow of traffic to the inholding<br>• Existing access for adjoining landowners is to be maintained at all times during the works unless otherwise agreed to by the affected property owner |
| 2. affect sites important to the local or broader community for their recreational or other values or access to these sites? | ☒ | Low adverse<br>Positive | The proposal would temporarily reduce the number of camping sites available for public bookings. It would also temporarily impact the recreational values and impede access to the site.<br>Once complete, the proposal would improve the condition of the campground, access road and overall amenity of the precinct. | • Consultation would occur with adjacent stakeholders prior to commencement of the activity to establish communication lines<br>• Notification is to be given to affected community members and adjacent landowners prior to the works commencing. Notification is to include:<br>  ○ details of the proposal<br>  ○ the duration of works and working hours<br>  ○ any changed traffic or access arrangements<br>  ○ how to obtain more information<br>  ○ contact name and details<br>• During construction, appropriate signage would be displayed indicating the nature and duration of the works and remain in place for the duration of the works |

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| | | | | • Construction areas would be fenced off to the public<br>• All complaints are to be recorded on a complaints register and attended to promptly<br>• No work with the potential to impact sensitive noise receivers would occur outside standard hours |
| 3. affect economic factors, including employment, industry and property value? | ☒ | Positive | The proposed works would have a significant positive impact on economic factors as it would improve the overall amenity and usability of the Point Plomer precinct for a projected timeline of 20 years. Adjacent private landholders would benefit greatly from an improved access road to the area.<br>The proposal would also benefit the community through employment of local contractors to undertake the works. | NA |
| 4. have an impact on the safety of the community? | ☒ | Low adverse<br>Positive | There is potential for personal injury during construction (e.g. from construction site activity).<br>Given the nature of the works in a publicly accessible campground, there is potential for personal injury to visitors and tourists to the area. | • Regard to public safety would always be maintained, and works site access restricted for the public<br>• The contractor would be responsible for the preparation and implementation of any Safe Work Method Statements in accordance with the *Work Health and Safety Act 2011*<br>• All works areas would be fenced off for the duration of the works<br>• Temporary signage would be installed to advise the community of the nature and duration of the activity |
| 5. cause a bushfire risk? | ☒ | Negligible | There would be limited ignition risk as works would primarily occur in previously cleared areas. | • Appropriate fire extinguishing equipment would be located on the construction site during construction if deemed necessary<br>• Machinery would be limited during periods of Very High and above fire danger ratings, and during Total Fire Bans |

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| 6. affect the visual or scenic landscape? | ☒ | Low adverse<br>Positive | The visual or scenic landscape would be temporarily impacted during construction.<br>The site would be rehabilitated on completion.<br>Additionally, the layout of day visitor carparks would remove carparks that currently interfere with the iconic view across to the surfing break. | • The use of screening on temporary fencing would help reduce the visual impacts on the scenic landscape during construction<br>• Ensure post construction vegetation rehabilitation works are completed using a diverse combination of local native plants and trees |

## 9.4 Natural resource impacts during all stages of the activity

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| 1. result in the degradation of the park or any other area reserved for conservation purposes? | ☒ | Positive | The proposal would deter the ad hoc expansion of camping areas by meeting the increasing visitation demands, which would concurrently reduce damage to the surrounding bushland and contribute to a reduction in the general degradation of recreational areas in the national park. | NA |
| 2. affect the use of, or the community's ability to use, natural resources? | ☐ | NA | NA | |
| 3. involve the use, wastage, destruction or depletion of natural resources including water, fuels, timber or extractive materials? | ☒ | Negligible | Waste would be generated during construction and from existing materials (e.g. bollards) that cannot be reused. Materials would be recycled where possible or reused, including the crushing of concrete components for reuse for alternative purposes.<br>Natural resources (fossil fuels) would be used to power machinery used during the construction stages of the activity. | • Prior to work commencing, a Safe Work Method Statement would be undertaken to ensure any risks associated with the disposal of waste would be mitigated by ensuring the sites are left clean and tidy at the end of each day<br>• All waste that is not recycled would be disposed of at a suitably licensed waste facility<br>• Machinery use to be kept at a minimum<br>• Use electric machinery rather than diesel/petrol machinery where practicable |
| 4. provide for the sustainable and efficient use of water and energy? † | ☒ | Negligible | Water and electricity would be used during construction. | • Electric machinery would be used instead of diesel machinery where practicable and switched off when not in use |

## 9.5 Aboriginal cultural heritage impacts during all stages of the activity

| Is the proposed activity likely to… | Applicable?* | Impact level (negligible; or low, medium or high adverse; or positive; or NA) | Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | Safeguards/mitigation measures |
|---|---|---|---|---|
| 1. disturb the ground surface or any vegetation likely to contain culturally modified trees? | ☒ | Low adverse | The proposed works would require minor excavation and removal of vegetation for the realignment of the access road.<br>The ACHA report of the area suggests it is unlikely that Aboriginal artefacts would extend into the adjacent swamp to the south of the existing entry road.<br>New bollards being installed have the potential to impact on the ground surface; however, they are being installed in a highly modified site.<br>The potential for undiscovered Aboriginal items to be identified does exist. Following the mitigation measures would ensure any potential impacts are negated.<br>Road works and campsite levelling is predominantly undertaken by importing clean fill to the site and compacting the surface. | • A NPWS officer qualified in Aboriginal site and object identification would be on site during excavation works to inspect soil and ground disturbance for Aboriginal objects<br>• Works would proceed with caution, and if any Aboriginal objects are located during the proposed works, the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW would be followed<br>• If suspected human remains are discovered and/or harmed, in, on or under the land within the activity footprint, the following actions must be undertaken:<br>○ the remains must not be harmed/further harmed<br>○ immediately cease all works at that location<br>○ secure the area to avoid further harm to the remains<br>○ notify the NSW Police and the Environment Line (Heritage NSW) on 131 555 as soon as practicable and provide any details of the remains and their location<br>○ do not recommence any work at that location unless authorised in writing by Heritage NSW<br>• Due to the presence of known Aboriginal sites within the activity footprint, an AHIP has been applied for in addition to the construction safeguards that have been designed to minimise ground disturbance<br>• The activity has been designed to minimise potential impacts to Aboriginal sites, including the exclusion of ground surface disturbances, with fill being used instead to build up the ground surface |

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| 2. affect or occur near known Aboriginal objects, Aboriginal places or an Aboriginal cultural asset of intergenerational significance?<br>If so, can impacts be avoided? How? | ☒ | Low adverse | The proposed works would occur near known Aboriginal sites, as documented in the supporting ACHA report. Impacts to 2 known Aboriginal cultural heritage items are not able to be avoided by the proposed works. | • An AHIP has been applied for to undertake the proposal<br>• As above |
| 3. affect areas:<br>• within 200 m of waters<br>• within a sand dune system<br>• on a ridge top, ridge line or headland<br>• within 200 m below or above a cliff face<br>• in or within 20 m of a cave, rock shelter or a cave mouth?<br>If so, can impacts be avoided? How? | ☒ | Low adverse | Point Plomer is located on a sand dune system, the proposed works are unable to avoid potential impacts to the system.<br>Previous auger investigations across the campground positively identified the location of one Aboriginal midden in the vicinity of the campground. | • As above |
| 4. affect wild resources which are used or valued by the Aboriginal community or affect access to these resources? | ☐ | NA | NA | |
| 5. affect access to culturally important locations? | ☒ | Negligible | The proposed activity would not adversely impact access to culturally important locations. | |

## 9.6 Other cultural heritage impacts during all stages of the activity

| **Is the proposed activity likely to…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| 1. affect or occur near places, buildings or landscapes of heritage significance? | ☐ | NA | NA | |
| 2. impact on relics or moveable heritage items, or an area with a high likelihood of containing relics? | ☐ | NA | NA | |
| 3. impact on vegetation of cultural landscape value (e.g. gardens and settings, introduced exotic species, or evidence of broader remnant land uses)? | ☐ | NA | NA | |

## 9.7 Impacts on matters of national environmental significance under the EPBC Act during all stages of the activity

| **Is the proposal likely to affect MNES, including:** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| 1. listed threatened species or ecological communities)? | ☒ | Negligible | The proposal would see very minor modification of potential habitat for several threatened fauna species. The impacts comprise a minor level of vegetation removal for the new access road. | • As detailed in Section 9.2 |
| 2. listed migratory species? | ☒ | Negligible | The proposal would see nil impact on the potential habitat of such species. Breeding, foraging, dispersal, etc. processes would remain as current; and no barrier to movement, entanglement or strike risk would be created. | • As detailed in Section 9.2 |
| 3. the ecology of Ramsar wetlands? | ☐ | NA | NA | |
| 4. world heritage values of World Heritage properties? | ☐ | NA | NA | |
| 5. the national heritage values of national heritage places? | ☐ | NA | NA | |

## 9.8 Cumulative impacts during all stages of the activity

| **When considered with other projects, is the proposed activity likely to affect…** | **Applicable?*** | **Impact level** (negligible; or low, medium or high adverse; or positive; or NA) | **Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact) | **Safeguards/mitigation measures** |
|---|---|---|---|---|
| 1. natural landscape or biodiversity values through cumulative impacts? | ☒ | Positive | The activity would contribute to natural landscapes and biodiversity values by reducing the cumulative pressure on the carrying capacity of the campground, which results in subsequent deterioration of the condition of the adjacent environment. | NA |
| 2. cultural (Aboriginal, shared and historic heritage) values through cumulative impacts? | ☐ | NA | NA | |
| 3. social (amenity, recreation, education) values through cumulative impacts? | ☒ | Positive | The activity would contribute to the amenity, social and recreational values of the precinct by preserving the existing laid-back low-key coastal camping experience and visual amenity as well as addressing both existing and forecast management challenges. | NA |
| 4. the community through cumulative impacts on any other part of environment (e.g. due to traffic, waste generation or perceived over-development) | ☒ | Negligible | The proposed activity is not likely to affect the community through cumulatively impacts on any other part of the environment. | NA |

# 10. Proposals requiring additional information

## 10.1 Lease or licence proposals under s 151 NPW Act

No lease or licensing requirements are attached to the Point Plomer Precinct Revitalisation project. Any and all future commercial business or ecotourism proposals would be addressed separately in accordance with the NPWS Park Policy – Parks Eco Pass program for commercial tour operators.

## 10.2 Telecommunications facilities

The Point Plomer Precinct Revitalisation project has no telecommunications facility component so assessment under section 153D of the NPW Act is not required.

## 10.3 Activities within the Sydney Drinking Water Catchment

The Point Plomer Precinct Revitalisation project does not fall within the Sydney Drinking Water Catchment so further assessment is not required.

## 10.4 Activities in River Murray riverine land

The Point Plomer Precinct Revitalisation project is not located within lands defined as Murray riverine land so further assessment is not required.

# 11. Summary of impacts and conclusions

| Environmental factor | Consideration | Significance of impact* |
|---|---|---|
| (a) the environmental impact on the community | Social, economic and cultural impacts as described in Sections 9.3, 9.5 and 9.6 | Not significant |
| (b) the transformation of the locality | Human and non-human environment as described in Sections 9.1, 9.2 and 9.4 | Not significant |
| (c) the environmental impact on the ecosystems of the locality | Amount of clearing, loss of ecological integrity, habitat connectivity/ fragmentation and changes to hydrology (both surface and groundwater) as described in Sections 9.1, 9.2 and 9.4 and for nationally listed TECs, in Section 9.7 | Not significant |
| (d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality | Visual, recreational, scientific and other impacts as described in Section 9.3 | Not significant |
| (e) the effects on any locality, place or building that has:<br>(i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or<br>(ii) other special value for present or future generations | Impacts to Aboriginal and historic heritage associated with a locality (including intangible cultural significance), architectural heritage, social/community values and identity, scenic values and others, as described in Sections 9.3, 9.5 and 9.6 and for MNES heritage places, in Section 9.7 | Not significant |
| (f) the impact on the habitat of protected animals, within the meaning of the BC Act | Impacts to all native terrestrial species, including but not limited to threatened species, and their habitat requirements, as described in Section 9.2 | Not significant |
| (g) the endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air | Impacts to all listed terrestrial and aquatic species, and whether the proposal increases the impact of key threatening processes, as described in Section 9.2 | Not significant |
| (h) long-term effects on the environment | Long-term residual impacts to ecological, social and economic values as described in all parts of Section 9 | Not significant |
| (i) degradation of the quality of the environment | Ongoing residual impacts to ecological, social and economic values as described in Section 9.4 | Not significant |
| (j) risk to the safety of the environment | Impacts to public and work health and safety, from contamination, bushfires, sea level rise, flood, storm surge, wind speeds, extreme heat, rockfall and landslip, and other risks likely to increase due to climate change as described in Sections 9.1, 9.3 and 9.4 | Not significant |

| Environmental factor | Consideration | Significance of impact* |
|---|---|---|
| (k) reduction in the range of beneficial uses of the environment | Impacts to natural resources, community resources and existing uses as described in Sections 9.3 and 9.4 | Not significant |
| (l) pollution of the environment | Impacts due to air pollution (including odours and greenhouse gases); water pollution (water quality health); soil contamination; noise and vibration (including consideration of sensitive receptors); or light pollution, as described in Sections 9.1 and 9.3 | Not significant |
| (m) environmental problems associated with the disposal of waste | Transportation, disposal and contamination impacts as described in Section 9.3 | Not significant |
| (n) increased demands on natural or other resources that are, or are likely to become, in short supply | Impacts to land, soil, water, gravel, minerals and energy supply as described in Section 9.4 | Not significant |
| (o) the cumulative environmental effect with other existing or likely future activities | The negative synergisms with existing development or future activities as considered in Section 9.8 | Not significant |
| (p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions | Impacts arising from the proposed activity on coastal processes, and impacts on the proposed activity from those coastal processes and hazards, both current and future, as considered in Section 9.1 | Not significant |
| (q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the EP&A Act, Division 3.1 | Inconsistency with the objectives, policies and actions identified in local, district and regional plans, as considered in Subsection 3.2.2 | Not significant |
| (r) other relevant environmental factors | Any other factors relevant in assessing impacts on the environment to the fullest extent, such as native title | Not significant |

**In conclusion** indicate if:

- There is likely to be a significant effect on the environment and an environmental impact statement is required
  - ☒ No
  - ☐ Yes
- There is likely to be a significant effect on threatened species, populations, ecological communities or their habitats and a species impact statement is required
  - ☒ No
  - ☐ Yes
- The activity is likely to have a significant impact on MNES listed under the EPBC Act
  - ☒ No
  - ☐ Yes

- The activity will require certification to the Building Code of Australia, Disability (Access to Premises – Buildings) Standards 2010 or Australian Standards in accordance with the NPWS Construction Assessment Procedures

  ☒ No

  ☐ Yes

# 12. Supporting documentation

Please provide details of documentation included with this application.

| Document title | Author | Date |
|---|---|---|
| 1. Threatened species tests of significance | WolfPeak | August 22 |
| 2. Ecological assessment for Point Plomer campground upgrade | WolfPeak | August 22 |
| 3. Plomer campground sites and access road upgrade design plans | Local Government Engineering Services | October 22 |
| 4. BioNet search results | WolfPeak | August 22 |
| 5. Aboriginal Cultural Heritage Assessment report | Everick Heritage | August 22 |

# 13. Fees for external proponents

Proponents external to NPWS are required to pay an initial fee of $220 (a final fee is also required before determination of the REF).

☐ $220 payment/cheque for initial fee is enclosed

☐ A waiver of fees is requested for the following reasons:

# 14. Declarations

As the person responsible for the preparation of the REF, I certify that, to the best of my knowledge, this REF 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 it contains is neither false nor misleading.

| |
|---|
| Signature |
| Name (printed) |
| Position |
| Date |

**By endorsing the REF, the proponent confirms that the information in the REF is accurate and adequate to ensure that all potential impacts of the activity can be identified.**

| |
|---|
| Signature |
| Name (printed) |
| Position |
| Date |

Seal (if signing under seal):

### Next steps

Submit the signed REF to the relevant NPWS Area Office, requesting determination of the REF and advice on when approval for the works may be forthcoming.

# 15. More information

- Aboriginal cultural heritage
- Coal Mine Subsidence Compensation Act 2017
- Construction assessment procedures
- Environmental Planning and Assessment Act 1979
- Environmental Planning and Assessment Regulation 2021
- Erosion and sediment control on unsealed roads field guide
- Indigenous land-use agreements
- National Native Title Tribunal
- National Parks and Wildlife Act 1974
- National Parks and Wildlife Regulation 2019
- Parks Eco Pass program for commercial tour operators
- Protection of the Environment Operations Act 1997
- Threatened species test of significance
- Transport & Infrastructure SEPP

# Appendix A: Threatened species tests of significance

## Species and communities listed under the *Biodiversity Conservation Act 2016*

### A.1 Assessment pathway

Under the *Biodiversity Conservation Act 2016* (BC Act) and Biodiversity Conservation Regulation 2017 (BC Regulation), Part 5 developments under the *Environmental Planning and Assessment Act 1979* (EP&A Act) are not required to enter into the Biodiversity Offsets Scheme (BOS) as this is an optional assessment pathway.

Given that assessment under the BOS is not required for Part 5 proposals, a test of significance has been carried out to assess the potential impacts of the proposal on threatened species and ecological communities.

### A.2 Test of significance

The test of significance is prescribed in Part 7, Division 1, s 7.2 of the BC Act. The purpose of the test of significance is to determine whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats.

If it is determined that a development or activity will have a significant effect, a Biodiversity Development Assessment Report will be required if the proponent so elects, or if not, a Species Impact Statement must be prepared.

The test of significance has been prepared in consideration of the *Threatened Species Test of Significance Guidelines*.

#### A.2.1 Entities to be assessed

Potential occurrence assessments have determined that the following species are considered to be potentially occurring in the study area and are subject to the test of significance:

- wallum froglet (*Crinia tinnula*)
- fork-tailed swift (*Apus pacificus*)
- white-throated needletail (*Hirundapus caudacutus*)
- powerful owl (*Ninox strenua*)
- masked owl (*Tyto novaehollandiae*)
- koala (*Phascolarctos cinereus*)
- squirrel glider (*Petaurus norfolcensis*)
- grey-headed flying-fox (*Pteropus poliocephalus*)
- common blossom-bat (*Syconycteris australis*)
- little bent-winged bat (*Miniopterus australis*)
- large bent-winged bat (*Miniopterus orianae oceanensis*)
- eastern coastal free-tailed bat (*Micronomus norfolkensis*)
- greater broad-nosed bat (*Scoteanax rueppellii*)
- yellow-bellied sheathtail-bat (*Saccolaimus flaviventris*)

### A.2.2 Responses

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

The proposal is to revitalise the Point Plomer precinct as per the plans attached in Appendix D, and would involve clearing approximately 0.2 ha of remnant swamp sclerophyll forest. Several low-lying parts of the campground containing introduced grassland are proposed to be filled. In addition, several planted shrubs are proposed to be removed/transplanted; however, approximately 5,000 new trees would be planted within the study area and adjacent lands.

There are several koala food trees across the site and these would be retained. No hollow logs or hollow-bearing trees would be affected; thus impacts on the subject species would be minimal. The 0.2 ha of remnant swamp sclerophyll forest is considered suitable foraging habitat for several listed threatened species including the wallum froglet, squirrel glider, grey-headed flying-fox and common blossom-bat; however, the clearing is a small patch of the much larger extent of suitable habitat adjacent to the site (Limeburners Creek National Park). The entire subject site is considered a very small area of fly-over or foraging habitat for the fork-tailed swift, white-throated needletail, powerful owl, masked owl, little bent-winged bat, large bent-winged bat, eastern coastal free-tail bat, greater broad-nosed bat and yellow-bellied sheathtail-bat.

There would also be some minor indirect impacts during construction, such as increased noise and human presence that may temporarily discourage some species from foraging on the site.

In the context of the above and the small extent of the proposed impacts, the works would not place a viable population of the subject species at risk of extinction.

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

- **i is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**
- **ii is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

The remnant swamp sclerophyll forest is not considered to qualify as an endangered ecological community (EEC), as the soils comprise Quaternary dune sands.

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

- **i the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity**
- **ii whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity**
- **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**

Habitat proposed to be modified comprises approximately 0.2 ha of remnant swamp sclerophyll forest, areas of introduced grassland, and native plantings with marginal habitat value as part of a much larger extent of habitat within Limeburners Creek National Park.

The habitat within the site represents a small portion of the habitat available to the subject species in the site and study area and is unlikely to be of any particular importance to threatened species.

The site offers potential habitat for several threatened fauna species; however, given the extent of modification and limitations of the site habitats, these species would be reliant on adjacent and nearby habitats to fulfil their lifecycle requirements and the site would not be of any key importance.

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

The proposed development would not directly or indirectly affect an area of outstanding biodiversity value.

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

A key threatening process (KTP) is defined as a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities.

The following table lists the relevant KTPs under the BC Act and whether the proposed activity is recognised as likely to affect each process.

| KTP | Extent/manner which proposal affects KTP | Mitigatable? |
|---|---|---|
| Anthropogenic climate change | Use of fossil fuels in plant and machinery | No alternatives available |
| Clearing of native vegetation | The proposal would involve clearing of approximately 0.2 ha of remnant swamp sclerophyll forest | No, however, vegetation removal would be minimised as much as practicable |
| Infection of frogs by amphibian chytrid causing the disease chytridiomycosis | Potential spread of amphibian chytrid fungus to local frog populations | Yes – chytrid hygiene protocols to be followed |
| Infection of native plants by *Phytophthora cinnamomi* | Potential spread of *Phytophthora cinnamomic* to local native plants | Yes – *Phytophthora* hygiene protocols to be followed |
| Introduction and establishment of exotic rust fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae | Potential spread of myrtle rust to local Myrtaceae plants | Yes – myrtle rust hygiene protocols to be followed |
| Invasion and establishment of exotic vines and scramblers | Currently present. Risk of spread in disturbance areas | Yes – weed control recommended to reduce potential for spread |
| Invasion of native plant communities by bitou bush and boneseed | Bitou bush is currently present in low numbers within the study area. The proposal would not increase the occurrence of this weed | Yes – weed control recommended to reduce potential for spread |
| Invasion, establishment and spread of lantana (*Lantana camara* L. *sens. lat*) | Currently present. Risk of spread in disturbance areas | Yes – weed control recommended to reduce potential for spread |
| Invasion of native plant communities by exotic perennial grasses | Thinning vegetation would increase light and potentially lead to weed invasion | Yes – sites to be monitored for weed establishment and controlled where necessary |
| Loss of hollow-bearing trees | The proposal would not remove any hollow-bearing trees or larger trees | Yes – larger trees would be preferentially avoided through sensitive routing of the new entrance road |
| Removal of dead wood and dead trees | The proposal has some potential to impact on dead wood | Yes – any timber would be placed into adjacent remnant swamp sclerophyll forest |

## Species and communities listed under the *Fisheries Management Act 1994*

Not applicable

## Species and communities listed under the *Environment Protection and Biodiversity Conservation Act 1999*

### A.3 Assessment summary

The provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) require determination of whether the proposal has, will or is likely to have a significant impact on a matter of national environmental significance (MNES). These matters are listed and addressed in summary as follows:

| Category | Relevance | Significant impact likely? |
|---|---|---|
| **World Heritage Properties** | The site is not listed as a World Heritage Area | NA |
| **National Heritage Places** | The site is not listed as a National Heritage Place | NA |
| **Wetlands of International Importance (Ramsar)** | The site does not contain important wetlands | NA |
| **Great Barrier Reef Marine Park** | The proposal does not impact the Great Barrier Reef Marine Park | NA |
| **Commonwealth Marine Area** | The site is not within a Commonwealth Marine Area | NA |
| **Listed TECs** | Coastal Swamp Sclerophyll Forests of South-eastern Australia. The remnant swamp sclerophyll forest impacted by the proposed new entrance road broadly aligns with this EPBC Act TEC. The impact of the TEC is approximately 0.2 ha and is therefore negligible.<br>No other TECs are present | No |
| **Listed threatened species** | The grey-headed flying-fox (vulnerable) and white-throated needletail (vulnerable) are considered potential occurrences in the study area | No threatened species are likely to be significantly impacted by the proposal, as detailed below |
| **Listed migratory species** | Several migratory birds are considered potential occurrences in the study area | No migratory species are likely to be significantly impacted by the proposal, as detailed below |
| **Nuclear actions** | The proposal is not a nuclear action | N/A |
| **A water resource, in relation to coal seam gas development and large coalmining development** | The proposal is not a mining development | N/A |

## A.4 Protected species assessments

The following EPBC Act threatened species are considered to potentially occur within the reserve:

| Species | EPBC Act status |
|---|---|
| Koala (*Phascolarctos cinereus*) | Endangered |
| Grey-headed flying-fox (*Pteropus poliocephalus*) | Vulnerable |
| White-throated needletail (*Hirundapus caudacutus*) | Vulnerable |

### Assessment of significance – koala: important population assessment

An *important population* is one that is necessary for a species' long-term recovery and survival. This includes such populations as:

- key populations either for breeding or dispersal
- populations that are necessary for maintaining genetic diversity
- populations that are near the limit of the species' range.

The koala population potentially utilising the development site is not considered to represent an *important population* of this species. There is one record of koala within 1 km of the site and there is potential for a low-density population to utilise suitable habitat and koala feed trees in the site; however, no feed trees are to be removed.

#### *Significant impact criteria*

An action is likely to have a significant impact on a species if there is a real chance or possibility that it will:

| Significant impact criteria | Details |
|---|---|
| • lead to a long-term decrease in the size of an important population of a species | The proposal impacts a small area of swamp sclerophyll forest; however, no koala feed trees are proposed to be removed. As such, the proposal would not have any detectable impacts on this species. |
| • reduce the area of occupancy of an important population | The proposal would thus not lead to a long-term decrease in the size of an important population. |
| • fragment an existing important population into 2 or more populations | The proposed development would not impact on an important population of koala. A small area of habitat is proposed to be impacted, though no koala feed trees would be removed. The subject site is small relative to the area of occupancy, which is measured in terms of several hectares. Consequently, the proposal would not reduce the area of occupancy of the important population. |
| • adversely affect habitat critical to the survival of a species | Despite the proposal involving a new entrance road, vehicle movements would be similar to existing conditions and therefore the proposal would not increase the current level of fragmentation or create barriers to movement. The koala is also a relatively mobile species, capable of crossing human-modified habitat. The proposal would therefore offer no barrier to movement; thus, it would not fragment an existing important population. |
| • disrupt the breeding cycle of an important population | The vegetation on site is not considered critical habitat for the koala. Post-development, the site and other habitats in the locality would retain the potential to support this species, hence helping support the viability of the local population. |

| Significant impact criteria | Details |
|---|---|
| • modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline | The habitat in the site does not contain an important population of this species and does not represent potential breeding habitat. The works would not be capable of disrupting the breeding cycle of the koala. |
| • result in invasive species, that are harmful (by competition, modification of habitat, or predation) to a vulnerable species, becoming established in the vulnerable species' habitat | The degree of possible vegetation loss imposed by the proposed development is not significant enough to affect a local population of the koala to the point that it could cause a decline of the species. |
| • introduce a disease that may cause a species to decline | No new disease that affects the koala is likely to be introduced as a direct result of the proposal. |
| • interfere substantially with the recovery of the species | The works would be unlikely to interfere with the recovery of this species. No threats to this species will be introduced as a result of the proposal. |
| **Resulting impact** | **No significant impact** |

The above assessment has determined that the proposal is not likely to have a significant impact on the subject threatened flora or fauna species. Referral to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) is not required for this species.

### Assessment of significance – grey-headed flying-fox: important population assessment

An *important population* is one that is necessary for a species' long-term recovery and survival. This includes such populations as:

- key populations either for breeding or dispersal
- populations that are necessary for maintaining genetic diversity
- populations that are near the limit of the species' range.

The grey-headed flying-fox population potentially utilising the development site is not considered to represent an important population of this species. No breeding colonies are located in the study area. The development site is also not located within the limit of this species' range.

#### *Significant impact criteria*

An action is likely to have a significant impact on a species if there is a real chance or possibility that it will:

| Significant impact criteria | Details |
|---|---|
| • lead to a long-term decrease in the size of an important population of a species | The proposal involves the removal of a few trees that provide a very small component of available forage habitat for the species. As such, the proposal would not have any detectable impacts on this species. |
| • reduce the area of occupancy of an important population | The study area is not a known roost for the grey-headed flying-fox and better quality alternative foraging habitat in the locality is evidently extensive. The proposal would thus not lead to a long-term decrease in the size of an important population. |
| • fragment an existing important population into 2 or more populations | The foraging habitat in the subject site is insignificant relative to the area of occupancy, which is measured in terms of hundreds of thousands of hectares. Consequently, the proposal would not reduce the area of occupancy of the important population. |

| Significant impact criteria | Details |
|---|---|
| • adversely affect habitat critical to the survival of a species | The grey-headed flying-fox is highly mobile and known to be capable of crossing human-modified habitat. The proposal would offer no barrier to movement; thus, it will not fragment an existing important population. |
| • disrupt the breeding cycle of an important population | The vegetation on site is not considered critical habitat for the grey-headed flying-fox. Post-development, the site and other habitats in the locality would retain the potential to support this species, hence helping support the viability of the local population. |
| • modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline | The habitat in the site does not contain an important population of this species and does not represent potential breeding habitat. The works would not be capable of disrupting the breeding cycle of the grey-headed flying-fox. |
| • result in invasive species, that are harmful (by competition, modification of habitat, or predation) to a vulnerable species, becoming established in the vulnerable species' habitat | The degree of possible vegetation loss imposed by the proposed development is not significant enough to affect a local population of the grey-headed flying-fox to the point that it could cause a decline of the species. |
| • introduce a disease that may cause a species to decline | No new disease that affects the grey-headed flying-fox is likely to be introduced as a direct result of the proposal. |
| • interfere substantially with the recovery of the species | The works would be unlikely to interfere with the recovery of this species. No threats to this species will be introduced as a result of the proposal. |
| **Resulting impact** | **No significant impact** |

The above assessment has determined that the proposal is not likely to have a significant impact on the grey-headed flying-fox. Referral to DCCEEW is not required for this species.

## Assessment of significance – white-throated needletail: important population assessment

### *Significant impact criteria*

An action is likely to have a significant impact on a species if there is a real chance or possibility that it will:

| Significant impact criteria | Details |
|---|---|
| • lead to a long-term decrease in the size of an important population of a species | This species was not detected on site during surveys however, the site and wider area offers potentially suitable habitat. The white-throated needletail is an aerial forager, and the works would be unlikely to negatively impact this species. The works would therefore be unlikely to lead to a decrease of an important population. |
| • reduce the area of occupancy of an important population | The modification of habitat on site would not reduce the area of occupancy of this species given it is highly mobile and forages over large expanses of habitat. |
| • fragment an existing important population into 2 or more populations | The white-throated needletail is predominately an aerial species and highly mobile. The proposal would offer no barrier to movement; thus, it would not fragment an existing important population. |

| Significant impact criteria | Details |
|---|---|
| • adversely affect habitat critical to the survival of a species | The vegetation on site is not considered critical habitat for the white-throated needletail. Post-development, the remainder of the site and other habitats in the locality would retain the potential to support this species, hence helping support the viability of the local population. |
| • disrupt the breeding cycle of an important population | The white-throated needletail is a migratory species and does not breed in Australia. The removal of this habitat would hence not be capable of disrupting the breeding cycle of the species. |
| • modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline | The degree of possible vegetation loss imposed by the works is not significant enough to affect a local population of the white-throated needletail to the point that it could cause a decline of the species. |
| • result in invasive species, that are harmful (by competition, modification of habitat, or predation) to a Vulnerable species, becoming established in the Vulnerable species' habitat | No new species that affects the white-throated needletail is likely to be introduced as a direct result of the proposal. |
| • introduce a disease that may cause a species to decline | No disease that poses a potential risk to this species is likely to be introduced to the site. |
| • interfere substantially with the recovery of the species | The works would be unlikely to interfere with the recovery of this species. No threats to this species will be introduced as a result of the proposal. |
| **Resulting impact** | **No significant impact** |

The above assessment has determined that the proposal is not likely to have a significant impact on the white-throated needletail. Referral to DCCEEW is not required for this species.

## A.5 Threatened ecological communities

The southern portion of the proposed activity is considered to qualify as the nationally listed threatened ecological community (TEC) – Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland. The following significance assessment has been conducted to determine the impacts to this TEC.

### Significance assessment – Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland

An action is likely to have a significant impact on an ecological community if there is a real chance or possibility that it will:

| Significant impact criteria | Details |
|---|---|
| • reduce the extent of an ecological community | The proposal involves the removal of 0.2 ha of swamp sclerophyll forest. This is however, considered to be a very small extent of the TEC, particularly in the context of large areas of this TEC in adjacent Limeburners Creek National Park. |
| • fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines | The proposal would cause some fragmentation in a very small extent of this TEC. |

| Significant impact criteria | Details |
|---|---|
| • adversely affect habitat critical to the survival of an ecological community | The proposal does not affect any habitat critical to the survival of the community. |
| • modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns | The proposal has the potential to impact hydrology and stormwater patterns in the study area, and ameliorative measures will be required to ensure this does not occur. There may be minor sedimentation as a result of construction works upslope from the community; however, this would be minimal provided adequate controls are established, and will cease post-construction. |
| • cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting | The proposal has minor potential to lead to the further spread of exotic weeds in the TEC during the construction phase; however, it is not expected that this would lead to a decline or loss of functionally important species. |
| • cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:<br>○ assisting invasive species, that are harmful to the listed ecological community, to become established, or<br>○ causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community | The disturbed edges of the community have existing weed issues. Weed control and ongoing maintenance of the community is recommended to reduce the potential for invasions and further spread of existing weeds.<br>Erosion and sedimentation controls would be established to reduce any sediment laden run-off during construction. |
| • interfere with the recovery of an ecological community | Given the minor extent of vegetation removal required and mitigation measures proposed, the works are unlikely to interfere with the recovery of the community. |
| **Conclusion** | **Unlikely to result in a significant impact** |

## A.6 Migratory species

Only one migratory species is considered to be a potential occurrence in the study area – the white-throated needletail (*Hirundapus caudacutus*).

An assessment of significance of the proposal on the white-throated needletail is provided in Section A.4.

# Appendix B: Ecological assessment for Point Plomer campground upgrade

wolfpeak

## Ecological Assessment for Point Plomer Campground Upgrade

NATIONAL PARKS AND WILDLIFE SERVICE

NOVEMBER 2022

wolfpeak.com.au

## Revision History

| Revision | Date | Prepared By | Reviewed By | Description |
|---|---|---|---|---|
| 1 | 18/08/2022 | Antony von Chrismar | Will Steggall | Draft Report |
| 2 | 11/11/2022 | Antony von Chrismar | Will Steggall | Final Report |

## Authorisation

| Author name | Antony von Chrismar | Reviewer / approver name | Will Steggall |
|---|---|---|---|
| Author position | Senior Ecologist | Review position | Senior Ecologist |
| Author signature |  | Reviewer / approver signature |  |
| Date | 11/11/2022 | Date | 11/11/2022 |

### Disclaimer

wolfpeak

# CONTENTS

# Executive Summary

The site was assessed in accordance with the requirements of the NSW *Biodiversity Conservation Act 2016*, *Biodiversity Conservation Regulation 2017* (BC Act) and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC) - Matters of National Environmental Significance (MNES).

## Proposed Works

The proposal is to upgrade the Point Plomer Campground, involving the filling of low-lying campsites, construction of a new site office and shop and construction of a new entry road. This will be assessed under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This will require removing/transplanting several small planted shrubs and clearing of remnant swamp sclerophyll forest to the south of the existing campground.

## Survey Results

A site survey was carried out on 3 June and 16 August 2022. The subject site consists of mostly grassland used for camp sites and a small strip (0.2ha) of remnant swamp sclerophyll forest to the south of the existing campground.

Although the site does contain swamp sclerophyll forest, this vegetation community on the site is not considered to be the BC Act listed Endangered Ecological Community (EEC), *Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions*. This conclusion was made as the site is not consistent with the NSW Scientific Committee Determination (SCD) for the EEC relating to landform/landscape position and soils – i.e. the site is on a coastal sand plain/sand dune system (eSpade 2022) not a coastal floodplain and occurs on sand not on humic clays loams and sandy loams. The swamp sclerophyll forest on site is however considered to be consistent with the EPBC Act listed TEC *Coastal swamp sclerophyll forest of NSW and South East Queensland*.

No threatened flora or fauna species were found on site during surveys; however, 14 threatened fauna species were found to have at least a low potential to occur within the study area.

## Impact of the Proposal

The works will require the removal of a narrow strip of remnant swamp sclerophyll forest to the south of the existing campground as well as removal/transplanting of several native planted shrubs. Several low-lying areas within the campground will also be filled. No other vegetation will be disturbed.

There is potential for the works to result in indirect impacts on adjoining vegetation or fauna species utilising the site. These largely relate to weed invasion, erosion and sedimentation and increased noise at the time of works. Specific mitigation measures are recommended to reduce the potential for indirect impacts.

## Legislative Compliance

**State**

*Koala Habitat Protection SEPP 2020:* Assessment of the proposal as per the Koala Habitat Protection SEPP is not required for Part 5 assessments.

*Coastal Management SEPP 2018:* A large area of Coastal Wetland is mapped adjacent to the site. The project has been assessed for potential indirect impacts on the adjoining wetland.

*Biodiversity Conservation Act and Regulation:* The potentially occurring species have been assessed as per the Test of Significance. This has determined that the proposal will not result in a significant effect on listed species or ecological communities, or their habitats.

**Federal**

Assessment under the EPBC Act MNES determined that the impact of the proposal on MNES was unlikely to be significant. Therefore, referral to Department of Agriculture, Water and the Environment (DAWE) for approval is not required.

# 1. BACKGROUND INFORMATION

## 1.1 Site Location

The subject site is within Point Plomer campground, Point Plomer Road, Point Plomer (Figure 1). Land adjoining the site comprises National Park estate, coastal beaches and headlands to the north and east. Aerial imagery and photos of the subject site are displayed in Photos 1-3.

The subject site is defined as the area of land directly affected by the works (the impact footprint). The study area is land within 20 metres of the subject site. The locality is land within a ten-kilometre radius of the site.

## 1.2 The Proposed Activity

The proposal is to upgrade the campground by filling low-lying parts of the campground, including the road and several camp sites; building a new office and shop; and constructing a new entry road. Two box culverts will be installed under Point Plomer road to restore the natural flow of water from the east of Point Plomer road into the wetlands located to the west of the road. A layout plan is shown in Figure 1.

There will be minimal impact within the existing campground and works will primarily involve filling of disturbed grassland and some thinning of planted shrubs and trees in the vicinity of the sites 39 to 51. The new entry road is proposed to be constructed through remnant vegetation to the south of the existing campground and will require removal of up to 0.2ha of native vegetation.

Extensive revegetation and landscaping will be undertaken around the campground and will include planting of 5,000 new native plants.

## 1.3 Soils, Geology and Topography

The site is flat and low-lying, located just above sea level with a headland to the east reaching up to 30m in elevation. The southern portion of the site is particularly low lying and was inundated with water during the first site assessment (June 2022), though water had infiltrated by the time of the second site visit in August 2022.

The underlying soils within the subject site are generally modified where the camp ground and infrastructure exist. Soils are of the North Shore soil landscape (9435ns) and elements of Plomer Road soil landscape (9435pr), comprising Quaternary dune sands, deep unconsolidated Holocene siliceous dune sand forming barrier dune and backplain (eSpade 2022).

**Photo 1: Aerial view of works area**

**Photo 2: Strip of planted trees and shrubs to be thinned**

**Photo 3: Remnant vegetation within the proposed new entry road footprint**

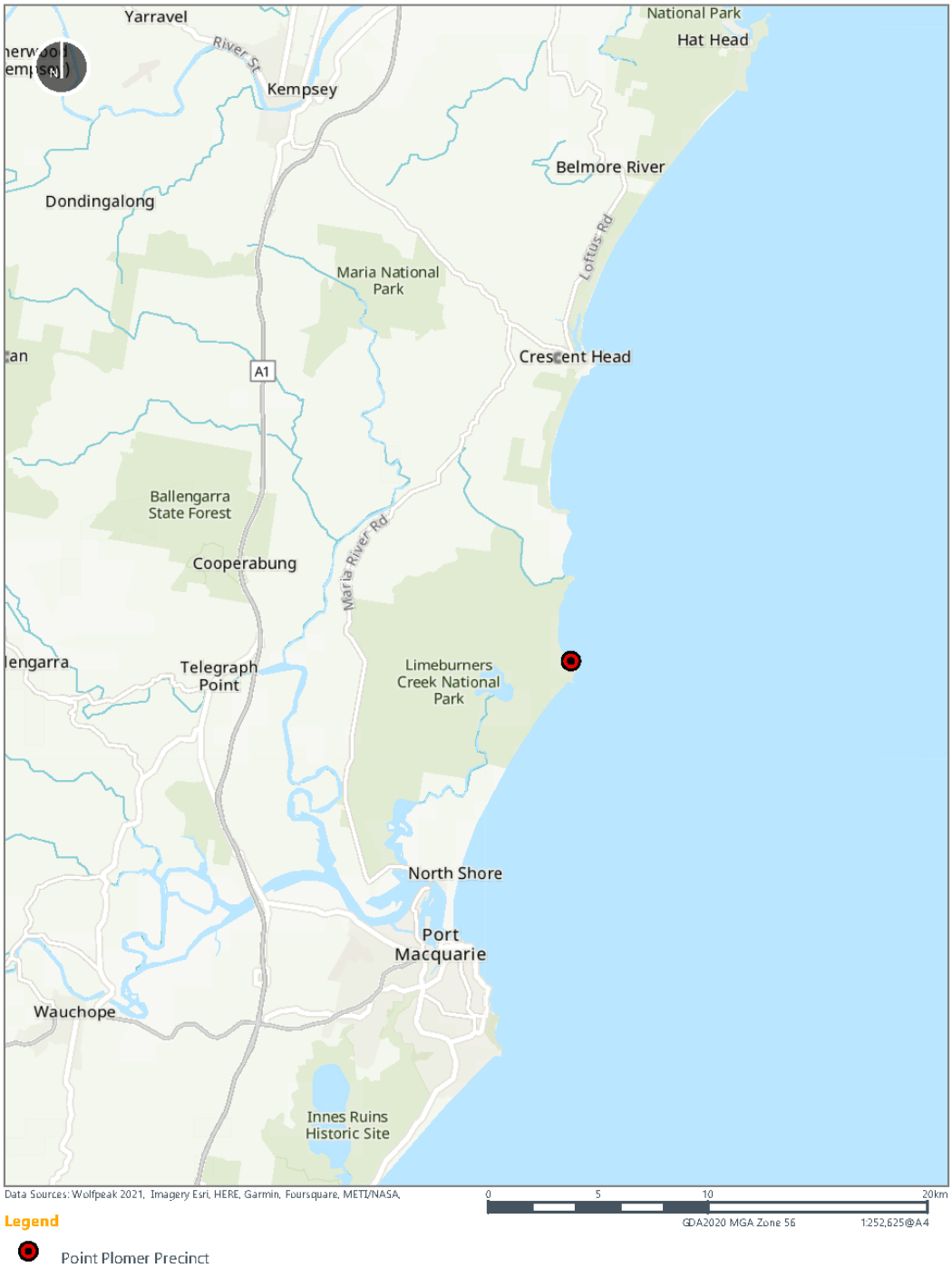


**Figure 1** | Location

# 2. METHODS

## 2.1 Desktop Study and Literature Review

A desktop study was carried out prior to the field survey to gather relevant information and data. The following databases and Geographic Information System (GIS) layers were searched/obtained:

- Department of Agriculture, Water and Environment Protected Matters Search Tool (DCCEEW 2022a);
- NSW BioNet/Atlas of Wildlife (DPE 2022a);
- NSW Threatened Biodiversity Data Collection (DPE 2022b);
- Coastal Management SEPP Map Viewer (DPE 2022); and
- Coastal Quaternary Geology – North and South Coast of NSW digital data layer (Troedson & Hashimoto 2008).

## 2.2 Flora Survey

The flora survey consisted of the following:

- Identification, description and mapping of the vegetation communities on the site.
- Searches for threatened species listed under the BC Act and EPBC Act undertaken in accordance with the NSW Guide to Surveying Threatened Plants (OEH 2016).
- Identification, mapping and condition assessment of any Endangered Ecological Communities listed under the BC Act, and EPBC Act.

Flora surveys were carried out by two of WolfPeak's Senior Ecologists on the 3 June and 17 August 2022.

### 2.2.1 Vegetation Classification and Mapping

Vegetation was sampled by walking transects over the total extent of the subject site as per Cropper (1993). Due to the limited extent of vegetation, the entire site was traversed through random meander. Two flora survey transects were also completed and allowed a more comprehensive inventory of the flora species present (Figure 2).

The vegetation communities were described from data collected during random meander. The site vegetation communities are classified as per the NSW Plant Community Type (PCT) Classification.

Identification of EECs was based on the data collected in the survey and review of the relevant listings on the Department of Planning, Industry and Environment (DPIE) website (www.environment.nsw.gov.au) and Department of Agriculture, Water and Environment MNES SPRAT website (DAWE 2021).

Plant species were identified to species or subspecies level and nomenclature conforms to that currently recognised by the Royal Botanic Gardens via PlantNET (Royal Botanic Gardens 2022).

### 2.2.2 Threatened Flora Species

#### 2.2.2.1 Searches

Searches for the locally recorded threatened flora were carried out across the entire site.

Threatened plant searches consisted of undertaking walking transects throughout the subject site targeting habitat most likely to support threatened flora. Opportunistic searches for threatened flora species were also undertaken during other activities.

### 2.2.3 Potential Occurrence Assessment

Potential occurrence assessment of threatened flora species is provided in Appendix 2. This section assesses threatened species for their potential to occur on site.


**Figure 1** | Site Location

## 2.3 Fauna Survey

### 2.3.1 Habitat Evaluation

Habitats on and adjacent to the subject site were defined and assessed according to parameters such as:

- Structural and floristic characteristics of the vegetation
- Degree and extent of disturbance
- Availability of water
- Size and abundance of tree hollows and fallen timber
- Surface rocks and outcrops
- Vegetation connectivity
- Presence of mistletoe, nectar, gum, seed and sap sources.

### 2.3.2 Secondary Evidence Searches

Habitat searches involved inspection and assessment of potentially suitable habits for potentially occurring threatened species: Searches generally involved:

- Inspection under fallen timber, rocks and debris
- Inspection of dense vegetation, aquatic habitats and leaf litter for frogs and reptiles
- Inspection of trees for Koalas and claw markings
- Searches for Glider sap incisions
- Searches for nests and dreys
- Searches for scats, owl regurgitation pellets, tracks and feeding signs

### 2.3.3 Direct Observation

This involved passive and active observation of any fauna on or directly adjacent to the subject site during survey activities. Birds and reptiles were the main focus of the surveys. Searches for Koalas in the crowns of trees over the site were also undertaken. A total of 15 person hours was spent on this activity over two days in conjunction with the overall site survey.

### 2.3.4 Hollow-bearing Tree and Koala Food Tree Survey

All hollow-bearing trees (HBTs) within and adjoining the subject site were located and recorded via a GPS enabled tablet. Any potential hollows found were inspected for signs of usage and assessed for potential habitat value.

### 2.3.5 Survey Limitations

Given the limited timeframe of the site survey, it can only provide a snapshot of the full species assemblages that may be present on the site throughout the year. Some species only occur in particular seasons or climatic conditions and the detection on such species is recognised as a limitation.

The survey was undertaken in Winter which is a period of low fauna activity. The survey timing is not considered to be a limitation on the detection of threatened flora species.

To counter any limitations, qualitative and quantitative habitat evaluation was used as well as a standard ecological field survey to assess the site's significance to threatened species.

# 3. RESULTS

## 3.1 Desktop Search Results

### 3.1.1 Locally Recorded Threatened Species

The following table lists the threatened flora and fauna species identified in database and literature searches of the locality.

**Table 1: Locally recorded threatened species**

| Common Name | Scientific Name | BC Act | EPBC Act | Source |
|---|---|---|---|---|
| Flora | | | | |
| White-flowered Wax Plant | *Cynanchum elegans* | E | E | NSW Bionet |
| Native Guava | *Rhodomyrtus psidioides* | CE | - | NSW Bionet |
| Scented Acronychia | *Acronychia littoralis* | E | E | NSW Bionet |
| Silverbush | *Sophora tomentosa* | E | - | NSW Bionet |
| Amphibians | | | | |
| Wallum Froglet | *Crinia tinnula* | V | - | NSW Bionet |
| Reptiles | | | | |
| Loggerhead Turtle | *Caretta* | E | E | NSW Bionet |
| Birds | | | | |
| Blue-billed Duck | *Oxyura australis* | V | | NSW Bionet |
| Wompoo Fruit-Dove | *Ptilinopus magnificus* | V | | NSW Bionet |
| Fork-tailed Swift | *Apus pacificus* | P | M | NSW Bionet |
| White-throated Needletail | *Hirundapus caudacutus* | P | V | NSW Bionet |
| Sooty Shearwater | *Ardenna grisea* | P | M | NSW Bionet |
| Wedge-tailed Shearwater | *Ardenna pacifica* | P | M | NSW Bionet |
| Short-tailed Shearwater | *Ardenna tenuirostris* | P | M | NSW Bionet |
| Masked Booby | *Sula dactylatra* | V | M | NSW Bionet |

| Common Name | Scientific Name | BC Act | EPBC Act | Source |
|---|---|---|---|---|
| Black-necked Stork | *Ephippiorhynchus asiaticus* | E1 | | NSW Bionet |
| White-bellied Sea-Eagle | *Haliaeetus leucogaster* | V | | NSW Bionet |
| Square-tailed Kite | ^^*Lophoictinia isura* | V | | NSW Bionet |
| Eastern Osprey | ^^*Pandion cristatus* | V | | NSW Bionet |
| Sooty Oystercatcher | *Haematopus fuliginosus* | V | | NSW Bionet |
| Pied Oystercatcher | *Haematopus longirostris* | E1 | | NSW Bionet |
| Common Sandpiper | *Actitis hypoleucos* | P | M | NSW Bionet |
| Sanderling | *Calidris alba* | V | M | NSW Bionet |
| Red-necked Stint | *Calidris ruficollis* | P | M | NSW Bionet |
| Broad-billed Sandpiper | *Limicola falcinellus* | V | M | NSW Bionet |
| Bar-tailed Godwit | *Limosa lapponica* | P | M | NSW Bionet |
| Eastern Curlew | *Numenius madagascariensis* | P | M | NSW Bionet |
| Wandering Tattler | *Tringa incana* | P | M | NSW Bionet |
| Little Tern | *Sternula albifrons* | E1 | M | NSW Bionet |
| Crested Tern | *Thalasseus bergii* | P | M | NSW Bionet |
| Glossy Black-Cockatoo | ^*Calyptorhynchus lathami* | V | | NSW Bionet |
| Swift Parrot | ^^*Lathamus discolor* | E1 | CE | NSW Bionet |
| Eastern Ground Parrot | ^^*Pezoporus wallicus wallicus* | V | | NSW Bionet |
| Powerful Owl | ^^*Ninox strenua* | V | | NSW Bionet |
| Eastern Grass Owl | ^^*Tyto longimembris* | V | | NSW Bionet |
| Masked Owl | ^^*Tyto novaehollandiae* | V | | NSW Bionet |

| Common Name | Scientific Name | BC Act | EPBC Act | Source |
|---|---|---|---|---|
| Brown Treecreeper (eastern subspecies) | *Climacteris picumnus victoriae* | V | | NSW Bionet |
| Regent Honeyeater | *Anthochaera phrygia* | E4 | CE | NSW Bionet |
| Varied Sittella | *Daphoenositta chrysoptera* | V | | NSW Bionet |
| Barred Cuckoo-shrike | *Coracina lineata* | V | | NSW Bionet |
| Olive Whistler | *Pachycephala olivacea* | V | | NSW Bionet |
| Mammals | | | | |
| Spotted-tailed Quoll | *Dasyurus maculatus* | V,P | E | NSW Bionet |
| Brush-tailed Phascogale | *Phascogale tapoatafa* | V,P | | NSW Bionet |
| Koala | *Phascolarctos cinereus* | E1,P | E | NSW Bionet |
| Squirrel Glider | *Petaurus norfolcensis* | V,P | | NSW Bionet |
| Long-nosed Potoroo | *Potorous tridactylus* | V,P | V | NSW Bionet |
| Grey-headed Flying-fox | *Pteropus poliocephalus* | V,P | V | NSW Bionet |
| Common Blossom-bat | *Syconycteris australis* | V,P | | NSW Bionet |
| Southern Myotis | *Myotis macropus* | V,P | | NSW Bionet |
| Little Bent-winged Bat | *Miniopterus australis* | V,P | | NSW Bionet |
| Large Bent-winged Bat | *Miniopterus orianae oceanensis* | V,P | | NSW Bionet |
| Eastern Chestnut Mouse | *Pseudomys gracilicaudatus* | V,P | | NSW Bionet |
| Australian Fur-seal | *Arctocephalus pusillus doriferus* | V,P | | NSW Bionet |
| Insects | | | | |
| Laced Fritillary | *Argynnis hyperbius* | E1 | CE | NSW Bionet |
| Key: Critically Endangered (CE), Endangered (E), Vulnerable (V), Migratory (M). | | | | |

### 3.1.2 Matters of National Environmental Significance

The results of the MNES search are provided in Section 7. The search was undertaken using a 10km search radius from the subject site. See Appendix 3 for the full report.

## 3.2 Flora Survey Results

### 3.2.1 Site Vegetation Communities

Vegetation within the study area is in varying condition states. The campground and infrastructure is highly disturbed and has been cleared in the past, while adjoining swamp forest is relatively intact.

A flora species list is provided in Appendix 1.

Tables 2-3 provide detailed descriptions of the vegetation communities identified on site. Figure 3 shows the extent of the vegetation communities.

#### 3.2.1.1 Swamp Sclerophyll Forest

**Table 2: Vegetation community description**

| | |
|---|---|
| **Vegetation Community** | Swamp Sclerophyll Forest |
| **NSW Plant Community Type (PCT)** | No 1064: Paperbark swamp forest of the coastal lowlands of the NSW North Coast Bioregion and Sydney Basin Bioregion |
| **EEC Status** | Not an EEC under BC Act – occurs on marine sand and not alluvial soils.<br>Considered analogous to the TEC *Coastal Swamp Sclerophyll Forest of NSW and SE QLD* under the EPBC Act. |
| **Location and Area** | Occurs to the south of the campground along the proposed new entry road alignment. |
| **Description** | Canopy:<br>Structure and Species: Species included Broad-leaved Paperbark *(Melaleuca quinquenervia*), Coast Banksia (Banksia integrifolia) and Red Ash (*Alphitonia excelsa*). Other trees that were rare on site include Hard Quandong (Elaeocarpus obovatus) and Corkwood (*Duboisia myoporoides*). Height ranges from 8-15m and cover is approximately 20%.<br><br>Understory:<br>Structure and Species: Species included Celery Wood (*Polyscias elegans*), Cheese Tree (*Glochidion ferdinandi*) and Coffee Bush (*Breynia oblongifolia*). Height ranges from 2-5m and cover is approximately 10-15%.<br><br>Shrub layer:<br>Structure and Species: Species recorded in this layer include Coastal Wattle (*Acacia longifolia subsp. sophorae)*, Bitou Bush (*Crysanthmoides monilifera*), Guioa (*Guioa semiglauca)*, Lantana (*Lantana camara*). Height ranges from 0.5-1.5m with 5% cover. |

| | |
|---|---|
| | Ground layer:<br>Structure and Species: A relatively dense ground layer of rushes and vines existed, with species in this layer including Spiney-headed Mat-rush (*Lomandra longifolia*), Giant Water Vine (*Cissus hypoglauca*), Lawyer Vine (*Smilax australis*), Blady Grass (*Imperata cylindrica*), Juncus sp., and Tall Saw Sedge (*Gahnia clarkei*). Height ranged from 0-1m and cover was 30%. |
| **Condition** | Sections of this vegetation were inundated at the time of the survey in June, though water had infiltrated by August. It is likely that Plomer Road presents a barrier to the surface flow of water east to west. The proposal involves the construction of two box culverts on Plomer Road to improve surface flow to the west. Although there are some weeds present on the edges of the Swamp Sclerophyll Forest, this vegetation is generally in good condition. |

**Photo 4: Swamp Sclerophyll Forest**

#### 3.2.1.2 Exotic grassland with landscape plantings

**Table 3: Vegetation community description**

| | |
|---|---|
| **Vegetation Community** | Exotic grassland with landscape plantings |
| **NSW Plant Community Type (PCT)** | NA |
| **EEC Status** | Not an EEC |
| **Location and Area** | Occurs in the existing camping sites |
| **Description** | Canopy:<br>Mostly absent with the exception of planted mounds with Green Bolly Gum (*Neolitsea australiensis*), Small-leaved Fig (*Ficus obliqua*),Tuckeroo *(Cupaniopsis anacardioides*), Celery Wood (*Polyscias elegans*), Coast Banksia (*Banksia integrifolia*) and Swamp Mahogany (*Eucalyptus robusta*).<br><br>Understory:<br>Red Ash (*Alphitonia excelsa*), Sandpaper Fig (*Ficus coronata*), Pandanus (*Pandanus tectorius var australianus*).<br><br>Shrub layer:<br>Lilly Pilly (*Acmena smithii*), Tuckeroo (*Cupaniopsis anarcardiodes*).<br><br>Ground layer:<br>Structure and Species: Consists mainly of exotic grasses and forbs including Couch (*Cynodon dactylon*), Wintergrass (*Poa annua*), Buffalo Grass (*Stenotaphrum secundatum*), White Clover (*Trifolium repens*). Is regularly mown and has a height of about 5-10cm. |
| **Condition** | This community is in a highly modified state and native plants have been planted rather than being remnant vegetation. |

**Photo 5: Modified campground vegetation**


**Figure 3** | Vegetation communities and EEC

### 3.2.2 Threatened Flora

#### 3.2.2.1 Site Survey and Potential Occurrences

No threatened flora species were detected on site during the field survey.

Searches of relevant literature and databases (DPE 2022) found records of four threatened flora species in the locality. The Protected Matters Search Tool also produced a list of additional potential occurrences in the locality. These are assessed for their potential to occur on site in Appendix 2.

### 3.2.3 Endangered Ecological Communities and Populations

Review of the site vegetation communities has determined that the swamp sclerophyll forest within in the south of the site does not qualify as the BC Act listed EEC *Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions*. Whilst it does meet some of the floristic criteria of this EEC, the site is not located on a coastal floodplain or alluvial soils – it occurs on Quaternary dune sands.

The swamp sclerophyll forest is however considered to qualify as the EPBC Act TEC *Coastal Swamp Sclerophyll Forest of NSW and South East Queensland*. Impacts to this EPBC Act listed community have been assessed in section 7.3.

### 3.2.4 Biosecurity Act Weeds

Weed species recorded on the site which are priority weeds for the North Coast Region and have obligations under the Biosecurity Act and/or are Weeds of National Environmental Significance (WoNS) are listed within Table 4. These weeds are recommended to be treated with herbicide and removed separately prior to clearing works on the site.

A number of common environmental weeds such as Stinking Roger (*Tagetes minuta*), Lantana (*Lantana camara*), Ochna (*Ochna serrulata*), Panic Veldtgrass (*Ehrhata erecta*), Black-berry Nightshade (*Solanum nigrum*) and White Clover (*Trifolium repens*) were recorded within the site.

**Table 4: Biosecurity Act listed weeds**

| Species | Biosecurity Duty | WoNS listed? | Location and relative abundance |
|---|---|---|---|
| Bitou Bush (*Chrysanthemoides monilifera*) | Land managers reduce impacts from the plant on priority assets<br>Land managers mitigate the risk of the plant spreading from their land to neighbouring properties that are not currently infested with the weed or within the biosecurity zone | Yes | Uncommon. |

## 3.3 Fauna and Habitat Survey Results

### 3.3.1 Habitat Evaluation

The following table summarises the survey findings for habitat within the study site and the constraints/opportunities it provides for potentially occurring threatened species.

**Table 5: Habitat constraints/opportunities for threatened species**

| Habitat component | Site values | Threatened species values |
|---|---|---|
| **Aquatic** | The southern portion of the site where the Swamp Sclerophyll Forest is present contains areas of periodically inundated water. This is a temporary habitat feature, with recent prolonged rainfall periods as well as the damming effect of Plomer Road. | This portion of the site offers some temporary breeding habitat for Wallum Froglet, though none were detected on site. |

| | | |
|---|---|---|
| **Groundcover** | Most of the site consists of a low cover of managed grassland. However, the exception is the southern portion of the site (Swamp Sclerophyll Forest), which contains low sedges and rushes. | No potential habitat for Long-nosed Potoroo, Common Planigale, New Holland Mouse or Eastern Chestnut Mouse, although adjoining habitats within the surrounding National Park may provide habitat for these species. No suitable foraging habitat for granivorous parrots. |
| **Logs and debris** | Absent. | No prey refuge or den options for Phascogale and Quoll. |
| **Hollows** | Absent, though may occur within greater study area. | Poor potential nesting and denning resources for small to medium hollow-obligate species. |
| **Flowering trees** | Flowering Broad-leaved Paperbark and Swamp Mahogany are present within the site, particularly in the southern portion of the site. A range of flowering trees are present within the study area which would provide a year-round nectar source. | Wider area contains potential nectar foraging sources for bird and mammal species. |
| **Sap sources** | Absent. | The southern portion of the site offers potential foraging habitat for Squirrel Glider though no denning resources are available within the site. |
| **Primary preferred Koala browse species** | Present – Swamp Mahogany. | No evidence of the Koalas was found, and they are unlikely to occur in the area. |
| **Allocasuarinas** | Absent. | No suitable habitat for Glossy Black Cockatoo. |
| **Fruiting species** | A few fruiting species were scattered throughout the study area, including Figs, Tuckeroo and Guioa. | Minor foraging resource in wider area for Grey- Headed Flying-Fox and threatened frugivorous birds. |
| **Caves, cliffs, overhangs, culverts, bridges** | Absent. | N/A |

| | | |
|---|---|---|
| **Corridors and habitat links** | Site directly adjoins Limeburners National Park and large areas of contiguous forest. | Site vegetation provides some connectivity for a variety of fauna species including birds, macropods and potentially arboreal species. |

### 3.3.2 Observed Fauna

The main fauna species detected during the survey consisted of common bird species including Lewin's Honeyeater, Golden Whistler, Rainbow Lorikeet. One Echidna was observed. No threatened fauna species were observed. Refer to Appendix 1 for fauna species list.

# 4. IMPACT ASSESSMENT

## 4.1 Direct Impacts

The proposal is to upgrade the Point Plomer campground, involving the filling of several low-lying parts of the site; removal/transplanting several planted native shrubs; and the removal of a narrow strip of remnant swamp sclerophyll forest for the proposed new entry road.

An estimated 0.2ha of remnant swamp sclerophyll forest is proposed to be removed for the proposed new entry road. The remaining impacts will be negligible as the planted native shrubs to be removed/transplanted will be replaced by 5,000 new native plantings within and near to the campground. All filling occurs within disturbed areas within the existing campground and are therefore negligible.

## 4.2 Indirect Impacts

The following potential indirect impacts may be associated with the proposal:

a) ***Injury/mortality during clearing:*** This impact will be mitigated through slow-drop felling of remnant trees and the presence of an ecologist during clearing.

b) ***Inadvertent impacts on retained or adjoining vegetation:*** If not properly demarcated and protected, it is possible that retained trees and vegetation on and adjacent to the works site could be impacted by vegetation management activities. Recommendations are provided to reduce this risk.

c) ***Noise and Vibration:*** The works will create noise and vibration during construction; however, this will only be temporary. Some fauna species may be discouraged from foraging on or adjacent to the site during construction.

d) ***Erosion and sedimentation:*** Potential for impacts on adjoining coastal wetland if erosion and sedimentation measures are not adequately constructed. The project will require thorough control measures to reduce sediment laden runoff entering the wetlands.

e) ***Weed invasion:*** Edges of the remnant swamp sclerophyll forest contain several weed species that have potential to encroach into new edges created from the new entry road. This potential indirect impact will need to be managed.

# 5. COASTAL MANAGEMENT SEPP

State Environmental Planning Policy (Coastal Management) 2018 (the Coastal SEPP) came into force on 03 April 2018. It was established as an integrated and co-ordinated approach to land-use planning in coastal zones. It repeals the State Environmental Planning Policy No 14 – Coastal Wetlands, State Environmental Planning Policy No 26 – Littoral Rainforests and the State Environmental Planning Policy No 71 – Coastal Protection.

The SEPP aims to be consistent with the objects of the Coastal Management Act 2016. It achieves this by:

1. Managing development in the coastal zone and protecting the environmental assets of the coast.
2. Establishing a framework for land use planning to aid decision-making in the coastal zone.
3. Mapping the 4 coastal management areas that comprise the NSW coastal zone.

The subject site borders onto a large area of mapped Coastal Wetland to the west. Figure 4 maps the location of this Coastal Wetland in relation to the proposed development layout. Part of the development footprint falls within the proximity zone of the Coastal Wetland. For developments within the proximity zone, the Coastal Management SEPP states that a consent authority must not grant development consent unless they are satisfied that the proposed development will not significantly impact on:

a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland, or

b) the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland.

An assessment of the development proposal against these matters is provided below.

## 5.1 Coastal Wetlands Assessment

A mapped Coastal Wetland occurs to the west of the site as shown in Figure 4. The wetland comprises Swamp Sclerophyll Forest. This mapped coastal wetland extends further west of the site towards Saltwater Lagoon.

The development will not have any direct impact on the coastal wetland, however development in close proximity has the potential to result in indirect impacts such as erosion and sedimentation, weed invasion, changed hydrology and polluted stormwater/runoff. This has the potential to degrade the area of Coastal wetland and lead to hydrological and floristic changes.

The proposal involves the construction of two box culverts on Plomer Road. This measure is proposed so that more natural surface and ground water flow/movement will occur between the eastern and western sides of Plomer Road, as currently the road is damming water.

To ensure indirect impacts on the Coastal Wetland are minimised, a number of specific recommendations are provided. These include provision of suitable erosion and sedimentation controls during clearing and earthworks, provision of a buffer area and adequate stormwater and

runoff design to ensure polluted runoff does not flow into the wetland and/or change the current hydrological regime. Provided that these measures are implemented and effective in minimizing potential indirect impacts, the proposed development is unlikely to lead to significant impacts on the integrity of the mapped coastal wetland.


**Figure 4** | Coastal Wetland SEPP

# 6. BIODIVERSITY CONSERVATION ACT 2016 ASSESSMENT

## 6.1 Assessment Pathway

Under the BC Act, Part 5 developments under the EP&A Act are not required to enter into the Biodiversity Offset Scheme (BOS) as this is an optional assessment pathway.

Given that assessment under the BOS is not required for Part 5 proposals, a test of significance has been carried out to assess the potential impacts of the proposal on threatened species and ecological communities.

## 6.2 Test of Significance

The Test of Significance is prescribed in Part 7, Division 1, Section 7.2 of the BC Act. The purpose of the Test of Significance is to determine whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats.

If it is determined that a development or activity will have a significant effect, a Biodiversity Development Assessment Report will be required.

The Test of Significance has been prepared in consideration of the *Threatened Species Test of Significance Guidelines* (OEH 2018).

### 6.2.1 Entities to be Assessed

The potential occurrence assessments in Appendix 2 have determined that the following species are considered to be potentially occurring in the study area and are subject to the Test of Significance:

- Wallum Froglet
- Fork-tailed Swift
- White-throated Needletail
- Powerful Owl
- Masked Owl
- Koala
- Squirrel Glider
- Grey-headed Flying Fox
- Common Blossom-bat
- Little Bent-winged Bat
- Large Bent-winged Bat
- Eastern Coastal Free-tail Bat
- Greater Broad-nosed Bat
- Yellow-bellied Sheathtail-bat

### 6.2.2 Responses

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

The proposal is to upgrade the Point Plomer campground and construct a new access road. The works will involve clearing approximately 0.2ha of remnant swamp sclerophyll forest. Several low-lying parts of the campground containing introduced grassland are proposed to be filled. In addition, several planted shrubs are proposed to be removed/transplanted, though some 5,000 new plants will be planted within the study area and adjacent lands.

There are a few Koala food trees in the site, though all of these are to be retained. No hollow logs or hollow-bearing trees will be affected, thus impacts on the subject species will be minimal. The 0.2ha of remnant swamp sclerophyll forest is considered suitable foraging habitat for several of the listed threatened species as a small patch of a much larger extent of suitable habitat adjacent to the site (Limeburners Creek National Park), including Wallum Froglet, Squirrel Glider, Grey-headed Flying-Fox and Common Blossum Bat. The entire subject site is considered a very small area of fly-over or foraging habitat for Fork-tailed Swift, White-throated Needletail, Powerful Owl, Masked Owl, Little Bent-winged Bat, Large Bent-winged Bat, Eastern Coastal Free-tail Bat, Greater Broad-nosed bat, and Yellow-bellied Sheathtail-bat.

There will also be some minor indirect impacts during construction such as increased noise and human presence and this may discourage some species from foraging on the site temporarily.

In the context of the above and the small extent of the proposed impacts, the works will not place a viable population of the subject species at risk of extinction.

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

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

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

The remnant swamp sclerophyll forest is not considered to qualify as an EEC, as the soils comprise Quaternary dune sands.

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

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

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

   (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.**

Habitat to be modified comprises approximately 0.2ha of remnant swamp sclerophyll forest and areas of introduced grassland and native plantings with marginal habitat value as part of a much larger extent of habitat within Limeburners Creek National Park.

The habitat within the site represents a small portion of the habitat available to the subject species in the site and study area and is unlikely to be of any particular importance to threatened species.

The site offers potential habitat for several threatened fauna species however given the extent of modification and limitations of the site habitats, these species would be reliant on adjacent and nearby habitats to fulfil their lifecycle requirements and the site would not be of any key importance.

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

The proposed development will not directly or indirectly affect an area of outstanding biodiversity value.

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

A Key Threatening Process (KTP) is defined as a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities.

The following table lists the relevant KTP's listed under the BC Act and whether the proposed activity is recognised a threatening process.

**Table 6: Key threatening processes**

| KTP | Extent/manner which proposal affects KTP | Mitigable? |
|---|---|---|
| Clearing of native vegetation | The proposal will involve clearing 0.2ha of remnant swamp sclerophyll forest | No |
| Invasion of native plant communities by bitou bush & boneseed | Bitou Bush is currently present in low numbers within the study area. The proposal will not increase the occurrence of this weed. | Yes Ongoing weed control recommended as part of NPWS weed management |
| Invasion, establishment and spread of Lantana (*Lantana camara* L. sens. lat) | Lantana is currently present in low numbers within the study area. The proposal will not increase the occurrence of this weed. | Yes Ongoing weed control recommended as part of NPWS weed management |
| Loss of Hollow-bearing Trees | The proposal will not involve removal of hollow-bearing trees and larger trees will be preferentially avoided through sensitive routing of the new entrance road | yes |
| Removal of dead wood and dead trees | The proposal has some potential to impact on dead wood, though any timber will be placed into adjacent remnant swamp sclerophyll forest. | yes |

| | | |
|---|---|---|
| Human induced climate change | Use of fossil fuels in plant during construction. | No options available. |
| Invasion of native plant communities by exotic perennial grasses | Currently present. | Neutral outcome. |
| Invasion, establishment and spread of Lantana (Lantana camara) | Currently present. Ground disturbance will increase potential for further spread. | Yes Ongoing weed control recommended as part of NPWS weed management |

# 7. EPBC ACT MNES ASSESSMENT

## 7.1 Assessment Summary

The provisions of the EPBC Act require determination of whether the proposal has, will or is likely to have a significant impact on a MNES. These matters are listed and addressed in summary as follows:

**Table 7: MNES Assessment summary**

| Category | Relevance | Significant Impact Likely? |
|---|---|---|
| World Heritage Properties | The site is not listed as a World Heritage area | N/A |
| National Heritage Places | The site is not listed as a National Heritage Place | N/A |
| Wetlands of International Importance | The site does not contain important wetlands | N/A |
| Great Barrier Reef Marine Park | The proposal does not affect the Great Barrier Reef Marine Park. | N/A |
| Commonwealth Marine Environment (CME) | The site is not within the CME. | N/A |
| Listed Threatened Ecological Communities | Coastal Swamp Sclerophyll Forests of South-eastern Australia. The remnant swamp sclerophyll forest impacted by the proposed new entrance road broadly aligns with this EPBC Act TEC. The impact on the TEC is 0.2ha and is therefore negligible.<br>No other TECs present. | No |
| Listed Threatened Species | The Grey-headed Flying Fox (Vulnerable), Koala (Endangered) and White-throated Needletail (Vulnerable) are considered potential occurrences in the study area. | No threatened species is likely to be significantly affected by the proposal as assessed below. |
| Listed Migratory Species | Several migratory birds are considered potential occurrences in the study area. | No Migratory species is likely to be significantly affected by the proposal as assessed below. |
| Nuclear Actions | The proposal is not a nuclear action | N/A |
| A water resource, in relation to coal seam gas development and large coal mining development | The proposal is not a mining development. | N/A |

## 7.2 Protected Species Assessments

The following EPBC Listed threatened species are considered to potentially occur on the site:

- Grey-headed Flying Fox
- White-throated Needletail
- Koala

An assessment of significance of the proposal on these species is provided in the following section.

### 7.2.1 Assessment of Significance – Koala

***Important Population Assessment***

An *important population* is one that is necessary for a species' long-term recovery and survival. This includes such populations as:

- Key populations either for breeding or dispersal;
- Populations that are necessary for maintaining genetic diversity; and/or
- Populations that are near the limit of the species range.

The Koala population potentially utilising the development site is not considered to represent an *important population* of this species. There is one record of Koala within 1km of the site and there is potential for a low density population to utilise suitable habitat and Koala feed trees in the site; however, no feed trees are to be removed.

***Significant Impact Criteria***

**Table 8: Significant impact assessment - Koala**

| Significant Impact Criteria | Details |
|---|---|
| **a) Lead to a long-term decrease in the size of a population of a species** | The proposal impacts a small area of swamp sclerophyll forest. However, no Koala feed trees are proposed to be removed. As such, the proposal would not have any detectable impacts on this species.<br>The proposal will thus not lead to a long-term decrease in the size of these important population. |
| **b) Reduce the area of occupancy of a population** | The proposed development will not impact on an important population of Koala. A small area of habitat is proposed to be impacted, though no Koala feed trees will be removed. The subject site is small relative to the area of occupancy which is measured in terms of several hectares. Consequently, the proposal would not reduce the area of occupancy of the important population. |
| **c) Fragment an existing population into two or more populations** | Despite the proposal involving a new entrance road, vehicle movements will be similar to existing conditions and therefore the proposal will not increase the current level of fragmentation or create barriers to movement. The Koala is also a relatively mobile species, capable of crossing human-modified habitat. The proposal will therefore offer no barrier to movement. Thus, it will not fragment an existing important population. |

| Significant Impact Criteria | Details |
|---|---|
| **d) Adversely affect habitat critical to the survival of a species** | The vegetation on site is not considered critical habitat for the Koala. Post-development, the site and other habitats in the locality will retain the potential to support this species, hence helping support the viability of the local population. |
| **e) Disrupt the breeding cycle of a population** | The habitat in the site does not contain an important population of this species and does not represent potential breeding habitat. The works would not be capable of disrupting the breeding cycle of the Koala. |
| **f) Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline** | The degree of vegetation loss imposed by the proposed development is not significant enough to affect a local population of the Koala to the point that it could cause a decline of the species. |
| **g) Result in invasive species, that are harmful (by competition, modification of habitat, or predation) to an Endangered species, becoming established in the Endangered species' habitat** | No new species that affects the Koala is likely to be introduced as a direct result of the proposal. |
| **h) Introduce a disease that may cause a species to decline** | No disease that poses a potential risk to this species is likely to be introduced to the site. |
| **i) Interferes substantially with the recovery of the species** | The works would not interfere with the recovery of the Koala. |
| **Resulting Impact** | No significant impact |

The above assessment has determined that the proposal is not considered likely to have a significant impact on the Koala. Referral to the Department of Climate Change, Energy, the Environment and Water is not required for this species.

### 7.2.2 Assessment of Significance – Grey-headed Flying Fox

***Important Population Assessment***

An *important population* is one that is necessary for a species' long-term recovery and survival. This includes such populations as:

- Key populations either for breeding or dispersal;
- Populations that are necessary for maintaining genetic diversity; and/or
- Populations that are near the limit of the species range.

The Grey-headed Flying Fox population potentially utilising the development site is not considered to represent an *important population* of this species. No breeding colonies are located in the study area. The development site is also not located within the limit of this species' range.

***Significant Impact Criteria***

**Table 9: Significant impact assessment - Grey-headed Flying Fox**

| Significant Impact Criteria | Details |
|---|---|
| **a) Lead to a long-term decrease in the size of an important population of a species** | The proposal involves the removal of a few trees that provide a very small component of available forage habitat for the species. As such, the proposal would not have any detectable impacts on this species.<br>The study area is also not a known roost for the Grey-headed Flying Fox (Eby 2000) and better quality alternative foraging habitat in the locality is evidently extensive. The proposal will thus not lead to a long-term decrease in the size of these important population. |
| **b) Reduce the area of occupancy of an important population** | The foraging habitat in the subject site is insignificant relative to the area of occupancy which is measured in terms of hundreds of thousands of hectares. Consequently, the proposal would not reduce the area of occupancy of the important population. |
| **c) Fragment an existing important population into two or more populations** | The Grey-headed Flying Fox is highly mobile and known to be capable of crossing human-modified habitat. The proposal will offer no barrier to movement. Thus, it will not fragment an existing important population. |
| **d) Adversely affect habitat critical to the survival of a species** | The vegetation on site is not considered critical habitat for the Grey-headed Flying Fox. Post-development, the site and other habitats in the locality will retain the potential to support this species, hence helping support the viability of the local population. |
| **e) Disrupt the breeding cycle of an important population** | The habitat in the site does not contain an important population of this species and does not represent potential breeding habitat. The works would not be capable of disrupting the breeding cycle of the Grey-headed Flying Fox. |
| **f) Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline** | The degree of possible vegetation loss imposed by the proposed development is not significant enough to affect a local population of the Grey-headed Flying Fox to the point that it could cause a decline of the species. |
| **g) Result in invasive species, that are harmful (by competition,** | No new species that affects the Grey-headed Flying Fox is likely to be introduced as a direct result of the proposal. |

| Significant Impact Criteria | Details |
|---|---|
| **modification of habitat, or predation) to a Vulnerable species, becoming established in the Vulnerable species' habitat** | |
| **h) Introduce a disease that may cause a species to decline** | No disease that poses a potential risk to this species is likely to be introduced to the site. |
| **i) Interferes substantially with the recovery of the species** | The works would not interfere with the recovery of the Grey-headed Flying Fox. |
| **Resulting Impact** | **No significant impact** |

The above assessment has determined that the proposal is not considered likely to have a significant impact on the Grey-headed Flying Fox. Referral to the Department of Agriculture, Water and the Environment is not required for this species.

### 7.2.3 Assessment of Significance – White-throated Needletail

**Table 10: Significance Assessment – White-throated Needletail**

| Significant Impact Criteria | Details |
|---|---|
| **a) Lead to a long-term decrease in the size of an important population of a species** | This species was not detected on site during surveys however the site and wider area offers potentially suitable habitat. The White-throated Needletail is an aerial forager and the works would be unlikely to negative impact this species. The works would therefore be unlikely to lead to a decrease of an important population. |
| **b) Reduce the area of occupancy of an important population** | The modification of habitat on site would not reduce the area of occupancy of this species given it is highly mobile and foragers over large expanses of habitat. |
| **c) Fragment an existing important population into two or more populations** | The White-throated Needletail is predominately an aerial species and highly mobile. The proposal will offer no barrier to movement. Thus, it will not fragment an existing important population. |
| **d) Adversely affect habitat critical to the survival of a species** | The vegetation on site is not considered critical habitat for the White-throated Needletail. Post-development, the remainder of the site and other habitats in the locality will retain the potential to support this species, hence helping support the viability of the local population. |

| Significant Impact Criteria | Details |
|---|---|
| **e) Disrupt the breeding cycle of an important population** | The White-throated Needletail is a migratory species and does not breed in Australia. The removal of this habitat would hence not be capable of disrupting the breeding cycle of the White-throated Needletail. |
| **f) Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline** | The degree of possible vegetation loss imposed by the works is not significant enough to affect a local population of the White-throated Needletail to the point that it could cause a decline of the species. |
| **g) Result in invasive species, that are harmful (by competition, modification of habitat, or predation) to a Vulnerable species, becoming established in the Vulnerable species' habitat** | No new species that affects the White-throated Needletail is likely to be introduced as a direct result of the proposal. |
| **h) Introduce a disease that may cause a species to decline** | No disease that poses a potential risk to this species is likely to be introduced to the site. |
| **i) Interferes substantially with the recovery of the species** | The works would be unlikely to interfere with the recovery of this species. No threats to this species will be introduced as a result of the proposal. |
| **Resulting Impact** | **No significant impact** |

## 7.3 Threatened Ecological Communities

The southern portion of the subject site is considered to qualify as the federally listed TEC – Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland. Table 11 below provides that assessment of impacts on this TEC.

**Table 11: Significance Assessment - Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland**

| Significant Impact Criteria | Details |
|---|---|
| **a. Reduce the extent of an ecological community.** | The proposal involves the removal of 0.2ha of swamp sclerophyll forest. This is however considered to be a very small extent of the TEC, particularly in the context of large areas of this TEC in adjacent Limeburners National Park. |
| **b. Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines.** | The proposal will cause some fragmentation in a very small extent of this TEC. |
| **c. Adversely affect habitat critical to the survival of an ecological community.** | The proposal does not affect any habitat critical to the survival of the community. |
| **d. Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns.** | The proposal has the potential to impact hydrology and stormwater patterns in the study area, and ameliorative measures will be required to ensure this does not occur. There may be minor sedimentation as result of construction works upslope from the community, however this would be minimal provided adequate controls are established and will cease post-construction. |
| **e. Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting.** | The proposal has minor potential to lead to the further spread of exotic weeds in the TEC during the construction phase, however it is not expected that this will lead to a decline or loss of functionally important species. |
| **f. Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:**<br>**• assisting invasive species, that are harmful to the listed ecological community, to become established, or**<br>**• causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community.** | The disturbed edges of the community have existing weed issues. Weed control and ongoing maintenance of the community is recommended to reduce the potential for invasions and further spread of existing weeds.<br><br>Erosion and sedimentation controls will be established to reduce any sediment laden runoff during construction. |

| | |
|---|---|
| • | |
| **g. Interfere with the recovery of an ecological community.** | Given the minor extent of vegetation removal required and mitigation measures proposed, the works are unlikely to interfere with the recovery of the community. |
| **Conclusion** | Unlikely to result in a significant impact. |

# 8. RECOMMENDATIONS

## 8.1 General Clearing Measures

The areas of vegetation to be cleared/modified should be clearly marked (e.g. with stakes and bunting) before clearing in order to prevent inadvertent clearance beyond what is required and has been assessed. Trees to be removed should be clearly marked with flagging tape or spray paint. Trees are not to be felled into adjoining retained vegetation.

Site induction is to specify that no clearing is to occur beyond the marked area, and vehicles are only to be parked in designated areas. Any materials are to be stored outside the retained vegetation. Clearing and earthworks is to avoid damage to root zones of the retained trees.

## 8.2 Pre-clearing Survey and Clearing Monitoring

The following ameliorative measures should be carried out prior to and during clearing works on the site.

1. The clearing extent is to be inspected for fauna by a qualified ecologist immediately prior to commencement of any vegetation removal involving machinery and/or tree-felling. This is to occur each morning if clearing spans over multiple days. The ecologist is to flag any habitat features which may contain fauna and trees which contain nests or dreys.
2. If a Koala is present in an area subject to vegetation removal/modification, works must be suspended until the Koala moves along on its own volition. If the Koala is located in a position that a 50 metre buffer may be established, works may proceed outside this buffer. In this event, the ecologist is to remain on site to monitor the Koala for signs of distress. If the ecologist determines that the Koala is in distress, works must be suspended within this area until a larger buffer is created or the Koala moves along on its own volition.
3. The ecologist is to remain on site to supervise removal of any flagged habitat features and manage any fauna interactions. Other than Koalas, any detected fauna is to be relocated off-site. Any bird nest considered active is to be removed in a manner that allows retrieval of eggs/young, and these are to be taken into care by FAWNA.
4. If any de-watering is required, an ecologist is to be present to undertake scoop netting for tadpoles and capture/relocate any aquatic fauna.

## 8.3 Ground Habitat Relocation

It is recommended that ground based hollow and wood debris within the construction footprint are relocated into areas of suitable habitat. This should be undertaken under the direction of an ecologist.

## 8.4 Sedimentation and Erosion Controls

Standard soil and sedimentation control measures will be required throughout the construction works to ensure that habitats on the site and in the study area and adjoining wetlands and swamp forest are not substantially affected by erosion and sedimentation.

## 8.5 Supplementary Plantings

It is understood that some 5,000 plantings are to be planted in and nearby the campground. These will replace native shrubs and trees that are proposed to be removed.

## 8.6 Weed Control

Disturbance of the sites soils during vegetation removal and construction has potential to encourage weed invasion. Hence, it is recommended that:

- Disturbance of vegetation and soils on the site should be limited to the areas of the proposed work and should not extend into adjacent vegetation;
- To assist in reducing the spread of exotic species, all vehicles and machinery are to be inspected for the presence of weeds prior to entering the site;
- Invasive Biosecurity Act listed weeds (i.e., Lantana, Bitou Bush) within the clearing footprint are appropriately treated and collected prior to clearing and are disposed of within a landfill facility; and
- Any new weed infestations that arise within the works area during construction are to be treated and removed.

# 9. CONCLUSION

This report has assessed the impact of the proposed upgrade of the Point Plomer campground. The site is located in a coastal area and surrounding vegetation consists of a mix of swamp sclerophyll forest, introduced grassland and native plantings. Approximately 0.2ha of swamp sclerophyll forest is proposed to be removed for the new access road and low-lying areas within the campground are proposed to be filled.

No threatened flora species were recorded on site during the survey. The southern portion of the subject site where the proposed entrance road is considered to be *Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland* under the EPBC Act. This community is not considered to qualify as *Swamp Sclerophyll Forest on Coastal Floodplain* TEC under the BC Act, as the soils are Quaternary dune sands. The development footprint falls within the proximity zone of mapped Coastal Wetland, and specific recommendations are provided to ensure indirect impacts on the Coastal Wetland are minimised.

No threatened fauna species were identified during surveys. A total of 14 threatened or migratory fauna species were identified as having potential to use the site as a small part of a larger range. Assessment of these species concluded they were unlikely to be significantly impacted by the proposal due to their ecology, the historical disturbance of the site and the mitigation measures proposed. Hence neither a referral to the DAWE or a Biodiversity Development Assessment Report is required.

A number of mitigation measures have been developed to reduce the impacts of the proposal on flora, fauna and ecological communities.

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## Appendix 1: Study Area flora and fauna species lists

**Table 12: Flora species list**

| Family | Scientific Name | Common Name | Stratum | Cover/ Abundance | Exotic |
|---|---|---|---|---|---|
| Amaryllidaceae | *Crinum pedunculatum* | Swamp Lily | S | U | |
| Apiaceae | *Centella asiatica* | Indian Pennywort | G | R | |
| Apocynaceae | *Marsdenia rostrata* | Milk Vine | S | U | |
| Apocynaceae | *Parsonsia straminea* | Common Silkpod | U | U | |
| Araceae | *Alocasia brisbanensis* | Cunjevoi | G | U | |
| Araliaceae | *Polyscias elegans* | Celery Wood | U | | |
| Araliaceae | *Polyscias sambucifolia* | Elderberry Panax | S | R | |
| Asparagaceae | *Asparagus aethiopicus* | Asparagus Fern | G | O | Exotic |
| Asteliaceae | *Cordyline stricta* | Narrow-leaved Palm Lily | G | R | |
| Asteraceae | *Chrysanthemoides monilifera* | | S | C | Exotic |
| Asteraceae | *Bidens pilosa* | Cobbler's Pegs | G | R | Exotic |
| Bignoniaceae | *Pandorea pandorana* | Wonga Wonga Vine | G | R | |
| Casuarinaceae | *Casuarina glauca* | Swamp Oak | U | U | |
| Commelinaceae | *Commelina cyanea* | Native Wandering Jew | G | U | |
| Cyperaceae | *Gahnia clarkei* | Tall Saw-sedge | G | U | |
| Dennstaedtiaceae | *Pteridium esculentum* | Bracken | S | O | |
| Dilleniaceae | *Hibbertia scandens* | Climbing Guinea Flower | G | U | |

| Family | Scientific Name | Common Name | Stratum | Cover/ Abundance | Exotic |
|---|---|---|---|---|---|
| Dioscoreaceae | *Dioscorea transversa* | Native Yam | G | R | |
| Elaeocarpaceae | *Elaeocarpus reticulatus* | Blueberry Ash | S | R | |
| Elaeocarpaceae | *Elaeocarpus obovatus* | Hard Quandong | C | R | |
| Ericaceae | *Monotoca elliptica* | Tree Broom-heath | S | U | |
| Euphorbiaceae | *Homalanthus populifolius* | | G | R | |
| Fabaceae (Caesalpinioideae) | *Senna pendula var. glabrata* | | S | U | Exotic |
| Fabaceae (Mimosoideae) | *Acacia longifolia subsp. sophorae* | Coastal Wattle | S | O | |
| Fabaceae (Mimosoideae) | *Acacia spp.* | Wattle | S | U | |
| Fabaceae (Mimosoideae) | *Acacia longifolia subsp. sophorae* | Coastal Wattle | S | U | |
| Juncaceae | *Juncus spp.* | | G | R | |
| Lauraceae | *Neolitsea australiensis* | Green Bolly Gum | C | U | |
| Lauraceae | *Persea americana* | Avocado | S | U | Exotic |
| Lomandraceae | *Lomandra longifolia* | Spiny-headed Mat-rush | G | C | |
| Luzuriagaceae | *Geitonoplesium cymosum* | Scrambling Lily | G | U | |
| Meliaceae | *Synoum glandulosum subsp. glandulosum* | Scentless Rosewood | S | R | |
| Menispermaceae | *Stephania japonica* | Snake vine | U | U | |
| Monimiaceae | *Wilkiea huegeliana* | Veiny Wilkiea | S | U | |

| Family | Scientific Name | Common Name | Stratum | Cover/ Abundance | Exotic |
|---|---|---|---|---|---|
| Moraceae | *Maclura cochinchinensis* | Cockspur Thorn | S | R | |
| Moraceae | *Ficus coronata* | Creek Sandpaper Fig | U | C | |
| Moraceae | *Ficus obliqua* | Small-leaved Fig | C | U | |
| Moraceae | *Ficus coronata* | Creek Sandpaper Fig | U | C | |
| Myrtaceae | *Melaleuca quinquenervia* | Broad-leaved Paperbark | C | D | |
| Myrtaceae | *Eucalyptus robusta* | Swamp Mahogany | C | O | |
| Myrtaceae | *Acmena smithii* | Lilly Pilly | S | U | |
| Ochnaceae | *Ochna serrulata* | Mickey Mouse Plant | G | R | Exotic |
| Oleaceae | *Notelaea longifolia* | Large Mock-olive | S | R | |
| Orchidaceae | *Cymbidium suave* | Snake Orchid | G | R | |
| Pandanaceae | *Pandanus tectorius var. australianus* | Screw Pine | U | U | |
| Phormiaceae | *Dianella caerulea* | Blue Flax-lily | G | U | |
| Phyllanthaceae | *Glochidion ferdinandi* | Cheese Tree | C | U | |
| Pittosporaceae | *Billardiera scandens* | Hairy Apple Berry | S | U | |
| Pittosporaceae | *Pittosporum revolutum* | Rough Fruit Pittosporum | S | R | |
| Poaceae | *Imperata cylindrica* | Blady Grass | G | O | |
| Poaceae | *Entolasia marginata* | Bordered Panic | G | U | |
| Poaceae | *Paspalum dilatatum* | Paspalum | G | R | Exotic |
| Poaceae | *Cynodon dactylon* | Common Couch | G | R | |
| Poaceae | *Ehrharta erecta* | Panic Veldtgrass | G | R | Exotic |

| Family | Scientific Name | Common Name | Stratum | Cover/ Abundance | Exotic |
|---|---|---|---|---|---|
| Poaceae | *Cynodon dactylon* | Common Couch | G | U | |
| Polypodiaceae | *Pyrrosia confluens var. confluens* | Horseshoe Felt Fern | G | U | |
| Proteaceae | *Banksia integrifolia* | Coast Banksia | C | D | |
| Rhamnaceae | *Alphitonia excelsa* | Red Ash | U | C | |
| Rubiaceae | *Pomax umbellata* | Pomax | G | U | |
| Rubiaceae | *Gynochthodes jasminoides* | Sweet Morinda | G | R | |
| Rutaceae | *Acronychia oblongifolia* | White Aspen | S | U | |
| Sapindaceae | *Cupaniopsis anacardioides* | Tuckeroo | U | O | |
| Sapindaceae | *Guioa semiglauca* | Guioa | S | O | |
| Sapindaceae | *Alectryon coriaceus* | Beach Alectryon | S | U | |
| Smilacaceae | *Smilax australis* | Lawyer Vine | S | O | |
| Solanaceae | *Duboisia myoporoides* | Corkwood | C | R | |
| Solanaceae | *Solanum nigrum* | Black-berry Nightshade | G | R | Exotic |
| Verbenaceae | *Lantana camara* | Lantana | S | O | Exotic |
| Vitaceae | *Cissus hypoglauca* | Giant Water Vine | S | O | |
| Vitaceae | *Cayratia clematidea* | Native Grape | S | O | |
| Vitaceae | *Cissus antarctica* | Water Vine | U | C | |
| Vitaceae | *Cissus hypoglauca* | Giant Water Vine | S | U | |
| Xanthorrhoeaceae | *Xanthorrhoea latifolia subsp. latifolia* | | G | C | |

**Table 13: Fauna species list**

| Class | Family | Common Name | Scientific Name | NSW Status | Observation Type |
|---|---|---|---|---|---|
| Aves | Rhipiduridae | Grey Fantail | *Rhipidura albiscapa* | P | HC |
| Aves | Rhipiduridae | Willie Wagtail | *Rhipidura leucophrys* | P | HC |
| Aves | Meliphagidae | Lewin's Honeyeater | *Meliphaga lewinii* | P | HC |
| Aves | Meliphagidae | Red Wattlebird | *Anthochaera carunculata* | P | HC |
| Aves | Psophodidae | Eastern Whipbird | *Psophodes olivaceus* | P | HC |
| Aves | Meliphagidae | White-throated Honeyeater | *Melithreptus albogularis* | P | HC |
| Aves | Pelecanidae | Australian Pelican | *Pelecanus conspicillatus* | P | O |
| Aves | Corvidae | Australian Raven | *Corvus coronoides* | P | HC |
| Aves | Hirundinidae | Welcome Swallow | *Hirundo neoxena* | P | HC |
| Aves | Columbidae | Crested Pigeon | *Ocyphaps lophotes* | P | O |
| Aves | Charadriidae | Masked Lapwing | *Vanellus miles* | P | O |
| Aves | Artamidae | Australian Magpie | *Gymnorhina tibicen* | P | O |
| Aves | Artamidae | Pied Butcherbird | *Cracticus nigrogularis* | P | O |
| Aves | Dicruridae | Spangled Drongo | *Dicrurus bracteatus* | P | HC |
| Aves | Campephagidae | Black-faced Cuckoo-shrike | *Coracina novaehollandiae* | P | HC |
| Aves | Laridae | Silver Gull | *Chroicocephalus novaehollandiae* | P | O |
| Aves | Pachycephalidae | Golden Whistler | *Pachycephala pectoralis* | P | O |
| Aves | Petroicidae | Eastern Yellow Robin | *Eopsaltria australis* | P | O |

| Class | Family | Common Name | Scientific Name | NSW Status | Observation Type |
|---|---|---|---|---|---|
| Aves | Alcedinidae | Laughing Kookaburra | *Dacelo novaeguineae* | P | O |
| Aves | Artamidae | Pied Currawong | *Strepera graculina* | P | O |
| Mammalia | Tachyglossidae | Short-beaked Echidna | *Tachyglossus aculeatus* | P | O |
| Status codes – P: Protected. Observation type code – HC: heard call; O: Observed | | | | | |

# Appendix 2: Potential Occurrence Assessment

## A2.1 Flora

**Table 14: Potential occurrence assessment – flora**

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| **White-flowered Wax Plant** *Cynanchum elegans* | E | E | 4 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10196 | This species predominately occurs in dry rainforest and littoral rainforest communities. Most of the site habitat is likely to be unsuitable and too disturbed to support this species. | No |
| **Native Guava** *Rhodomyrtus psidioides* | CE | - | 4 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20342 | This pioneer species occurs in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks. Not found during survey, unlikely to occur. | No |
| **Scented Acronychia** *Acronychia littoralis* | E | E | 1 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10030 | Occurs in transition zones between littoral rainforest and swamp sclerophyll forest; between littoral and coastal cypress pine communities; and margins of littoral forest. Unlikely to occur within site due to lack of suitable habitat. | No |
| **Silverbush** *Sophora tomentosa* | E | - | 1 | https://www.environment.nsw.gov.au/savingourspeciesapp/project.aspx?ProfileID=10765 | Occurs in the coastal dune zone. There is one record of the species over 3 km from the subject site. The species is easily detected when present, but was not found on or near the site. | No |
| **Dwarf Heath Casuarina** *Allocasuarina defungens* | E | E | None | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10037 | Dwarf Heath Casuarina grows mainly in tall heath on sand, but can also occur on clay soils and sandstone.<br>No Suitable habitat on the site. | No |
| *Allocasuarina thalassoscopica* | - | E | None | https://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Allocasuarina~thalassoscopica | In graminoid low heath, on coastal flats or on rhyolite or granite outcrops close to the coast.<br>No suitable habitat on the site. | No |

55

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| **Hairy-joint Grass** *Arthraxon hispidus* | V | V | None | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10066 | Moisture and shade-loving grass, found in or on the edges of rainforest and in wet eucalypt forest, often near creeks or swamps. No suitable habitat on site. | No |
| **Leafless Tongue-orchid** *Cryptostylis hunteriana* | V | V | None | https://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Cryptostylis~hunteriana | Grows in swamp-heath on sandy soils, chiefly in coastal districts, south from the Gibraltar Ra. No nearby records and site offers marginal habitat. Unlikely to occur. | No |
| *Euphrasia arguta* | CE | CE | None | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20165#:~:text=Description%20Euphrasia%20arguta%20is%20an%20erect%20annual%20herb,leaf%20margins%20usually%20have%202-4%20pairs%20of%20teeth. | Plants from the Nundle area have been reported from eucalypt forest with a mixed grass and shrub understorey; here, plants were most dense in an open disturbed area and along the roadside, indicating the species had regenerated following disturbance. No records in the locality. Very unlikely to occur. | No |
| **Macadamia Nut** *Macadamia integrifolia* | - | V | None | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20244 | In drier types of subtropical rainforest north from Currumbin in Qld. It is not known to occur naturally in the wild in N.S.W.; however, it has been recorded from Camden Haven, but it is not known if the tree was cultivated or growing naturally. This species is frequently cultivated for its fruit. Does not occur on site. | No |
| **Clear Milkvine** *Marsdenia longiloba* | E | V | None | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10507 | Subtropical and warm temperate rainforest, lowland moist or open eucalypt forest adjoining rainforest and, sometimes, in areas with rock outcrops. Unlikely to occur. | No |
| **Biconvex Paperbark** *Melaleuca biconvexa* | V | V | None | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10514 | Biconvex Paperbark generally grows in damp places, often near streams or low-lying areas on alluvial soils of low slopes or sheltered aspects. Does not occur on site. | No |

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| **Lesser Swamp-orchid** *Phaius australis* | E | E | None | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10610 | Swampy grassland or swampy forest including rainforest, eucalypt or paperbark forest, mostly in coastal areas. Not found and unlikely to occur. | No |
| **Tall Knotweed** *Persicaria elatior* | V | V | None | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10590 | This species normally grows in damp places, especially beside streams and lakes. Occasionally in swamp forest or associated with disturbance. Unlikely to occur. | No |
| **Scrub Turpentine** *Rhodamnia rubescens* | CE | CE | None | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20341 | Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. Not found and unlikely to occur. | No |
| **Magenta Lilly Pilly** *Syzygium paniculatum* | E | V | None | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10794 | The Magenta Lilly Pilly is found only in NSW, in a narrow, linear coastal strip from Upper Lansdowne to Conjola State Forest. Does not occur on site. | No |
| **Austral Toadflax** *Thesium australe* | V | V | None | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10802 | Austral Toad-flax is found in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. Occurs in grassland on coastal headlands or grassland and grassy woodland away from the coast. Grassland is highly disturbed within the site and the species is not likely to occur. | No |
| **Tylophora woollsii** | E | E | | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10816 | A slender woody climber that grows to 3 m long. This species grows in moist eucalypt forest, moist sites in dry eucalypt forest and rainforest margins. Unlikely to occur on site. | No |
| Key: Critically Endangered (CE), Endangered (E), Vulnerable (V). | | | | | | |

## A2.2 Fauna

**Table 15: Potential Occurrence Assessment – fauna. This assessment has excluded aquatic and marine species due to a lack of available habitat.**

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| **Amphibia** | | | | | | |
| **Wallum Froglet** *Crinia tinnula* | V | - | 19 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10183 | The species occupies wallum/acid swamps and wet heaths and often colonises ephemeral water bodies to breed. Records of the species occur 600 m to the west of the site. There is some potential for the species to occupy the site in the remnant swamp sclerophyll forest, though the species was not detected. | **Yes** |
| **Green and Golden Bell Frog** *Litorea aurea* | E | V | 0 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10483 | Inhabits marshes, dams and stream-sides, particularly those containing bullrushes (Typha spp.) or spikerushes (Eleocharis spp.). Nearest records are north of Crescent Head.<br>Unlikely to occur. | No |
| **Stuttering Frog** *Mixophyes balbus* | E | V | 0 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10536 | Found in rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range.<br>No suitable habitat and unlikely to occur. | No |
| **Giant Barred Frog** *Mixophyes iteratus* | E | E | 0 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10538 | Giant Barred Frogs are found along freshwater streams with permanent or semi-permanent water, generally (but not always) at lower elevation. No suitable habitat and unlikely to occur. | No |
| **Aves** | | | | | | |
| **Blue-billed Duck** *Oxyura australis* | V | - | 2 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10580 | The Blue-billed Duck prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation. There is no suitable habitat within the subject site. | No |

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| **Wompoo Fruit-Dove** *Ptilinopus magnificus* | V | - | 1 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10707 | This species occurs in rainforest, low-elevation moist eucalypt forest and brush box forests. There is no suitable habitat on site. | No |
| **Fork-tailed Swift** *Apus pacificus* | P | M | 1 | https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon id=678 | Study area may contain suitable habitat for this species, however it is only likely to fly over the site. Proposal would have no impact on this species. | **Yes** |
| **White-throated Needletail** *Hirundapus caudacutus* | - | V | 3 | https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon id=682 | Study area may contain suitable habitat for this species, however it is only likely to fly over the site. Proposal would have no impact on this species. | **Yes** |
| **Black-necked Stork** *Ephippiorhynchus asiaticus* | E | - | 4 | http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20111 | This species is found in close proximity to a water source. Generally, inhabits lakes, swamps, mudflats and mangroves. The species is unlikely to utilise the site. | No |
| **Australasian Bittern** *Botaurus poiciloptilus* | E | - | 1 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10105 | Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (Typha spp.) and spikerushes (Eleocharis spp.). No suitable habitat on the site. | No |
| **White-bellied Sea Eagle** *Haliaeetus leucogaster* | V | M | 24 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20322 | This species is found in habitats with large, open bodies of water, including large rivers, oceans, and lakes. Breeding habitat for this species typically involves nests in large emergent eucalypts and are always in close proximity to foraging habitat. Suitable foraging habitat for this species does not occur on site, however it may occur as a fly-over. | No |
| **Square-tailed Kite** *Lophoictinia isura* | V | - | 1 | https://www.environment.nsw.gov.au/ThreatenedSpeciesApp/profile.aspx?id=10495 | This species is commonly found in open forests and woodlands. Large stick nests are constructed in forks of living trees.<br>No nests found on or adjacent to the site and it was not detected by the survey. Unlikely to forage on site due to large extent of more suitable habitat in the area. | No |

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| **Eastern Osprey** *Pandion cristatus* | V | - | 15 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10585 | Favour coastal areas, especially the mouths of large rivers, lagoons and lakes. Feed on fish over clear, open water. The species may fly over the site by there is not habitat for the species present or being impacted. | No |
| **Glossy Black Cockatoo** *Calyptorhynchus lathami* | V | - | 152 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10140 | This species occurs in woodlands and dry sclerophyll forest. ***Allocasuarinas*** are required as a food resource. Only a few mature ***Allocasuarinas*** are not present on the subject site hence this species is unlikely to occur. | No |
| **Swift Parrot** *Lathamus discolor* | E | CE | 1 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10455 | On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Flowering eucalypts are limited on site and the minor extent of habitat present is unlikely to support this species. | No |
| **Eastern Ground Parrot** *Pezoporus wallicus wallicus* | V | - | 83 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10608 | The Ground Parrot occurs in high rainfall coastal and near coastal low heathlands and sedgelands, generally below one metre in height and very dense (up to 90% projected foliage cover). There are numerous records of the species within heathland to the west of the site; however, there is no suitable habitat on site. | No |
| **Coxens Fig-Parrot** *Cyclopsitta diophthalma coxeni* | - | E | 0 | https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon id=59714 | Species has very low probability to occur on site. | No |
| **Powerful Owl** *Ninox strenua* | V | - | 3 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10562 | Occurs in sclerophyll forests and requires an abundance and diversity of prey species. Tree hollows are also required for nesting. Prey species are likely to be scarce however the site may form part of a larger foraging territory. Low chance of occurrence. | **Yes** |
| **Eastern Grass Owl** *Tyto longimembris* | V | - | 3 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10819 | Found in areas of tall grass, including grass tussocks, in swampy areas, grassy plains, swampy heath, and in | No |

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| | | | | | cane grass or sedges on flood plains. Suitable habitat is not present on the site. | |
| **Masked Owl** *Tyto novaehollandiae* | V | - | 2 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10820 | This species occurs in forests and woodlands with a sparse understory. It requires tree hollows for nesting and an abundance and diversity of prey species. Prey species are likely scarce across the study area, however there is some potential to forage over the site as part of a larger range. Low chance of occurrence. | **Yes** |
| **Brown Treecreeper (eastern subspecies)** *Climacteris picumnus victoriae* | V | - | 2 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10171 | 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>No Suitable habitat on the site. | No |
| **Regent Honeyeater** *Anthochaera phrygia* | CE | CE | 2 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10841 | The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Oak. Site habitat is unlikely to attract this species. | No |
| **Varied Sittella** *Daphoenositta chrysoptera* | V | - | 1 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20135 | This species forages in trees with rough bark or on dead trees. It is known to occur in a range of vegetation types excluding deserts and grassland. Habitat within the subject site is likely to be too exposed and fragmented. Unlikely to occur. | No |

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| **Barred Cuckoo-shrike** *Coracina lineata* | V | - | 1 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10176 | This species inhabits rainforest, eucalypt forests and woodlands. Study area has some suitable habitat, but better habitat occurs offsite in Littoral Rainforest. Proposal would have no impact. | No |
| **Olive Whistler** *Pachycephala olivacea* | V | - | 5 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10583 | Mostly inhabit wet forests above about 500m. During the winter months they may move to lower altitudes. The species has been recorded to the west of the site; however, there is no suitable habitat on the site | No |
| **Dusky Woodswallow** *Artamus cyanopterus cyanopterus* | V | - | 1 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20303 | Site and study area may provide suitable foraging habitat for this species as part of a larger range. No suitable breeding habitat is present on the site. | No |
| **Eastern Curlew** *Numenius madagascariensis* | - | CE | 5 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20284 | In NSW this species is mainly found in intertidal mudflats and occasionally in saltmarsh of sheltered coasts. No suitable habitat on site, unlikely to occur. | No |
| **Red Goshawk** *Erythrotriorchis radiatus* | - | V | 0 | https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon id=942 | They usually inhabit forests and woodlands, and especially favour the boundary between two different types of forest. Unlikely to occur | No |
| **Grey Falcon** *Falco hypoleucos* | E | V | 0 | https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon id=929 | Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Unlikely to occur. | No |
| **Painted Honeyeater** *Grantiella picta* | V | V | 0 | https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon id=470 | Inhabits Boree/ Weeping Myall (Acacia pendula), Brigalow (A. harpophylla) and Box-Gum Woodlands and Box-Ironbark Forests. Unlikely to occur. | No |
| **Australian Painted Snipe** *Rostratula australis* | E | E | 0 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10734 | Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber.<br>Very marginal habitat in the south of the site. Unlikely to occur. | No |
| **Mammalia** | | | | | | |

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| **Spotted-Tailed Quoll** *Dasyurus maculatus* | V | E | 17 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10207 | This species prefers forest habitats with dense vegetation. They require forest with suitable den sites such as rock crevices, caves, hollow logs, burrows and tree hollows. Suitable habitat for this species does not occur on site. | No |
| **Brush-tailed Phascogale** *Phascogale tapoatafa* | V | - | 5 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10613 | Generally found in areas of dry sclerophyll open forest containing sparse groundcover. The limited extent of habitat in the study area is unlikely to support this species. | No |
| **Koala** *Phascolarctos cinereus* | V | V | 27 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10616 | A small extent of preferred food trees occur within the subject site and study area. No Koalas recorded and Koala scat searches failed to detect evidence of the Koala during the survey.<br>Few preferred food trees on site, which will be retained. The habitat on site is marginal, though there is a Koala record near to the site. | **Yes** |
| **Squirrel Glider** *Petaurus norfolcensis* | V | - | 6 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10604 | The Squirrel Glider has a preference for wet and dry sclerophyll forests and woodlands. This species requires abundant tree hollows for refuge and nest sites. Site may offer a small extent of potential foraging habitat. Low chance of occurrence in the remnant swamp sclerophyll forest. | **Yes** |
| **Greater Glider** *Petauroides volans* | V | - | 0 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20306 | Occupies tall open forest and woodland.<br>No records nearby and no suitable habitat. | No |
| **Yellow-bellied Glider** *Petaurus australis* | V | - | 0 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10601 | Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils.<br>No Suitable habitat and unlikely to occur. | No |
| **Long-nosed Potoroo** *Potorous tridactylus* | V | V | 1 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10662 | Inhabits coastal heaths and dry and wet sclerophyll forests. Dense understorey with occasional open areas is an essential part of habitat, and may consist | No |

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| | | | | | of grass-trees, sedges, ferns or heath, or of low shrubs of tea-trees or melaleucas. A sandy loam soil is also a common feature.<br>The site is generally highly disturbed and the species is unlikely to occur | |
| **New Holland Mouse**<br>*Pseudomys novaehollandiae* | - | V | 0 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20253 | Known to inhabit open heathlands, woodlands and forests with a heathland understorey and vegetated sand dunes.<br>The site does not contain suitable habitat. | No |
| **Grey-headed Flying Fox**<br>*Pteropus poliocephalus* | V | V | 7 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10697 | A nomadic species which is dependent on winter flowering eucalypts. Potential foraging resource for this species however no breeding or roosting camps for this species were located within the subject site. Moderate potential to occur foraging as part of larger range. | **Yes** |
| **Common Blossom-bat**<br>*Syconycteris australis* | V | - | 5 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10785 | This species mainly inhabits littoral rainforest and forages in adjacent heathland and paperbark swamps. It requires dense foliage and vine thickets for roosting. Habitats nearby may offer foraging habitat, but trees on site would not be of any particular importance to this species. | **Yes** |
| **Southern Myotis**<br>*Myotis macropus* | V | - | 1 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10549 | This species requires tree hollows, caves, tunnels or dense foliage for roosting. Forages along creek lines and other water bodies and has a preference for riparian habitat. The site does not contain any waterbodies which may be used for foraging, hence it is unlikely to occur. | No |
| **Little Bent-winged Bat**<br>*Miniopterus australis* | V | - | 5 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10533 | This species inhabits a range of community types however is most common in well-forested areas, often found roosting in caves, old mines and old buildings. The subject site may potentially provide a small extent of foraging habitat for this species. Moderate chance of occurrence. | **Yes** |

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| **Large Bent-winged Bat** *Miniopterus schreibersii oceanensis* | V | - | 2 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10534 | As for Little Bentwing Bat. | **Yes** |
| **Eastern Chestnut Mouse** *Pseudomys gracilicaudatus* | P | - | 42 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10687 | In NSW the Eastern Chestnut Mouse is mostly found, in low numbers, in heathland and is most common in dense, wet heath and swamps. In the tropics it is more an animal of grassy woodlands. Optimal habitat appears to be in vigorously regenerating heathland burnt from 18 months to four years previously.<br><br>There is no suitable habitat on the site. | No |
| **Eastern Coastal Free-tail Bat** *Mormopterus norfolkensis* | V | - | 9 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10544 | This species is most commonly recorded in woodland habitats with available roosting habitat such as tree hollows, house eaves and roofs. There is a potential foraging habitat for this species however no roosting habitat occurs within the subject site. Low chance of occurrence. | **Yes** |
| **Greater Broad-nosed Bat** *Scoteanax rueppellii* | V | - | 6 | https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10748 | This species is most commonly recorded in woodland habitats with available roosting habitat such as tree hollows, house eaves and roofs.<br>Site offers low value potential foraging habitat. Low likelihood of occurrence, at best as incidental transient. | **Yes** |
| **Yellow-bellied Sheathtail-bat** *Saccolaimus flaviventris* | V | - | 2 | http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10741 | A wide-spread species which has been recorded in a variety of habitats across the state. Fair chance of utilising the subject site for foraging as part of a larger area. | **Yes** |
| **Insecta** | | | | | | |
| **Laced Fritillary** *Argynnis hyperbius* | E | CE | 2 | https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10064 | The Australian Fritillary is restricted to south-east Queensland and north-east NSW in open swampy coastal areas where the larval food plant Arrowhead Violet Viola betonicifolia occurs. | **No** |

65

| Species | BC Act | EPBC Act | No. of Records | Link to Profile | Likelihood of Occurrence | Significance Assessment Required? |
|---|---|---|---|---|---|---|
| | | | | | No Viola betonicifolia occurs on the site and there are few records in the locality. | |
| Key: Critically Endangered (CE), Endangered (E), Vulnerable (V), Migratory (M). | | | | | | |

# Appendix 3: EPBC Act Protected Matters Report

Australian Government
Department of Agriculture, Water and the Environment

# EPBC Act Protected Matters Report

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

Report created: 06-Jun-2022

# 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: | 1 |
| Listed Threatened Ecological Communities: | 5 |
| Listed Threatened Species: | 84 |
| Listed Migratory Species: | 74 |

## Other Matters Protected by the EPBC Act

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

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

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

| | |
|---|---|
| Commonwealth Lands: | None |
| Commonwealth Heritage Places: | None |
| Listed Marine Species: | 93 |
| Whales and Other Cetaceans: | 31 |
| 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: | 3 |
| Regional Forest Agreements: | 1 |
| Nationally Important Wetlands: | 1 |
| EPBC Act Referrals: | 2 |
| Key Ecological Features (Marine): | None |
| Biologically Important Areas: | 7 |
| Bioregional Assessments: | None |
| Geological and Bioregional Assessments: | None |

# Details

## Matters of National Environmental Significance

### Commonwealth Marine Area [ Resource Information ]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

| Feature Name | Buffer Status |
|---|---|
| EEZ and Territorial Sea | In buffer area only |

### 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 likely to occur within area | In feature area |
| Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland | Endangered | Community known to occur within area | In feature area |
| Littoral Rainforest and Coastal Vine Thickets of Eastern Australia | Critically Endangered | Community likely to occur within area | In buffer area only |
| Lowland Rainforest of Subtropical Australia | Critically Endangered | Community likely to occur within area | In buffer area only |
| Subtropical and Temperate Coastal Saltmarsh | Vulnerable | Community likely to occur within area | In buffer area only |

### 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 known to occur within area | In feature area |
| Calidris canutus<br>Red Knot, Knot [855] | Endangered | Species or species habitat known to occur within area | In feature area |
| Calidris ferruginea<br>Curlew Sandpiper [856] | Critically Endangered | Species or species habitat known to occur within area | In feature area |
| Charadrius leschenaultii<br>Greater Sand Plover, Large Sand Plover [877] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Charadrius mongolus<br>Lesser Sand Plover, Mongolian Plover [879] | Endangered | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Cyclopsitta diophthalma coxeni<br>Coxen's Fig-Parrot [59714] | Endangered | Species or species habitat may occur within area | In feature area |
| Diomedea antipodensis<br>Antipodean Albatross [64458] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Diomedea antipodensis gibsoni<br>Gibson's Albatross [82270] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Diomedea epomophora<br>Southern Royal Albatross [89221] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Diomedea exulans<br>Wandering Albatross [89223] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Erythrotriorchis radiatus<br>Red Goshawk [942] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Falco hypoleucos<br>Grey Falcon [929] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Fregetta grallaria grallaria<br>White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Grantiella picta<br>Painted Honeyeater [470] | Vulnerable | Species or species habitat likely to 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 |
| Lathamus discolor<br>Swift Parrot [744] | Critically Endangered | Species or species habitat likely to occur within area | In feature area |
| Limosa lapponica baueri<br>Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Macronectes giganteus<br>Southern Giant-Petrel, Southern Giant Petrel [1060] | Endangered | Species or species habitat may occur within area | In feature area |
| Macronectes halli<br>Northern Giant Petrel [1061] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Numenius madagascariensis<br>Eastern Curlew, Far Eastern Curlew [847] | Critically Endangered | Species or species habitat known to occur within area | In feature area |
| Pachyptila turtur subantarctica<br>Fairy Prion (southern) [64445] | Vulnerable | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Phoebetria fusca<br>Sooty Albatross [1075] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Pterodroma leucoptera leucoptera<br>Gould's Petrel, Australian Gould's Petrel [26033] | Endangered | Species or species habitat may occur within area | In feature area |
| Pterodroma neglecta neglecta<br>Kermadec Petrel (western) [64450] | Vulnerable | Foraging, feeding or related behaviour 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 |
| Sternula nereis nereis<br>Australian Fairy Tern [82950] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thalassarche bulleri<br>Buller's Albatross, Pacific Albatross [64460] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thalassarche bulleri platei<br>Northern Buller's Albatross, Pacific Albatross [82273] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thalassarche carteri<br>Indian Yellow-nosed Albatross [64464] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Thalassarche cauta<br>Shy Albatross [89224] | Endangered | Species or species habitat may occur within area | In feature area |
| Thalassarche eremita<br>Chatham Albatross [64457] | Endangered | Species or species habitat may occur within area | In feature area |
| Thalassarche impavida<br>Campbell Albatross, Campbell Black-browed Albatross [64459] | Vulnerable | Species or species habitat may occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Thalassarche melanophris<br>Black-browed Albatross [66472] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Thalassarche salvini<br>Salvin's Albatross [64463] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Thalassarche steadi<br>White-capped Albatross [64462] | Vulnerable | Species or species habitat may occur within area | In feature area |
| FISH | | | |
| Epinephelus daemelii<br>Black Rockcod, Black Cod, Saddled Rockcod [68449] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Hippocampus whitei<br>White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Seriolella brama<br>Blue Warehou [69374] | Conservation Dependent | Species or species habitat known to occur within area | In feature area |
| Thunnus maccoyii<br>Southern Bluefin Tuna [69402] | Conservation Dependent | Species or species habitat likely to occur within area | In feature area |
| FROG | | | |
| Litoria aurea<br>Green and Golden Bell Frog [1870] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Mixophyes balbus<br>Stuttering Frog, Southern Barred Frog (in Victoria) [1942] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Mixophyes iteratus<br>Giant Barred Frog, Southern Barred Frog [1944] | Vulnerable | Species or species habitat likely to occur within area | In buffer area only |
| INSECT | | | |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Argynnis hyperbius inconstans | | | |
| Australian Fritillary [88056] | Critically Endangered | Species or species habitat likely to occur within area | In feature area |
| MAMMAL | | | |
| Balaenoptera borealis | | | |
| Sei Whale [34] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In buffer area only |
| Balaenoptera musculus | | | |
| Blue Whale [36] | Endangered | Species or species habitat may occur within area | In feature area |
| Balaenoptera physalus | | | |
| Fin Whale [37] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In buffer area only |
| Chalinolobus dwyeri | | | |
| Large-eared Pied Bat, Large Pied Bat [183] | Vulnerable | 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 |
| Eubalaena australis | | | |
| Southern Right Whale [40] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Petauroides volans | | | |
| Greater Glider [254] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Petaurus australis australis | | | |
| Yellow-bellied Glider (south-eastern) [87600] | Vulnerable | Species or species habitat likely 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 |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Potorous tridactylus tridactylus<br>Long-nosed Potoroo (northern) [66645] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Pseudomys novaehollandiae<br>New Holland Mouse, Pookila [96] | Vulnerable | Species or species habitat likely to occur within area | In buffer area only |
| Pteropus poliocephalus<br>Grey-headed Flying-fox [186] | Vulnerable | Foraging, feeding or related behaviour known to occur within area | In feature area |
| PLANT | | | |
| Acronychia littoralis<br>Scented Acronychia [8582] | Endangered | Species or species habitat known to occur within area | In feature area |
| Allocasuarina defungens<br>Dwarf Heath Casuarina [21924] | Endangered | Species or species habitat known to occur within area | In feature area |
| Allocasuarina thalassoscopica<br>[21927] | Endangered | Species or species habitat known to 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 |
| Cryptostylis hunteriana<br>Leafless Tongue-orchid [19533] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Cynanchum elegans<br>White-flowered Wax Plant [12533] | Endangered | Species or species habitat known to occur within area | In feature area |
| Euphrasia arguta<br>[4325] | Critically Endangered | Species or species habitat may occur within area | In feature area |
| 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 |
|---|---|---|---|
| Marsdenia longiloba<br>Clear Milkvine [2794] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Melaleuca biconvexa<br>Biconvex Paperbark [5583] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| Persicaria elatior<br>Knotweed, Tall Knotweed [5831] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Phaius australis<br>Lesser Swamp-orchid [5872] | Endangered | 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 known to occur within area | In feature area |
| Syzygium paniculatum<br>Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thesium australe<br>Austral Toadflax, Toadflax [15202] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Vincetoxicum woollsii listed as Tylophora woollsii<br>[40080] | Endangered | Species or species habitat likely to occur within area | In feature area |
| REPTILE | | | |
| Caretta caretta<br>Loggerhead Turtle [1763] | Endangered | Species or species habitat known to occur within area | In feature area |
| Chelonia mydas<br>Green Turtle [1765] | Vulnerable | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Coeranoscincus reticulatus | | | |
| Three-toed Snake-tooth Skink [59628] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| Dermochelys coriacea | | | |
| Leatherback Turtle, Leathery Turtle, Luth [1768] | Endangered | Species or species habitat known to occur within area | In feature area |
| Eretmochelys imbricata | | | |
| Hawksbill Turtle [1766] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Natator depressus | | | |
| Flatback Turtle [59257] | Vulnerable | Breeding likely to occur within area | In feature area |
| SHARK | | | |
| Carcharias taurus (east coast population) | | | |
| Grey Nurse Shark (east coast population) [68751] | Critically Endangered | Species or species habitat likely to occur within area | In feature area |
| Carcharodon carcharias | | | |
| White Shark, Great White Shark [64470] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Galeorhinus galeus | | | |
| School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark [68453] | Conservation Dependent | Species or species habitat may occur within area | In feature area |
| Rhincodon typus | | | |
| Whale Shark [66680] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Sphyrna lewini | | | |
| Scalloped Hammerhead [85267] | Conservation Dependent | Species or species habitat likely to occur within area | In feature area |

| Listed Migratory Species | | [ Resource Information ] | |
|---|---|---|---|
| Scientific Name | Threatened Category | Presence Text | Buffer Status |
| Migratory Marine Birds | | | |
| Anous stolidus | | | |
| Common Noddy [825] | | Species or species habitat likely to occur within 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 | In feature area |
| Ardenna carneipes<br>Flesh-footed Shearwater, Fleshy-footed Shearwater [82404] | | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Ardenna grisea<br>Sooty Shearwater [82651] | | Species or species habitat likely to occur within area | In feature area |
| Ardenna pacifica<br>Wedge-tailed Shearwater [84292] | | Breeding known to occur within area | In buffer area only |
| Calonectris leucomelas<br>Streaked Shearwater [1077] | | Species or species habitat may occur within area | In feature area |
| Diomedea antipodensis<br>Antipodean Albatross [64458] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Diomedea epomophora<br>Southern Royal Albatross [89221] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Diomedea exulans<br>Wandering Albatross [89223] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Fregata ariel<br>Lesser Frigatebird, Least Frigatebird [1012] | | Species or species habitat known to occur within area | In feature area |
| Fregata minor<br>Great Frigatebird, Greater Frigatebird [1013] | | Species or species habitat likely to occur within area | In feature area |
| Macronectes giganteus<br>Southern Giant-Petrel, Southern Giant Petrel [1060] | Endangered | Species or species habitat may occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Macronectes halli<br>Northern Giant Petrel [1061] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Phaethon lepturus<br>White-tailed Tropicbird [1014] | | Species or species habitat may occur within area | In feature area |
| Phoebetria fusca<br>Sooty Albatross [1075] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Sternula albifrons<br>Little Tern [82849] | | Species or species habitat may occur within area | In feature area |
| Thalassarche bulleri<br>Buller's Albatross, Pacific Albatross [64460] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thalassarche carteri<br>Indian Yellow-nosed Albatross [64464] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Thalassarche cauta<br>Shy Albatross [89224] | Endangered | Species or species habitat may occur within area | In feature area |
| Thalassarche eremita<br>Chatham Albatross [64457] | Endangered | Species or species habitat may occur within area | In feature area |
| Thalassarche impavida<br>Campbell Albatross, Campbell Black-browed Albatross [64459] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thalassarche melanophris<br>Black-browed Albatross [66472] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Thalassarche salvini<br>Salvin's Albatross [64463] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Thalassarche steadi | | | |
| White-capped Albatross [64462] | Vulnerable | Species or species habitat may occur within area | In feature area |
| **Migratory Marine Species** | | | |
| Balaenoptera borealis | | | |
| Sei Whale [34] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In buffer area only |
| Balaenoptera edeni | | | |
| Bryde's Whale [35] | | Species or species habitat may occur within area | In feature area |
| Balaenoptera musculus | | | |
| Blue Whale [36] | Endangered | Species or species habitat may occur within area | In feature area |
| Balaenoptera physalus | | | |
| Fin Whale [37] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In buffer area only |
| Carcharhinus longimanus | | | |
| Oceanic Whitetip Shark [84108] | | Species or species habitat may occur within area | In feature area |
| Carcharodon carcharias | | | |
| White Shark, Great White Shark [64470] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Caretta caretta | | | |
| Loggerhead Turtle [1763] | Endangered | Species or species habitat known to occur within area | In feature area |
| Chelonia mydas | | | |
| Green Turtle [1765] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Dermochelys coriacea | | | |
| Leatherback Turtle, Leathery Turtle, Luth [1768] | Endangered | Species or species habitat known to occur within area | In feature area |
| Dugong dugon | | | |
| Dugong [28] | | Species or species habitat may occur within area | In buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Eretmochelys imbricata<br>Hawksbill Turtle [1766] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Eubalaena australis as Balaena glacialis australis<br>Southern Right Whale [40] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Lamna nasus<br>Porbeagle, Mackerel Shark [83288] | | Species or species habitat may occur within area | In feature area |
| Megaptera novaeangliae<br>Humpback Whale [38] | | Species or species habitat known to occur within area | In feature area |
| Mobula alfredi as Manta alfredi<br>Reef Manta Ray, Coastal Manta Ray [90033] | | Species or species habitat may occur within area | In feature area |
| Mobula birostris as Manta birostris<br>Giant Manta Ray [90034] | | Species or species habitat may occur within area | In feature area |
| Natator depressus<br>Flatback Turtle [59257] | Vulnerable | Breeding likely to occur within area | In feature area |
| Orcinus orca<br>Killer Whale, Orca [46] | | Species or species habitat may occur within area | In feature area |
| Physeter macrocephalus<br>Sperm Whale [59] | | Species or species habitat may occur within area | In buffer area only |
| Rhincodon typus<br>Whale Shark [66680] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Sousa sahulensis as Sousa chinensis<br>Australian Humpback Dolphin [87942] | | Species or species habitat likely to occur within area | In feature area |
| Migratory Terrestrial Species | | | |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| 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 |
| Myiagra cyanoleuca<br>Satin Flycatcher [612] | | Species or species habitat known to occur within area | In buffer area only |
| 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 | | | |
| Actitis hypoleucos<br>Common Sandpiper [59309] | | Species or species habitat known to occur within area | In feature area |
| Arenaria interpres<br>Ruddy Turnstone [872] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Calidris acuminata<br>Sharp-tailed Sandpiper [874] | | Species or species habitat known to occur within area | In feature area |
| Calidris canutus<br>Red Knot, Knot [855] | Endangered | Species or species habitat known to occur within area | In feature area |
| Calidris ferruginea<br>Curlew Sandpiper [856] | Critically Endangered | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Calidris melanotos<br>Pectoral Sandpiper [858] | | Species or species habitat may occur within area | In feature area |
| Calidris ruficollis<br>Red-necked Stint [860] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Charadrius bicinctus<br>Double-banded Plover [895] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Charadrius leschenaultii<br>Greater Sand Plover, Large Sand Plover [877] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Charadrius mongolus<br>Lesser Sand Plover, Mongolian Plover [879] | Endangered | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Gallinago hardwickii<br>Latham's Snipe, Japanese Snipe [863] | | Species or species habitat known to occur within area | In feature area |
| Gallinago megala<br>Swinhoe's Snipe [864] | | Foraging, feeding or related behaviour likely to occur within area | In buffer area only |
| Gallinago stenura<br>Pin-tailed Snipe [841] | | Foraging, feeding or related behaviour likely to occur within area | In buffer area only |
| Limosa lapponica<br>Bar-tailed Godwit [844] | | Species or species habitat known to occur within area | In feature area |
| Numenius madagascariensis<br>Eastern Curlew, Far Eastern Curlew [847] | Critically Endangered | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Numenius minutus<br>Little Curlew, Little Whimbrel [848] | | Foraging, feeding or related behaviour likely to occur within area | In buffer area only |
| Numenius phaeopus<br>Whimbrel [849] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Pandion haliaetus<br>Osprey [952] | | Breeding known to occur within area | In feature area |
| Pluvialis fulva<br>Pacific Golden Plover [25545] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Pluvialis squatarola<br>Grey Plover [865] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Tringa brevipes<br>Grey-tailed Tattler [851] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Tringa nebularia<br>Common Greenshank, Greenshank [832] | | Species or species habitat known to occur within area | In buffer area only |
| Xenus cinereus<br>Terek Sandpiper [59300] | | Foraging, feeding or related behaviour known to 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 | | | |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Actitis hypoleucos<br>Common Sandpiper [59309] | | Species or species habitat known to occur within area | In feature area |
| Anous stolidus<br>Common Noddy [825] | | Species or species habitat likely to occur within area | In feature area |
| Apus pacificus<br>Fork-tailed Swift [678] | | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Ardenna carneipes as Puffinus carneipes<br>Flesh-footed Shearwater, Fleshy-footed Shearwater [82404] | | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Ardenna grisea as Puffinus griseus<br>Sooty Shearwater [82651] | | Species or species habitat likely to occur within area | In feature area |
| Ardenna pacifica as Puffinus pacificus<br>Wedge-tailed Shearwater [84292] | | Breeding known to occur within area | In buffer area only |
| Arenaria interpres<br>Ruddy Turnstone [872] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| 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] | | Species or species habitat known to occur within area | In feature area |
| Calidris canutus<br>Red Knot, Knot [855] | Endangered | Species or species habitat known to occur within area overfly marine area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Calidris ferruginea<br>Curlew Sandpiper [856] | Critically Endangered | Species or species habitat known to 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 |
| Calidris ruficollis<br>Red-necked Stint [860] | | Foraging, feeding or related behaviour known to occur within area overfly marine area | In buffer area only |
| Calonectris leucomelas<br>Streaked Shearwater [1077] | | Species or species habitat may occur within area | In feature area |
| Charadrius bicinctus<br>Double-banded Plover [895] | | Foraging, feeding or related behaviour known to occur within area overfly marine area | In buffer area only |
| Charadrius leschenaultii<br>Greater Sand Plover, Large Sand Plover [877] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Charadrius mongolus<br>Lesser Sand Plover, Mongolian Plover [879] | Endangered | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Charadrius ruficapillus<br>Red-capped Plover [881] | | Foraging, feeding or related behaviour known to occur within area overfly marine area | In buffer area only |
| Diomedea antipodensis<br>Antipodean Albatross [64458] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Diomedea antipodensis gibsoni as Diomedea gibsoni | | | |
| Gibson's Albatross [82270] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Diomedea epomophora | | | |
| Southern Royal Albatross [89221] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Diomedea exulans | | | |
| Wandering Albatross [89223] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Eudyptula minor | | | |
| Little Penguin [1085] | | Breeding known to occur within area | In buffer area only |
| Fregata ariel | | | |
| Lesser Frigatebird, Least Frigatebird [1012] | | Species or species habitat known to occur within area | In feature area |
| Fregata minor | | | |
| Great Frigatebird, Greater Frigatebird [1013] | | Species or species habitat likely to occur within area | In feature area |
| Gallinago hardwickii | | | |
| Latham's Snipe, Japanese Snipe [863] | | Species or species habitat known to occur within area overfly marine area | In feature area |
| Gallinago megala | | | |
| Swinhoe's Snipe [864] | | Foraging, feeding or related behaviour likely to occur within area overfly marine area | In buffer area only |
| Gallinago stenura | | | |
| Pin-tailed Snipe [841] | | Foraging, feeding or related behaviour likely to occur within area overfly marine area | In buffer area only |
| Haliaeetus leucogaster | | | |
| White-bellied Sea-Eagle [943] | | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| 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 |
| Limosa lapponica<br>Bar-tailed Godwit [844] | | Species or species habitat known to occur within area | In feature area |
| Macronectes giganteus<br>Southern Giant-Petrel, Southern Giant Petrel [1060] | Endangered | Species or species habitat may occur within area | In feature area |
| Macronectes halli<br>Northern Giant Petrel [1061] | Vulnerable | Foraging, feeding or related behaviour likely to occur within 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 |
| Monarcha melanopsis<br>Black-faced Monarch [609] | | Species or species habitat known to occur within area overfly marine area | In feature area |
| Myiagra cyanoleuca<br>Satin Flycatcher [612] | | Species or species habitat known to occur within area overfly marine area | In buffer area only |
| Neophema chrysostoma<br>Blue-winged Parrot [726] | | Species or species habitat may occur within area overfly marine area | In feature area |
| Numenius madagascariensis<br>Eastern Curlew, Far Eastern Curlew [847] | Critically Endangered | Species or species habitat known to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Numenius minutus<br>Little Curlew, Little Whimbrel [848] | | Foraging, feeding or related behaviour likely to occur within area overfly marine area | In buffer area only |
| Numenius phaeopus<br>Whimbrel [849] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Pachyptila turtur<br>Fairy Prion [1066] | | Species or species habitat known to occur within area | In feature area |
| Pandion haliaetus<br>Osprey [952] | | Breeding known to occur within area | In feature area |
| Phaethon lepturus<br>White-tailed Tropicbird [1014] | | Species or species habitat may occur within area | In feature area |
| Phoebetria fusca<br>Sooty Albatross [1075] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Pluvialis fulva<br>Pacific Golden Plover [25545] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Pluvialis squatarola<br>Grey Plover [865] | | Foraging, feeding or related behaviour known to occur within area overfly marine area | In buffer area only |
| 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 |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Stercorarius skua as Catharacta skua<br>Great Skua [823] | | Species or species habitat may occur within area | In buffer area only |
| Sternula albifrons as Sterna albifrons<br>Little Tern [82849] | | Species or species habitat may occur within 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 |
| Thalassarche bulleri<br>Buller's Albatross, Pacific Albatross [64460] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thalassarche bulleri platei as Thalassarche sp. nov.<br>Northern Buller's Albatross, Pacific Albatross [82273] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thalassarche carteri<br>Indian Yellow-nosed Albatross [64464] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Thalassarche cauta<br>Shy Albatross [89224] | Endangered | Species or species habitat may occur within area | In feature area |
| Thalassarche eremita<br>Chatham Albatross [64457] | Endangered | Species or species habitat may occur within area | In feature area |
| Thalassarche impavida<br>Campbell Albatross, Campbell Black-browed Albatross [64459] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thalassarche melanophris<br>Black-browed Albatross [66472] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Thalassarche salvini<br>Salvin's Albatross [64463] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Thalassarche steadi<br>White-capped Albatross [64462] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Tringa brevipes as Heteroscelus brevipes<br>Grey-tailed Tattler [851] | | Foraging, feeding or related behaviour known to occur within area | In buffer area only |
| Tringa nebularia<br>Common Greenshank, Greenshank [832] | | Species or species habitat known to occur within area overfly marine area | In buffer area only |
| Xenus cinereus<br>Terek Sandpiper [59300] | | Foraging, feeding or related behaviour known to occur within area overfly marine area | In buffer area only |
| **Fish** | | | |
| Acentronura tentaculata<br>Shortpouch Pygmy Pipehorse [66187] | | Species or species habitat may occur within area | In feature area |
| Festucalex cinctus<br>Girdled Pipefish [66214] | | Species or species habitat may occur within area | In feature area |
| Filicampus tigris<br>Tiger Pipefish [66217] | | Species or species habitat may occur within area | In feature area |
| Heraldia nocturna<br>Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227] | | Species or species habitat may occur within area | In feature area |
| Hippichthys heptagonus<br>Madura Pipefish, Reticulated Freshwater Pipefish [66229] | | Species or species habitat may occur within area | In feature area |
| Hippichthys penicillus<br>Beady Pipefish, Steep-nosed Pipefish [66231] | | Species or species habitat may occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Hippocampus whitei<br>White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Histiogamphelus briggsii<br>Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242] | | Species or species habitat may occur within area | In feature area |
| Lissocampus runa<br>Javelin Pipefish [66251] | | Species or species habitat may occur within area | In feature area |
| Maroubra perserrata<br>Sawtooth Pipefish [66252] | | Species or species habitat may occur within area | In feature area |
| Solegnathus dunckeri<br>Duncker's Pipehorse [66271] | | Species or species habitat may occur within area | In feature area |
| Solegnathus spinosissimus<br>Spiny Pipehorse, Australian Spiny Pipehorse [66275] | | Species or species habitat may occur within area | In feature area |
| Solenostomus cyanopterus<br>Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183] | | Species or species habitat may occur within area | In feature area |
| Solenostomus paradoxus<br>Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184] | | Species or species habitat may occur within area | In feature area |
| Stigmatopora nigra<br>Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277] | | Species or species habitat may occur within area | In feature area |
| Syngnathoides biaculeatus<br>Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279] | | Species or species habitat may occur within area | In feature area |
| Trachyrhamphus bicoarctatus<br>Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280] | | Species or species habitat may occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Urocampus carinirostris<br>Hairy Pipefish [66282] | | Species or species habitat may occur within area | In feature area |
| Vanacampus margaritifer<br>Mother-of-pearl Pipefish [66283] | | Species or species habitat may occur within area | In feature area |
| **Mammal** | | | |
| Arctocephalus forsteri<br>Long-nosed Fur-seal, New Zealand Fur-seal [20] | | Species or species habitat may occur within area | In feature area |
| Arctocephalus pusillus<br>Australian Fur-seal, Australo-African Fur-seal [21] | | Species or species habitat may occur within area | In feature area |
| Dugong dugon<br>Dugong [28] | | Species or species habitat may occur within area | In buffer area only |
| **Reptile** | | | |
| Caretta caretta<br>Loggerhead Turtle [1763] | Endangered | Species or species habitat known to occur within area | In feature area |
| Chelonia mydas<br>Green Turtle [1765] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Dermochelys coriacea<br>Leatherback Turtle, Leathery Turtle, Luth [1768] | Endangered | Species or species habitat known to occur within area | In feature area |
| Eretmochelys imbricata<br>Hawksbill Turtle [1766] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Hydrophis elegans<br>Elegant Seasnake [1104] | | Species or species habitat may occur within area | In feature area |
| Natator depressus<br>Flatback Turtle [59257] | Vulnerable | Breeding likely to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---|---|---|
| Pelamis platurus<br>Yellow-bellied Seasnake [1091] | | Species or species habitat may occur within area | In feature area |

| Whales and Other Cetaceans | | | [ Resource Information ] |
|---|---|---|---|
| Current Scientific Name | Status | Type of Presence | Buffer Status |
| Mammal | | | |
| Balaenoptera acutorostrata<br>Minke Whale [33] | | Species or species habitat may occur within area | In feature area |
| Balaenoptera borealis<br>Sei Whale [34] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In buffer area only |
| Balaenoptera edeni<br>Bryde's Whale [35] | | Species or species habitat may occur within area | In feature area |
| Balaenoptera musculus<br>Blue Whale [36] | Endangered | Species or species habitat may occur within area | In feature area |
| Balaenoptera physalus<br>Fin Whale [37] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In buffer area only |
| Delphinus delphis<br>Common Dolphin, Short-beaked Common Dolphin [60] | | Species or species habitat may occur within area | In feature area |
| Eubalaena australis<br>Southern Right Whale [40] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Feresa attenuata<br>Pygmy Killer Whale [61] | | Species or species habitat may occur within area | In buffer area only |
| Globicephala macrorhynchus<br>Short-finned Pilot Whale [62] | | Species or species habitat may occur within area | In buffer area only |

| Current Scientific Name | Status | Type of Presence | Buffer Status |
|---|---|---|---|
| Globicephala melas<br>Long-finned Pilot Whale [59282] | | Species or species habitat may occur within area | In buffer area only |
| Grampus griseus<br>Risso's Dolphin, Grampus [64] | | Species or species habitat may occur within area | In feature area |
| Kogia breviceps<br>Pygmy Sperm Whale [57] | | Species or species habitat may occur within area | In buffer area only |
| Kogia sima as Kogia simus<br>Dwarf Sperm Whale [85043] | | Species or species habitat may occur within area | In buffer area only |
| Lissodelphis peronii<br>Southern Right Whale Dolphin [44] | | Species or species habitat may occur within area | In buffer area only |
| Megaptera novaeangliae<br>Humpback Whale [38] | | Species or species habitat known to occur within area | In feature area |
| Mesoplodon bowdoini<br>Andrew's Beaked Whale [73] | | Species or species habitat may occur within area | In buffer area only |
| Mesoplodon densirostris<br>Blainville's Beaked Whale, Dense-beaked Whale [74] | | Species or species habitat may occur within area | In buffer area only |
| Mesoplodon grayi<br>Gray's Beaked Whale, Scamperdown Whale [75] | | Species or species habitat may occur within area | In buffer area only |
| Mesoplodon layardii<br>Strap-toothed Beaked Whale, Strap-toothed Whale, Layard's Beaked Whale [25556] | | Species or species habitat may occur within area | In buffer area only |
| Mesoplodon mirus<br>True's Beaked Whale [54] | | Species or species habitat may occur within area | In buffer area only |

| Current Scientific Name | Status | Type of Presence | Buffer Status |
|---|---|---|---|
| Orcinus orca<br>Killer Whale, Orca [46] | | Species or species habitat may occur within area | In feature area |
| Peponocephala electra<br>Melon-headed Whale [47] | | Species or species habitat may occur within area | In buffer area only |
| Physeter macrocephalus<br>Sperm Whale [59] | | Species or species habitat may occur within area | In buffer area only |
| Sousa sahulensis as Sousa chinensis<br>Australian Humpback Dolphin [87942] | | Species or species habitat likely to occur within area | In feature area |
| Stenella attenuata<br>Spotted Dolphin, Pantropical Spotted Dolphin [51] | | Species or species habitat may occur within area | In feature area |
| Stenella coeruleoalba<br>Striped Dolphin, Euphrosyne Dolphin [52] | | Species or species habitat may occur within area | In buffer area only |
| Stenella longirostris<br>Long-snouted Spinner Dolphin [29] | | Species or species habitat may occur within area | In buffer area only |
| Steno bredanensis<br>Rough-toothed Dolphin [30] | | Species or species habitat may occur within area | In buffer area only |
| Tursiops aduncus<br>Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418] | | Species or species habitat likely to occur within area | In feature area |
| Tursiops truncatus s. str.<br>Bottlenose Dolphin [68417] | | Species or species habitat may occur within area | In feature area |
| Ziphius cavirostris<br>Cuvier's Beaked Whale, Goose-beaked Whale [56] | | Species or species habitat may occur within area | In buffer area only |

## Extra Information

| State and Territory Reserves | | | [ Resource Information ] |
|---|---|---|---|
| Protected Area Name | Reserve Type | State | Buffer Status |
| Goolawah | National Park | NSW | In buffer area only |
| Goolawah | Regional Park | NSW | In buffer area only |
| Limeburners Creek | National Park | NSW | In feature area |

| Regional Forest Agreements | | [ Resource Information ] |
|---|---|---|
| Note that all areas with completed RFAs have been included. | | |
| RFA Name | State | Buffer Status |
| North East NSW RFA | New South Wales | In feature area |

| Nationally Important Wetlands | | [ Resource Information ] |
|---|---|---|
| Wetland Name | State | Buffer Status |
| Limeburners Creek Nature Reserve | NSW | In feature area |

| EPBC Act Referrals | | | | [ Resource Information ] |
|---|---|---|---|---|
| Title of referral | Reference | Referral Outcome | Assessment Status | Buffer Status |
| 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 |
| Referral decision | | | | |
| Breeding program for Grey Nurse Sharks | 2007/3245 | Referral Decision | Completed | In feature area |

| Biologically Important Areas | | | |
|---|---|---|---|
| Scientific Name | Behaviour | Presence | Buffer Status |
| Dolphins | | | |
| Tursiops aduncus | | | |
| Indo-Pacific/Spotted Bottlenose Dolphin [68418] | Breeding | Likely to occur | In feature area |
| Seabirds | | | |

| Scientific Name | Behaviour | Presence | Buffer Status |
|---|---|---|---|
| Ardenna carneipes<br>Flesh-footed Shearwater [82404] | Foraging | Known to occur | In buffer area only |
| Ardenna pacifica<br>Wedge-tailed Shearwater [84292] | Foraging | Likely to occur | In buffer area only |
| Procellaria parkinsoni<br>Black Petrel [1048] | Foraging | Likely to occur | In buffer area only |
| **Sharks** | | | |
| Carcharias taurus<br>Grey Nurse Shark [64469] | Foraging | Known to occur | In feature area |
| Carcharodon carcharias<br>White Shark [64470] | Distribution | Known to occur | In buffer area only |
| **Whales** | | | |
| Megaptera novaeangliae<br>Humpback Whale [38] | Foraging | Known to occur | 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.

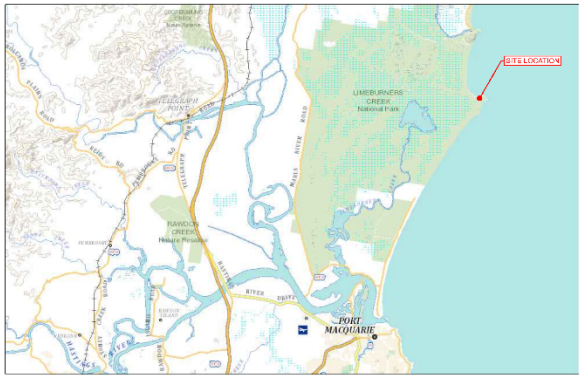

Department of Agriculture Water and the Environment
GPO Box 858
Canberra City ACT 2601 Australia
+61 2 6274 1111

# Appendix C: Point Plomer campground overall upgrade plan

# NATIONAL PARKS & WILDLIFE SERVICE

## PLOMER CAMPGROUND
## SITES AND ACCESS ROAD UPGRADE

LOCALITY MAP




INDEX

| SHEET No. | DESCRIPTION |
|---|---|
| 1 | COVER SHEET |
| 2 | GENERAL ARRANGEMENT PLAN |
| 3 | TYPICAL CROSS SECTIONS |
| 4 | ROAD 1, PLAN AND LONGITUDINAL SECTION, SHEET 1 OF 2 |
| 5 | ROAD 1, PLAN AND LONGITUDINAL SECTION, SHEET 2 OF 2 |
| 6 | ROAD 2, PLAN AND LONGITUDINAL SECTION, SHEET 1 OF 3 |
| 7 | ROAD 2, PLAN AND LONGITUDINAL SECTION, SHEET 2 OF 3 |
| 8 | ROAD 2, PLAN AND LONGITUDINAL SECTION, SHEET 3 OF 3 |
| 9 | ROAD 3, PLAN AND LONGITUDINAL SECTION, SHEET 1 OF 2 |
| 10 | ROAD 3, PLAN AND LONGITUDINAL SECTION, SHEET 2 OF 2 |
| 11 | ROAD 4, PLAN AND LONGITUDINAL SECTION |
| 12 | ROAD 5, PLAN AND LONGITUDINAL SECTION |
| 13 | ROAD 1, CROSS SECTIONS, SHEET 1 OF 4 |
| 14 | ROAD 1, CROSS SECTIONS, SHEET 2 OF 4 |
| 15 | ROAD 1, CROSS SECTIONS, SHEET 3 OF 4 |
| 16 | ROAD 1, CROSS SECTIONS, SHEET 4 OF 4 |
| 17 | GENERAL LAYOUT PLAN, SHEET 1 OF 3 |
| 18 | GENERAL LAYOUT PLAN, SHEET 2 OF 3 |
| 19 | GENERAL LAYOUT PLAN, SHEET 3 OF 3 |
| 20 | EARTHWORKS CUT/FILL PLAN, SHEET 1 OF 3 |
| 21 | EARTHWORKS CUT/FILL PLAN, SHEET 2 OF 3 |
| 22 | EARTHWORKS CUT/FILL PLAN, SHEET 3 OF 3 |

GENERAL NOTES

IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND LEVEL ALL SERVICES ADJACENT TO OR OTHERWISE AFFECTING THE WORKS PRIOR TO THE COMMENCEMENT OF WORKS, WHETHER OR NOT THEY ARE INDICATED ON THE DRAWINGS. WHERE SERVICES CONFLICT WITH PROJECT WORKS THEY ARE TO BE RELOCATED ON APPROVAL FROM THE PRINCIPAL'S AUTHORISED PERSONNEL (P.A.P.). THE CONTRACTOR, ON APPROVAL FROM THE P.A.P., SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST AS FOUND NECESSARY.

EXISTING SIGNS TO BE REUSED PROVIDED THEY ARE IN A GOOD AND SERVICEABLE CONDITION TO THE SATISFACTION OF THE P.A.P., OTHERWISE, REPLACE WITH A NEW, EQUIVALENT SIGN.

IT IS THE CONTRACTORS RESPONSIBILITY TO SUPPLY AND IMPLEMENT CONTEMPORARY SITE-SPECIFIC EROSION AND SEDIMENT CONTROL MEASURES AS PART OF THEIR ENVIRONMENTAL MANAGEMENT PLAN FOR THE PROJECT. THE CONTROL MEASURES SHALL BE IN ACCORDANCE WITH COUNCIL SPECIFICATIONS AND THE BLUE BOOK. THE CONTRACTOR SHALL, PRIOR TO COMMENCEMENT OF WORKS, PREPARE AND SUBMIT TO COUNCIL AN EROSION AND SEDIMENT CONTROL PLAN.

ALL DISTURBED AREAS ARE TO BE REGENERATED AND RESTORED TO PRE-EXISTING CONDITION. APPLY GRASS SEED AND EMULSION SPRAY AT 1.5L/M2 TO BANKS OR DISTURBED AREAS INCLUDING ALL GRAVEL BATTERS. RE-APPLICATION MAY BE REQUIRED WHERE THE STRIKE RATE IS INSUFFICIENT IN THE OPINION OF THE P.A.P.

THE CONTRACTOR SHALL NOT ENTER UPON OR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT PRIOR WRITTEN PERMISSION OF THE LAND OWNER AND COUNCIL.

THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN IN A SAFE CONDITION AN ALL WEATHER ACCESS TO THE ROADWAYS AND PROPERTIES ADJACENT TO THE SITE TO THE SATISFACTION OF COUNCIL.

THE CONTRACTOR SHALL UNDERTAKE TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH THE WORK HEALTH AND SAFETY ACT 2011.

THE CONTRACTOR SHALL CLEAR AND DISPOSE OF THOSE TREES THAT ARE LOCATED WITHIN 1M OF EARTHWORKS, SERVICE LINES AND/OR AS IDENTIFIED BY THE P.A.P. CLEARING AND GRUBBING SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION. TREES TO BE RETAINED ON SITE SHALL BE PROTECTED BY THE ERECTION OF PROTECTIVE FENCING PRIOR TO COMMENCEMENT OF SITE WORKS.

CLEARING IS DEFINED AS: CUTTING DOWN, FELLING, THINNING, LOGGING OR REMOVING NATIVE VEGETATION; KILLING, DESTROYING, POISONING, RING BARKING, UPROOTING, OF NATIVE VEGETATION; SEVERING TOPPING OR LOPPING BRANCHES, LIMBS, STEMS OR TRUNKS OF NATIVE VEGETATION; OR SUBSTANTIALLY DAMAGING OR INJURING NATIVE VEGETATION IN ANY OTHER WAY.

ALL EXISTING CULVERTS ARE TO BE CLEANED AND VEGETATION TO BE REMOVED FROM INLET AND OUTLET TO RE-ESTABLISH A CLEAR WATERWAY.

ALL EXISTING CULVERTS ARE TO BE INSPECTED DURING CONSTRUCTION TO ENSURE THEY ARE STRUCTURALLY SOUND. DAMAGED SECTIONS OF CULVERTS MAY BE REPLACED UPON APPROVAL FROM THE P.A.P.

SUB-SOIL DRAINAGE TO BE CONSTRUCTED USING LEVEL EQUIPMENT AND TO BE INCLUDED IN WORK AS EXECUTED PLANS.

LGES IN NO WAY CERTIFY THE STRUCTURAL INTEGRITY, NOR STRUCTURAL CAPACITY OF EXISTING STRUCTURES WITHIN THE WORKS. IF THE CONTRACTOR DEEMS AN EXISTING STRUCTURE TO BE STRUCTURALLY UNSOUND, CONTACT THE PRINCIPAL'S REP. (P.A.P.)

DETAIL SURVEY

1. THIS SURVEY PLAN/DATA HAS BEEN PREPARED FOR NATIONAL PARKS AND WILDLIFE SERVICE FROM FIELD SURVEY FOR THE PURPOSE OF SHOWING THE PHYSICAL FEATURES, TOPOGRAPHY AND LEVELS FOR STORMWATER ANALYSIS. THE INFORMATION SHOWN HEREIN IS ONLY RELIABLE FOR THIS PURPOSE AND SHOULD NOT BE USED FOR OTHER PURPOSE OR AT A LATER DATE WITHOUT VERIFICATION. IT IS NOTED THAT PORTIONS OF THE SURVEY HAVE BEEN UNDERTAKEN BY LAND DYNAMICS AND PROVIDED TO LGES BY NPWS TO BE INCLUDED IN THE SURVEY. LGES ACCEPTS NO RESPONSIBILITY AS TO THE PROVIDED SURVEY

2. SURVEY IS ON MGA94 ZONE 56 COORDINATES, DERIVED FROM GDA94, VIA RTK GNSS CONNECTION TO PM54494. MEAN COMBINED SCALE FACTOR (CSF) = 0.99996. LEVELS ARE APPROXIMATE AHD'71 OBTAINED BY GNSS CONNECTION. ORIGIN OF LEVELS PM54494, RL 38.443m AHD, CLASS B ORDER 2 (SOURCE: SCIMS 20.02.16)

3. BOUNDARIES HAVE NOT BEEN SURVEYED. FENCELINES SHOWN ARE INDICATIVE OF POSITION ONLY AND DO NOT REFLECT CADASTRAL BOUNDARIES.

4. UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. UTILITY LOCATING WORKS UNDERTAKEN BY LAND DYNAMICS AUSTRALIA IDENTIFIED A SERIES OF ELECTRICAL ASSETS WITHIN THE CAMPGROUND AREA. THE PROVIDED SURVEY OF THESE LOCATIONS ARE AT GROUND LEVEL ONLY AND DO NOT CONTAIN DEPTH. LGES ACCEPTS NO RESPONSIBILITY AS TO THEIR LOCATION OR ACCURACY. FURTHER INVESTIGATION OF THESE ASSETS IS REQUIRED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. WATER AND SEWER ASSETS HAVE NOT BEEN INVESTIGATED OTHER THAN WHERE THEY ARE VISUALLY APPARENT AND WILL REQUIRE LOCATING PRIOR TO CONSTRUCTION.

5. ALL SYMBOLS SHOWN ARE DIAGRAMMATIC ONLY AND NOT TO SCALE. TREE DIMENSIONS SHOWN ARE DIAMETERS. IN AREAS OF DENSE VEGETATION, THE TREE LINE HAS BEEN SURVEYED AT THE APPROXIMATE DRIP LINE OF THE VEGETATION.

6. THIS NOTE FORMS PART OF THIS PLAN/DATA. REPRODUCTION OF THIS PLAN/DATA OR ANY PART OF IT WITHOUT THIS NOTE BEING INCLUDED IN FULL WILL RENDER THE INFORMATION SHOWN ON SUCH REPRODUCTION INVALID AND NOT SUITABLE FOR USE.

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|---|---|---|---|
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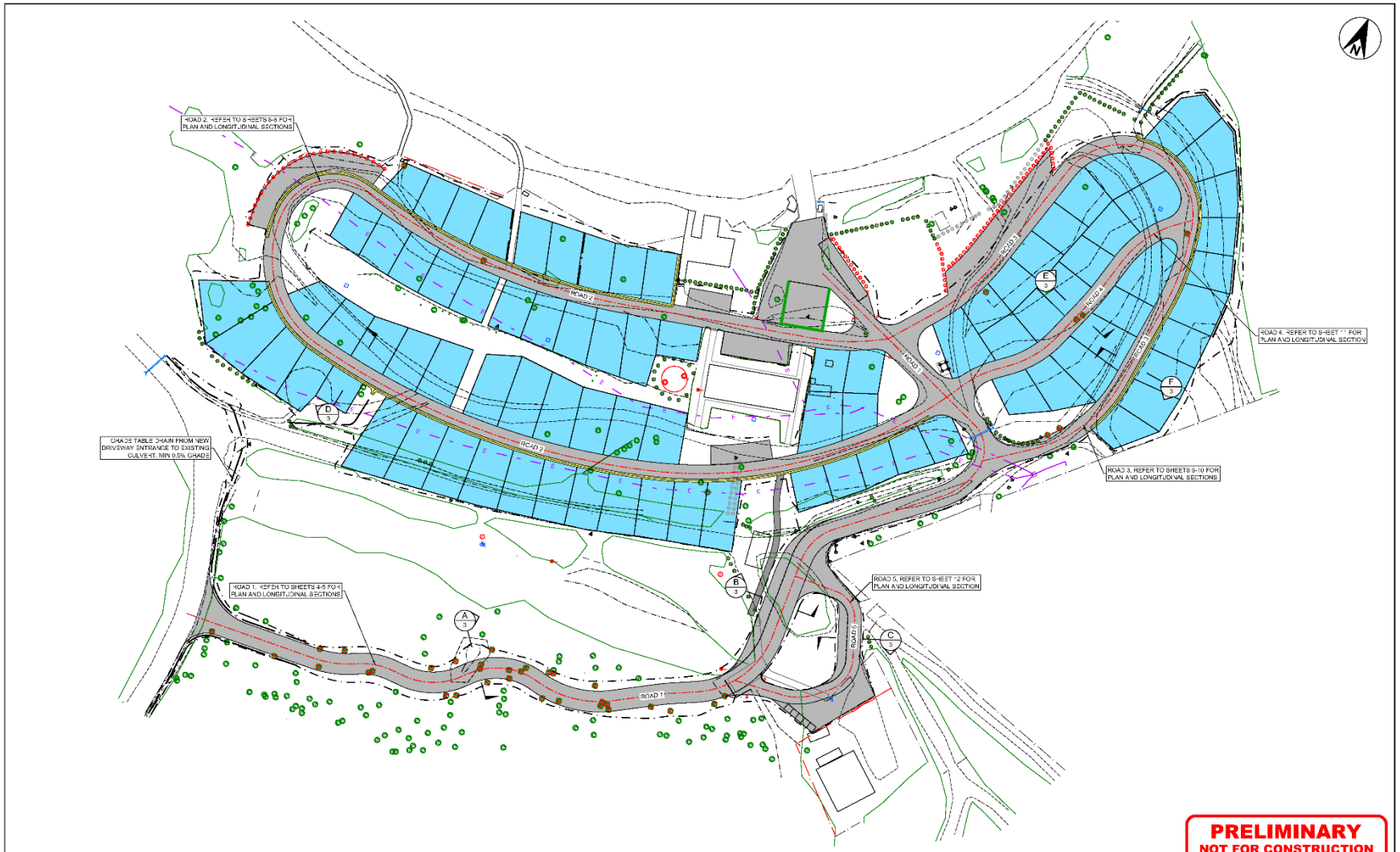
LG ES LOCAL GOVERNMENT ENGINEERING SERVICES
Pty Ltd ABN 64 655 099 537
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65545855
Email: john@lges.com.au
Web: www.lges.com.au
Inverell
13 Byron Street, Inverell NSW 2360
Ph: 02 67225130
Email: andrew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
COVER SHEET
SCALES: A1 ORIGINAL
FILE NAME: PM775_D01.dwg

| | | DATE |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
| DESIGNED | L.W | 01/10/22 |
| APPROVED | J.C | 04/10/22 |
| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-01
ISSUE: B
SHEET No.: 1 OF 22
STATUS: PRELIMINARY
REG. No.:

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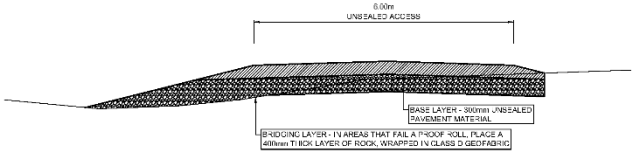
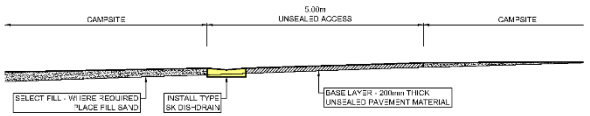
LG ES LOCAL GOVERNMENT ENGINEERING SERVICES
Pty Ltd ABN 84 055 089 557
Web: www.lges.com.au
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

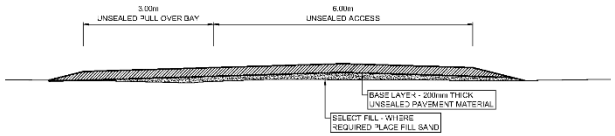
CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
GENERAL ARRANGEMENT PLAN
SCALES: A1 ORIGINAL
SCALE 1:500
FILE NAME: PM775_D01.dwg
DRAWN: L.W DATE: 01/10/22
DESIGNED: L.W DATE: 01/10/22
APPROVED: J.C DATE: 04/10/22
DATUM: AHD
JOB No.: PM775
DOCUMENT No.: D01-02
ISSUE: B
SHEET No.: 2 OF 22
STATUS: PRELIMINARY
REG. No.: -



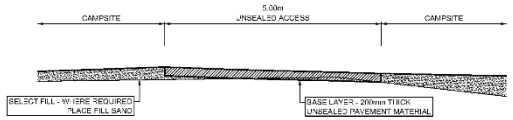

TYPICAL SECTION A
SCALE 1:50



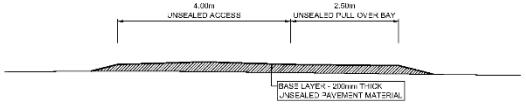

TYPICAL SECTION D
SCALE 1:50



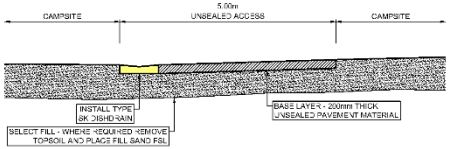

TYPICAL SECTION B
SCALE 1:50




TYPICAL SECTION E
SCALE 1:50




TYPICAL SECTION C
SCALE 1:50




TYPICAL SECTION F
SCALE 1:50

**PRELIMINARY**
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| B | ISSUED TO CLIENT FOR APPROVAL | L.W | 09/11/22 |
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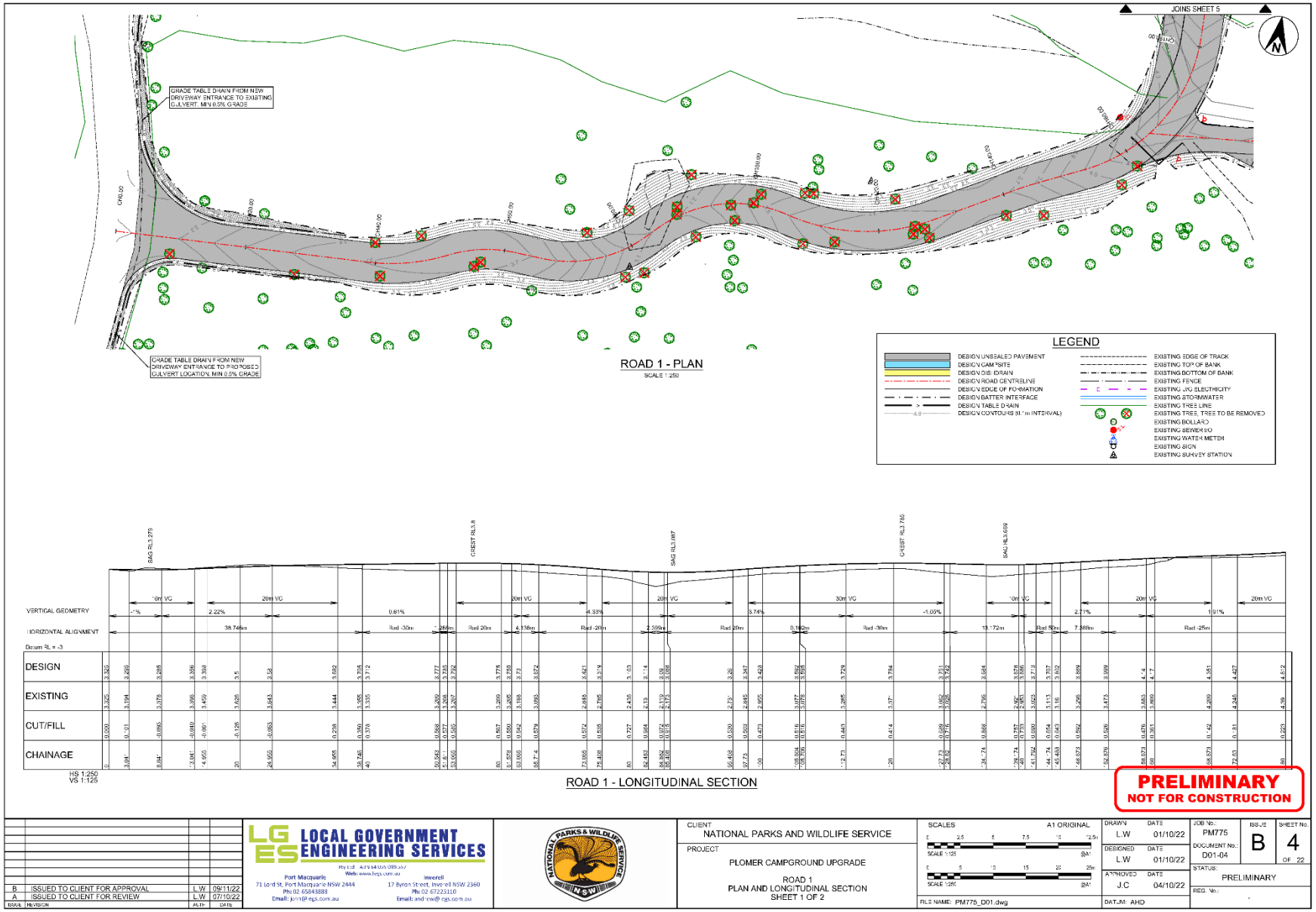
LOCAL GOVERNMENT ENGINEERING SERVICES
Pty Ltd ABN 84 005 089 557
Web: www.lges.com.au
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
TYPICAL CROSS SECTIONS

SCALES: A1 ORIGINAL
SCALE 1:50
FILE NAME: PM775_D01.dwg

| | | DATE |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
| DESIGNED | L.W | 01/10/22 |
| APPROVED | J.C | 04/10/22 |
| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-03
ISSUE: B
SHEET No.: 3 OF 22
STATUS: PRELIMINARY
REG. No.: -




| ISSUE | REVISION | AUTH | DATE |
|---|---|---|---|
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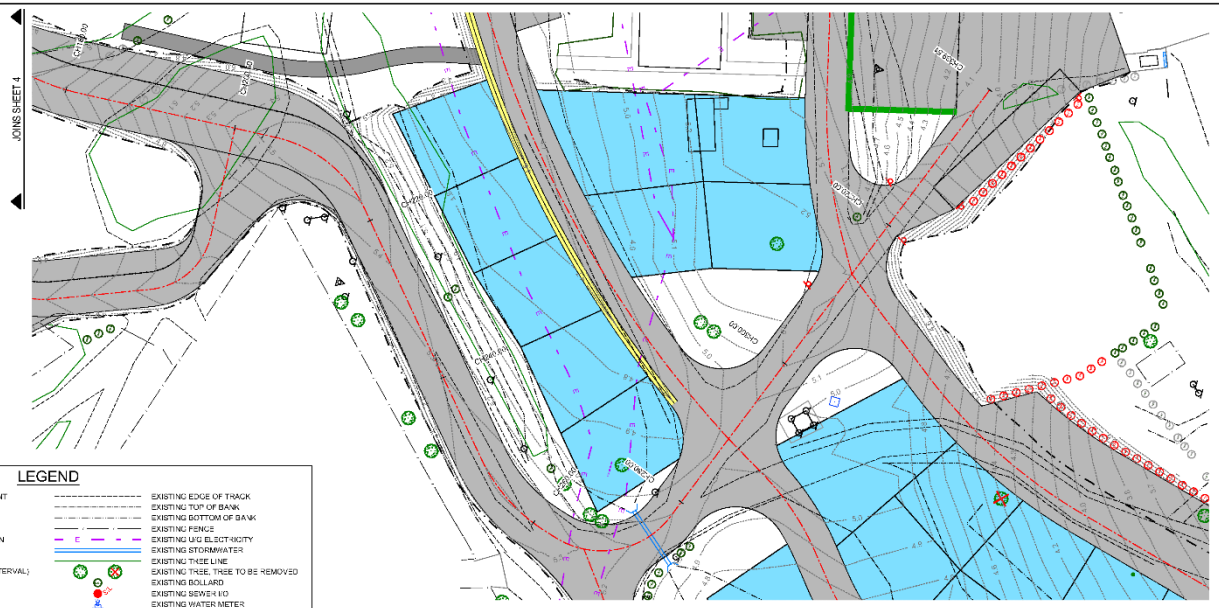
LOCAL GOVERNMENT ENGINEERING SERVICES
Pty Ltd ABN 84 065 089 557
Web: www.lges.com.au
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
ROAD 1
PLAN AND LONGITUDINAL SECTION
SHEET 1 OF 2

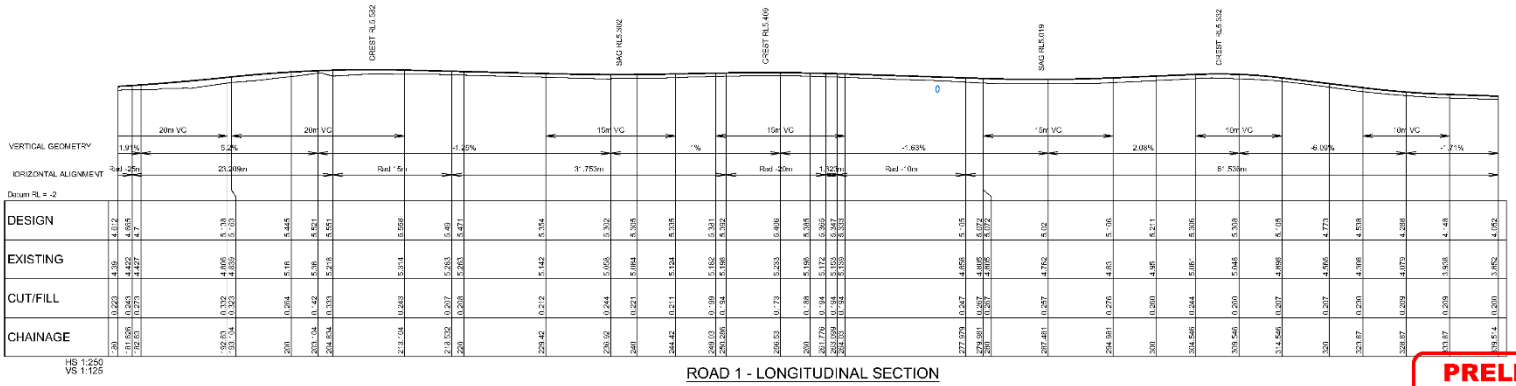
SCALES: A1 ORIGINAL
SCALE 1:125
SCALE 1:250
FILE NAME: PM775_D01.dwg

| | | |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
| DESIGNED | L.W | 01/10/22 |
| APPROVED | J.C | 04/10/22 |
| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-04
ISSUE: B
SHEET No.: 4 OF 22
STATUS: PRELIMINARY
REG. No.: -




ROAD 1 - PLAN
SCALE 1:250




ROAD 1 - LONGITUDINAL SECTION

**PRELIMINARY**
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Pty Ltd ABN 84 055 089 557
Web: www.lges.com.au
Port Macquarie: 71 Lord St, Port Macquarie NSW 2444, Ph: 02 65843888, Email: pom@lges.com.au
Inverell: 17 Byron Street, Inverell NSW 2360, Ph: 02 67223110, Email: and-ew@lges.com.au

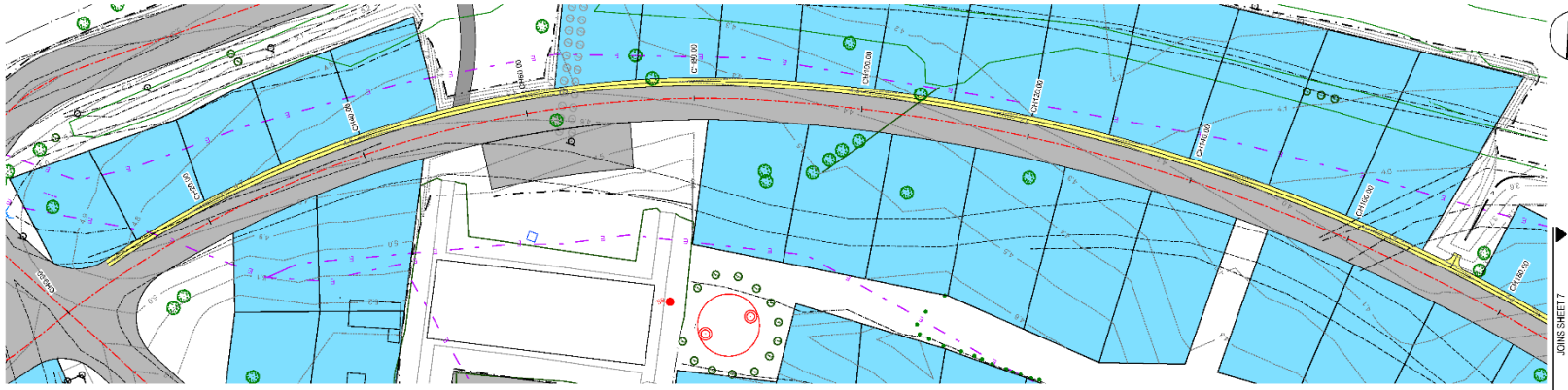
CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
ROAD 1
PLAN AND LONGITUDINAL SECTION
SHEET 2 OF 2

SCALES: A1 ORIGINAL
SCALE 1:125 @A1
SCALE 1:250 @A1
FILE NAME: PM775_D01.dwg

| | | DATE |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
| DESIGNED | L.W | 01/10/22 |
| APPROVED | J.C | 04/10/22 |

DATUM: AHD

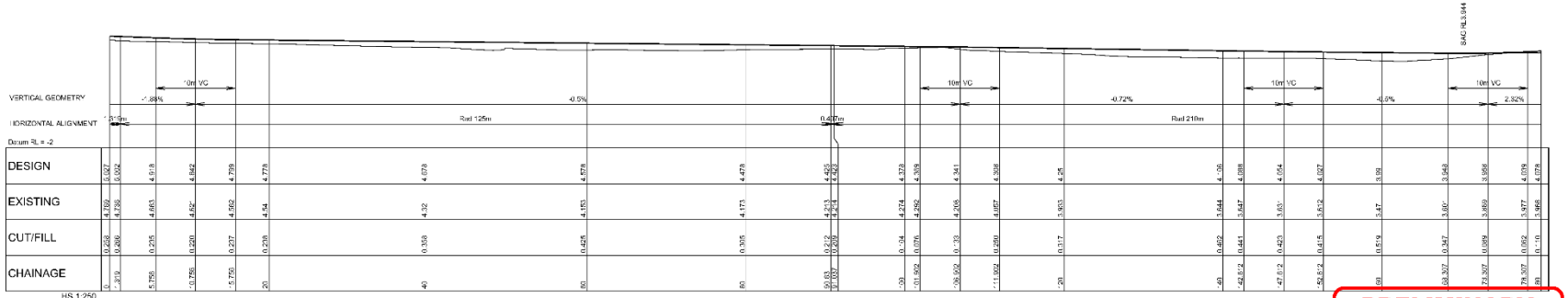
JOB No.: PM775
DOCUMENT No.: D01-05
ISSUE: B
SHEET No.: 5 OF 22
STATUS: PRELIMINARY
REG. No.: -




ROAD 2 - PLAN
SCALE 1:250

LEGEND

- DESIGN UNSEALED PAVEMENT
- DESIGN CAMPSITE
- DESIGN DISH DRAIN
- DESIGN ROAD CENTRELINE
- DESIGN EDGE OF FORMATION
- DESIGN BATTER INTERFACE
- DESIGN TABLE DRAIN
- DESIGN CONTOURS (0.1m INTERVAL)
- EXISTING EDGE OF TRACK
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- EXISTING FENCE
- EXISTING UG ELECTRICITY
- EXISTING STORMWATER
- EXISTING TREE LINE
- EXISTING TREE, TREE TO BE REMOVED
- EXISTING BOLLARD
- EXISTING SEWER MH
- EXISTING WATER METER
- EXISTING SIGN
- EXISTING SURVEY STATION




HS 1:250
VS 1:125

ROAD 2 - LONGITUDINAL SECTION

**PRELIMINARY**
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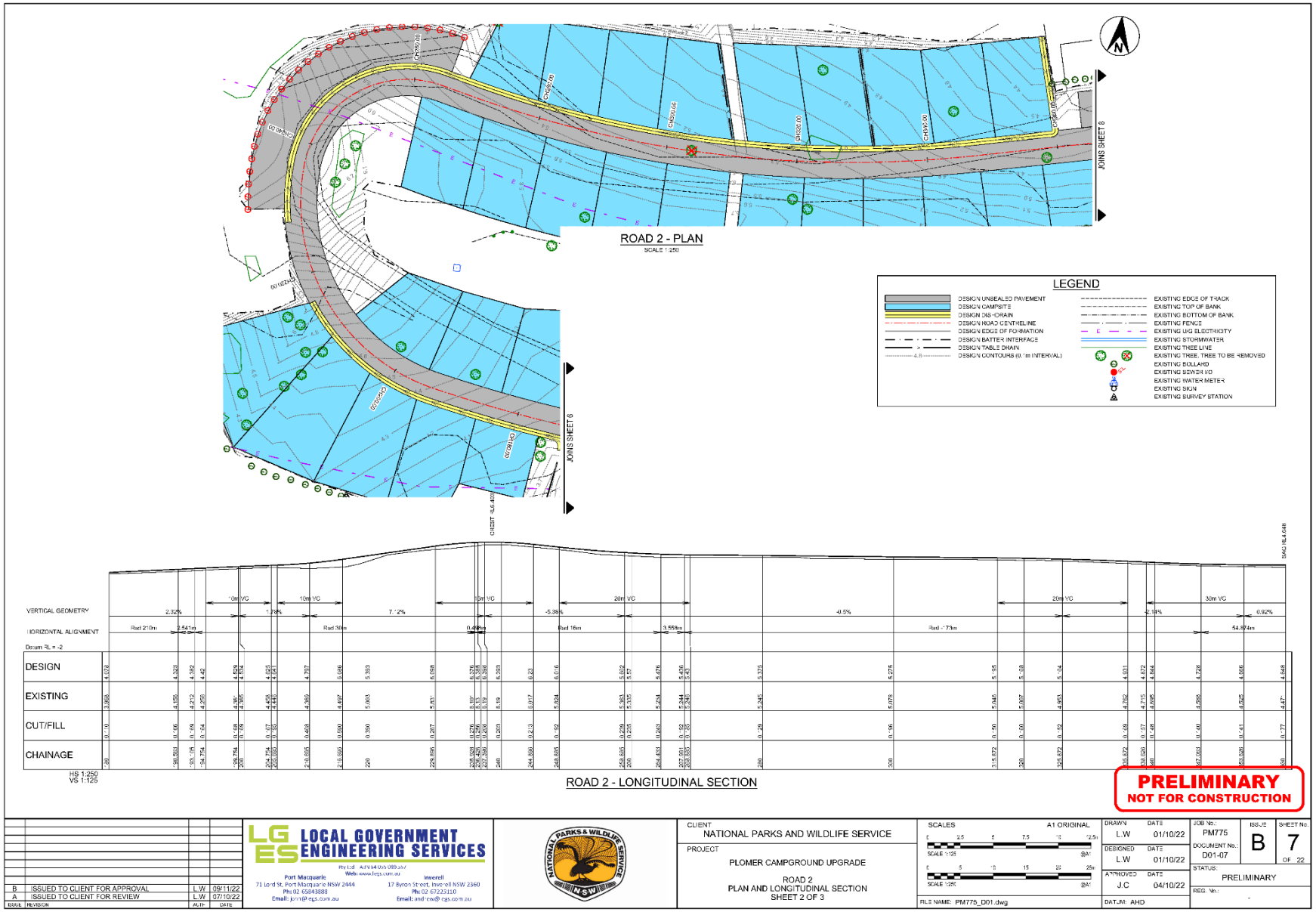
LOCAL GOVERNMENT ENGINEERING SERVICES
Pty Ltd ABN 84 065 089 557
Web: www.lges.com.au
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
ROAD 2
PLAN AND LONGITUDINAL SECTION
SHEET 1 OF 3

SCALES: A1 ORIGINAL
SCALE 1:125
SCALE 1:250
FILE NAME: PM775_D01.dwg

| | | |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
| DESIGNED | L.W | 01/10/22 |
| APPROVED | J.C | 04/10/22 |
| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-06
ISSUE: B
SHEET No.: 6 OF 22
STATUS: PRELIMINARY
REG. No.: -




| ISSUE | REVISION | AUTH | DATE |
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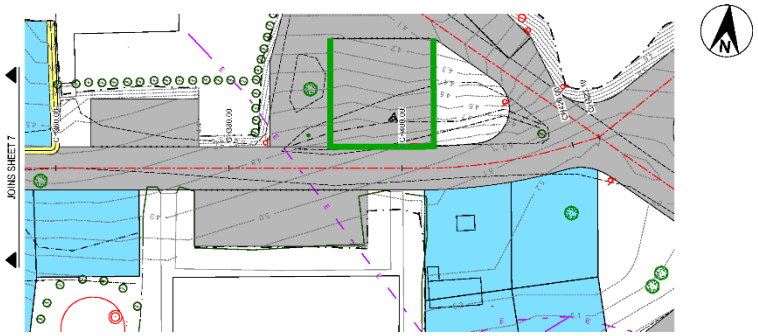
LOCAL GOVERNMENT ENGINEERING SERVICES
Pty Ltd ABN 84 065 089 557
Web: www.lges.com.au
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
ROAD 2
PLAN AND LONGITUDINAL SECTION
SHEET 2 OF 3

SCALES: A1 ORIGINAL
SCALE 1:125
SCALE 1:250
FILE NAME: PM775_D01.dwg

| | | |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
| DESIGNED | L.W | 01/10/22 |
| APPROVED | J.C | 04/10/22 |
| DATUM: AHD | | |

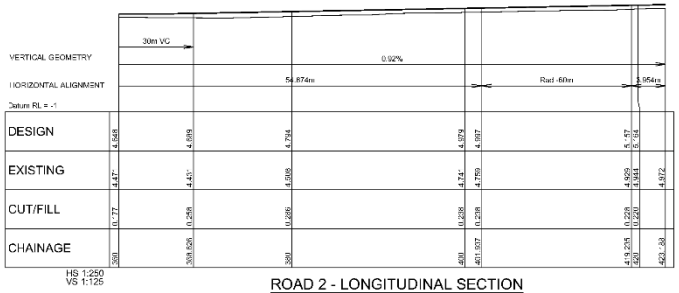
JOB No.: PM775
DOCUMENT No.: D01-07
ISSUE: B
SHEET No.: 7 OF 22
STATUS: PRELIMINARY
REG. No.: -




ROAD 2 - PLAN
SCALE 1:250

LEGEND

| | |
|---|---|
| DESIGN UNSEALED PAVEMENT | EXISTING EDGE OF TRACK |
| DESIGN CARPARK | EXISTING TOP OF BANK |
| DESIGN DRAINAGE | EXISTING BOTTOM OF BANK |
| DESIGN ROAD CENTRELINE | EXISTING FENCE |
| DESIGN EDGE OF FORMATION | EXISTING U/G ELECTRICITY |
| DESIGN BATTER INTERFACE | EXISTING STORMWATER |
| DESIGN TABLE DRAIN | EXISTING TREE LINE |
| DESIGN CONTOURS (0.1m INTERVAL) | EXISTING TREE, TREE TO BE REMOVED |
| | EXISTING BOLLARD |
| | EXISTING SEWER MH |
| | EXISTING WATER METER |
| | EXISTING SIGN |
| | EXISTING SURVEY STATION |




HS 1:250
VS 1:125

ROAD 2 - LONGITUDINAL SECTION

**PRELIMINARY**
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| B | ISSUED TO CLIENT FOR APPROVAL | LW | 09/11/22 |
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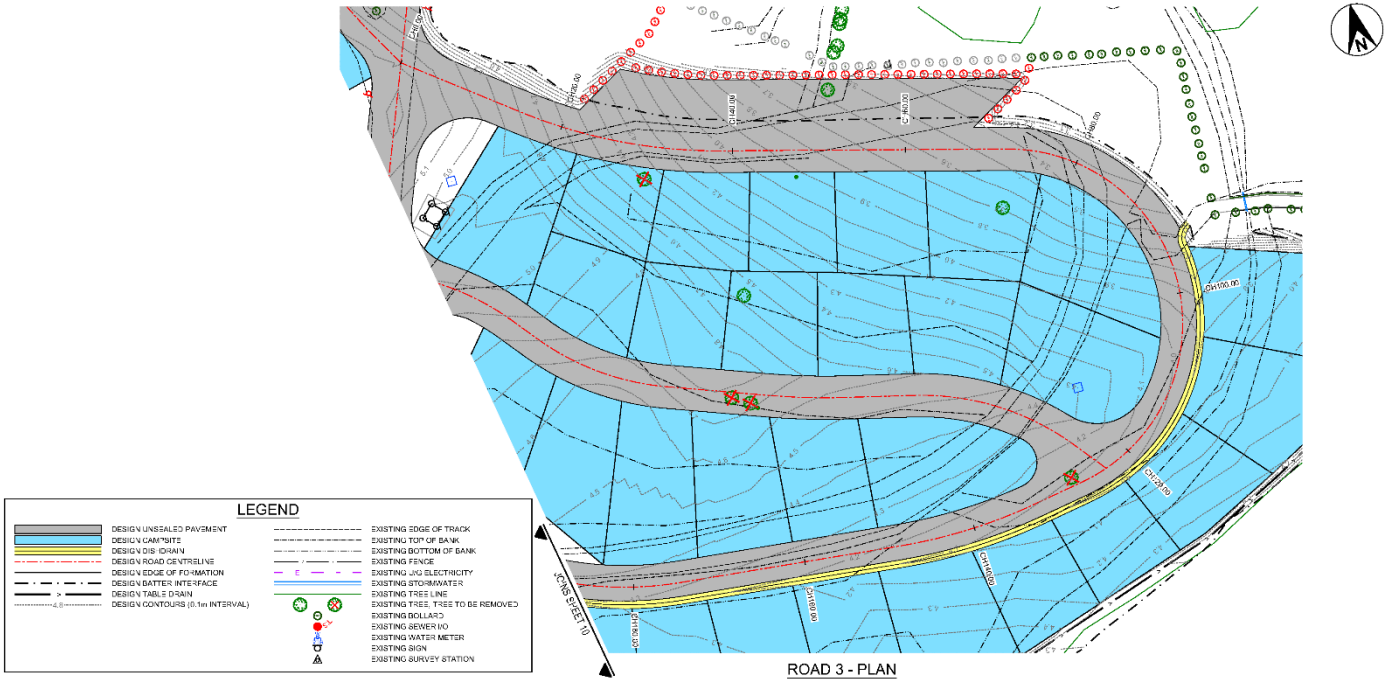
LOCAL GOVERNMENT ENGINEERING SERVICES
Pty Ltd ABN 84 065 089 557
Web: www.lges.com.au
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
ROAD 2
PLAN AND LONGITUDINAL SECTION
SHEET 3 OF 3

SCALES: A1 ORIGINAL
SCALE 1:125
SCALE 1:250
FILE NAME: PM775_D01.dwg

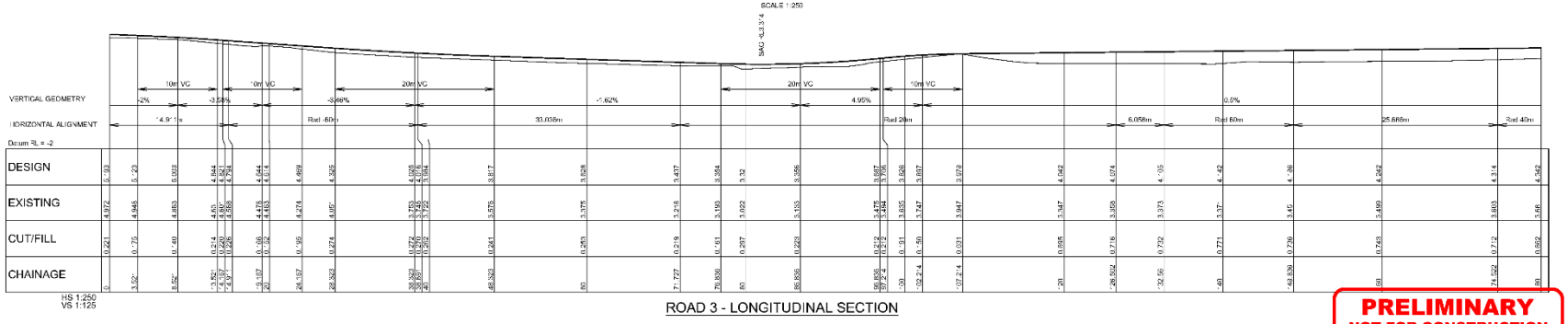
| | | |
|---|---|---|
| DRAWN | LW | 01/10/22 |
| DESIGNED | LW | 01/10/22 |
| APPROVED | JC | 04/10/22 |
| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-08
ISSUE: B
SHEET No.: 8 OF 22
STATUS: PRELIMINARY
REG. No.: -




ROAD 3 - PLAN

SCALE 1:250




ROAD 3 - LONGITUDINAL SECTION

HS 1:250
VS 1:125

**PRELIMINARY**
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Pty Ltd ABN 84 065 089 557
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Web: www.lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE

PROJECT: PLOMER CAMPGROUND UPGRADE

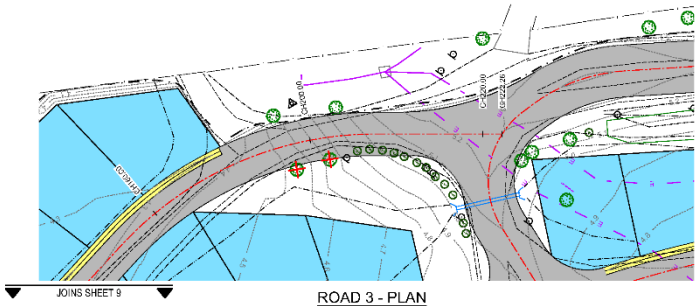
ROAD 3
PLAN AND LONGITUDINAL SECTION
SHEET 1 OF 2

SCALES: A1 ORIGINAL
SCALE 1:125
SCALE 1:250

FILE NAME: PM775_D01.dwg

| | | |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
| DESIGNED | L.W | 01/10/22 |
| APPROVED | J.C | 04/10/22 |
| DATUM: AHD | | |

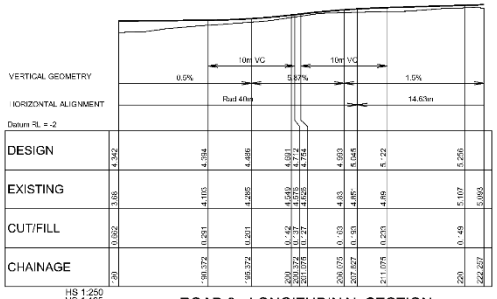
JOB No.: PM775
DOCUMENT No.: D01-09
ISSUE: B
SHEET No.: 9 OF 22
STATUS: PRELIMINARY
REG. No.: -




ROAD 3 - PLAN
SCALE 1:250

LEGEND

- DESIGN UNSEALED PAVEMENT
- DESIGN CARPARK
- DESIGN DISH DRAIN
- DESIGN ROAD CENTRELINE
- DESIGN EDGE OF FORMATION
- DESIGN BATTER INTERFACE
- DESIGN TABLE DRAIN
- DESIGN CONTOURS (0.1m INTERVAL)
- EXISTING EDGE OF TRACK
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- EXISTING FENCE
- EXISTING HV ELECTRICITY
- EXISTING STORMWATER
- EXISTING TREE LINE
- EXISTING TREE, TREE TO BE REMOVED
- EXISTING BOLLARD
- EXISTING SEWER MH
- EXISTING WATER METER
- EXISTING SIGN
- EXISTING SURVEY STATION




HS 1:250
VS 1:125

ROAD 3 - LONGITUDINAL SECTION

**PRELIMINARY**
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| ISSUE | REVISION | AUTH | DATE |
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LOCAL GOVERNMENT ENGINEERING SERVICES
Pty Ltd ABN 84 065 089 557
Web: www.lges.com.au
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: john@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: andrew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE

PROJECT: PLOMER CAMPGROUND UPGRADE

ROAD 3
PLAN AND LONGITUDINAL SECTION
SHEET 2 OF 2

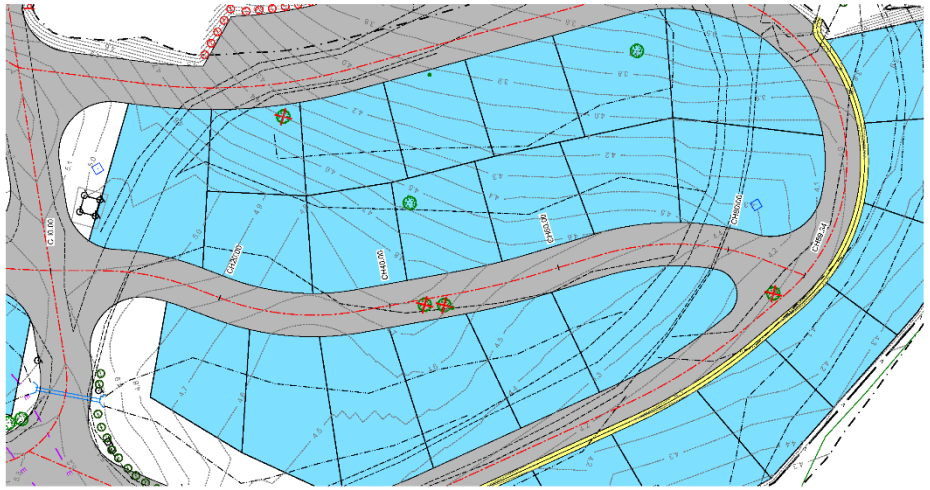
SCALES: A1 ORIGINAL
SCALE 1:125
SCALE 1:250

FILE NAME: PM775_D01.dwg

| | | |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
| DESIGNED | L.W | 01/10/22 |
| APPROVED | J.C | 04/10/22 |

DATUM: AHD

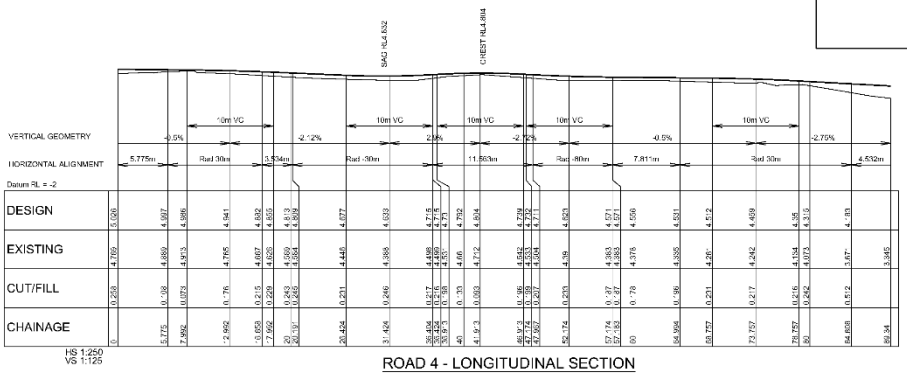
JOB No.: PM775
DOCUMENT No.: D01-10
ISSUE: B
SHEET No.: 10 OF 22
STATUS: PRELIMINARY
REG. No.: -



ROAD 4 - PLAN
SCALE 1:250

LEGEND

DESIGN UNSEALED PAVEMENT
DESIGN CAMPSITE
DESIGN DISH DRAIN
DESIGN ROAD CENTRELINE
DESIGN EDGE OF FORMATION
DESIGN BATTER INTERFACE
DESIGN TABLE DRAIN
DESIGN CONTOURS (0.1m INTERVAL)
EXISTING EDGE OF TRACK
EXISTING TOP OF BANK
EXISTING BOTTOM OF BANK
EXISTING FENCE
EXISTING UNDERGROUND ELECTRICITY
EXISTING STORMWATER
EXISTING TREE LINE
EXISTING TREE, TREE TO BE REMOVED
EXISTING BOLLARD
EXISTING SEWER MH
EXISTING WATER METER
EXISTING SIGN
EXISTING SURVEY STATION




ROAD 4 - LONGITUDINAL SECTION
HS 1:250
VS 1:125

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Port Macquarie
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Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

CLIENT
NATIONAL PARKS AND WILDLIFE SERVICE

PROJECT
PLOMER CAMPGROUND UPGRADE

ROAD 4
PLAN AND LONGITUDINAL SECTION

SCALES A1 ORIGINAL
SCALE 1:125 @A1
SCALE 1:250 @A1

FILE NAME: PM775_D01.dwg

| | | |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
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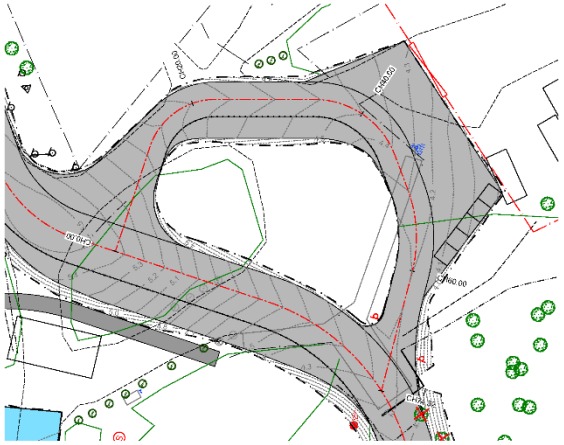
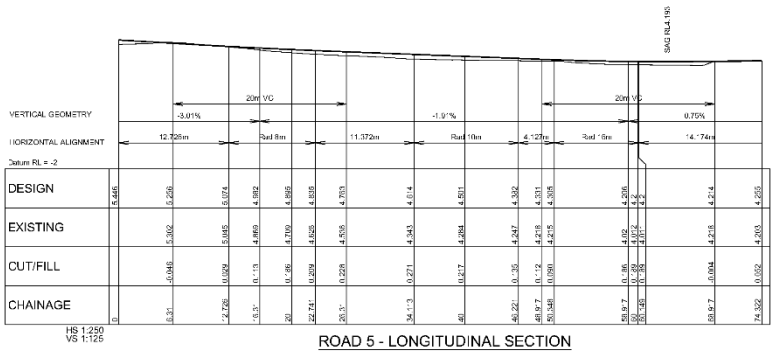
JOB No.: PM775
DOCUMENT No.: D01-11
ISSUE: B
SHEET No.: 11 OF 22
STATUS: PRELIMINARY
REG. No.: -



ROAD 5 - PLAN
SCALE 1:250

LEGEND

- DESIGN UNSEALED PAVEMENT
- DESIGN CAMPSITE
- DESIGN DIS IDRAIN
- DESIGN ROAD CENTRELINE
- DESIGN EDGE OF FORMATION
- DESIGN BATTER INTERFACE
- DESIGN TABLE DRAIN
- DESIGN CONTOURS (0.1m INTERVAL)
- EXISTING EDGE OF TRACK
- EXISTING TOP OF BANK
- EXISTING BOTTOM OF BANK
- EXISTING FENCE
- EXISTING U/G ELECTRICITY
- EXISTING STORMWATER
- EXISTING TREE LINE
- EXISTING TREE, TREE TO BE REMOVED
- EXISTING BOLLARD
- EXISTING SEWER MH
- EXISTING WATER METER
- EXISTING SIGN
- EXISTING SURVEY STATION




ROAD 5 - LONGITUDINAL SECTION

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Web: www.lges.com.au
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
ROAD 5
PLAN AND LONGITUDINAL SECTION

SCALES: A1 ORIGINAL
SCALE 1:125
SCALE 1:250
FILE NAME: PM775_D01.dwg

| | | |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
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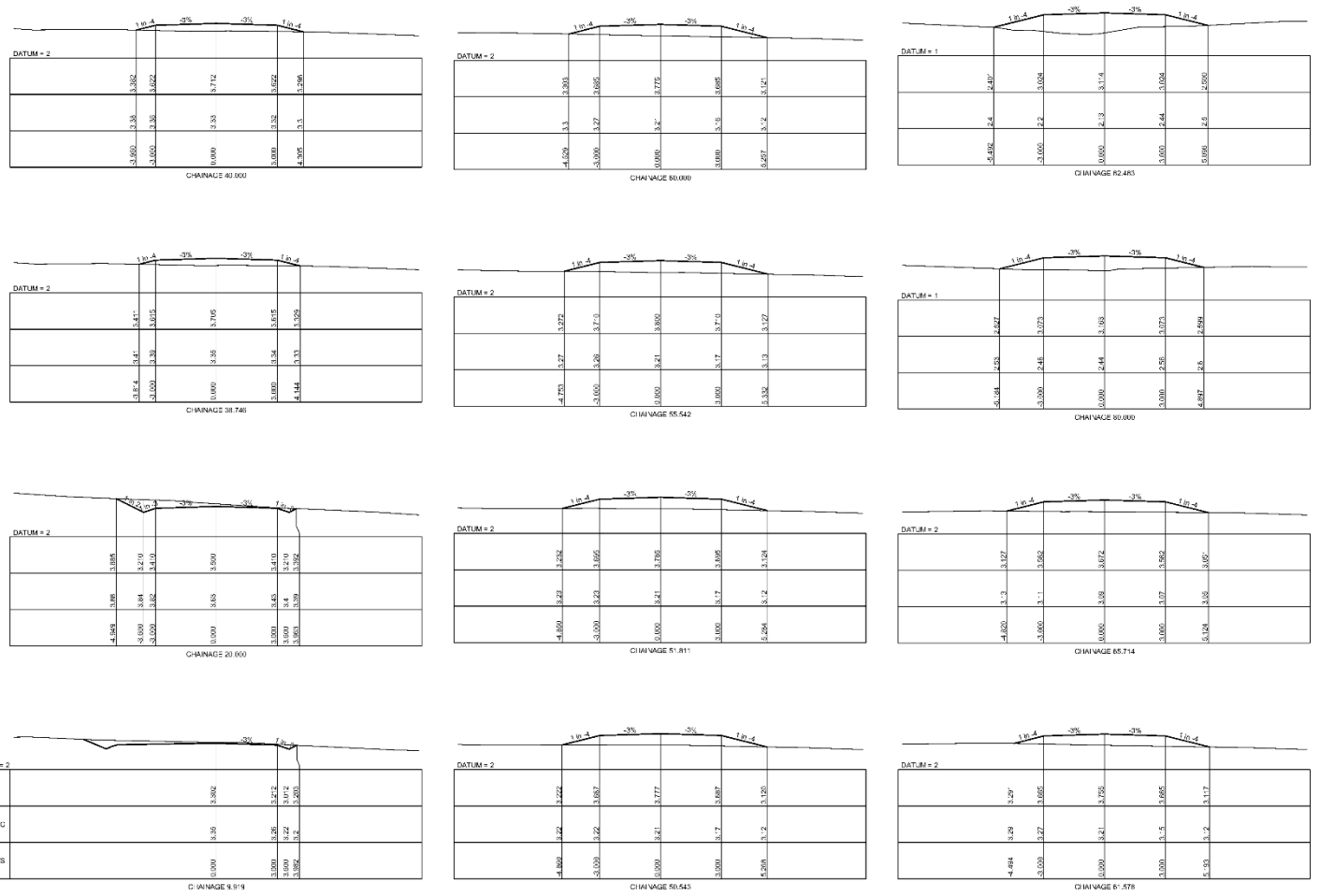
JOB No.: PM775
DOCUMENT No.: D01-12
ISSUE: B
SHEET No.: 12 OF 22
STATUS: PRELIMINARY
REG. No.: -

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Web: www.lges.com.au
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: port@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223100
Email: and rew@ lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
ROAD 1 CROSS SECTIONS
SHEET 1 OF 4

SCALES: A1 ORIGINAL
SCALE 1:100
FILE NAME: PM775_D01.dwg

| | | |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
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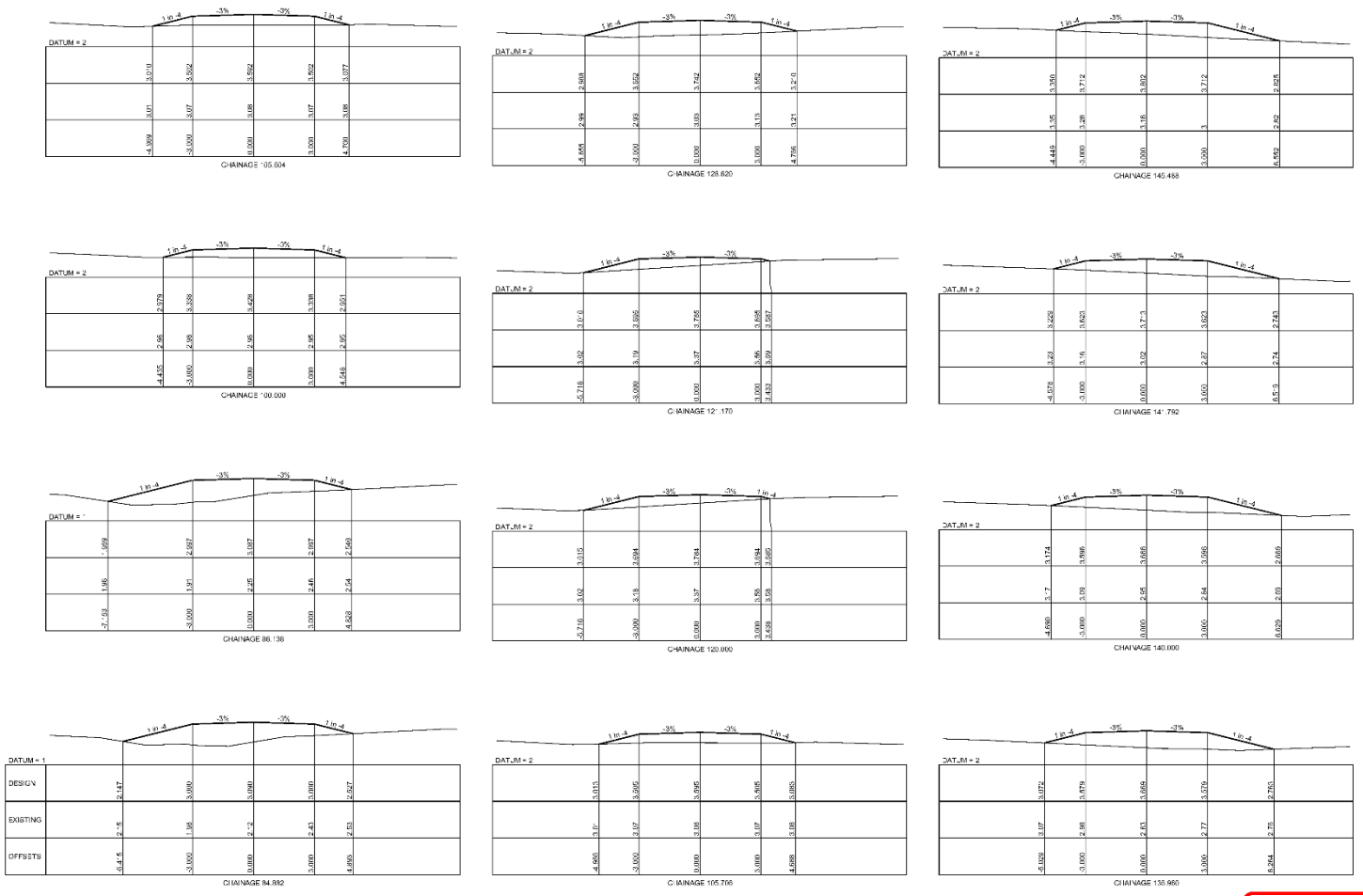
| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-13
ISSUE: B
SHEET No.: 13 OF 22
STATUS: PRELIMINARY
REG. No.: -

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Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-new@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
ROAD 1 CROSS SECTIONS
SHEET 2 OF 4

SCALES: A1 ORIGINAL
SCALE 1:100
FILE NAME: PM775_D01.dwg

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|---|---|---|
| DRAWN | L.W | 01/10/22 |
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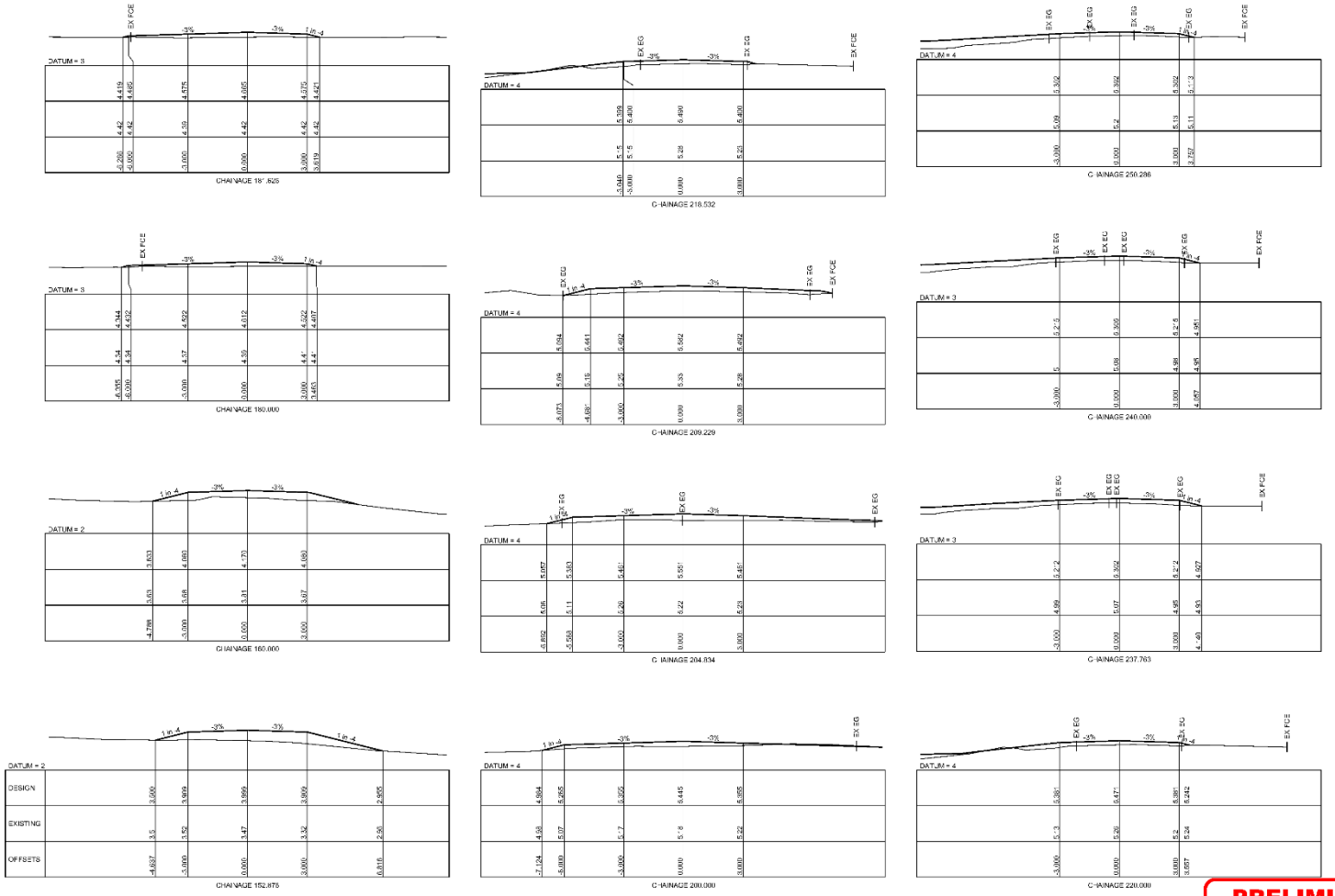
| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-14
ISSUE: B
SHEET No.: 14 OF 22
STATUS: PRELIMINARY
REG. No.: -

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Port Macquarie
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Ph: 02 65843888
Email: port@lges.com.au
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Ph: 02 67223110
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CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
ROAD 1 CROSS SECTIONS
SHEET 3 OF 4

SCALES: A1 ORIGINAL
SCALE 1:100
FILE NAME: PM775_D01.dwg

| | | |
|---|---|---|
| DRAWN | L.W | DATE 01/10/22 |
| DESIGNED | L.W | DATE 01/10/22 |
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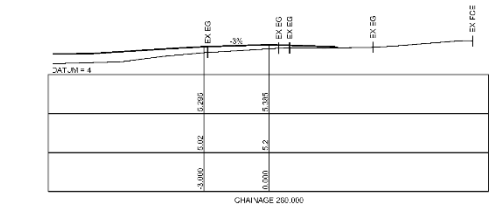
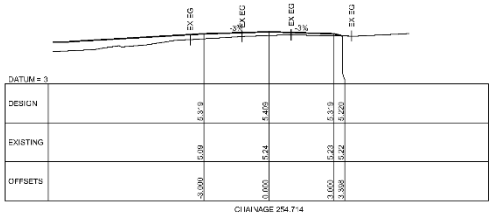
| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-15
ISSUE: B
SHEET No.: 15 OF 22
STATUS: PRELIMINARY
REG. No.: -

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Email: port@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
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CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE

PROJECT: PLOMER CAMPGROUND UPGRADE

ROAD 1 CROSS SECTIONS
SHEET 4 OF 4

SCALES: A1 ORIGINAL
SCALE 1:100

FILE NAME: PM775_D01.dwg

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|---|---|---|
| DRAWN | L.W | 01/10/22 |
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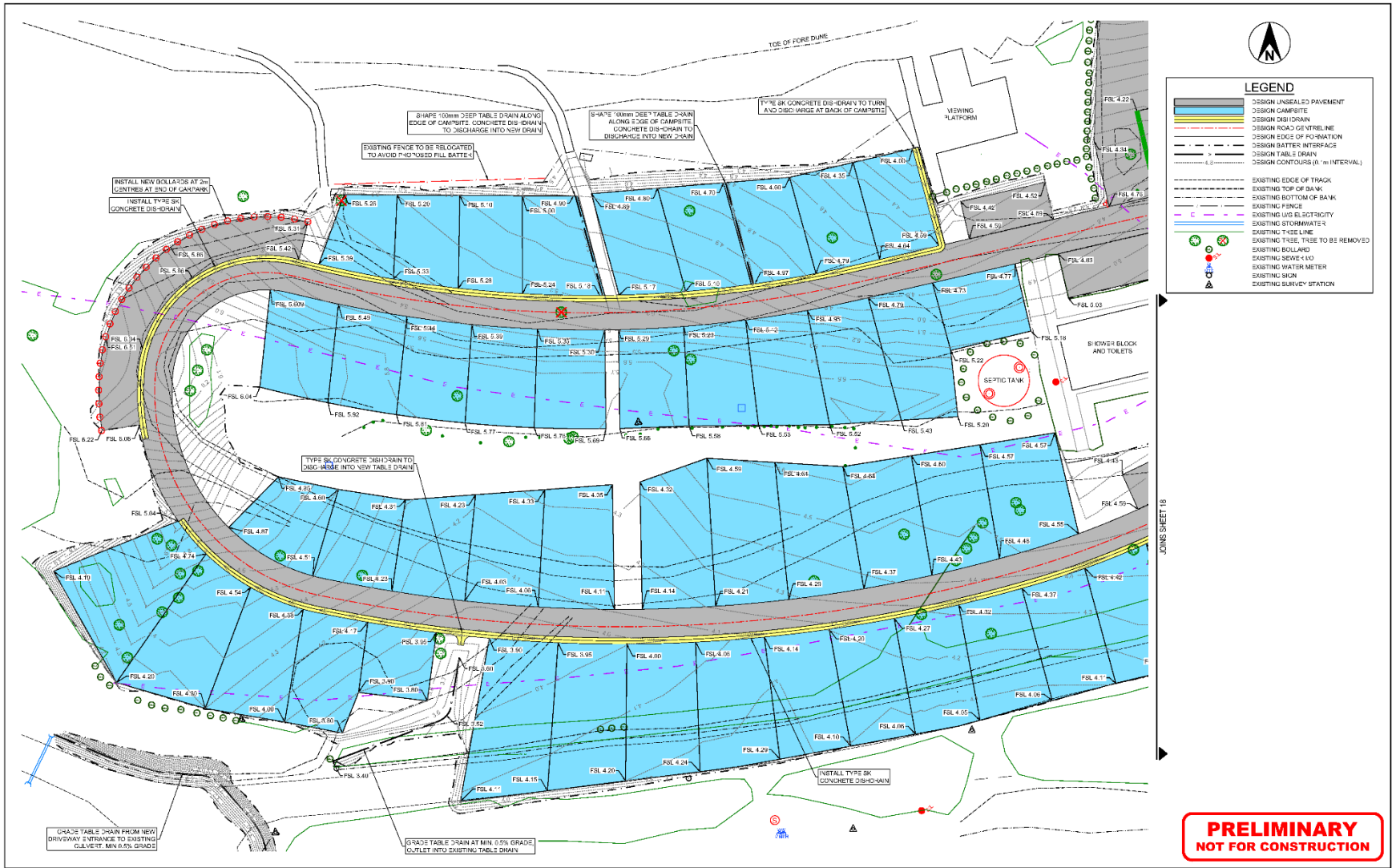
| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-16
ISSUE: B
SHEET No.: 16 OF 22
STATUS: PRELIMINARY
REG. No.: -

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CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
GENERAL LAYOUT PLAN SHEET 1 OF 3
SCALES: A1 ORIGINAL; SCALE 1:250
FILE NAME: PM775_D01.dwg
DATUM: AHD

| | | DATE |
|---|---|---|
| DRAWN | L.W | 01/10/22 |
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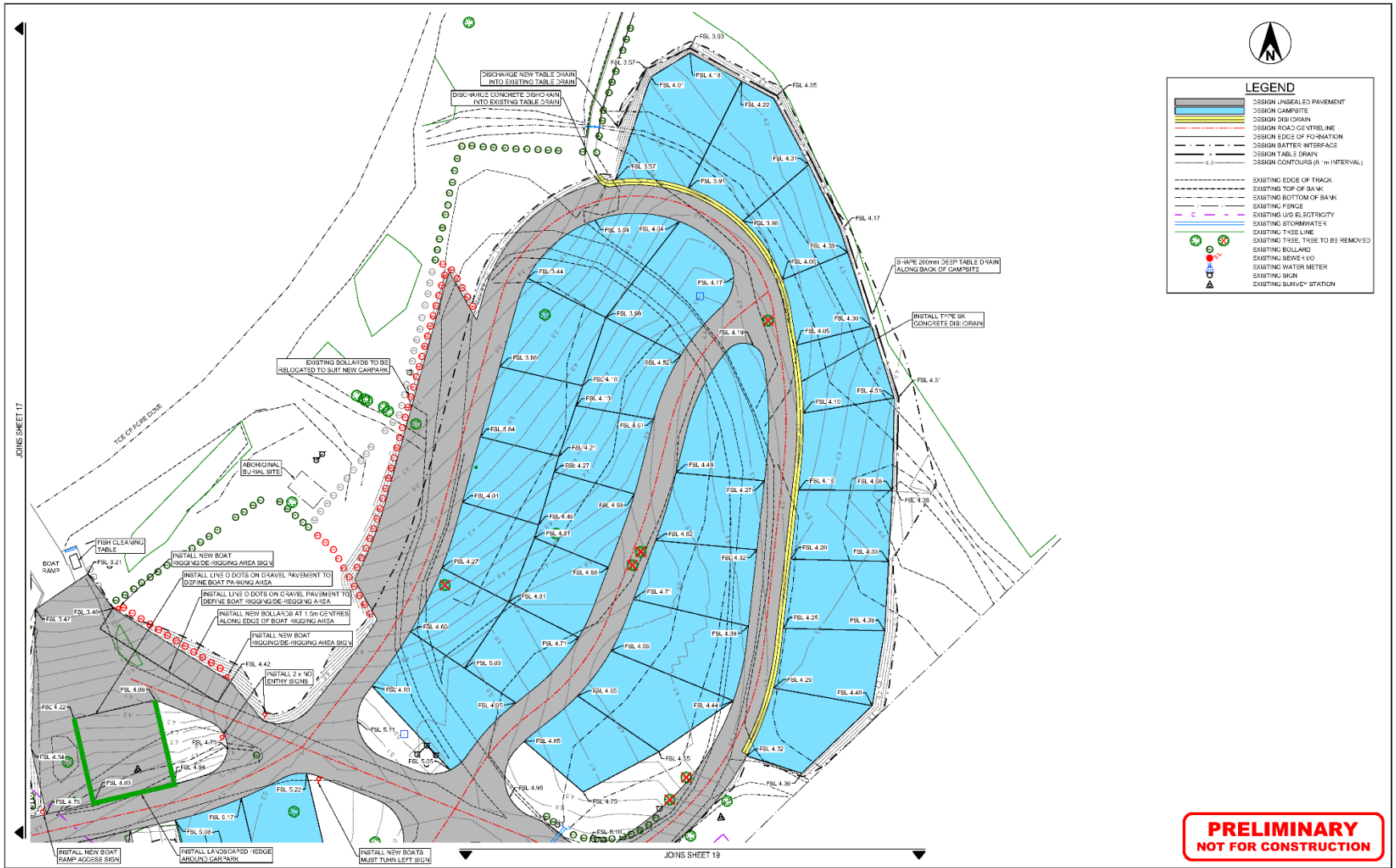
JOB No.: PM775
DOCUMENT No.: D01-17
ISSUE: B
SHEET No.: 17 OF 22
STATUS: PRELIMINARY
REG. No.: -

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CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
GENERAL LAYOUT PLAN SHEET 2 OF 3
SCALES: A1 ORIGINAL; SCALE 1:250
FILE NAME: PM775_D01.dwg
DATUM: AHD

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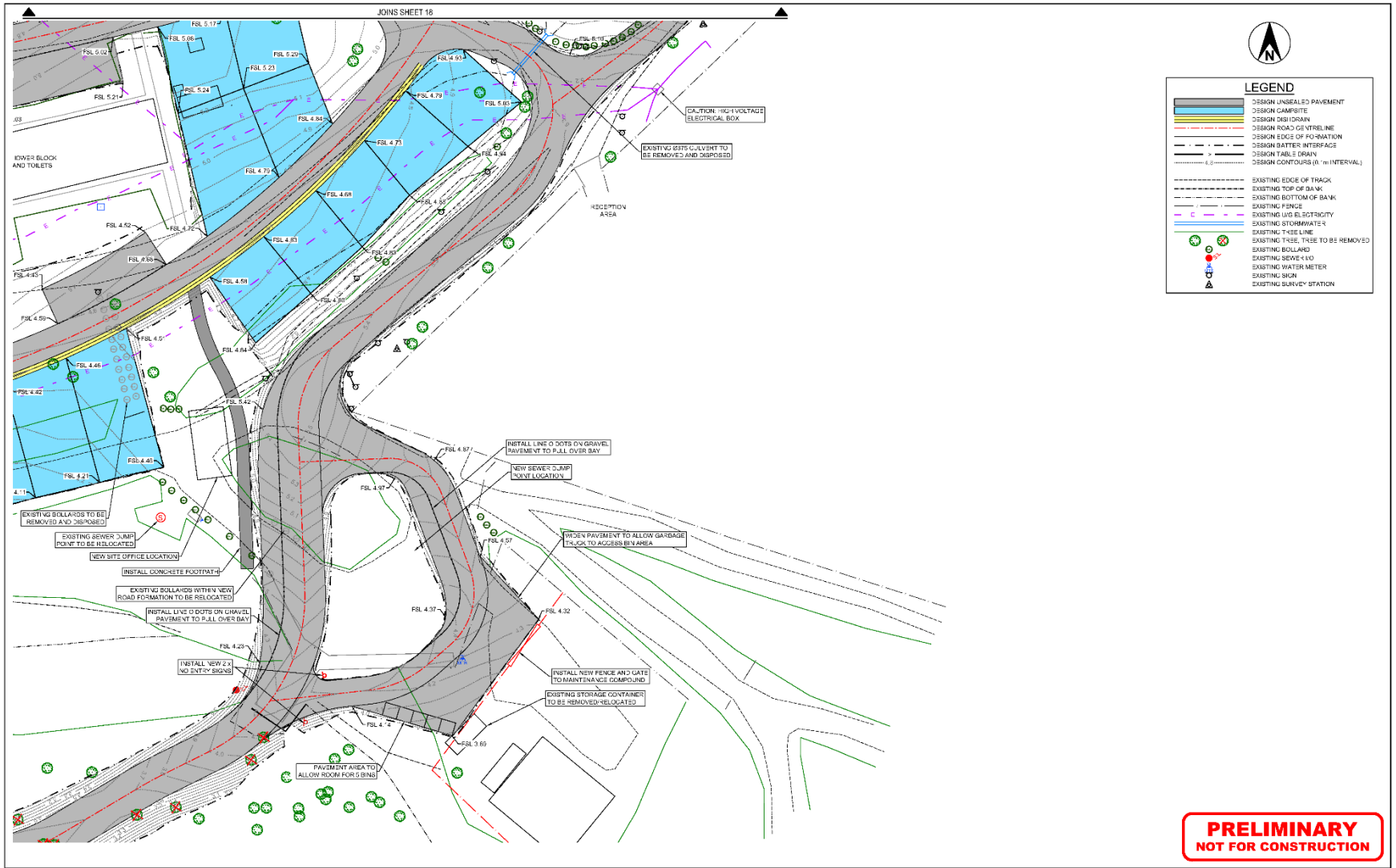
|---|---|---|
| DRAWN | L.W | 01/10/22 |
| DESIGNED | L.W | 01/10/22 |
| APPROVED | J.C | 04/10/22 |

JOB No.: PM775
DOCUMENT No.: D01-18
ISSUE: B
SHEET No.: 18 OF 22
STATUS: PRELIMINARY
REG. No.: -


JOINS SHEET 18
LEGEND
DESIGN UNSEALED PAVEMENT
DESIGN CAMPSITE
DESIGN DISH DRAIN
DESIGN ROAD CENTRELINE
DESIGN EDGE OF FORMATION
DESIGN BATTER INTERFACE
DESIGN TABLE DRAIN
DESIGN CONTOURS (0.1m INTERVAL)
EXISTING EDGE OF TRACK
EXISTING TOP OF BANK
EXISTING BOTTOM OF BANK
EXISTING FENCE
EXISTING U/G ELECTRICITY
EXISTING STORMWATER
EXISTING TREE LINE
EXISTING TREE, TREE TO BE REMOVED
EXISTING BOLLARD
EXISTING SEWER M/H
EXISTING WATER METER
EXISTING SIGN
EXISTING SURVEY STATION
LOWER BLOCK AND TOILETS
RECEPTION AREA
CAUTION HIGH VOLTAGE ELECTRICAL BOX
EXISTING Ø375 CULVERT TO BE REMOVED AND DISPOSED
INSTALL LINE O DOTS ON GRAVEL PAVEMENT TO PULL OVER BAY
NEW SEWER JUMP POINT LOCATION
EXISTING BOLLARDS TO BE REMOVED AND DISPOSED
EXISTING SEWER JUMP POINT TO BE RELOCATED
NEW SITE OFFICE LOCATION
INSTALL CONCRETE FOOTPATH
EXISTING BOLLARDS WITHIN NEW ROAD FORMATION TO BE RELOCATED
INSTALL LINE O DOTS ON GRAVEL PAVEMENT TO PULL OVER BAY
INSTALL NEW 2 x NO ENTRY SIGNS
WIDEN PAVEMENT TO ALLOW GARBAGE TRUCK TO ACCESS BIN AREA
INSTALL NEW FENCE AND GATE TO MAINTENANCE COMPOUND
EXISTING STORAGE CONTAINER TO BE REMOVED/RELOCATED
PAVEMENT AREA TO ALLOW ROOM FOR 5 BINS
PRELIMINARY
NOT FOR CONSTRUCTION
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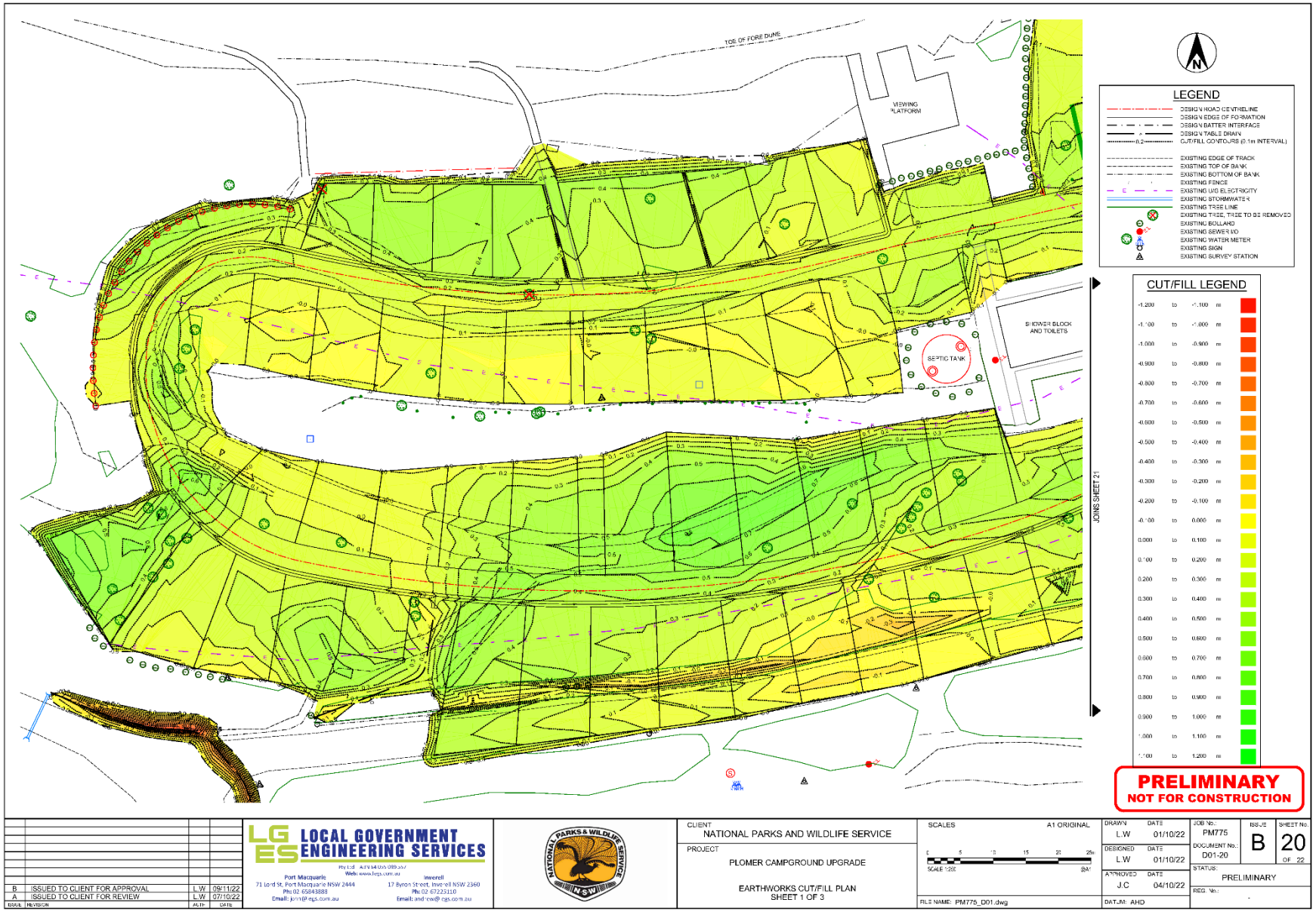
CLIENT NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT PLOMER CAMPGROUND UPGRADE
GENERAL LAYOUT PLAN SHEET 3 OF 3
SCALES A1 ORIGINAL
SCALE 1:250
FILE NAME: PM775_D01.dwg
DRAWN L.W 01/10/22
DESIGNED L.W 01/10/22
APPROVED J.C 04/10/22
DATUM: AHD
JOB No.: PM775
DOCUMENT No.: D01-19
ISSUE B
SHEET No. 19 OF 22
STATUS: PRELIMINARY
REG. No.:

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Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
EARTHWORKS CUT/FILL PLAN
SHEET 1 OF 3

SCALES: A1 ORIGINAL
SCALE 1:250
FILE NAME: PM775_D01.dwg
DATUM: AHD

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|---|---|---|
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JOB No.: PM775
DOCUMENT No.: D01-20
ISSUE: B
SHEET No.: 20 OF 22
STATUS: PRELIMINARY
REG. No.: -


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Web: www.lges.com.au
Port Macquarie: 71 Lord St, Port Macquarie NSW 2444, Ph: 02 65843888, Email: jonn@lges.com.au
Inverell: 17 Byron Street, Inverell NSW 2360, Ph: 02 67223110, Email: andrew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
EARTHWORKS CUT/FILL PLAN
SHEET 2 OF 3

SCALES: A1 ORIGINAL
SCALE 1:250
FILE NAME: PM775_D01.dwg

| | | |
|---|---|---|
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| APPROVED | J.C | 04/10/22 |
| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-21
ISSUE: B
SHEET No.: 21 OF 22
STATUS: PRELIMINARY
REG. No.: -


| ISSUE | REVISION | AUTH | DATE |
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Pty Ltd ABN 84 065 089 557
Web: www.lges.com.au
Port Macquarie
71 Lord St, Port Macquarie NSW 2444
Ph: 02 65843888
Email: pom@lges.com.au
Inverell
17 Byron Street, Inverell NSW 2360
Ph: 02 67223110
Email: and-ew@lges.com.au

CLIENT: NATIONAL PARKS AND WILDLIFE SERVICE
PROJECT: PLOMER CAMPGROUND UPGRADE
EARTHWORKS CUT/FILL PLAN
SHEET 3 OF 3

SCALES: A1 ORIGINAL
SCALE 1:250
FILE NAME: PM775_D01.dwg

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|---|---|---|
| DRAWN | L.W | 01/10/22 |
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| DATUM: AHD | | |

JOB No.: PM775
DOCUMENT No.: D01-22
ISSUE: B
SHEET No.: 22 OF 22
STATUS: PRELIMINARY
REG. No.: -

# Appendix D: BioNet search results

| Common name | Scientific name | BC Act | EPBC Act | Records |
|---|---|---|---|---|
| **Flora** | | | | |
| White-flowered wax plant | *Cynanchum elegans* | E1 | E | 4 |
| Silverbush | *Sophora tomentosa* | E1 | – | 1 |
| Native guava | *Rhodomyrtus psidioides* | E4A | CE | 4 |
| Scented *Acronychia* | *Acronychia littoralis* | E1 | E | 1 |
| **Amphibians** | | | | |
| Wallum froglet | *Crinia tinnula* | V | – | 16 |
| **Birds** | | | | |
| Blue-billed duck | *Oxyura australis* | V | – | 2 |
| Wompoo fruit-dove | *Ptilinopus magnificus* | V | – | 1 |
| White-throated needletail | *Hirundapus caudacutus* | – | V,C,J,K | 2 |
| Masked booby | *Sula dactylatra* | V | J,K | 1 |
| Black-necked stork | *Ephippiorhynchus asiaticus* | E1 | – | 3 |
| White-bellied sea-eagle | *Haliaeetus leucogaster* | V | – | 13 |
| Square-tailed kite | *Lophoictinia isura* | V,3 | – | 1 |
| Eastern osprey | *Pandion cristatus* | V,3 | – | 15 |
| Sooty oystercatcher | *Haematopus fuliginosus* | V | – | 15 |
| Pied oystercatcher | *Haematopus longirostris* | E1 | – | 8 |
| Sanderling | *Calidris alba* | V | C,J,K | 3 |
| Broad-billed sandpiper | *Limicola falcinellus* | V | C,J,K | 1 |
| Eastern curlew | *Numenius madagascariensis* | – | CE,C,J,K | 1 |
| Little tern | *Sternula albifrons* | E1 | C,J,K | 5 |
| Glossy black-cockatoo | *Calyptorhynchus lathami* | V,2 | – | 3 |
| Swift parrot | *Lathamus discolor* | E1,3 | CE | 1 |
| Eastern ground parrot | *Pezoporus wallicus* | V,3 | – | 49 |
| Powerful owl | *Ninox strenua* | V,3 | – | 2 |
| Eastern grass owl | *Tyto longimembris* | V,3 | – | 3 |
| Masked owl | *Tyto novaehollandiae* | V,3 | – | 1 |
| Brown treecreeper (eastern subspecies) | *Climacteris picumnus victoriae* | V | – | 2 |
| Regent honeyeater | *Anthochaera phrygia* | E4A | CE | 2 |
| Varied sittella | *Daphoenositta chrysoptera* | V | – | 1 |
| Barred cuckoo-shrike | *Coracina lineata* | V | – | 1 |
| Olive whistler | *Pachycephala olivacea* | V | – | 5 |

| Common name | Scientific name | BC Act | EPBC Act | Records |
|---|---|---|---|---|
| **Mammals** | | | | |
| Spotted-tailed quoll | *Dasyurus maculatus* | V | E | 8 |
| Brush-tailed phascogale | *Phascogale tapoatafa* | V | – | 4 |
| Koala | *Phascolarctos cinereus* | E1 | E | 15 |
| Squirrel glider | *Petaurus norfolcensis* | V | – | 5 |
| Long-nosed potoroo | *Potorous tridactylus* | V | V | 1 |
| Grey-headed flying-fox | *Pteropus poliocephalus* | V | V | 7 |
| Common blossom-bat | *Syconycteris australis* | V | – | 5 |
| Southern myotis | *Myotis macropus* | V | – | 1 |
| Little bent-winged bat | *Miniopterus australis* | V | – | 5 |
| Large bent-winged bat | *Miniopterus orianae oceanensis* | V | – | 2 |
| Eastern chestnut mouse | *Pseudomys gracilicaudatus* | V | – | 41 |
| Australian fur-seal | *Arctocephalus pusillus doriferus* | V | – | 1 |
| **Reptiles** | | | | |
| Loggerhead turtle | *Caretta* | E1 | E | 2 |
| **Insects** | | | | |
| Laced fritillary | *Argynnis hyperbius* | E1 | CE | 2 |

Key: CE = critically endangered, E = endangered, V = vulnerable, M = migratory, C = China–Australia Migratory Bird Agreement, J = Japan–Australia Migratory Bird Agreement, K = Republic of Korea–Australia Migratory Bird Agreement.

| Ecological community | BC Act | EPBC Act |
|---|---|---|
| Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | Endangered | – |
| Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community | – | Endangered |
| Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | Endangered | – |
| Littoral Rainforest and Coastal Vine Thickets of Eastern Australia | – | Critically endangered |
| Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | Endangered | – |
| Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions | Endangered | – |
| Lowland Rainforest of Subtropical Australia | – | Critically endangered |
| Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion | Endangered | – |
| Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion | Endangered | – |
| Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | Endangered | – |
| Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions | Endangered | – |
| Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions | Endangered | – |