

**REVIEW OF ENVIRONMENTAL FACTORS (REF)  
BERRY STP – TEMPORARY STOCKPILE**

## Contents

1. PROPOSAL AND LOCATION.....	5
1.1 Overview.....	5
1.2 Proposed works.....	5
1.3 Location.....	5
1.4 Background and justification of proposal.....	6
2. EXISTING ENVIRONMENT.....	9
2.1 Subject site – general description.....	9
2.2 Topography, geology, soils and water.....	9
2.3 Habitat and vegetation assessment.....	13
2.3.1 Threatened species and habitat resources on site.....	13
2.4 Site photos.....	15
3. ASSESSMENT OF LIKELY IMPACTS ON THE ENVIRONMENT.....	17
3.1 Direct and indirect impacts associated with the proposal.....	17
3.2 Threatened species impact assessment (NSW).....	17
3.2.1 Part 7A Fisheries Management Act 1994.....	17
3.2.2 Part 7 Biodiversity Conservation Act 2016.....	19
3.3 Threatened species impact assessment (Commonwealth EPBC Act 1999).....	22
3.4 Indigenous heritage.....	25
3.5 Non-indigenous heritage.....	27
3.6 Acid Sulfate Soils.....	28
3.7 Riparian corridors & Water Quality.....	28
3.8 Flood liable land.....	29
3.9 Potentially Contaminated Land.....	30
3.10 EP&A Regulation – Section 171 matters of consideration.....	31
4. PERMISSIBILITY – STATUTORY AND PLANNING CONTEXT.....	36
4.1 Environmental Planning & Assessment Act 1979 (EP&A Act).....	36
4.2 Biodiversity Conservation Act 2016 (BC Act).....	36
4.3 Fisheries Management Act 1994 (FM Act).....	37
4.4 Other.....	38
5. CONSULTATION WITH GOVERNMENT AGENCIES.....	41
5.1 Transport & Infrastructure SEPP.....	41
6. COMMUNITY ENGAGEMENT.....	43
7. SAFEGUARDS AND MITIGATION MEASURES TO MINIMISE IMPACTS ON THE ENVIRONMENT.....	44
8. SIGNIFICANCE EVALUATION & DECISION STATEMENT.....	46

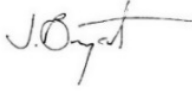

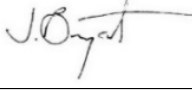
9. REFERENCES .....47

APPENDIX A – Threatened Species Likelihood of Occurrence .....48

**Document control**

Item	Details
Project	Review of Environmental Factors – Berry STP – Temporary Stockpile
Client	Shoalhaven Water
Prepared By	City Services, Shoalhaven City Council

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	Reviewer	Geoff Young		13/05/2026
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\*Review and endorsement statement:

“I certify that I have reviewed and endorsed the contents of this REF document and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under clause 170 of the EP&A Regulation, and the information it contains is neither false nor misleading”.

**Assessment and approvals overview**

Item	Details
Assessment type	Division 5.1 (EP&A Act) - Review of Environmental Factors (REF)
Proponent	Shoalhaven City Council
Determining authority / authorities	Shoalhaven City Council
Required approvals (consents, licences and permits)	Nil
Required publication	No

## 1. PROPOSAL AND LOCATION

### 1.1 Overview

This Review of Environmental Factors (REF) addresses the potential environmental impacts of – and provides mitigation measures for – a proposal by Shoalhaven Water for the establishment of a temporary stockpile area at Berry Sewage Treatment Plant (STP).

The proposed stockpile would be established on existing cleared land at the western end of the site, adjacent to Wharf Rd.

Waste material certified as excavated natural material (ENM) would be stored for eventual use in filling a decommissioned maturation pond on the east side of the STP.

Shoalhaven City Council (SCC) is the proponent and the determining authority under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This Review of Environmental Factors (REF) provides an assessment of the proposed activity and associated impacts on the environment, in the context of Division 5.1 of the Act and section 171 of the *Environmental Planning and Assessment Regulation 2021*, and in doing so, satisfies the requirement of section 5.5 of the Act, that SCC examines and takes into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

### 1.2 Proposed works

The proposal involves the establishment of a stockpile site at Berry STP for the stockpiling of waste ENM.

The site is currently cleared and covered with pasture grass. No preparation of the ground surface is required or proposed.

Stockpiles would occur on open, cleared land and not within the canopy line of adjacent trees.

Stockpiles would be 3 to 4 metres high to minimise the horizontal footprint while also minimising impacts on the amenity of the locality.

Stockpiles would be stabilised with seeding or covering or similar and sediment and erosion controls would be installed around the stockpiles to manage risks associated with dust and sediment movement.

Stockpiled material would be stored for eventual use in filling a decommissioned maturation pond on the east side of the STP.

The proposal would initially involve stockpiling of ENM spoil material from current local water and sewer infrastructure upgrade works. Additional ENM material from other sources may be stored for future use as fill for the maturation pond.

Filling of the maturation pond is subject to planning and approvals and is anticipated to commence within 2-3 years.

Figures 1 and 2 in section 1.3, show the subject land and proposed stockpile site.

### 1.3 Location

The proposed stockpile area would occur on Lot 2 DP 818556 (Berry STP). Access to the stockpile area would be via an existing access driveway on Lot 1 DP 568280.

Figures 2 and 3 show the site location and indicative works footprint.

Details of affected land are provided in Table 1.

**Table 1. Property affected by the proposal**

Land description	Land owner / manager	Other pertinent information	Works that would occur
Lot 2 DP 818556, 43 Wharf Rd, Berry STP	Shoalhaven City Council	<ul style="list-style-type: none"> <li>Operational land (classified 29/03/1994)</li> <li>Purpose: sewage treatment works</li> </ul>	<ul style="list-style-type: none"> <li>Stockpiling of ENM material</li> </ul>
Lot 1 DP 568280, Wharf Rd, Berry STP	Shoalhaven City Council	<ul style="list-style-type: none"> <li>Operational land (classified 29/03/1994)</li> <li>Purpose: sewage treatment works</li> </ul>	<ul style="list-style-type: none"> <li>Access to stockpile area</li> </ul>

### 1.4 Background and justification of proposal

The proposal would enable efficient management of spoil material being generated from current local water and sewer infrastructure upgrade works, while also storing material for future use as fill for the maturation pond.

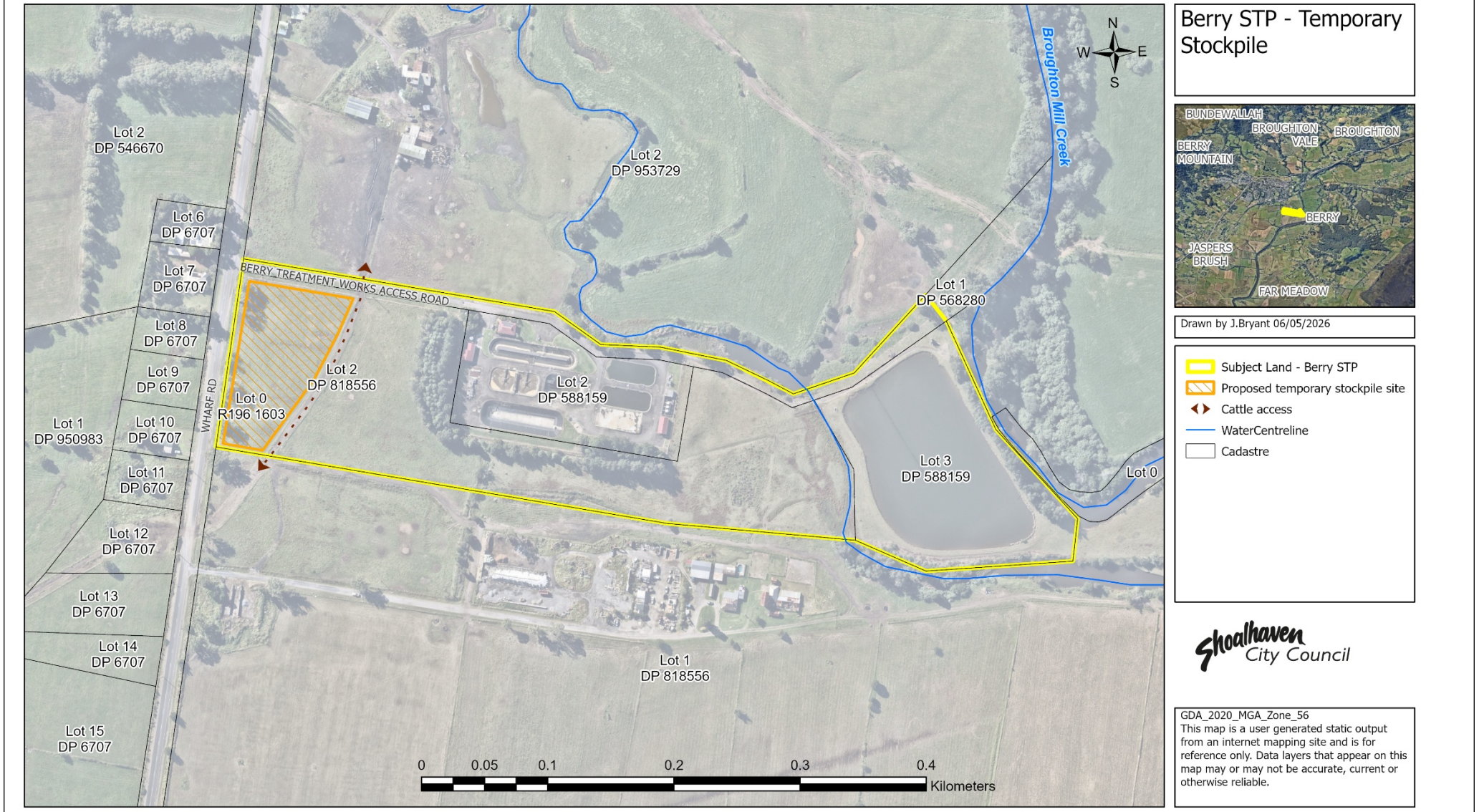
Instead of being transported large distances and incurring waste levies to be disposed of in landfill at a licenced waste facility, spoil material from local water and sewer works (and other appropriate Council works) which has been certified as ENM, could be stockpiled at Berry STP. Stockpiled material would then be readily available as fill for the decommissioned maturation pond.

Note that filling of the maturation pond is subject to planning and approvals and is anticipated to commence within 2-3 years.

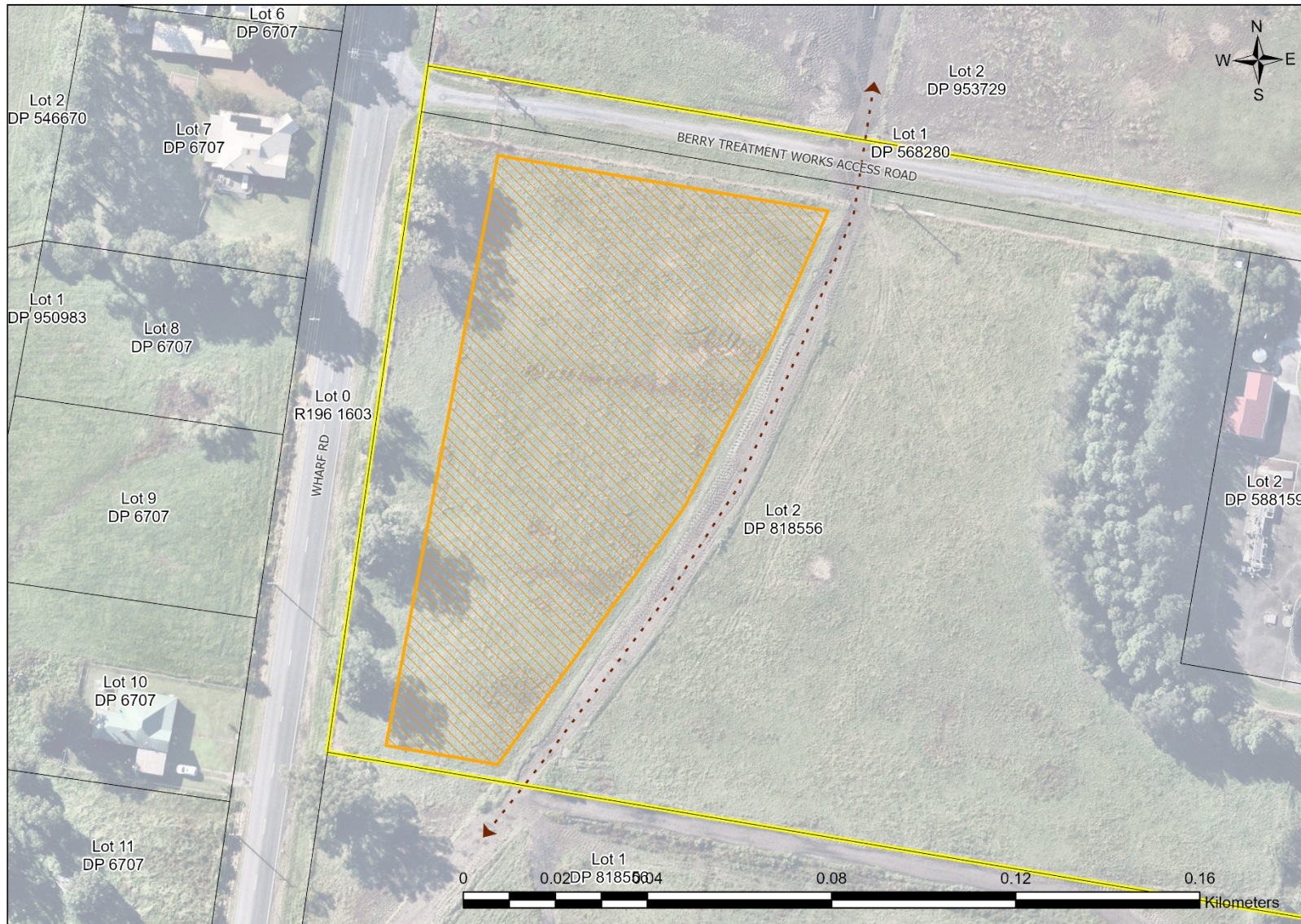
On completion of filling of the maturation pond, the land would be restored and remediated to its current state and would cease to be used for stockpiling purposes.

In the event that filling of the maturation pond does not proceed and is not planned to proceed within 5 years (e.g. due to irreconcilable environmental approvals or delayed or changed plans to future STP upgrades), either the stockpiled material shall be removed and the land shall be restored, or appropriate steps shall be taken to establish the site as a long-term or permanent stockpile site.

**Figure 1. Subject land and site location**



**Figure 2. Stockpile site footprint**



Berry STP



Drawn by J.Bryant 08/05/2026

- Subject Land - Berry STP
- Proposed temporary stockpile site
- Cattle access
- Water Centreline
- Cadastral

GDA\_2020\_MGA\_Zone\_56  
This map is a user generated static output from an internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current or otherwise reliable.

## 2. EXISTING ENVIRONMENT

Site investigations were undertaken by a Council Environmental Officer on 29<sup>th</sup> April 2026. Investigations involved: comprehensive vegetation and habitat assessment; determination of vegetation communities; targeted survey for potentially occurring threatened flora species; investigation of habitat availability on site for threatened fauna species and cryptic threatened flora species (including threatened terrestrial orchids); and investigation for potential Aboriginal and non-indigenous heritage objects.

### 2.1 Subject site – general description

The subject land, Berry STP, extends from Wharf Rd to Broughton Mill Creek, a length of around 690 m, with the width of the site varying from around 110 m to 230 m.

An unsealed driveway provides access to the STP along the northern edge of the subject land.

The operational area of the STP occurs in the centre of the subject land, with the maturation pond occurring to the east, and an area of cleared pasture land (including the proposed stockpile site location) occurring to the west.

The surrounding land is predominantly cleared rural land used for primary production purposes.

A right of way easement exists over the subject land, just west of the maturation pond, providing connection between two parts of Lot 1 DP 818556 that are separated by Broughton Mill Creek. This right of way follows a swampy section of an unnamed tributary and does not appear to be in use.

An informal cattle access track crosses the subject land between Lot 2 DP 953729 and Lot 1 DP 818556. Both lots share the same landowner. It is assumed that this access track is likely used in lieu of the formal right of way.

The proposed stockpile site location occurs on the subject land between Wharf Rd and the cattle access track. The road frontage (Wharf Rd) is roughly 150 m long, with the width of the site is about 95 m at the north side (adjacent to the STP driveway) and about 40 m on the southern boundary.

The proposed stockpile site location is predominantly cleared and covered with pasture grass. Scattered trees occur along the western boundary, fronting Wharf Rd.

Photos of the site are provided in section 2.4 below.

### 2.2 Topography, geology, soils and water

The underlying geology of the site is mapped as Berry Siltstone (Figure 3).

The subject land is low-lying and relatively flat, being about 4 m (AHD) in the vicinity of the stockpile site location and rising slightly to 5 or 6 m where the operational part of the STP occurs and dropping to around 2 m in the eastern portion of the subject land (Figure 4).

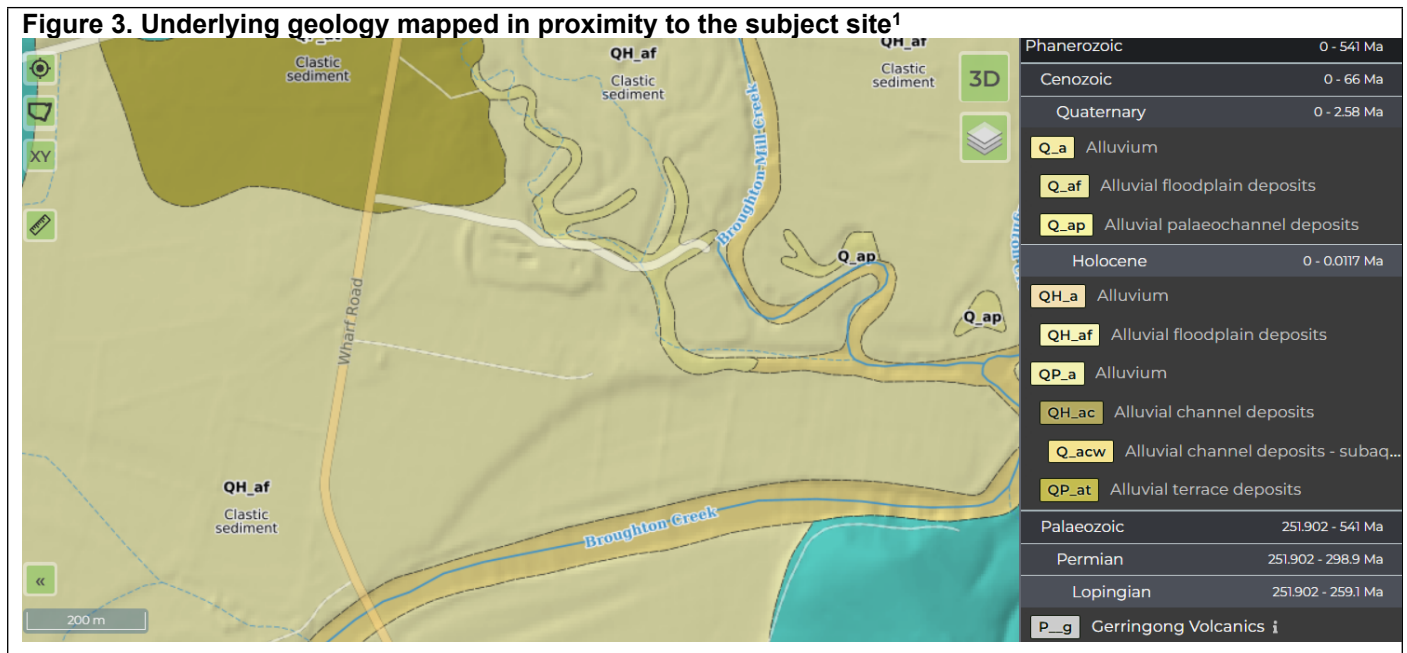
Broughton Mill Creek occurs adjacent to the eastern boundary of the subject land as a 5<sup>th</sup> order (Strahler) stream.

An unnamed tributary of Broughton Mill Creek occurs along the eastern portion of the northern boundary of the subject land as a 1<sup>st</sup> order stream, becoming a 2<sup>nd</sup> order stream as it crosses the subject land on the west side of the maturation pond. The tributary is obstructed where it crosses

the subject land, with a vehicular crossing containing an undersized (600 mm) pipe culvert near the northern boundary, and a choke point of vegetation and sediment build-up to the south. As a result, the tributary within the subject land is a broad, swampy swale. A secondary, ephemeral channel to Broughton Mill Creek, appears to occur around the northern edge of the maturation pond.

No water courses occur within or in close proximity to the proposed stockpile site. However, the site occurs on the edge of the Broughton Creek / Broughton Mill Creek floodplain, with minor areas of low-hazard flood storage occurring on the site (refer to section 3.8 for more information). A low, scalded depression, roughly 25 m by 15 m, exists in the north-west corner of the site.

Class 4 acid sulfate soils (ASS) are mapped over the western portion of the subject land, while Class 3 ASS is mapped as occurring over the eastern portion of the subject land (Figure 5).



<sup>1</sup> Source: <https://minview.geoscience.nsw.gov.au/>

**Figure 4. Topography in proximity to the subject site**



Berry STP

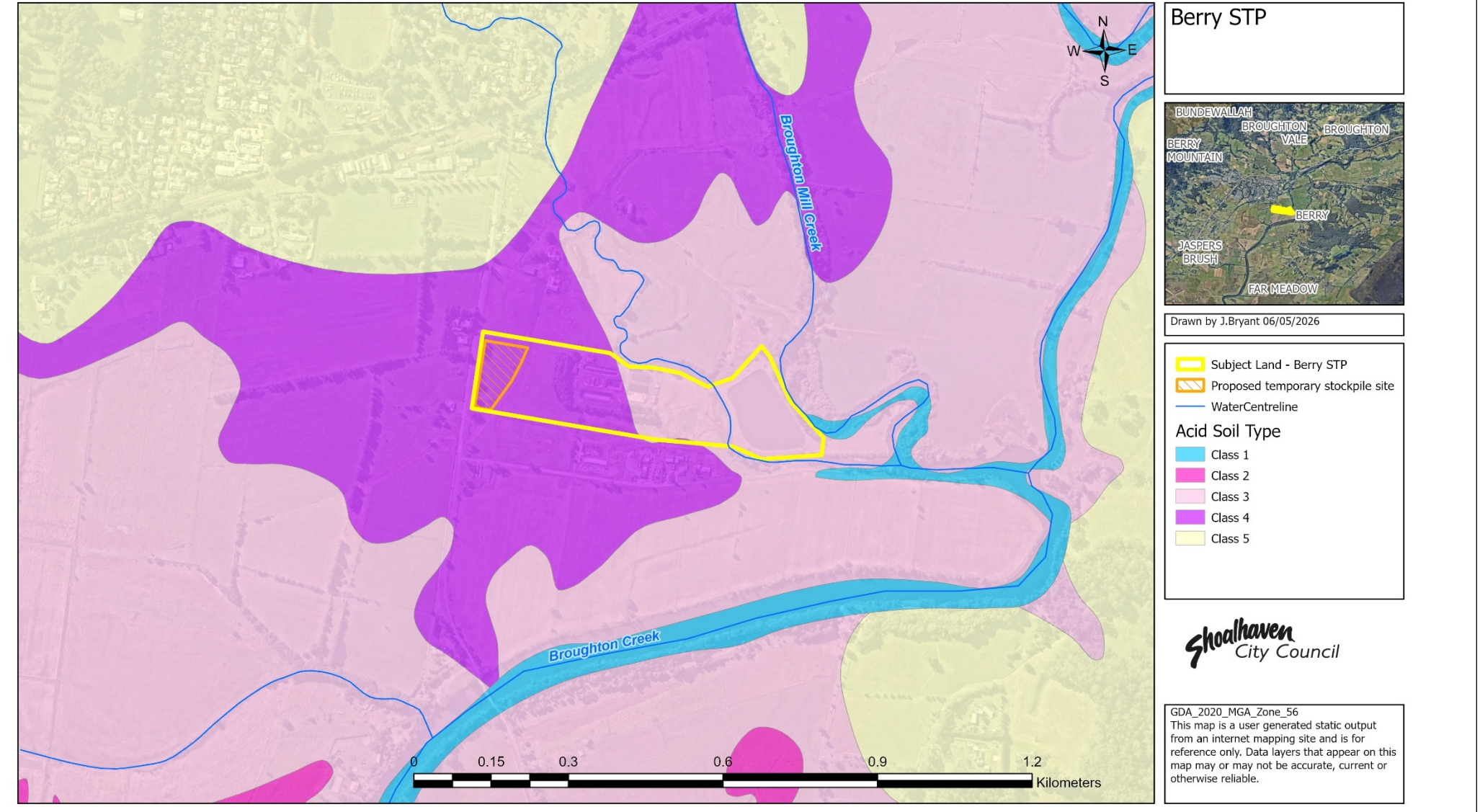


Drawn by J.Bryant 07/05/2026

- Subject Land - Berry STP
- Proposed temporary stockpile site
- WaterCentreline
- Contours - Lidar Diced

GDA\_2020\_MGA\_Zone\_56  
This map is a user generated static output from an internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current or otherwise reliable.

**Figure 5. Acid sulfate soils (ASS) mapped in proximity to the subject site**



### 2.3 Habitat and vegetation assessment

NSW Plant Community Types (PCTs) mapped as occurring in proximity to the site (refer to Figure 7 below) include:

- PCT4049 South Coast Floodplain Grassy Swamp Forest – this vegetation community is associated with Swamp Oak Floodplain Forest threatened ecological community (TEC).
- PCT3258 Sydney Basin Creekflat Blue Gum–Apple Forest – this vegetation community is associated with River-flat Eucalypt Forest on Coastal Floodplains TEC.
- PCT4009 Shoalhaven Lowland Flats Wet Swamp Forest – this vegetation community is associated with Swamp Sclerophyll Forest on Coastal Floodplains TEC.

A scattered line of mature Swamp Mahogany *Eucalyptus robusta* occurs along the western boundary of the subject land, with occasional exotic Camphor Laurel *Cinnamomum camphora*. PCT4049 is mapped as occurring in this location, but Swamp Mahogany is not a characteristic species of PCT4049. Areas where Swamp Mahogany is present is likely remnant PCT4009.

The land over the proposed stockpile site is otherwise cleared and containing only a pasture groundcover of Kikuyu *Cenchrus clandestinus*, with invasive Giant Parramatta Grass *Sporobolus fertilis*, White Clover *Trifolium repens*, Dock *Rumex spp*, Fireweed *Senecio madagascariensis*, and scattered occurrences of native herbs Knotweed *Persicaria spp* and *Ranunculus inundatus* in wetter areas.

A planted vegetation screen occurs around the operational part of the STP, of endemic and ornamental native plants including Swamp She-oak *Casuarina glauca*, Broad-leaved Paperbark *Melaleuca quinquenervia*, Prickly-leaved Paperbark *M.stypheloides*, Willow Bottlebrush *Callistemon salignus* and Spiny Mat-rush *Lomandra longifolia*. Invasive exotic species such as Small-leaf Privet *Ligustrum sinense* and Lantana *Lantana camara* are also present.

#### 2.3.1 Threatened species and habitat resources on site

No hollow-bearing trees or nests were recorded in the vicinity of the proposed stockpile site.

No Glossy Black Cockatoo (*Calyptorhynchus lathami*) feed trees e.g. Black She-oak (*Allocasuarina littoralis*) with chewed cones as evidence of feeding, occurred.

No Yellow-bellied Glider feed trees (e.g. *Corymbia gummifera* or *Eucalyptus punctata* with characteristic v-shaped glider scars) were recorded as occurring within or in proximity to the site.

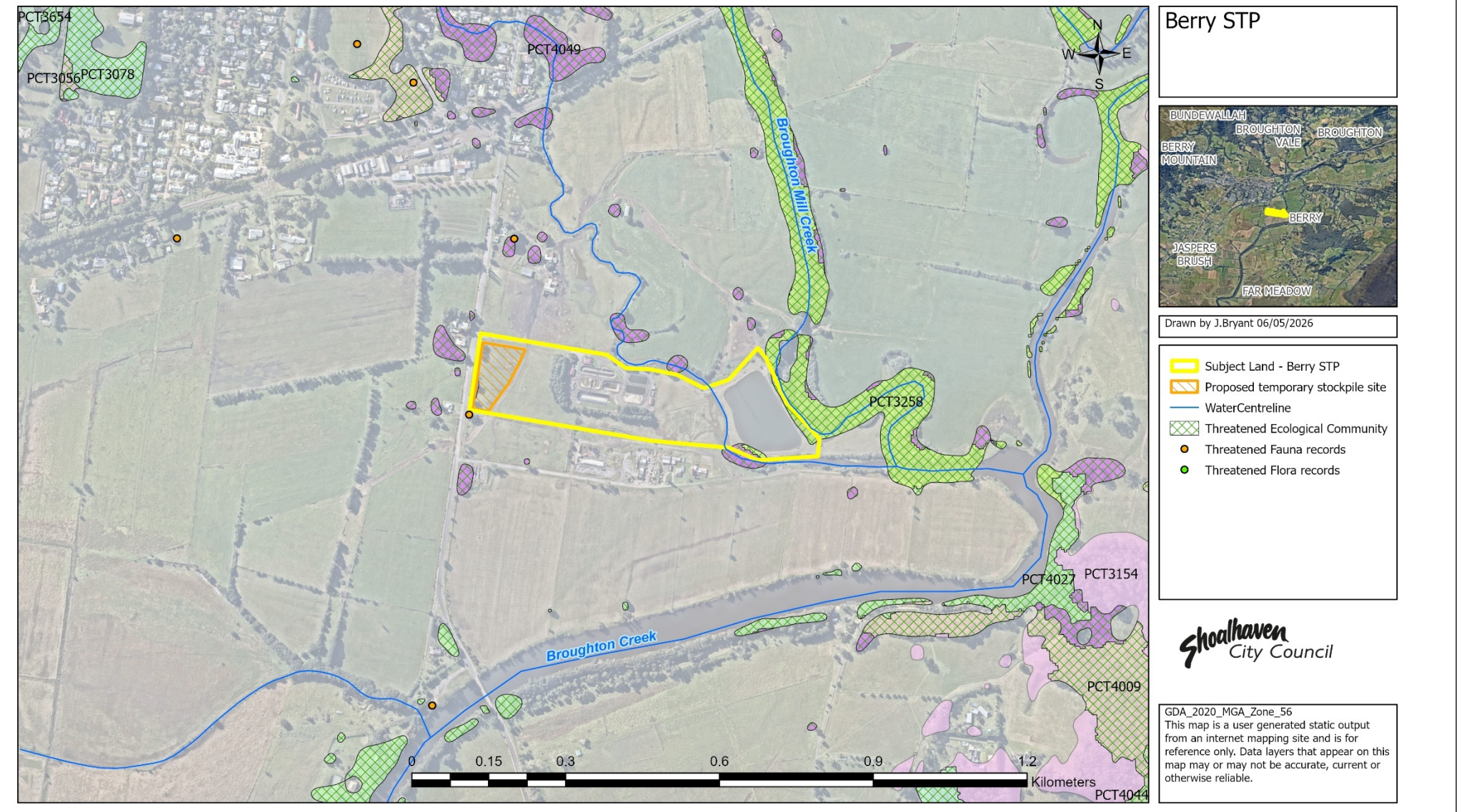
No threatened flora including *Lastreopsis hispida*, *Rhodamnia rubescens* or *Syzygium paniculatum* was identified on site during vegetation surveys.

No suitable habitat for threatened terrestrial orchid species or other cryptic flora was present anywhere on the subject land.

The likelihood of occurrence of threatened flora and fauna species is considered in Appendix A and assessed further where appropriate in sections 3.2.2 and 3.3.

Vegetation in proximity to the site was considered likely to be remnant PCT4009 Shoalhaven Lowland Flats Wet Swamp Forest, a vegetation community that is associated with Swamp Sclerophyll Forest on Coastal Floodplains TEC. TEC associations are discussed and assessed in sections 3.2.2 and 3.3.

**Figure 7. Plant Community Types (PCTs), threatened ecological communities (TECs) and threatened species mapped as occurring in proximity to the proposal**



2.4 Site photos

**Photo 1. Entry to Berry STP from Wharf Rd, facing proposed stockpile site location**



**Photo 2. Proposed stockpile site location**



**Photo 3. Swamp Mahogany and exotic Camphor Laurel along the western boundary**



### 3. ASSESSMENT OF LIKELY IMPACTS ON THE ENVIRONMENT

#### 3.1 Direct and indirect impacts associated with the proposal

No preparation of the ground surface is required or proposed.

No clearing or other direct impacts on vegetation would occur. Stockpiles would be situated outside the canopy line of adjacent trees.

Stockpiles would be 3 to 4 metres high to minimise the horizontal footprint while also minimising impacts on the amenity of the locality.

Stockpiles would be stabilised with seeding or covering or similar and sediment and erosion controls would be installed around the stockpiles to manage risks associated with dust and sediment movement.

Spoil material to be stockpiled would be certified as ENM prior to transporting to the site.

The land would be restored and remediated to its current state as part of the disestablishment of the stockpile site.

Potential impacts on the environment, including indirect impacts have been considered and assessed, including:

- Impacts on threatened species;
- Impacts on indigenous and non-indigenous heritage;
- Impacts on water quality, the riparian zone and key fish habitat;
- Impacts associated with flood liable land.

Each of these is discussed below.

#### 3.2 Threatened species impact assessment (NSW)

Section 1.7 of the EP&A Act 1979 applies the provisions of Part 7 of the NSW *Biodiversity Conservation Act 2016* and Part 7A of the *NSW Fisheries Management Act 1994* that relate to the operation of the Act in connection with the terrestrial and aquatic environment. Each are addressed below.

##### 3.2.1 Part 7A Fisheries Management Act 1994

Part 7A of the *Fisheries Management Act 1994* (FM Act) relates to threatened species conservation.

Section 221ZV of the FM Act provides an assessment of significance to determine whether a proposed development or activity is likely to significantly affect a threatened species, population or ecological community.

There are no threatened freshwater species listed under the FM Act which are mapped as occurring in proximity to the site<sup>2</sup>, or likely to occur in proximity to the site.

No threatened marine fauna or marine habitat would be directly impacted by the proposal.

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<sup>2</sup> Fisheries NSW Spatial Data Portal [https://webmap.industry.nsw.gov.au/Html5Viewer/index.html?viewer=Fisheries\\_Data\\_Portal](https://webmap.industry.nsw.gov.au/Html5Viewer/index.html?viewer=Fisheries_Data_Portal)

The proposal is therefore unlikely to result in any impact on threatened entities or their habitat; and as demonstrated in Table 2 below, the proposal would not contribute significantly to key threatening processes, as listed under Part 7A of the Act.

The proposed activity therefore does not require an Environmental Impact Statement (EIS) or Species Impact Statement (SIS) under the Act.

**Table 2: Key threatening processes – Fisheries Management Act 1994**

Key Threatening Process (KTP)	Assessment
Degradation of native riparian vegetation along the NSW water courses	<p>Negligible.</p> <p>The proposed stockpile site does not contain or occur in close proximity to mapped riparian corridors.</p> <p>No defined channels or embankments occur within or in proximity to the site.</p> <p>No clearing of vegetation would occur as part of the proposal.</p> <p>Sediment erosion controls would be installed and maintained to minimise the risk of impacts on waterways during works.</p> <p>The site would be stabilised and restored with grass seed or similar as part of the disestablishment of the stockpile site.</p> <p>The proposal is therefore unlikely to result in degradation of any riparian vegetation.</p> <p>Refer to section 3.7 of this REF for more information.</p>
Hook and line fishing in areas important for the survival of threatened fish species.	Not applicable – the proposed activity does not involve hook and line fishing.
Human-caused climate change.	Not applicable – the proposed activity would not contribute significantly to climate change and would not prevent implementation of the relevant Priorities Action Statement.
Installation and operation of instream structures and other mechanisms that alter natural flow regimes of rivers and streams.	Not applicable – the proposal would not involve the installation or operation of in-stream structures or other mechanisms.
Introduction of fish to waters within a catchment outside their natural range.	Not applicable – the proposed activity does not involve the introduction and movement of fish.
Introduction of non-indigenous fish and marine vegetation to the coastal waters of New South Wales.	Not applicable – the proposed activity does not involve the introduction and movement of non-indigenous fish or marine vegetation.
Removal of large wood debris from New South Wales and rivers and streams.	Not applicable – the proposal does not involve the removal of woody debris.
The current shark meshing program in New South Wales waters	Not applicable – the proposed activity does not involve shark meshing.

### 3.2.2 Part 7 Biodiversity Conservation Act 2016

An assessment of the potential for NSW threatened flora and fauna species occurring on-site or otherwise being impacted by the proposal was undertaken (refer to Appendix B). The following threatened species are known to occur on-site or are considered to have some potential to occur on-site or be otherwise impacted by the proposal, requiring further assessment under Part 7 of the NSW *Biodiversity Conservation Act 2016*:

- *Pteropus poliocephalus* Grey-headed Flying-fox
- Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions

Section 7.3 of the Act provides a 'five-part' test to determine whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats. Each Part is addressed below:

***Part A - In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the lifecycle of the species such that a viable local population of the species is likely to be place at risk of extinction.***

#### Grey-headed Flying-fox (*Pteropus poliocephalus*)

The Grey-headed Flying-fox is the largest Australian bat, with a head and body length of 23 - 29 cm. It has dark grey fur on the body, lighter grey fur on the head and a russet collar encircling the neck. The wing membranes are black and the wingspan can be up to 1 m. It can be distinguished from other flying-foxes by the leg fur, which extends to the ankle.

Grey-headed Flying-foxes are generally found within 200 km of the eastern coast of Australia, from Rockhampton in Queensland to Adelaide in South Australia. In times of natural resource shortages, they may be found in unusual locations. This species occurs in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy. Individual camps may have tens of thousands of animals and are used for mating, and for giving birth and rearing young. Annual mating commences in January and conception occurs in April or May; a single young is born in October or November. Site fidelity to camps is high; some camps have been used for over a century. GHFF can travel up to 50 km from the camp to forage; commuting distances are more often <20 km. They feed on the nectar and pollen of native trees, in particular Eucalyptus, Melaleuca and Banksia, and fruits of rainforest trees and vines, also foraging in cultivated gardens and fruit crops (OEH 2020a).

No GHFF camps occur in close proximity to the site. The nearest active camp occurs at Kentia Close, Berry, approximately 2.5 km to the north-west of the site<sup>3</sup>. Another camp occurred approximately 1.4 km to the north-east of the site on Bundewallah Creek, between Queen St and Woodhill Mountain Rd, but this camp has not been occupied in recent years.

Foraging habitat for the Grey-headed Flying-fox exists on the subject land as flowering eucalypts and paperbarks, including Swamp Mahogany trees in the vicinity of the proposed stockpile site.

No direct impact on Swamp Mahogany or other native trees would occur as part of the proposal.

<sup>3</sup> Source: The Australian Flying-Fox Monitor [online database] <https://www.flyingfoxes.info/>

It is unlikely that indirect impacts resulting from the proposal would impact on Swamp Mahogany trees or other native vegetation.

No barriers to movement would be introduced.

The proposal would therefore not affect breeding and would not remove habitat which is critical to the survival of this species.

Works would occur during normal construction hours, so would be unlikely to affect the primarily nocturnal foraging activities of this species.

It is considered unlikely therefore that the Grey-headed Flying-fox would be impacted by the proposed works and the proposed activity is unlikely to have an adverse effect on the lifecycle of the species such that a viable local population of any of these species is likely to be placed at risk of extinction.

**Part 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 following threatened ecological communities (TECs) listed as endangered under the BC Act are mapped as occurring within or in proximity to the site, or are associated with vegetation communities which are mapped as occurring – or were found to occur – within or in proximity to the site:

- Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (Swamp Sclerophyll Forest)

Vegetation in proximity to the site was considered likely to be remnant PCT4009 Shoalhaven Lowland Flats Wet Swamp Forest, a vegetation community that is associated with Swamp Sclerophyll Forest TEC (refer to section 2.3).

Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions is the name given to the ecological community associated with humic clay loams and sandy loams, on waterlogged or periodically inundated alluvial flats and drainage lines associated with coastal floodplains (NSW Scientific Committee 2011; OEH 2025).

Swamp Sclerophyll Forest generally occurs below 20 m (though sometimes up to 50 m) elevation, often on small floodplains or where the larger floodplains adjoin lithic substrates or coastal sand plains in the NSW North Coast, Sydney Basin and South East Corner bioregions (NSW Scientific Committee 2011; OEH 2025).

This swamp community has an open to dense tree layer of eucalypts and paperbarks although some remnants now only have scattered trees as a result of partial clearing. The trees may exceed 25 m in height, but can be considerably shorter in regrowth stands or under conditions of lower site quality where the tree stratum is low and dense. For example, stands dominated by *Melaleuca ericifolia* typically do not exceed 8 m in height. The community also includes some areas of fernland and tall reedland or sedgeland, where trees are very sparse or absent (NSW Scientific Committee 2011; OEH 2025).

The most widespread and abundant dominant trees include *Eucalyptus robusta* (Swamp Mahogany), *Melaleuca quinquenervia* (Paperbark) and, south from Sydney, *Eucalyptus botryoides*

(Banalay) and *Eucalyptus longifolia* (Woollybutt). Other trees may be scattered throughout at low abundance or may be locally common at few sites, including *Callistemon salignus* (Sweet Willow Bottlebrush), *Casuarina glauca* (Swamp She-oak) and *Eucalyptus resinifera* subsp. *hemilampra* (Red Mahogany), *Livistona australis* (Cabbage Palm) and *Lophostemon suaveolens* (Swamp Turpentine). A layer of small trees may be present, including *Acacia irrorata* (Green Wattle), *Acmena smithii* (Lilly Pilly), *Elaeocarpus reticulatus* (Blueberry Ash), *Glochidion ferdinandi* (Cheese Tree), *Melaleuca linariifolia* and *M. styphelioides* (Paperbarks). Shrubs include *Acacia longifolia*, *Dodonaea triquetra*, *Ficus coronata*, *Leptospermum polygalifolium* subsp. *polygalifolium* and *Melaleuca* spp. Occasional vines include *Parsonia straminea*, *Morinda jasminoides* and *Stephania japonica* var. *discolor*. The groundcover is composed of abundant sedges, ferns, forbs, and grasses including *Gahnia clarkei*, *Pteridium esculentum*, *Hypolepis muelleri*, *Calochlaena dubia*, *Dianella caerulea*, *Viola hederacea*, *Lomandra longifolia*, *Entolasia marginata* and *Imperata cylindrica* (NSW Scientific Committee 2011; OEH 2025).

The site of the proposed stockpile occurs on a periodically inundated alluvial flat on the floodplain of Broughton Mill Creek at an elevation below 20 m AHD.

Swamp Mahogany was present along the western boundary of Berry STP in the vicinity of the proposed stockpile site. Native vegetation in this area has otherwise been cleared and modified. Vegetation around the central operational area of the STP was apparently planted as screening following earthworks and construction of the STP. PCT4009 (for which, Swamp Mahogany is a primary characteristic species) is mapped as occurring along Broughton Creek, within 350 m south-east of the subject land. It is therefore assumed that the trees in the vicinity of the proposed stockpile site are remnant of PCT4009.

The vegetation present is moderately to highly disturbed and modified, highly fragmented, depauperate of species diversity and arguably, would not represent a viable community of Swamp Sclerophyll Forest.

Regardless, no direct impact on Swamp Mahogany or other native trees would occur as part of the proposal.

The proposed stockpiling would temporarily alter the landform over a limited footprint, but is not likely to affect hydrology or flood behaviour (refer to section 3.8 for more information).

Sediment and erosion controls would be installed and maintained to reduce the risk of impacts associated with sediment movement.

It is therefore unlikely that indirect impacts resulting from the proposal would impact on Swamp Mahogany trees or other native vegetation.

Material to be stockpiled would be ENM certified spoil material from local water and sewer upgrade works and may include ENM material from other Council works. Safeguards and mitigation measures would include hygiene protocols for vehicles and machinery. Invasive plant species, pests and pathogens are unlikely to be introduced.

The land would be restored and remediated to its current state as part of the disestablishment of the stockpile site.

The proposal would therefore not involve the clearing of the TEC, would not result in the fragmentation or isolation of areas of the TEC, nor adversely affect the extent or composition of the TEC such that a local occurrence of the TEC will be placed at risk of extinction.

**Part 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, 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.**

No important habitat for threatened species would be removed or otherwise significantly impacted (see Part A).

No TEC would be fragmented or isolated, nor removed or modified to an extent that would affect the long-term survival of the TEC occurring in the locality (refer to Part B).

The proposal will therefore not affect the long-term survival of any threatened species or threatened ecological community in the locality.

**Part 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).**

No “areas of outstanding biodiversity values” have been declared in the City of Shoalhaven.

**Part 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.**

No key threatening processes listed in the NSW *Biodiversity Conservation Act 2016* are considered relevant to the proposed activity.

### 3.3 Threatened species impact assessment (Commonwealth EPBC Act 1999)

A Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Report was generated on 8<sup>th</sup> May 2026. An EPBC Protected Matters Report provides general guidance on matters of national significance and other matters protected by the EPBC Act in the area selected. Of those threatened species and endangered ecological communities reported as likely occurring or having habitat within the area of the report, the following were known to occur, or were considered to have potential habitat on the site, and require further assessment (refer to Likelihood of Occurrence Table in Appendix A for more information):

- Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland (E)
- *Pteropus poliocephalus* Grey-headed Flying-fox (V)

(CE – Critically Endangered; E – Endangered; V – Vulnerable; M – Migratory).

Additional species listed under the Act, including marine species, may occur occasionally within the vicinity of the proposed activity but would not be affected by the proposal.

An assessment against EPBC significant impact criteria is provided in Table 3.

Table 3. EPBC Significant impact assessment

<b>Critically endangered and endangered ecological communities - Significant impact criteria</b>	
Communities to consider: • Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland (CSSF)	
<b>Criteria</b>	<b>Assessment</b>
reduce the extent of an ecological community	The proposal would not directly impact on CSSF and is unlikely to result in indirect impacts on CSSF.  The proposal would not result in reducing the extent of the EEC.  Refer to Section 3.2.2 for more information.
fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines adversely affect habitat critical to the survival of an ecological community	No. Refer above and to Section 3.2.2 for more information.
modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological	The proposal would not result in sediment movement, changes to soil characteristics or hydrology, nor introduction of invasive species or edge effects that might impact indirectly on the EEC.  Refer to Section 3.2.2 for more information.
community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	No. Refer above and to Section 3.2.2 for more information.
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	No. Refer above and to Section 3.2.2 for more information.
cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to: assisting invasive species, that are harmful to the listed ecological community, to become established, or 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	No. Refer above and to Section 3.2.2 for more information.
interfere with the recovery of an ecological community	No
<b>Summary</b>	The proposed vegetation removal would not adversely affect the extent or composition of CSSF, would not fragment and would not affect the recovery, or increase the likelihood of extinction of any EEC.

**Vulnerable species - Significant impact criteria**

Species to consider:

- **Grey-headed Flying-fox (GHFF)**

<b>Criteria</b>	<b>Assessment</b>
lead to a long-term decrease in the size of an important population of a species	The proposed activity will not directly impact on a known local population of GHFF, will not affect or disrupt breeding, will not impact on breeding habitat, and will have only a negligible impact on foraging and refuge habitat. Refer to Section 3.2.2 for more information.
reduce the area of occupancy of an important population	No
fragment an existing important population into two or more populations	No
adversely affect habitat critical to the survival of a species	No important habitat for any of these species will be impacted by the proposed activity. No breeding or foraging habitat for GHFF would be impacted. Refer to Section 3.2.2 for more information.
disrupt the breeding cycle of an important population	Works would not affect breeding habitat. Refer above and to Section 3.2.2 for more information.
modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	No important habitat will be impacted by the proposed activity. Refer to Section 3.2.2 for more information.
result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	No invasive species will be introduced
introduce disease that may cause the species to decline	No disease will be introduced
interfere substantially with the recovery of the species	No

**Conclusion of EPBC Significant Impact Assessment**

The proposal is therefore unlikely to have an adverse effect on a vulnerable, endangered, critically endangered or migratory species or its habitat, nor on the extent or integrity of an endangered ecological community such that its local occurrence is likely to be placed at risk of extinction.

No other matters of significance, i.e.:

- Ramsar wetlands of international importance;
- Commonwealth marine environment;
- world heritage properties;
- national heritage places;
- the Great Barrier Reef Marine Park;
- nuclear actions; or
- a water resource, in relation to coal seam gas development and large coal mining development;

would be affected as a result of the proposed activity.

Further assessment and referral to the Commonwealth is therefore not required.

### 3.4 Indigenous heritage

Under Section 86 of the NSW *National Parks and Wildlife Act 1974* (NPW Act) it is an offence to disturb, damage, or destroy any Aboriginal object without an Aboriginal Heritage Impact Permit (AHIP). The Act, however, provides that if a person who exercises 'due diligence' in determining that their actions will not harm Aboriginal objects has a defence against prosecution if they later unknowingly harm an object without an AHIP (Section 87(2) of the Act). To effect this, the NSW Department of Environment, Climate Change and Water have prepared the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (hereafter referred to as the 'Due Diligence Guidelines') to assist individuals and organisations to exercise due diligence when carrying out activities that may harm Aboriginal objects and to determine whether they should apply for an AHIP.

Landscape features that are regarded as indicating a higher potential for Aboriginal objects include:

- within 200 m of waters, or
- located within a sand dune system, or
- located on a ridge top, ridge line or headland, or
- located within 200 m below or above a cliff face, or within 20 m of or in a cave, rock shelter, or a cave mouth.

The site of the proposed works occurs within 200 m of a first-order (Strahler) ephemeral watercourse which has been modified historically (refer to section 3.5 below).

The Due Diligence Guidelines define disturbed land as follows:

*"Land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable. Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure) and construction of earthworks."*

The subject land has been historically cleared for agricultural purposes and later, modified in the construction of the STP.

A search on the Aboriginal Heritage Information Management System (AHIMS) on 6 May 2026 returned no records of Aboriginal sites within or in close proximity to the site of the proposed activity (refer to Figure 8).

No culturally modified trees were observed within or in proximity to the site.

The proposal would not involve any excavation of the ground surface and would involve only minor disturbance of the ground associated with vehicle movement.

As the proposal would occur on disturbed land and would not impact any recorded Aboriginal sites or places, the Due Diligence Guidelines requires no further assessment, an AHIP is not required and the activity can proceed with caution.

**Figure 8. Results of AHIMS Aboriginal heritage search**



**AHIMS Web Services (AWS)  
Search Result**

Your Ref/PO Number : Berry STP

Client Service ID : 1120966

Shoalhaven City Council

Date: 06 May 2026

42 Bridge Road

Nowra New South Wales 2541

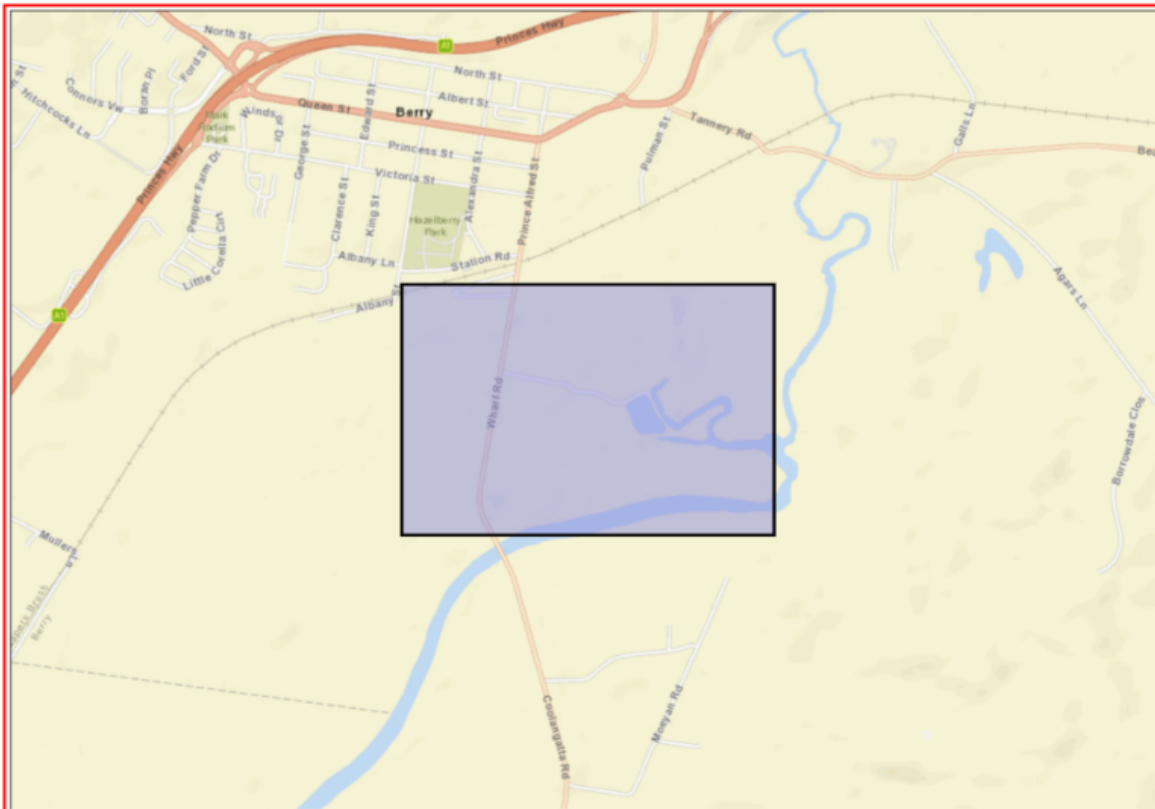
Attention: Jeff Bryant

Email: jeff.bryant@shoalhaven.nsw.gov.au

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Lat, Long From : -34.7896, 150.6932 - Lat, Long To : -34.7808, 150.7087, conducted by Jeff Bryant on 06 May 2026.**

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



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

<b>0</b>	<b>Aboriginal sites are recorded in or near the above location.</b>
<b>0</b>	<b>Aboriginal places have been declared in or near the above location. *</b>

### 3.5 Non-indigenous heritage

One non-indigenous heritage record exists in the vicinity of the proposed stockpile site location (refer to Figure 9 below):

- Council Heritage ID: 110 for “Berry Estate Salt Wall” occurs on Lot 1 DP 568280 to the east of the proposal location.



The Berry Estate Salt Wall was a concrete weir, wide enough for a horse and sulky to cross, built across Broughton Mill Creek around 1918 in an effort to prevent the high tides proceeding beyond this point, as part of a local drainage scheme for the improvement of agricultural land. The weir was reportedly used to transport corn from the Experiment Stud Farm to Berry by horse and dray. The exact location is now unknown but the heritage study author suggested that it may have been in the vicinity of the creek cattle crossing near the sewerage treatment plant<sup>4</sup>, i.e. north-east of the subject land.

The proposed stockpile site would occur on the western end of the subject land, over 500 m from where the Berry Estate Salt Wall is believed to occur.

The proposal would occur on cleared, modified land and would not involve excavation of the ground. The proposal would therefore not impact on non-indigenous heritage.

<sup>4</sup> Source: NSW State Heritage Inventory <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2390243>

### 3.6 Acid Sulfate Soils

Acid sulfate soils (ASS) are the common name given to sediments and soils containing iron sulfides which, when exposed to oxygen generate sulfuric acid. The majority of acid sulfate sediments were formed by natural processes in the Holocene geological period (the last 10,000 years). Formation conditions require the presence of iron-rich sediments, sulfate (usually from seawater), removal of reaction products such as bicarbonate, the presence of sulfate reducing bacteria and a plentiful supply of organic matter. These conditions tend to exist in mangroves, salt marsh vegetation or tidal areas, and at the bottom of coastal rivers and lakes. The relatively specific conditions under which acid sulfate soils are formed usually limit their occurrence to low lying parts of coastal floodplains, rivers and creeks. This includes areas with saline or brackish water such as deltas, coastal flats, backswamps and seasonal or permanent freshwater swamps that were formerly brackish. Due to flooding and stormwater erosion, these sulfidic sediments may continue to be re-distributed through the sands and sediments of the estuarine floodplain region. Sulfidic sediment may be found at any depth in suitable coastal sediments – usually beneath the watertable (ASSMAC 1998).

Class 4 ASS is mapped over the western portion of the subject land (including where the proposed stockpile site would occur), while Class 3 ASS is mapped as occurring over the eastern portion of the subject land (Figure 5).

The SLEP indicates that a risk of exposure of ASS exists on land mapped as Class 4 where works would occur more than 2 m below the natural ground surface, or where works would involve lowering of the watertable more than 2m below the natural ground surface.

The proposal would not involve excavation below the natural ground surface and would not involve any lowering of the watertable.

It is therefore unlikely that Acid Sulfate Soil exposure would occur.

Further consideration is not warranted.

### 3.7 Riparian corridors & Water Quality

Impacts on riparian corridors and water quality were considered regarding the following:

- Likely and potential impacts on vegetation as a result of the proposed activities;
- Sediment movement into waterways as a result of the proposed activities;

No riparian corridors occur within or in close proximity to the proposed stockpile site (refer to Figure 10).

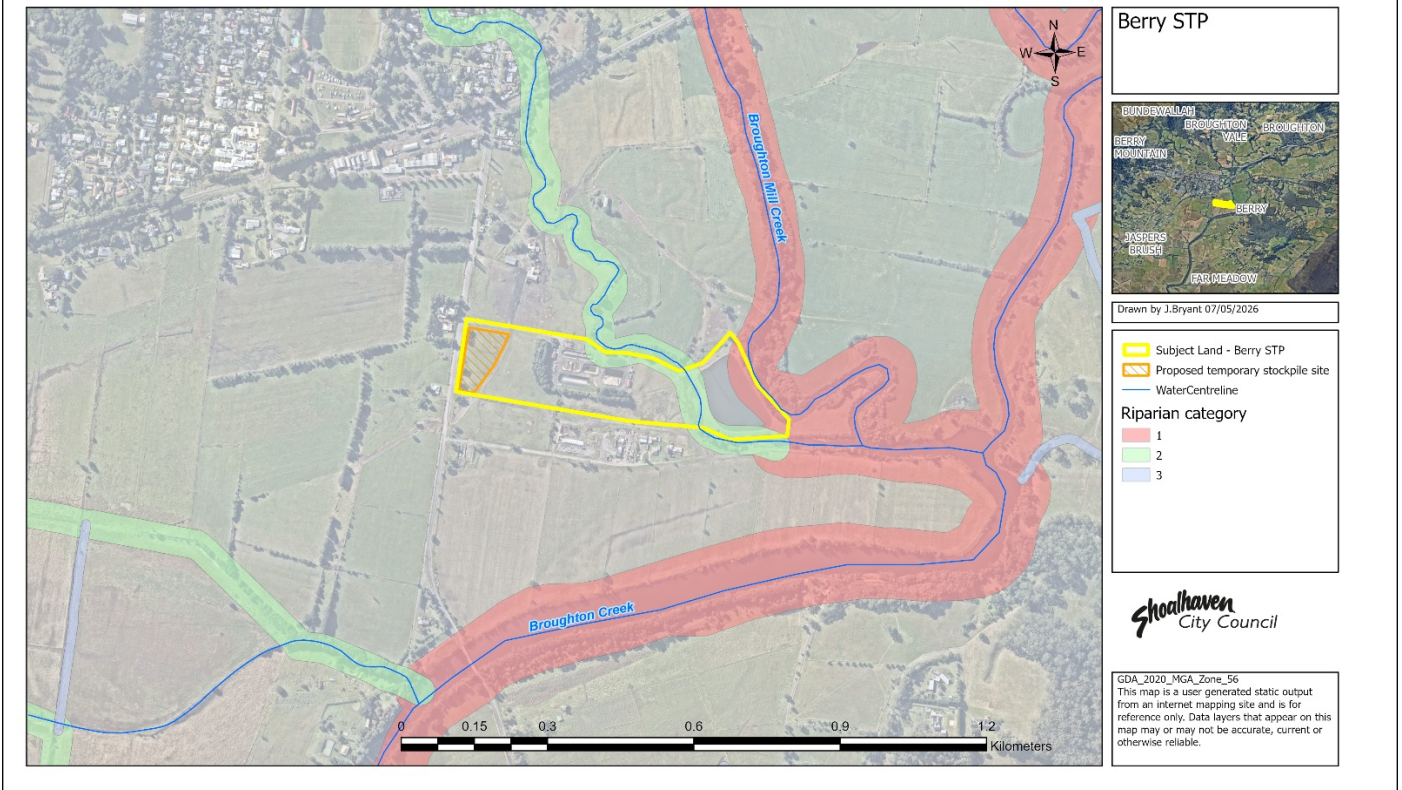
No clearing of vegetation would occur as part of the proposal.

Sediment erosion controls would be installed and maintained to minimise the risk of impacts on waterways during works.

The land would be restored and remediated to its current state as part of the disestablishment of the stockpile site.

The proposal is therefore unlikely to result in degradation of the riparian vegetation.

**Figure 10. Riparian corridors mapped as occurring in proximity to the site**



### 3.8 Flood liable land

The site contains areas of land which are mapped as being flood liable (Figure 11).

**Figure 12. Flood liable land mapped in proximity to the site**



The proposed stockpiling would temporarily alter the landform over a limited footprint.

The proposal was referred to SCC’s Floodplain and Stormwater team to consider potential adverse effects on flood behaviour. The response received referred to Broughton Creek Flood Study (Figure 13) and expressed no concerns with the proposal as follows:

*“The light blue areas are low hazard flood fringe areas. It is generally safe to fill these areas without causing adverse flood impacts, in particular if the storage of fill is only temporary. Hence, there are no concerns of placing temporary fill in the area along the western portion of the site.”*

**Figure 13. Excerpt from the *Broughton Creek Flood Study (2025)***



Further consideration is not warranted.

### 3.9 Potentially Contaminated Land

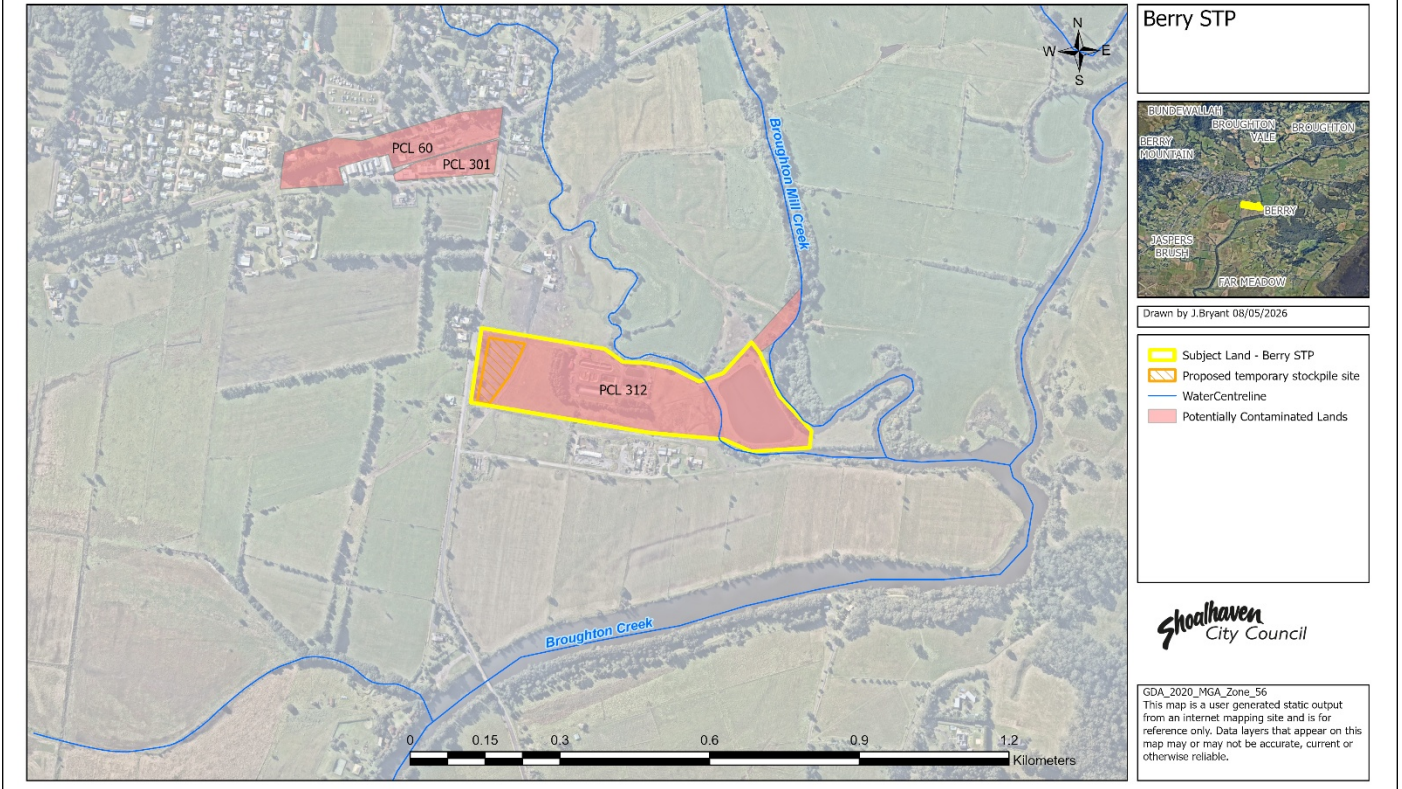
Potentially contaminated land record PCL312 occurs over the subject land (Figure 13) associated with the operation of the Berry STP.

The proposed stockpile site would occur on the west side of the subject land, away from the operational area and where no treatment or storage of sewage occurs.

The proposal would not involve excavation of the ground and is unlikely to result in exposure of contaminated land.

No further consideration is warranted.

**Figure 13. Potentially contaminated land records in proximity to the proposal**



### 3.10 EP&A Regulation – Section 171 matters of consideration

Section 171(2) of the *Environmental Planning and Assessment Regulation 2021* lists the factors to be taken into account when consideration is being given to the likely impact of an activity on the environment under Part 5 of the EP&A Act. The following assessment in Table 4 deals with each of the factors in relation to the proposed activity.

**Table 4. Section 171 Matters of consideration**

Does the proposal:	Assessment	Reason
a) Have any environmental impact on a community?	Positive	The proposal would enable efficient management of spoil material being generated from current local water and sewer infrastructure upgrade works, while also storing material for future use as fill for the maturation pond.  The proposed activity would not have any impact on other community services and infrastructure such as water supply, educational, medical or social services.
b) Cause any transformation of a locality?	Low-adverse	The proposal would result in the temporary placement of stockpiles up to approx. 4 m high over the land. This would potentially impact on views and amenity of a localised area.  Stockpiles would be located and configured to minimise visual impacts.

		The use of the site for stockpiling would be temporary and the stockpile site would be disestablished upon filling of the maturation pond.
c) Have any environmental impact on the ecosystem of the locality?	Low-adverse	<p>The five-part test of significance (Section 3.2 of this REF) concludes that the proposed activity would not have a significant impact upon threatened species or endangered ecological communities.</p> <p>No removal of vegetation would occur.</p> <p>No food resources critical to the survival of a particular species would be removed.</p> <p>Aquatic ecosystems are not likely to be significantly impacted on by the proposed activity and there is not likely to be any long-term or long-lasting impact through the input of sediment and nutrient into the ecosystem.</p> <p>Refer to Sections 3.2.2 and 3.3 of this REF for more information.</p> <p>Environmental safeguards and mitigation measures (Section 7 of this REF) would be employed to minimise risk of impacts.</p>
d) Cause a diminution of the aesthetic, recreational, scientific or other environmental quality or value of a locality?	Low-adverse	The proposal would not impact on recreational, scientific or environmental values. Refer above for aesthetic values.
e) Have any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific, or social significance or other special value for present or future generations?	Negligible	<p>The site of the proposed activity has no significant aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social values.</p> <p>No impact on heritage values or listed items associated with the site would occur. Refer to section 3.4 for more information.</p> <p>The site is not within an Aboriginal Place declared under the <i>National Parks and Wildlife Act 1974</i>.</p> <p>In accordance with the NSW Department of Environment, Climate Change and Water's Due Diligence Code of Practice, the proposed activity does not require an Aboriginal Heritage Impact Permit as the activity is unlikely to harm an Aboriginal artefact (refer to Section 3.4 of this REF).</p>
f) Have any impact on the habitat of protected fauna	Negligible	No vegetation or other habitat would be removed or otherwise impacted.

(within the meaning of the Biodiversity Conservation Act 2016)?		<p>The five-part test of significance, provided in Section 3.2 of this REF, concludes that the proposed activity would not have a significant impact upon threatened fauna.</p> <p>The specified environmental mitigation measures (Section 7 of this REF) would mitigate indirect impacts to fauna and habitat including through control of sediment.</p>
g) Cause any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?	Negligible	<p>The five-part test of significance, provided in Section 3.2 of this REF, concludes that the proposed activity would not have a significant impact upon threatened fauna.</p> <p>Refer to Sections 3.2.2 and 3.3 of this REF for more information.</p> <p>There are no species likely to rely on the site of the proposed works to the extent that modification would put them further in danger.</p>
h) Have any long-term effects on the environment?	Negligible	<p>The possible impacts have been discussed in detail under Section 3 of this REF. Refer also to the conclusions and recommendations in Section 7 of this REF.</p>
i) Cause any degradation of the quality of the environment?	Low-adverse	<p>Potential impacts associated with sediment movement during works would be managed with sediment and erosion controls to minimise risks of impacts.</p> <p>The proposal is unlikely to introduce noxious weeds, vermin, or feral animals into the area or contaminate the soil.</p> <p>Environmental safeguards and mitigation measures (Section 7 of this REF) would be employed to minimise risk of impacts.</p>
j) Cause any risk to the safety of the environment?	Negligible	<p>The proposed activity would not involve hazardous wastes and would not lead to increased bushfire risks.</p> <p>The proposal is not anticipated to adversely affect flood or tidal regimes, or exacerbate flooding risks.</p>
k) Cause any reduction in the range of beneficial uses of the environment?	Low adverse	<p>The proposed stockpile area would be temporary only; the land would be restored and remediated following disestablishment of the stockpile site; and the proposal would involve no substantial ongoing effect on the environment.</p> <p>The site and local environment will remain relatively unchanged. The proposal is not anticipated to result in further degradation of the site or surrounding land.</p>
l) Cause any pollution of the environment?	Low adverse	<p>The proposal would involve a minor local increase in noise associated with stockpiling activities.</p> <p>Stockpiles would be stabilised to minimise impacts associated with dust.</p>

		<p>Minor sediment disturbance may result from works, but this is anticipated to be minimal and would be captured and managed.</p> <p>Sediment and erosion control in accordance with the Blue Book will be implemented to minimise movement of sediment into waterways.</p> <p>It is unlikely that the activity (including the environmental impact mitigation measures) would result in water or air pollution, spillages, dust, odours, vibration or radiation.</p> <p>The risk of contamination and spills from machinery including fuel and hydraulic fluids would be minimised through safeguards and mitigation measures (refer to Section 7 of this REF).</p>
m) Have any environmental problems associated with the disposal of waste?	Positive	<p>The proposed stockpiling of spoil material from local water and sewage upgrade works for future use in filling the decommissioned maturation pond would provide for reuse of waste material that would otherwise be disposed of in landfill.</p> <p>There would be no trackable waste, hazardous waste, liquid waste, or restricted solid waste as described in the <i>NSW Protection of the Environment Operations Act 1997</i>.</p>
n) Cause any increased demands on resources (natural or otherwise) which are, or are likely to become, in short supply?	Negligible	<p>The amount of resources that would be used are not considered significant and would not increase demands on current resources such that they would become in short supply.</p>
o) Have any cumulative environmental effect with other existing or likely future activities?	Positive	<p>The proposed stockpiling of spoil material from local water and sewage upgrade works for future use in filling the decommissioned maturation pond would provide for reuse of waste material that would otherwise be disposed of in landfill.</p> <p>Mitigation measures (refer to Section 7 of this REF) shall be implemented to minimise the risk of negative cumulative environmental effects.</p>
p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions	Negligible	<p>The proposed activity would have no effect on coastal processes including those projected under climate change conditions.</p> <p>The site is not located in a coastal hazard area.</p>
q) Any applicable local strategic planning	Positive	<p>The proposed activity meets Planning Priority 2 (Delivering Infrastructure) of the <i>Shoalhaven 2040 Strategic Land-use Planning Statement</i></p>

<p>statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act</p>		<p><a href="https://doc.shoalhaven.nsw.gov.au/displaydoc.aspx?record=D20/437277">https://doc.shoalhaven.nsw.gov.au/displaydoc.aspx?record=D20/437277</a></p> <p>The proposed activity is not inconsistent with the Illawarra Shoalhaven Regional Plan 2041 (ISRP):  <a href="https://www.planning.nsw.gov.au/-/media/Files/DPE/Plans-and-policies/Plans-for-your-area/Regional-plans/Illawarra-Shoalhaven-Regional-Plan-05-21.pdf">https://www.planning.nsw.gov.au/-/media/Files/DPE/Plans-and-policies/Plans-for-your-area/Regional-plans/Illawarra-Shoalhaven-Regional-Plan-05-21.pdf</a></p>
<p>r) Any other relevant environmental factors</p>	<p>N/A</p>	<p>Environmental factors have been addressed in sections 3.1 to 3.9 of this REF.</p>

## 4. PERMISSIBILITY – STATUTORY AND PLANNING CONTEXT

### 4.1 *Environmental Planning & Assessment Act 1979 (EP&A Act)*

The EP&A Act is the principal land-use planning statute in NSW. It regulates development and associated environmental assessment.

Section 4.1 (Development that does not need consent) of the EP&A Act states that:

*“If an environmental planning instrument provides that specified development may be carried out without the need for development consent, a person may carry the development out, in accordance with the instrument, on land to which the provision applies.”*

In this regard, section 2.126(2) of the NSW *State Environmental Planning Policy (Transport and Infrastructure) 2021* (Transport & Infrastructure SEPP) provides that:

*“Development for the purpose of sewage treatment plants or biosolids treatment facilities may be carried out without consent on land in a prescribed zone in the prescribed circumstances.”*

The proposal would involve the temporary stockpiling of ENM material for eventual use in the filling of a decommissioned maturation pond within Berry STP. The proposal is therefore for the purpose of sewage treatment plants.

The proposal would occur on land which is zoned RU1 Primary Production and would therefore occur in a prescribed zone, pursuant to s2.125 (TISEPP).

Development carried out by or in behalf of a public authority constitutes development carried out in the prescribed circumstances, pursuant to s2.126(1) (TISEPP).

The proposal constitutes an ‘activity’ for the purposes of Part 5 of the EP&A Act and can be carried out by (or on behalf of) a public authority as development without consent. Environmental impact assessment under Part 5 of the EP&A Act is required, including consideration of matters outlined in Section 171 of the EP&A Regulation 2021. This REF provides this assessment and ensures that Council as determining authority in consideration of the activity, meets its obligation under s5.5 of the EP&A Act, to examine and take into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

### 4.2 *Biodiversity Conservation Act 2016 (BC Act)*

The BC Act legislates and regulates the identification and protection of threatened species and endangered ecological communities, and establishes a framework with the aim to avoid, minimise and offset the impacts of proposed development and land use change on biodiversity.

The proposed development complies with the BC Act for the following reasons:

- The proposed activity is unlikely to have a significant impact on threatened species and/or threatened ecological communities listed in the schedules of the BC Act. There is, therefore, no requirement to ‘opt in’ to the Biodiversity Offset Scheme.
- The design and mitigation measures (Section 7 of this REF) would ensure that no *serious and irreversible impacts on biodiversity values* (as defined by the BC Act) occur at the site of the proposed activity.
- The proposed activity is not within an area declared to be of “outstanding biodiversity value” as defined in the Act and Regulations.

Because of the above considerations, neither a species impact statement nor a biodiversity development assessment report is required for the proposed activity.

It is also a defence to a prosecution for an offence under Part 2 of the Act (harming animals, picking plants, damaging the habitat of threatened species or ecological communities *etc*) if the work was essential for the carrying out of an activity by a determining authority within the meaning of Part 5 of the Environmental Planning and Assessment Act 1979 after compliance with that Part.

The activity will not remove vegetation that is listed under Schedule 1 Threatened Species, Schedule 2 Threatened ecological communities and Schedule 6 Protected Plants. Therefore, the activity is considered permissible as this REF has been prepared and determined in accordance with the EP&A Act.

Refer to Section 3.2 for more information.

#### 4.3 Fisheries Management Act 1994 (FM Act)

The FM Act regulates the management of fishery resources, including protection of threatened species and aquatic habitats, and regulation of activities which may impact on aquatic habitats, such as dredging and reclamation.

Under the *Policy and guidelines for fish habitat conservation and management* (NSW DPI 2013), DPI Fisheries focuses the application of the FM Act and FM Regulations and associated policies and guidelines on “key fish habitats”. Issue of a Fisheries Permit is typically required for activities constituting dredging or reclamation within or with potential to impact areas identified as Key Fish Habitat.

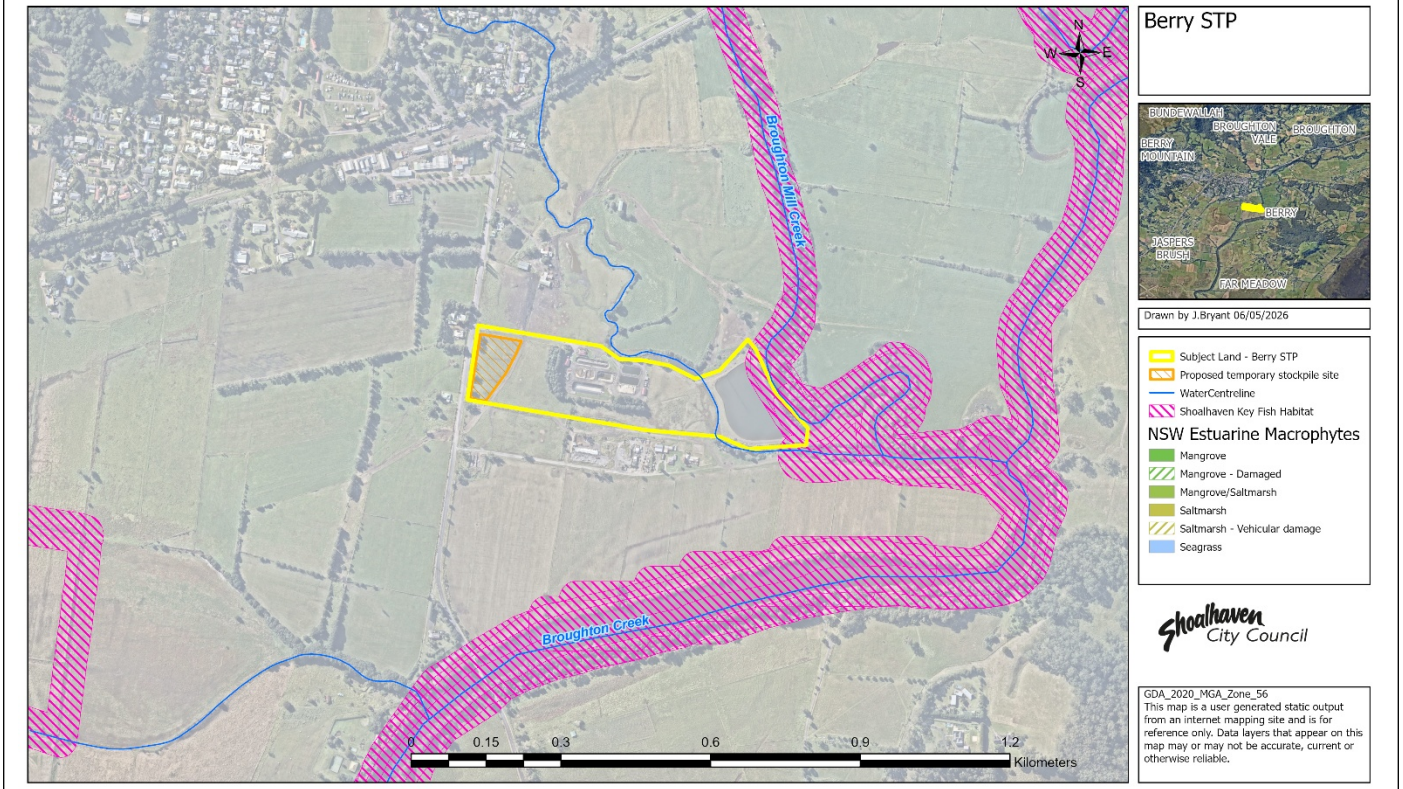
The proposed works would not involve dredging and reclamation on water land and would not occur within or in proximity to any waterway mapped as Key Fish Habitat (refer to Figure 14).

No activities which are regulated under the FM Act are applicable, as the proposed activity:

- would not affect declared aquatic reserves (Part 7, Division 2 of the Act);
- would not involve dredging or reclamation in Key Fish Habitat (Part 7, Division 3);
- would not involve blocking the passage of fish (s.219);
- would not impact mangroves and marine vegetation (Part 7, Division 4);
- would not involve disturbance to gravel beds where salmon or trout spawn (s.208 of the Act);
- does not involve the release of live fish (Part 7, Division 7);
- does not involve the construction of dams and weirs (s.218);
- would not impact declared threatened species of endangered ecological communities (Part 7A);
- does not constitute a declared key threatening process (Part 7A); and
- would not use explosives in a watercourse (Clauses 70 and 71 of the *Fisheries Management (General) Regulation 2019*).

A Fisheries Permit or other authorisation under the FM Act is therefore not required.

**Figure 14. Key Fish Habitat mapped in proximity to the site**



#### 4.4 Other

A summary of other relevant legislation and permissibility is provided in Table 5 below.

**Table 5. Summary of other relevant legislation and permissibility**

<b>NSW STATE LEGISLATION</b>	
<b><i>Shoalhaven Local Environmental Plan 2014 (SLEP)</i></b>	
Permissible <input checked="" type="checkbox"/>	Not permissible <input type="checkbox"/>
Justification: Under the SLEP the proposed activity may have required development consent. The provisions of SEPP Infrastructure, however, prevail over the SLEP where there is an inconsistency by virtue of Section 3.28 of the EP&A Act. Consequently, development consent is not required.	
<b><i>Local Government Act 1993 (LG Act)</i></b>	
Permissible <input checked="" type="checkbox"/>	Not permissible <input type="checkbox"/>
Justification: <ul style="list-style-type: none"> <li>The proposal would occur on land which is classified as “operational”.</li> </ul>	

**Protection of the Environment Operations Act 1997**

Permissible  Not permissible

**Justification:**

The proposed activity does not constitute scheduled development work or scheduled activities as listed in Schedule 1 of the Act. The proposed activity therefore does not require an environmental protection licence.

**National Parks and Wildlife Act 1974 (NP&W Act)**

Permissible  Not permissible

**Justification:**

- The proposed activity would not encroach into National Park estate.
- The Act provides the basis for the legal protection and management of Aboriginal sites in NSW. Under Sections 86 and 90 of the Act it is an offence to disturb an Aboriginal object or knowingly destroy or damage, or cause the destruction or damage to, an Aboriginal object or place, except in accordance with a permit of consent under section 87 and 90 of the Act.
- As there are no recorded sites or visible objects and as the site is on ‘disturbed land’, the Due Diligence Guidelines requires no further assessment as it is reasonable to conclude that there is a low probability of objects occurring in the area of the proposed activity and an AHIP is not required. Refer to Section 3.4 for more information.

**Heritage Act 1977**

Permissible  Not permissible

**Justification:**

- The proposed activity would not disturb an item of state heritage significance.
- The Act also provides statutory protection to relics, archaeological deposits, artefacts or deposits. Section 139 to 146 of the Act require that excavation that is likely to contain, or is believed may contain, archaeological relics is undertaken in accordance with an excavation permit issued by the Heritage Council. The Act defines an archaeological relic as “*any deposit, artefact, object or material evidence that:*
  - a) *relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement; or*
  - b) *is of state and local heritage significance”*

**Water Management Act 2000**

Permissible  Not permissible

**Justification:**

- Local councils are exempt from s.91E(1) of the Act in relation to all controlled activities that they carry out in, on or under waterfront land by virtue of clause 41 of the *Water Management (General) Regulation 2018*.
- The proposal would not interfere with the aquifer and therefore an interference licence is not required (s.91F).

**State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience & Hazards SEPP)**

Permissible  Not permissible

**Justification:**

- The site is mapped in part as Coastal Environment Area for the purpose of the Resilience & Hazards SEPP. Development controls under the SEPP for this management zone do not apply to development which can be carried out without consent.
- No areas identified as Coastal Wetlands or Littoral Rainforest on the Coastal Wetlands and Littoral Rainforests Area Map occur in proximity to the site.
- The proposed activity does not constitute activities or works to reduce the impact of coastal hazards. As such, the controls of section 2.16(2) of the Resilience & Hazards SEPP do not apply and the works can be carried out without the requirement for development consent or identification in a certified Coastal Management Program.
- Other activities and issues addressed by the Resilience & Hazards SEPP are not applicable to the proposal.

**COMMONWEALTH LEGISLATION**

***Environment Protection and Biodiversity Conservation Act 1999 (EP&BC Act)***

Permissible  Not permissible

**Justification:**

The proposed activity would not be undertaken on Commonwealth land and no matters of National Environmental Significance are likely to be significantly impacted by the proposed activity (Section 3.3). The proposed activity is therefore not a controlled action and does not require commonwealth referral.

***Native Title Act 1994 (NT Act)***

Permissible  Not permissible

**Justification:**

The proposed activity would be undertaken entirely on freehold land. Native Title is therefore assumed extinguished as a previous exclusive possession act.

## 5. CONSULTATION WITH GOVERNMENT AGENCIES

### 5.1 Transport & Infrastructure SEPP

#### Section 2.10 – Consultation with councils – Development with impacts on council-related infrastructure or services

The proposed activity:

- (a) would not have an impact on stormwater management
- (b) is unlikely generate traffic to an extent that it would strain the capacity of the road system
- (c) would not connection to the sewerage system
- (d) would not involve connection to, and use of a substantial volume of water from the water supply system
- (e) is unlikely to cause a disruption to pedestrian or vehicular traffic
- (f) would not involve excavation of a footpath or road.

Consultation under Section 2.10 is therefore not required.

#### Section 2.11 – Consultation with councils – Development with impacts on local heritage

No impacts to any local heritage item would occur. Consultation under section 2.11 is therefore not required.

#### Section 2.12 – Consultation with councils – Development with impacts on flood liable land

The proposal would occur on land which is mapped as being flood-liable.

Consultation with SCC's Floodplain and Stormwater team was carried out. No concerns regarding the proposal were raised. Refer to section 3.8 of this REF for more information.

Consultation under section 2.13 is therefore not required.

#### Section 2.13 – Consultation with State Emergency Service—development with impacts on flood liable land

The proposal would occur on land which is mapped as being flood-liable but would not be carried out under a relevant provision (refer Transport & Infrastructure SEPP 2.13(2)).

Additionally, the proposal is unlikely to affect flood behaviour other than to a minor extent.

Notification to NSW State Emergency Service Risk Reduction is therefore not required.

Refer to section 3.8 of this REF for more information.

Consultation under section 2.13 is therefore not required.

#### Section 2.14 – Consultation with councils – Development with impacts on certain land within the coastal zone

The proposal would not occur within a coastal vulnerability area. Consultation is therefore not required.

### Section 2.15 – Consultation with public authorities other than councils

In consideration of the consultation requirements specified under section 2.15 of the Infrastructure SEPP, the proposed activity:

- would not be undertaken on or adjacent to land reserved under the *National Parks and Wildlife Act 1974* or in Zone C1 or in equivalent zones;
- would not comprise a fixed or floating structure in or over navigable waters;
- would not increase the amount of artificial light in the night sky and located on land within the dark sky region as identified on the dark sky region map;
- would not be undertaken within Defence communications facility buffer (only relevant to the defence communications facility near Morundah);
- would not be undertaken on land in a mine subsidence district within the meaning of the *Mine Subsidence Compensation Act 1961*;
- would not be development on, or reasonably likely to have an impact on, a part of the Willandra Lakes Region World Heritage Property;
- would not be development within a Western City operational area specified in Schedule 2 of the *Western Parkland City Authority Act 2018*.

No further consultation is required under section 2.15.

### Section 2.16 – Consideration of Planning for Bush Fire Protection (PBP)

The proposed activity is not a type applicable to this clause *i.e.* health services facilities, correctional centres and residential accommodation. Consideration of PBP is therefore not required.

### Summary

No consultation with government agencies under Part 2.2, Division 1 of the Transport & Infrastructure SEPP is required.

## 6. COMMUNITY ENGAGEMENT

In accordance with Council's Community Engagement Policy, the proposal constitutes a *Local Area – Low Impact* activity. Formal community engagement is not required.

## 7. SAFEGUARDS AND MITIGATION MEASURES TO MINIMISE IMPACTS ON THE ENVIRONMENT

Note that safeguards and mitigation measures are prescribed unless clearly stated as a recommendation.

Safeguard / Measure	Responsibility
<b>Planning, approvals and notifications</b>	
1. It is recommended that notification of the proposal, its purpose and temporary nature, be provided to landowners and residents of adjacent and nearby properties within 300 m of the proposed stockpile site.	SCC Project Manager
2. It is recommended that a site supervisor be nominated to manage the site and oversee stockpiling operations in accordance with these safeguards and mitigation measures.	SCC Project Manager
3. Consultation is recommended with the manager of adjacent cattle operations utilising the informal cattle access to cross Lot 2 DP 818556 (refer to Fig. 2 of this REF), to determine the potential for conflict between these activities and the possible need for an alternative cattle movement route.	SCC Project Manager
<b>Site Establishment and General Safeguards</b>	
4. Access to the stockpile site shall be via the Berry STP access road (driveway) and not directly off Wharf Rd.	SCC Project Manager ; Site Supervisor
5. Stockpile configuration and management: a) Spoil material to be stockpiled shall be certified as ENM (or VENM) prior to transporting to the site. b) Stockpiles shall not encroach within the canopy line of adjacent trees and shall be located and configured to minimise visual impacts. c) Stockpiles shall be constructed, and erosion and sediment controls shall be installed and maintained in accordance with the 'Blue Book' (Landcom 2004). This is to include: <ul style="list-style-type: none"> <li>• the installation and maintenance of sediment fences, diversion drains and/or bunds as appropriate;</li> <li>• stabilised site access into the site;</li> <li>• limiting the slopes of the stockpile to more than 2:1;</li> <li>• stabilising the surface of the earthen stockpiles with cover, whether it be geofabric, jute mesh / mat, mulch, hydro-seeding, grass-establishment or similar.</li> </ul> d) Stockpiles shall not exceed 4 metres in height.	Site Supervisor ; Relevant Operators

<b>Safeguard / Measure</b>	<b>Responsibility</b>
6. All machinery to be used shall be cleaned, degreased and in good working order prior to entering the site.	Site Supervisor ; Relevant Operators
7. Machine operators shall keep an emergency spill kit on-site at all times with procedures to contain and collect any leakage or spillage of fuels, oils and greases from plant and equipment.	Site Supervisor ; Relevant Operators
8. No major equipment maintenance works shall be undertaken on-site.	Site Supervisor ; Relevant Operators
9. To avoid the risk of pollution from machinery, refuelling shall generally be done off site, however if refuelling on site is required, due care shall be taken to avoid spilling fuel and a tray shall be used to catch any accidentally spilt fuel.	Site Supervisor ; Relevant Operators
10. In the event that any wildlife be significantly disturbed or injured during works, Council's Environmental Officers are to be contacted on 4429 3405, or if unavailable, Wildlife Rescue – South Coast should be contacted on 0418 427 214, to rescue and relocate the animal(s).	Site Supervisor ; Relevant Operators
11. Staff working at the site will be instructed to stop work immediately on identification of any suspected Aboriginal heritage artefact. If any objects are found, NSW Department of Planning, Industry and Environment (ph:131 555) shall be contacted.	Site Supervisor ; Relevant Operators
<b>Site disestablishment</b>	
12. On completion of filling of the maturation pond, the stockpile site shall be disestablished and remediated to its pre-existing state and shall cease to be used for stockpiling purposes.	SCC Project Manager ; Site Supervisor
13. In the event that filling of the maturation pond does not proceed and is not planned to proceed within 5 years (e.g. due to irreconcilable environmental approvals or delayed or changed plans to future STP upgrades), either the stockpiled material shall be removed and the land shall be restored, or appropriate steps shall be taken to establish the site as a long-term or permanent stockpile site.	SCC Project Manager
14. Remediation of the stockpile site shall involve removal of all stockpiled material, dressing and turfing or seeding of grassed areas, as required to return the area to its existing state prior to establishment of the stockpile site.	SCC Project Manager ; Site Supervisor
15. Erosion and sediment controls shall be maintained in good working order until the site has been stabilised and the risk of erosion and sediment movement is minimal.	SCC Project Manager ; Site Supervisor

## 8. SIGNIFICANCE EVALUATION & DECISION STATEMENT

This Review of Environmental Factors has assessed the likely environmental impacts, in the context of Part 5 of the Environmental Planning and Assessment Act 1979, of a proposal by Shoalhaven City Council for the establishment of a temporary stockpile area at Berry Sewage Treatment Plant (STP).

In consideration of the proposal as described in Section 1, in accordance with any design plans referred to in this report, and assuming the implementation of all proposed safeguards and mitigation measures (Section 7), it is determined that:

1. It is unlikely that there will be any significant environmental impact as a result of the proposed activity and an Environmental Impact Statement is not required.
2. The proposed activity will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations or ecological communities, or their habitats, and a Species Impact Statement / BDAR is not required.
3. No statutory approvals, licences, permits or external government consultations are required.
4. The proposed activity may proceed.

In accepting and adopting this REF, Shoalhaven City Council commits to ensuring the implementation of the proposed safeguards and mitigation measures identified in this report (Section 7) to minimise and/or prevent detrimental environmental impacts.

**Determined by:**



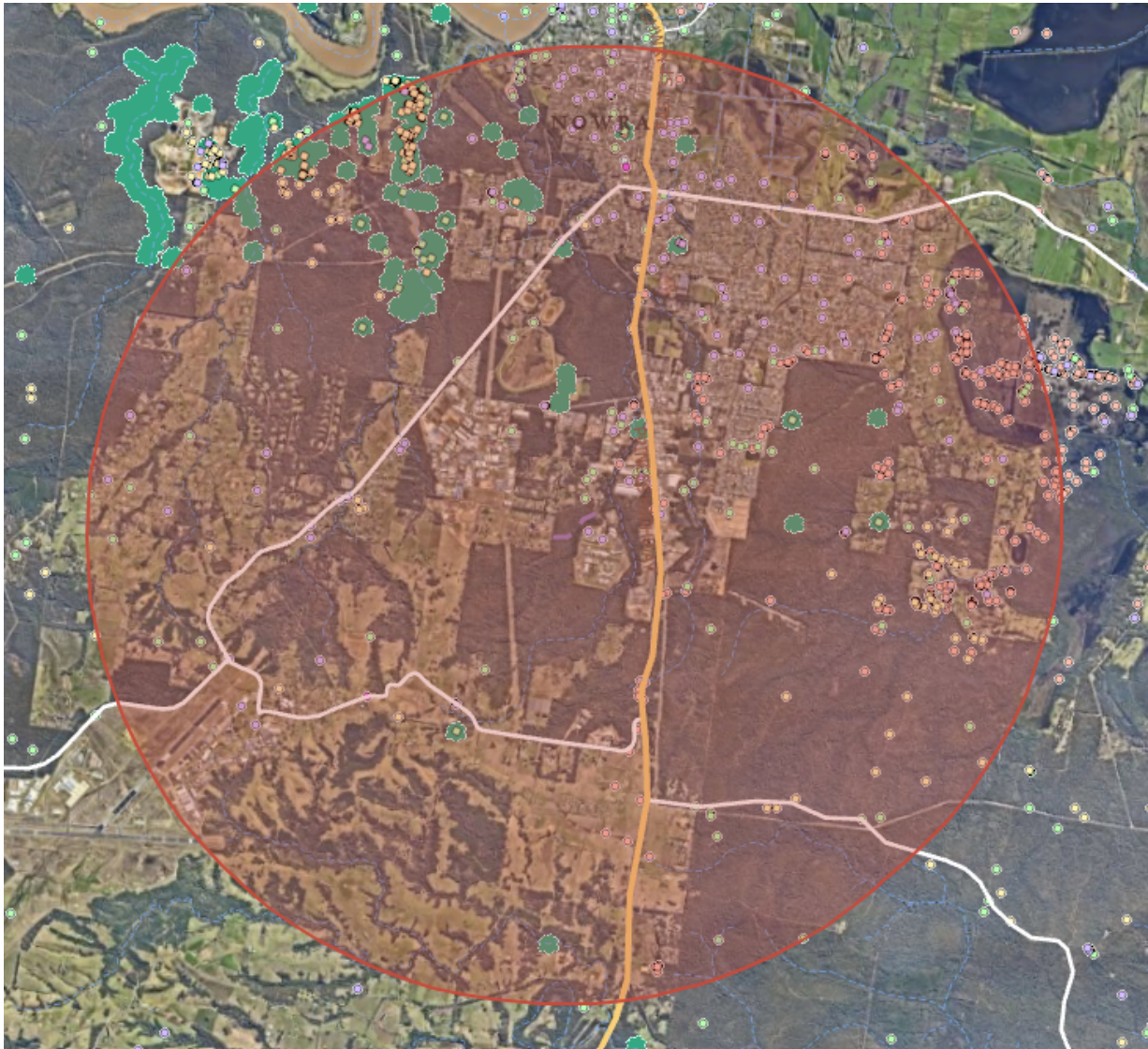
Matthew Kidd  
Manager Water Asset Planning & Development  
Shoalhaven Water

Date: 22/5/2026

## 9. REFERENCES

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- OEH (NSW Office of Environment and Heritage). 2025. *Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions – profile*. Available at: <https://threatenedspecies.bionet.nsw.gov.au/profile?id=10786>

**APPENDIX A – Threatened Species Likelihood of Occurrence**



### NSW Threatened Species Likelihood of Occurrence Table

The table of likelihood of occurrence evaluates the likelihood of threatened species to occur on the subject site. This list is derived from previously recorded species within a 5 km radius (taken from NSW BioNet Atlas) around the subject site. Ecology information unless otherwise stated, has been obtained from the *Threatened Biodiversity Profile Search* on the NSW OEH (Office of Environment & Heritage) online database (<https://www.environment.nsw.gov.au/threatenedspeciesapp/>).

#### Likelihood of occurrence in study area

1. Unlikely – Species, population or ecological community is not likely to occur. Lack of previous recent (<25 years) records and suitable potential habitat limited or not available in the study area.
2. Likely – Species, population or ecological community could occur and study area is likely to provide suitable habitat. Previous records in the locality and/or suitable potential habitat in the study area.
3. Present – Species, population or ecological community was recorded during the field investigations.

#### Possibility of impact

1. Unlikely – The proposal would be unlikely to impact this species or its habitats. No NSW *Biodiversity Conservation Act 2016* “Test of Significance” or EPBC Act significance assessment is necessary for this species.
2. Likely – The proposal could impact this species, population or ecological community or its habitats. A NSW *Biodiversity Conservation Act 2016* “Test of Significance” and/or EPBC Act significance assessment is required for this species, population or ecological community.

**Note that where further assessment is deemed required, this is undertaken within the REF as a Test of Significance (in the case of NSW listed species) or an EPBC Significant Impact Assessment (in the case of Commonwealth listed species).**

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

<b>Threatened Ecological Community (TEC) name</b>	<b>Status</b>	<b>Likelihood of presence within areas impacted by the activity</b>
<i>Bangalay Sand Forest of the Sydney Basin and South East Corner Bioregions (BC Act)</i>	Endangered - NSW BC Act	Not mapped as occurring nor associated with any plant community types mapped or observed in the vicinity of the site.
<i>Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner Bioregions (BC Act) Subtropical and Temperate Coastal Saltmarsh (EPBC Act)</i>	Endangered - NSW BC Act Vulnerable - Commonwealth EPBC Act	Not mapped as occurring nor associated with any plant community types mapped or observed in the vicinity of the site.
<i>Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions (BC Act)</i>	Endangered - NSW BC Act	Not mapped as occurring nor associated with any plant community types mapped or observed in the vicinity of the site.
<i>Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion (BC Act) Illawarra and south coast lowland forest and woodland ecological community (EPBC Act)</i>	Endangered - NSW BC Act Critically Endangered - Commonwealth EPBC Act	Not mapped as occurring nor associated with any plant community types mapped or observed in the vicinity of the site.
<i>Illawarra Subtropical Rainforest in the Sydney Basin Bioregion (BC Act) Illawarra– Shoalhaven subtropical rainforest of the Sydney Basin Bioregion (EPBC Act)</i>	Endangered - NSW BC Act Critically Endangered - Commonwealth EPBC Act	Not mapped as occurring nor associated with any plant community types mapped or observed in the vicinity of the site.
<i>Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (BC Act) Littoral Rainforest and Coastal Vine Thickets of Eastern Australia (EPBC Act)</i>	Endangered - NSW BC Act Critically Endangered - Commonwealth EPBC Act	Not mapped as occurring nor associated with any plant community types mapped or observed in the vicinity of the site.
<i>Milton Ulladulla Subtropical Rainforest in the Sydney Basin Bioregion (BC Act) Illawarra– Shoalhaven subtropical rainforest of the Sydney Basin Bioregion (EPBC Act)</i>	Endangered - NSW BC Act Critically Endangered - Commonwealth EPBC Act	Not mapped as occurring nor associated with any plant community types mapped or observed in the vicinity of the site.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

<b>Threatened Ecological Community (TEC) name</b>	<b>Status</b>	<b>Likelihood of presence within areas impacted by the activity</b>
<i>River-flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i> (BC Act) <i>River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria</i> (EPBC Act)	Endangered - NSW BC Act Critically Endangered - Commonwealth EPBC Act	Mapped as occurring over and scattered around the proposed stockpile site associated with PCT3258, however, site investigations concluded that PCT3258 is not present. Characteristic species of the TEC do not occur in the vicinity of the proposed stockpile site.
<i>Robertson Basalt Tall Open-forest in the Sydney Basin and South Eastern Highlands Bioregions</i> (BC Act)	Critically Endangered – NSW BC Act	Not mapped as occurring nor associated with any plant community types mapped or observed in the vicinity of the site.
<i>Swamp oak floodplain forest of the NSW North Coast, Sydney Basin and South East Corner bioregions</i> (BC Act) <i>Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community</i> (EPBC Act)	Endangered - NSW BC Act Endangered - Commonwealth EPBC Act	Mapped as potentially occurring on the subject land (along Broughton Mill Creek) associated with PCT4049, but is not mapped in the vicinity of the proposed stockpile site. Characteristic species of the TEC do not occur in the vicinity of the proposed stockpile site.
<i>Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions</i> (BC Act) <i>Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland</i> (EPBC Act)	Endangered - NSW BC Act Endangered - Commonwealth EPBC Act	May occur associated with PCT4009. Vegetation occurring in the vicinity of the proposed stockpile site was considered likely to be remnant PCT4009, based on the presence of Swamp Mahogany (characteristic species). Further assessment has been undertaken in section 3.2.2 and 3.3 of this REF.

<b>Species name</b>	<b>Common name</b>	<b>Type</b>	<b>Status</b>	<b>Species information &amp; habitat requirements</b>	<b>Likelihood of presence within areas impacted by the activity</b>
<i>Lastreopsis hispida</i>	Bristly Shield Fern	Flora	Endangered NSW BC Act	Grows in rich humus-rich soils in wet forest and rainforest gullies.	Does not occur. Not observed and no suitable habitat.
<i>Rhodamnia rubescens</i>	Scrub Turpentine	Flora	Critically Endangered NSW BC Act	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils.	Does not occur. Not observed and no suitable habitat.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	Flora	Vulnerable EPBC Act Endangered NSW BC Act	On the south coast the Magenta Lilly Pilly occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral (coastal) rainforest.	Does not occur. Not observed and no suitable habitat.
<i>Litoria aurea</i>	Green and Golden Bell Frog	Amphibian	Vulnerable EPBC Act Endangered NSW BC Act	Marshes, dams and stream-sides, particularly those containing bullrushes ( <i>Typha spp.</i> ) or spikerushes ( <i>Eleocharis spp.</i> ). Optimum habitat for the species includes water-bodies that are unshaded, free of predatory fish such as Plague Minnow ( <i>Gambusia holbrooki</i> ), with a grassy area nearby and diurnal sheltering sites available. Some sites, particularly in the Greater Sydney region occur in highly disturbed areas (OEH 2017).	Unlikely to occur. No suitable habitat.
<i>Apus pacificus</i>	Fork-tailed Swift	Bird	Migratory EPBC Act	Occurring over inland plains but sometimes above foothills or in coastal areas. They often occur over cliffs and beaches and also over islands and sometimes well out to sea. They also occur over settled areas, including towns, urban areas and cities. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand dunes.	Possible occurring transiently over or in proximity to the site but no suitable habitat occurs within the site.
<i>Ardenna pacifica</i>	Wedge-tailed Shearwater	Bird	Migratory EPBC Act	A pelagic, marine bird known from tropical and subtropical waters. The species tolerates a range of surface-temperatures and salinities, but is most abundant where temperatures are greater than 21 °C and salinity is greater than 34.6 ‰. In tropical zones the species may feed over cool nutrient-rich waters. The species has been recorded in offshore waters of eastern Victoria and southern NSW, mostly over continental slope with sea-surface temperatures of 13.9–24.4 °C and usually off the continental shelf in north-west Australia.	Unlikely to occur. No suitable habitat.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	Bird	Vulnerable NSW BC Act	The Dusky Woodswallow is often reported in woodlands is eastern, southern and southwestern Australia. In New South Wales it is widespread from coast to inland, including the western slopes of the great Diving Range and farther west. It is often reported in woodlands and dry open sclerophyll forests, usually dominated by eucalyptus, including mallee associations. It has also been recorded in shrublands and heathlands and various modified habitats including regenerating forests; very occasionally in moist forests of rainforests. At sites where Dusky Woodswallows are recorded the understorey is typically open with sparse eucalypt saplings, acacias and other shrubs, including heath. The ground cover may consist of grasses, sedges or open ground, often with coarse woody debris.	Unlikely to occur. No suitable habitat.
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Bird	NSW BC Act Endangered EPBC Act Endangered	Occurs in terrestrial freshwater wetlands and, rarely, estuarine habitats. It favours wetlands with tall, dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. The species favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and/or reeds (e.g. Phragmites, Cyperus, Eleocharis, Juncus, Typha, Baumea, Bolboschoenus) or cutting grass (Gahnia) growing over muddy or peaty substrate. Knowledge of the breeding ecology of the Australasian Bittern is relatively poor.	Unlikely to occur. No suitable habitat.
<i>Calidris alba</i>	Sanderling	Bird	Vulnerable NSW BC Act	Often found in coastal areas on low beaches of firm sand, near reefs and inlets, along tidal mudflats and bare open coastal lagoons; individuals are rarely recorded in near-coastal wetlands. Generally occurs in small flocks, however may associate freely with other waders.	Unlikely to occur. No suitable habitat.
<i>Calidris ferruginea</i>	Curlew Sandpiper	Bird	EPBC Act: Migratory NSW BC Act: Endangered	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Forages on mudflats and nearby shallow water.	Unlikely to occur. No suitable habitat.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
<i>Calidris ruficollis</i>	Red-necked Stint	Bird	Migratory EPBC Act	The Red-necked Stint mostly forages on bare wet mud on intertidal mudflats or sandflats, or in very shallow water; mostly in areas with a film of surface water and mostly close to edge of water. During high tides they sometimes forage in non-tidal wetlands. Red-necked Stints may also forage in samphire, generally avoid beds of seagrass, but may feed along edges. On Lake Reeve, Victoria, they have been reported to occasionally feed on algal mats. On sandy ocean beaches they sometimes forage in beachcast seaweed. They have been recorded foraging in flooded paddocks and in a freshly cropped lucerne paddock near lagoons.	Unlikely to occur. No suitable habitat.
<i>Calidris tenuirostris</i>	Great Knot	Bird	NSW BC Act: Vulnerable EPBC Act: Migratory	In Australasia, the species typically prefers sheltered coastal habitats, with large intertidal mudflats or sandflats. This includes inlets, bays, harbours, estuaries and lagoons. They are occasionally found on exposed reefs or rock platforms, shorelines with mangrove vegetation, ponds in saltworks, at swamps near the coast, saltlakes and non-tidal lagoons. The Great Knot rarely occurs on inland lakes and swamps.	Unlikely to occur. No suitable habitat.
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	Bird	Endangered NSW BC Act Endangered EPBC Act	Tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In winter, may occur at lower altitudes in drier more open eucalypt forests and woodlands, and often found in urban areas. preferring more open eucalypt forests and woodlands, particularly in box-ironbark assemblages, or in dry forest in coastal areas. Favours old growth attributes for nesting and roosting	Possible occurring transiently over or in proximity to the site but unlikely to occur within the site due to degraded condition and poor connectivity.
<i>Calyptorhynchus lathamii lathamii</i>	Glossy Black-cockatoo	Bird	Vulnerable NSW BC Act Vulnerable EPBC Act	The GBC inhabits open forest and woodlands of the coast where stands of she-oak occur. In the Jervis Bay region they feed almost exclusively on the seeds of the black she-oak <i>Allocasuarina littoralis</i> , shredding the cones with their bill	Possible occurring transiently over or in proximity to the site but no suitable habitat occurs within the site.
<i>Charadrius mongolus</i>	Lesser Sand-plover	Bird	EPBC Act: Migratory NSW BC Act: Vulnerable	In non-breeding grounds in Australia, this species usually occurs in coastal littoral and estuarine environments. It inhabits large intertidal sandflats or mudflats in sheltered bays, harbours and estuaries, and occasionally sandy ocean beaches, coral reefs, wave-cut rock platforms and rocky outcrops. It also sometime occurs in short	Unlikely to occur. No suitable habitat.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
				saltmarsh or among mangroves. The species feeds mostly on extensive, freshly-exposed areas of intertidal sandflats and mudflats in estuaries or beaches, or in shallow ponds in saltworks.	
<i>Circus assimilis</i>	Spotted Harrier	Bird	Vulnerable NSW BC Act	The Spotted Harrier occurs throughout the Australian mainland, except in densely forested or wooded habitats or the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population.	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.
<i>Daphoenositta chrysoptera</i>	Varied Sittella	Bird	Vulnerable NSW BC Act	Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	Bird	Endangered EPBC Act Endangered NSW BC Act	Sedgeland/heathland/dry sclerophyll and woodlands- / requires thick shrub/heath layer for shelter, nesting and foraging	Unlikely to occur. No suitable habitat.
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	Bird	Endangered NSW BC Act	Floodplain wetlands (swamps, billabongs, watercourses and dams) of the major coastal rivers are the key habitat in NSW for the Black-necked Stork. Secondary habitat includes minor floodplains, coastal sandplain wetlands and estuaries. Storks usually forage in water 5-30cm deep for vertebrate and invertebrate prey. Eels regularly contribute the greatest biomass to their diet, but they feed on a wide variety of animals, including other fish, frogs and invertebrates (such as beetles, grasshoppers, crickets and crayfish). Black-necked Storks build large nests high in tall trees close to water. Trees usually provide clear observation of the surroundings and are at low elevation (reflecting the floodplain habitat).	Unlikely to occur. No suitable habitat.
<i>Epthianura albifrons</i>	White-fronted Chat	Bird	Vulnerable NSW BC Act	Commonly occurring in the saltmarshes of southern Australia, the White-fronted Chat is often seen foraging for insects and their larvae among the succulent leaves and stems of stunted saltmarsh plants.	Unlikely to occur. No suitable habitat.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
<i>Gallinago hardwickii</i>	Latham's Snipe	Bird	EPBC Act: Migratory	In Australia, Latham's Snipe occurs in permanent and ephemeral wetlands up to 2000 m above sea-level. They usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies). However, they can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity. In Australia, Latham's Snipe occurs in a wide variety of permanent and ephemeral wetlands. They usually occur in open, freshwater wetlands that have some form of shelter (usually low and dense vegetation) nearby. They generally occupy flooded meadows, seasonal or semi-permanent swamps, or open waters, but various other freshwater habitats can be used including bogs, waterholes, billabongs, lagoons, lakes, creek or river margins, river pools and floodplains.	Unlikely to occur. No suitable habitat.
<i>Haematopus longirostris</i>	Pied Oystercatcher	Bird	Endangered NSW BC Act	Favours intertidal flats of inlets and bays, open beaches and sandbanks. Forages on exposed sand, mud and rock at low tide, for molluscs, worms, crabs and small fish. Nests mostly on coastal or estuarine beaches although occasionally they use saltmarsh or grassy areas.	Unlikely to occur. No suitable habitat.
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	Bird	NSW BC Act Vulnerable Migratory EPBC Act	Found in coastal habitats (especially those close to the sea-shore) and around terrestrial wetlands in tropical and temperate regions of mainland Australia and its offshore islands. The habitats occupied by the sea-eagle are characterized by the presence of large areas of open water (larger rivers, swamps, lakes, the sea). Birds have been recorded in (or flying over) a variety of terrestrial habitats. The species is mostly recorded in coastal lowlands, but can occupy habitats up to 1400 m above sea level on the Northern Tablelands of NSW and up to 800 m above sea level in Tasmania and South Australia. Birds have been recorded at or in the vicinity of freshwater swamps, lakes, reservoirs, billabongs, saltmarsh and sewage ponds.	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.
<i>Hieraaetus morphnoides</i>	Little Eagle	Bird	Vulnerable NSW BC Act	Occupies open eucalypt forest, woodland or open woodland. She-oak or acacia woodlands and riparian woodlands of interior NSW are also used. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter	Possible occurring transiently over or in proximity to the site but

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
					no important habitat occurs within the site.
<i>Hirundapus caudacutus</i>	White-throated Needletail	Bird	Vulnerable NSW BC Act Vulnerable EPBC Act	Almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground. Because they are aerial, it has been stated that conventional habitat descriptions are inapplicable, but there are, nevertheless, certain preferences exhibited by the species. Although they occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland. They also commonly occur over heathland, but less often over treeless areas, such as grassland or swamps.	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.
<i>Hydroprogne caspia</i>	Caspian Tern	Bird	Migratory EPBC Act	Occur along the Australian coastline, and also occur inland along major rivers, especially in the Murray-Darling and Lake Eyre drainage basins, preferring wetlands with clear water to allow easy prey detection.	Unlikely to occur. No suitable habitat.
<i>Ixobrychus flavicollis</i>	Black Bittern	Bird	Vulnerable NSW BC Act	Terrestrial and estuarine wetlands generally in areas of permanent water and dense vegetation that may comprise grassland, woodland forest rainforest and mangroves. Roosts in trees or on ground amongst dense reeds, nests in branches overhanging water	Unlikely to occur. No suitable habitat.
<i>Lathamus discolor</i>	Swift Parrot	Bird	Endangered EPBC Act Endangered NSW BC Act	Migrates to the Australian south-east mainland between March and October. On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such as Swamp Mahogany ( <i>Eucalyptus robusta</i> ), Spotted Gum ( <i>Corymbia maculata</i> ), Red Bloodwood ( <i>C. gummifera</i> ), Mugga Ironbark ( <i>E. sideroxylon</i> ), and White Box ( <i>E. albens</i> ). Commonly used lerp infested trees include Inland Grey Box <i>E. microcarpa</i> , Grey Box <i>E. moluccana</i> and Blackbutt <i>E. pilularis</i> .	Possible occurring transiently over or in proximity to the site but unlikely to occur within the site due to degraded condition and poor connectivity.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
<i>Limosa lapponica</i>	Bar-tailed Godwit	Bird	Migratory EPBC Act	The Bar-tailed Godwit is found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh. It has been sighted in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats. It is rarely found on inland wetlands or in areas of short grass, such as farmland, paddocks and airstrips, although it is commonly recorded in paddocks at some locations overseas.	Unlikely to occur. No suitable habitat.
<i>Limosa limosa</i>	Black-tailed Godwit	Bird	Vulnerable NSW BC Act	Primarily a coastal species. Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats. Further inland, it can also be found on mudflats and in water less than 10 cm deep, around muddy lakes and swamps. Individuals have been recorded in wet fields and sewerage treatment works.	Unlikely to occur. No suitable habitat.
<i>Lophoictinia isura</i>	Square-Tailed Kite	Bird	Vulnerable NSW BC Act	Summer breeding migrant to the south-east, including the NSW south coast, arriving in September and leaving by March. Found in a variety of timbered habitats including dry woodlands and open forests. Shows a particular preference for timbered watercourses large hunting ranges of more than 100km <sup>2</sup> . Breeding is from July to February, with nest sites generally located along or near watercourses, in a fork or on large horizontal limbs.	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.
<i>Ninox strenua</i>	Powerful Owl	Bird	Vulnerable NSW BC Act	Coastal Woodland, Dry Sclerophyll Forest, wet sclerophyll forest and rainforest- Can occur in fragmented landscapes Roosts in dense vegetation comprising species such as Turpentine Syncarpia glomulifera, Black She-oak Allocasuarina littoralis, Blackwood Acacia melanoxylon, Rough-barked Apple Angophora floribunda, Cherry Ballart Exocarpus cupressiformis and a number of eucalypt species. requires old growth elements-hollow bearing tree resources for nesting and prey resource. Nests in large tree hollows in large eucalypts that are at least 150yrs old. Often in riparian areas. Large home range.	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
<i>Numenius madagascariensis</i>	Eastern Curlew	Bird	Critically Endangered EPBC Act	Most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass. Occasionally, the species occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets. The birds are often recorded among saltmarsh and on mudflats fringed by mangroves, and sometimes use the mangroves.	Unlikely to occur. No suitable habitat.
<i>Parvipsitta pusilla</i>	Little Lorikeet	Bird	Vulnerable NSW BC ACT	Forages primarily in the canopy of open Eucalyptus forest and woodland, yet also finds food in Angophora, Melaleuca and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity. Isolated flowering trees in open country, e.g. paddocks, roadside remnants and urban trees also help sustain viable populations of the species. Roosts in treetops, often distant from feeding areas. Nests in proximity to feeding areas if possible, most typically selecting hollows in the limb or trunk of smooth-barked Eucalypts. Entrance is small (3 cm) and usually high above the ground (2–15 m).	Possible occurring transiently over or in proximity to the site but unlikely to occur within the site due to degraded condition and poor connectivity.
<i>Petroica boodang</i>	Scarlet Robin	Bird	Vulnerable NSW BC Act	The Scarlet Robin is primarily a resident in dry forests and woodlands, but some adults and young birds disperse to more open habitats after breeding.	Unlikely to occur. No suitable habitat.
<i>Petroica phoenicea</i>	Flame Robin	Bird	Vulnerable NSW BC ACT	Breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes. Prefers clearings or areas with open understoreys. The ground layer of the breeding habitat is dominated by native grasses and the shrub layer may be wither sparse or dense. Occasionally occurs in temperate rainforest, and also in herbfields, heathlands, shrublands and sedgeland at high altitudes. In winter, birds migrate to drier more open habitats in the lowlands (i.e. valley below the ranges, and to the western slopes and plains.	Unlikely to occur. No suitable habitat.
<i>Petroica rodinogaster</i>	Pink Robin	Bird	Vulnerable NSW BC Act	Inhabits rainforest and tall, open eucalypt forest particularly in densely vegetated gullies	Unlikely to occur. No suitable habitat.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
<i>Pluvialis fulva</i>	Pacific Golden Plover	Bird	Migratory EPBC Act	This species usually forages on sandy or muddy shores (including mudflats and sandflats) or margins of sheltered areas such as estuaries and lagoons, though it also feeds on rocky shores, islands or reefs. In addition, Pacific Golden Plovers occasionally forage among vegetation, such as saltmarsh, mangroves or in pasture or crops. They usually roost near foraging areas, on sandy beaches and spits or rocky points, islets or exposed reefs, occasionally among or beneath vegetation including mangroves or low saltmarsh, or among beachcast seaweed.	Unlikely to occur. No suitable habitat.
<i>Sternula albifrons</i>	Little Tern	Bird	Endangered NSW BC Act Migratory EPBC Act	Mostly exclusively coastal, preferring sheltered environments; however may occur several kilometres from the sea in harbours, inlets and rivers (with occasional offshore islands or coral cay records). Nests in small, scattered colonies in low dunes or on sandy beaches just above the high tide mark near estuary mouths or adjacent to coastal lakes and islands.	Unlikely to occur. No suitable habitat.
<i>Thalasseus bergii</i>	Crested Tern	Bird	Migratory EPBC Act	Crested Terns inhabit coastal areas, offshore waters, beaches, bays, inlets, tidal rivers, salt swamps, lakes and larger rivers. The species breeds during Sep-Jan in the south and Mar-Jun in the north in large, dense colonies on small islands.	Unlikely to occur. No suitable habitat.
<i>Tyto tenebricosa</i>	Sooty Owl	Bird	Vulnerable NSW BC Act	Occurs in rainforest, including dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests	Unlikely to occur. No suitable habitat.
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	Mammal	Vulnerable NSW BC Act	Rainforest, sclerophylla forest & woodland to heath – but heath & woodland preferred. Forages on banksias, eucalypts & bottlebrushes.	Unlikely to occur. No suitable habitat.
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	Mammal	Endangered EPBC Act Vulnerable NSW BC Act	Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Individual animals use hollow-bearing trees, fallen logs, small caves, rock outcrops and rocky-cliff faces as den sites. Mostly nocturnal, although will hunt during the day; spends most of the time on the ground, although also an excellent climber and will hunt possums and gliders in tree hollows and prey on roosting birds. Use communal 'latrine sites', often on flat rocks among boulder fields, rocky cliff-faces or along rocky stream beds or banks.	Unlikely to occur. No suitable habitat.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
<i>Petaurus australis</i>	Yellow-bellied Glider	Mammal	Vulnerable NSW BC Act	Forest with old growth elements. Large Eucalypt Hollows for denning- Inhabits mature or old growth Blackbutt-Bloodwood forest with heath understorey in coastal areas. Prefers mixed species stands with a shrub or Acacia mid storey. Feed primarily on plant and insect exudates, including nectar, sap, honeydew and manna with pollen and insects providing protein. Extract sap by incising (or biting into) the trunks and branches of favoured food trees, often leaving a distinctive 'V'-shaped scar.	Unlikely to occur. No suitable habitat.
<i>Petaurus norfolcensis</i>	Squirrel Glider	Mammal	NSW BC Act Vulnerable	Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas. Prefers mixed species stands with a shrub or Acacia midstorey. Live in family groups of a single adult male one or more adult females and offspring. Require abundant tree hollows for refuge and nest sites.	Unlikely to occur. No suitable habitat.
<i>Phascolarctos cinereus</i>	Koala	Mammal	Vulnerable NSW BC Act	Eucalypt woodland and forest Home range sizes vary with quality of habitat ranging from less than two ha to several hundred ha. Preferred tree species on the south coast are Eucalyptus amplifolia, E.viminalis, & E.tereticornis but numerous other species also known food trees.	Unlikely to occur. No suitable habitat.
<i>Potorous tridactylus trisulcatus</i>	Southern Long-nosed Potoroo	Mammal	Vulnerable EPBC Act Vulnerable NSW BC Act	Inhabits coastal heaths and dry and wet sclerophyll forests. Dense understorey with occasional open areas is an essential part of habitat, and may consist 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. The fruit-bodies of hypogeous (underground-fruited) fungi are a large component of the diet of the Long-nosed Potoroo. They also eat roots, tubers, insects and their larvae and other soft-bodied animals in the soil. Often digs small holes in the ground in a similar way to bandicoots.	Unlikely to occur. No suitable habitat.
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Mammal	Vulnerable EPBC Act Vulnerable NSW BC Act	Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Roosting camps are generally located within 20km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy.	Potential foraging habitat is present (trees along roadside). Further assessment has been undertaken in s3.2.2 and s3.3.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	Microchiropteran bat	NSW BC Act Vulnerable	Prefers moist habitat that contains trees greater than 20 m high with a dense understorey. They are fast flyers. Roosts in hollow trunks of eucalyptus trees, in colonies of 3 – 80. Also may roost in caves and old wooden buildings. This species changes roost every night. Roosts on consecutive nights are usually less than 750 m apart. This species has a home range of up to 136 ha (Churchill, S 2008, Australian Bats, Jacana Books, Crows Nest, NSW). Although they prefer habitat with a dense understorey, they prefer to forage along flyways to avoid the thick understorey. They prefer continuous forest and avoid remnant vegetation. However, they have been recorded in open forests (Churchill, S 2008, Australian Bats, Jacana Books, Crows Nest, NSW).	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	Microchiropteran bat	Vulnerable NSW BC Act	Small tree hollows and fissures in bark for roosting in dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. May also roost in man-made structures.	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	Microchiropteran bat	NSW BC Act Vulnerable	Specific caves are known maternity sites with other caves being primary roosting habitat outside breeding period. Also uses derelict mines, storm-water tunnels, buildings and other man-made structures. Hunts in forested areas, catching moths and other flying insects above the tree tops.	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.
<i>Myotis macropus</i>	Southern Myotis	Microchiropteran bat	Vulnerable NSW BC Act	This species is predominantly roosts in caves, however, is known to roost in trees and man-made structures close to water. Roosts are generally located close to water, where the bats forage in small groups of three or four. They have a strong association with streams and permanent waterways in areas that are vegetated rather than cleared (Churchill, S 2008, Australian Bats, Jacana Books, Crows Nest, NSW). They feed on small fish, prawns and aquatic macroinvertebrates. They have a preference towards large still pools, rather than flowing streams. They will also forage on aerial insects flying over water. They use their large feet to capture prey items (Churchill 2008).	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.

## Review of Environmental Factors Part 5 Assessment EP&A Act 1979

Species name	Common name	Type	Status	Species information & habitat requirements	Likelihood of presence within areas impacted by the activity
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	Microchiropteran bat	Vulnerable NSW BC Act	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory. Breeding has been recorded from December to mid-March, when a single young is born. Seasonal movements are unknown; there is speculation about a migration to southern Australia in late summer and autumn	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	Microchiropteran bat	Vulnerable NSW BC Act	Found mainly in gullies and river systems that drain the Great Dividing Range, it utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, below 500m, though it is most commonly found in tall wet forest. Although this species usually roosts in tree hollows, it has also been found in buildings. Forages after sunset, flying slowly and directly along creek and river corridors at an altitude of 3 - 6 m	Possible occurring transiently over or in proximity to the site but no important habitat occurs within the site.