

REVIEW OF ENVIRONMENTAL FACTORS (REF) PARK ROAD NETBALL COURTS – UPGRADES



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Document control

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| Prepared By | City Services, Shoalhaven City Council |

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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 | Yes: this REF must be published on the determining authority's (Council's) website or the NSW planning portal, in accordance with clause 171(4) EP&A Regulation 2021 (as a matter of "public interest"). | |



1. PROPOSAL AND LOCATION

1.10verview

This Review of Environmental Factors addresses the potential environmental impacts of – and provides mitigation measures for – proposed upgrades to Park Rd Netball Courts and associated fixtures and structures.

The proposed upgrade works (refer to Figure 2 and Appendix A) would include:

- Establishment of construction compound.
- Demolition including:
 - Demolition of existing partly sealed Park Rd carpark (650m² approx.).
 - Sawcut and remove wearing surface of existing asphalt netball courts (4100m² approx. southern courts and 620m² approx. perimeter of courts to be retained).
 - Existing flood-lighting infrastructure to be decommissioned including cabling, lights and light poles. Note that light poles may be retained and reused if compliant.
 - Removal of 6m existing water service including existing hydrant and stop valve.
 - Removal of 320m of stormwater infrastructure and 13 stormwater pits.
 - Sawcut and demolish existing clubhouse walkway.
 - Demolish existing retaining wall and planter beds on southern edge of existing courts.
 - Removal of 788m² (approx.) of vegetation including 4 trees along eastern edge of existing courts footprint to enable widening of the courts and 6 trees and understorey vegetation, with stump grinding of exposed Swamp She-oak roots along John Purcell Way for construction of shared-user path. Note that the proposed removal of trees along John Purcell Way has been recommended by Council's Tree Management Officer with replacement at a ratio of 2:1, due to the existing trees likely experiencing too much root damage to remain safe or viable (Council reference D22/507301).
- Construction / installation including:
 - Resurfacing of 6 courts.
 - Widening existing asphalt pavement around retained courts.
 - 1.8m wide, AS1428 compliant, path around courts perimeter and with east-west internal paths.
 - Six x 4m x 1.9m 3-tiered seating or similar along eastern edge spectator area.
 - o Retaining wall behind eastern edge spectator area, with grass swale behind.
 - Grassed swale drains along battered edges on east and west sides; concrete dish drains along northern and western sides of courts, in addition to internal east-west pedestrian path; Subsurface 225-375mm stormwater pipe around perimeter of courts area, east-west internal paths and north-west central; Eleven 600x600mm grated inlet pits; Stormwater discharge to existing pit in north-west corner of the site.
 - New retaining wall along southern end of courts, with 2x pedestrian stair access.
 Fence to be mounted and fixed to top of wall.



- New AS1428 compliant access ramp to replace existing walkway.
- New sealed carpark over footprint of existing Park Rd carpark (650m² approx.), comprising twenty-six 2.5m wide x 5.5m long spaces, plus one narrower motorcycle space, with new kerb to delineate and formalise the carpark. Existing trees and footpath shall be retained. Earth batter to be shaped and turfed between carpark kerb and footpath.
- New 2.4m wide pedestrian path, linking Park Rd carpark with courts and gated at fence.
- New 2.5m wide shared user path along John Purcell Way (138m section approx.).
- Perimeter fence matte black with anti-climb fence toppers around courts and some grounds, excluding clubhouse building and carparks. Fence to include double gated emergency vehicle access and pedestrian access gates.
- Install new hydrant, stop valve and 20mm water service (from Park Rd) to new bubbler mounted on new 1.2mx1.2m concrete plinth, in north-east corner.
- Construct new floodlighting comprising 12 x new poles (6 on east and 6 on west side of courts in approx. location of existing lights, noting that existing poles may be retained if compliant) with new 5700K LED light arrays achieving either 100 or 200 Lux across courts.
- Minor works including:
 - o Temporary removal and later reinstatement of existing bench seats
 - Painting of courts
 - o Linemarking
- The proposed activity includes a number of environmental safeguards and impact mitigation measures listed in Section 7 of this report.

Detailed design plans are provided in Appendix A (Council reference D21/537829)

Shoalhaven City Council (SCC) is the proponent and the determining authority under Part 5 of the EP&A Act. The environmental assessment of the proposed activity and associated environmental impacts has been undertaken in the context of Clause 228 of the *Environmental Planning and Assessment Regulation 2000*. In doing so, this Review of Environmental Factors (REF) helps to fulfil the requirements of Section 5.5 of the Act that SCC examine and take into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

1.2 Location

The proposed upgrade works would be undertaken at Park Rd Netball Courts, 24 John Purcell Way, Nowra (refer to Figures 1 and 2). All works would occur within Council freehold Lot 1 DP 390432 and the Park Rd road reserve, for which Council is the road authority. Lot 1 DP 390432 is classified as Community Land – Sportsground (Council reserve CEN354).





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13 December 2022







2. EXISTING ENVIRONMENT

2.1 Habitat and vegetation assessment

The site was assessed by a Council Environmental Officer on 21 December 2021. Surveys undertaken involved vegetation and habitat assessment, recording all flora species within and immediately adjacent to the subject site, determination of vegetation communities, targeted survey for potentially occurring threatened flora species (including *Acacia pubescens, Eucalyptus langleyi, Hibbertia stricta* subsp. *furcatula, Rhodamnia rubescens, Solanum celatum* and *Syzygium paniculatum*) and investigation of habitat availability on site including suitability of habitat for potentially occurring threatened terrestrial orchid species (including *Cryptostylis hunteriana, Genoplesium baueri, Pterostylis gibbosa* and *Pterostylis vernalis*).

The site comprises an existing sporting complex with concrete and asphalt netball courts; amenity and storage buildings; one sealed carpark and one gravel carpark off John Purcell Way and Park Rd respectively; a timber retaining wall with garden between upper and lower court areas; stormwater drainage; flood-lighting; and seating.

The site occurs in a predominantly cleared and developed area, between St. Johns School and Shoalhaven High School to the west and east and developed residential land to the north and south.

Modified and degraded native vegetation occurs as a narrow strip along the eastern boundary, between John Purcell Way and the lower courts area, and as scattered parkland trees in the north-western portion of the site. A wider block of native vegetation (1.25ha approx.) occurs south of the site. The site does not comprise, nor is part of, any important habitat corridor.

Vegetation communities mapped as occurring within and immediately around the site are shown in Figure 3, including:

Biometric SR642 Spotted Gum - Grey Ironbark - Woollybutt grassy open forest on coastal flats, southern Sydney Basin and South East Corner. This vegetation type is not associated with any endangered ecological community.

Biometric SR648 Swamp Mahogany swamp sclerophyll forest on coastal lowlands, Sydney Basin and South East Corner

Biometric SR654 Sydney Peppermint - Spotted Gum - Lilly Pilly wet forest in gullies of the coastal foothills, northern South East Corner and southern Sydney Basin

Vegetation surrounding and within the site is considered consistent with Biometric SR642.

The dominant canopy species recorded on-site and in the adjacent vegetation was *Corymbia maculata* (Spotted Gum), with *Eucalyptus punctata* (Grey Ironbark) commonly present and scattered *E.longifolia* (Woollybutt) occurring. Exotic *Pinus radiata* (Radiata Pine) was also present.

Understorey species include *Melaleuca decora* (White Feather Honeymyrtle), *M.ericifolia* (Swamp Paperbark), *Callistemon salignus* (Willow Bottlebrush), *Exocarpus cupressiformis* (Cherry Ballart) and *Pittosporum undulatum* (Sweet Pittosporum).

The groundcover through the eastern edge was dominated by invasive exotic species include *Ligustrum sinense* (Small-leaf Privet), *Ligustrum lucidum* (Large-leaf Privet), *Asparagus aethiopicus* (Asparagus Fern), *Ehrharta erecta* (Panic Grass), *Bidens pilosa* (Cobblers Pegs),



Verbena sp. (Purpletop), with scattered native species including *Dianella caerulea* (Blue Flaxlily), *Themeda australis* (Kangaroo Grass) and *Lomandra longifolia* (Spiny Mat-rush).

Turfed areas were dominated by *Cenchrus clandestinus* (Kikuyu), *Cynodon dactylon* (Couch), *Sporobolus africanus* (Parramatta Grass), *Eragrostis curvula* (African Lovegrass), with patches of native *Dichondra repens* (Kidney Weed) and *Microlaeana stipoides* (Weeping Meadow Grass) occurring.

Between John Purcell Way and the lower courts area, along the south-west boundary of the site, scattered *Eucalyptus piperita* (Sydney Peppermint) – possibly planted – occurs, with an understorey of *Casuarina glauca* (Swamp-Oak), which is dense with suckers in parts, along with exotic *Paspalum dilatatum* (Caterpillar Grass) and *Sida rhombifolia* (Paddys Lucerne).



Threatened species and habitat resources on site

No threatened flora species including *Acacia pubescens, Eucalyptus langleyi, Hibbertia stricta subsp. furcatula, Rhodamnia rubescens, Solanum celatum* and *Syzygium paniculatum* were detected on site during vegetation surveys.



No suitable habitat for threatened orchid species *Cryptostylis hunteriana, Genoplesium baueri, Pterostylis gibbosa* or *Pterostylis vernalis* was considered to occur in any areas that would be impacted on by the proposal. All impacts would occur on existing disturbed edges with moderate to high levels of weed infestation or vegetation modification.

No evidence of potential use of these sites by threatened fauna species including Glossy Black Cockatoo (*Calyptorhynchus lathami*) (e.g. chewed *Allocasuarina littoralis* cones), Glider species (e.g. feeding scars on *Corymbia gummifera* or *Eucalyptus punctata*) or bandicoot diggings were recorded within the site.

No hollow-bearing trees were recorded as occurring within areas that would be impacted on by the proposal.

Photos 1 through 6 below show the sites and relevant features.







Photo 3. Eastern edge of site facing north (approx.) showing likely vegetation removal in red





Photo 4. Existing Park Rd carpark to be reconstructed. NB trees at far end to be retained



Photo 5. Existing retaining wall and ramp (at far end) to be demolished and replaced





Photo 6. John Purcell Way road verge where footpath is proposed – vegetation to be cleared to distance of 5 m from back of kerb and exposed Swamp She-oak roots stump ground.



3. ASSESSMENT OF LIKELY IMPACTS ON THE ENVIRONMENT

3.1 Impacts associated with the proposal

The proposed upgrade works would involve direct impacts on the physical environment including:

- Vegetation clearing to 788m² (approx.) of vegetation including 4 trees along eastern edge of existing courts footprint to enable widening of the courts, in addition to clearing of 5 m wide strip along John Purcell Way for construction of a footpath, including removal of 6 trees and understorey of Swamp She-oak with stump grinding of exposed Swamp She-oak roots. Both areas have moderately to highly disturbed understorey with weed infestations.
- Earthworks including demolition and reconstruction of southern courts and northern carpark including batter between carpark and footpath; demolition and reconstruction of existing retaining wall and embankment between upper and lower court areas.
- Excavation for installation of subsurface drainage and replacement of stormwater pipe.

Potential indirect impacts associated with installation of new flood-lighting are considered in Section 3.8.

No hollow-bearing trees or other important fauna habitat features shall be removed.

No potential habitat for threatened terrestrial orchids would be impacted.

No threatened flora species or endangered ecological community would be removed or otherwise impacted.

All vegetation removal would occur on existing disturbed and open edges, and would not result in fragmentation or introduction of new edge effects.

Weeds and their propagules are present on the site and not anticipated to spread or become more problematic as a result of the proposal.

Sediment and erosion controls shall be installed and maintained to prevent indirect associated impacts to waterways and adjacent intact native vegetation.

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 relates to threatened species conservation.

All works and vehicle movement would occur on dry land and would be unlikely to result in erosion of sediment or other pollution affecting waterways.

No marine vegetation or threatened marine fauna will be directly impacted by the proposal. Further consideration is not necessary.

D22/520298

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

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). Additional species have been considered where suitable habitat occurs on site. The following species and endangered ecological communities are known to occur on-site or are considered to have some potential to occur on-site or be otherwise impacted by the proposal, and therefore required further assessment under Part 7 of the NSW *Biodiversity Conservation Act 2016*:

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

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 (GHFF) 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 2017).

No GHFF camps occur in close proximity to the site. The nearest camp currently occurs at Illowra Wetlands / Bomaderry Creek, approximately 4km to the north-north-west of the site¹.

Foraging habitat for the Grey-headed Flying-fox exists within the site as flowering Eucalypts and Paperbarks.

This species was not observed during site surveys, however, trees were not in flower at the time.

A minor area of foraging habitat (up to approx. 788m² including canopy extent) would be removed, which would not result in any fragmentation of habitat.

Extensive, high quality foraging habitat occurs in the surrounding landscape, including Worrigee and Comberton, Mundamia, Yalwal, Burrier and Budgong to the west and north-west. The



resulting loss of habitat and minor increase to an existing canopy gap of a vegetated corridor would therefore not impact on movement or foraging of GHFF.

The proposal would therefore result in only a negligible loss of potential foraging habitat.

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*

Five endangered ecological communities (EECs) are mapped as occurring in the landscape surrounding the site (refer to Figure 4).

Of these, Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions is mapped as occurring approximately 125m to the south-west of the site.

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. This swamp community has an open to dense tree layer of eucalypts and paperbarks typically dominated by *Eucalyptus robusta* (Swamp Mahogany), *Melaleuca quinquenervia* (Paperbark) and, south from Sydney, *Eucalyptus botryoides* (Bangalay) and *Eucalyptus longifolia* (Woollybutt), with *Melaleuca ericifolia* (Swamp Paperbark), *Callistemon salignus* (Willow Bottlebrush), *Casuarina glauca* (Swamp She-oak) often occurring and a groundcover 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).

Locally, this EEC is associated with the vegetation community Biometric SR648 *Swamp Mahogany swamp sclerophyll forest on coastal lowlands, Sydney Basin and South East Corner*, which occurs along the Browns Creek riparian corridor to the south and south-west of the site.

While the vegetation on site contains some indicative species of SR648 and the EEC itself, including *Eucalyptus longifolia*, *Melaleuca ericifolia*, *Callistemon salignus* and *Casuarina glauca*, the site does not contain waterlogged or periodically inundated alluvial flats, and the vegetation is clearly more closely aligned with Biometric SR642 (refer to Section 2.2), being dominated by *Corymbia maculata* (Spotted Gum) and *Eucalyptus paniculata* (Grey Ironbark) and not containing *Eucalyptus robusta* or *Eucalyptus botryoides*.

It is therefore concluded that Swamp Sclerophyll Forest EEC does not occur within the site, nor in close proximity such that there is any risk of impact on the EEC as a result of the proposed works.



The proposal would therefore not result in the fragmentation or isolation of areas of any EEC, nor adversely affect the extent or composition of an EEC such that a local occurrence of the EEC 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 EEC would not be fragmented or isolated, nor removed or modified to an extent that would affect the long-term survival of the EEC occurring in the locality (refer to Part B).

The proposal will therefore not affect the long-term survival of any threatened species or endangered 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.

Clearing of native vegetation is listed as a key threatening process, defined by the Scientific Committee's determination as

the destruction of a sufficient proportion of one or more strata (layers) within a stand or stands of native vegetation so as to result in the loss, or long-term modification, of the structure, composition and ecological function of a stand or stands.

Clearing of native vegetation has been shown to:

- cause widespread fragmentation of ecological communities;
- reduce the viability of ecological communities by disrupting ecological functions;
- result in the destruction of habitat and loss of biological diversity;
- lead to soil and bank erosion, increased salinity and loss of productive land.

The proposed upgrade works would involve the clearing of approx. 788m² native vegetation including 10 trees with moderately to highly disturbed and modified understorey.

No hollow-bearing trees or other important fauna habitat features shall be removed. All vegetation removal would occur on existing disturbed and open edges, and would not result in fragmentation or introduction of new edge effects.

The impacts of the key threatening process of clearing of native vegetation would therefore be minimised and managed as part of the proposal.

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 17 September 2021. 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 considered to have potential habitat on the site and requiring of further assessment:

• Grey-headed Flying-fox (Pteropus poliocephalus) - V

(CE – Critically 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.

Table 1. EPBC Significant impact assessment

Vulnerable species - Significant impact criteria

Species to consider:



| Downy Wattle (Acacia pubescens) | | |
|---|---|--|
| Criteria | Assessment | |
| lead to a long-term decrease in the size of an important population of a species | No habitat considered significant for the species shall be removed or otherwise impacted. No fragmentation of important habitat or severing of habitat corridors will occur as a result of the proposal. The proposal would not impose barriers to movement of the species. | |
| | No GHFF camps occur in close proximity to the site. The nearest camp currently occurs approximately 4km north-north-west from the site. | |
| | The proposal would therefore not impact any known population of these species. | |
| | Refer to S3.2.2 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 | A relatively minor area of potential habitat (788m ²) for GHFF would be removed. Extensive, high quality foraging habitat occurs in the surrounding landscape, including including Worrigee and Comberton, Mundamia, Yalwal, Burrier and Budgong to the west and north-west. The proposal would therefore result in a negligible loss of potential foraging habitat. | |
| disrupt the breeding cycle of an important population | No | |
| modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline | No. See above | |
| 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 is likely to be introduced | |
| interfere substantially with the recovery of the species | No | |
| Summary | It is considered unlikely that 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. | |

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. 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.

The site is not associated with any landscape features listed in the Due Diligence Guidelines as having a higher potential for Aboriginal objects *i.e.*:

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

A search on the Aboriginal Heritage Information Management System (AHIMS) on 1 February 2022 indicated that there are no recorded Aboriginal sites or places in the vicinity of the proposal (refer to AHIMS report below in Figure 5).

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."

Proposed works would occur within modified land and disturbed vegetated edges which have been historically cleared and modified in association with construction and maintenance of the netball courts. As such, it is reasonable to conclude that there is a low probability of objects occurring in area.

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 5. Results of AHIMS Aboriginal heritage search



Your Ref/PO Number : Park Rd Netba Client Service ID : 655468

Date: 01 February 2022

Shoalhaven City Council - Nowra PO Box 42 Bridge Rd 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 : -34.9, 150.6 - Lat, Long To : -34.9, 150.61, conducted by Jeff Bryant on 01 February 2022.

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





3.5 Non-indigenous heritage

No items of local heritage significance or any items on the State Heritage Register or listed in the Shoalhaven Local Environmental Plan occur in close proximity to the site such that the proposed works might impact them.

3.6 Acid Sulfate Soils

The site is mapped as containing Class 5 Acid Sulfate Soils (A.S.S).

The *Shoalhaven Local Environment Plan 2014* indicates that risk of Acid Sulfate Soil exposure exists for Class 5 A.S.S under the following circumstances:

Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.

As the proposal would not involve or result in any lowering of the watertable, it can be reasonably concluded that no risk of Acid Sulfate Soil exposure exists for the proposal.

3.7 Riparian corridors

No riparian corridors occur in close proximity to the site, with the closest mapped as occurring approx. 150m to the south-west of the site, associated with Browns Creek (refer to Figure 6 below).

Erosion and sediment controls shall be installed to manage potential erosion in the vicinity of drainage lines and watercourses.





3.8 Light-spill

Twenty-four LED floodlights are proposed to be installed on twelve 17m high poles, on the east and west sides of the courts.

The site is an existing sports fields with existing flood lighting in the same locations as new lighting is proposed.

The nearest residential properties to the site occur 65-75m to the north-west and north, along Park Rd. Vegetated screening is currently minimal in the northward direction.

No habitat in the surrounding area was noted as potentially being impacted by flood-lighting.

As the proposed new lighting would replace existing lighting in the same locations, and replacement lighting would comprise modern LED arrays with no-backspill, it is assumed that light pollution would not exceed that which is existing.

Lighting shall be designed and installed in accordance with appropriate standards to provide appropriate lighting level for purpose, while minimising obtrusive light-spill affecting the surrounding area.

Lighting for Roads and Public Spaces Standard (AS/NZS 1158.0:2005)

The standard is concerned with provision of a lighted environment that is conducive to the safe and comfortable movement of vehicular and pedestrian traffic at night and the discouragement of illegal acts, while protecting the integrity of the night time environment through control of spill light and glare.

Section 2.5.3.4 within Part 3.1 of the standard *Pedestrian area (Category P) lighting – Performance and design requirements* addresses light spill onto abutting properties, but is concerned with fixed, nightly lighting.

Control of the obtrusive effects of outdoor lighting (AS 4282-1997)

The standards AS 4282-1997 *Control of the obtrusive effects of outdoor lighting* provides applicable guidelines relevant to the proposal.

The potential obtrusive effects of lighting installation require checking with consideration to operation times, proximity and direction of surrounding residential properties, and transport signalling systems.

The design of the proposal shall comply with the standard in minimising the obtrusive effects of outdoor lighting with particular regard to the following:

- A low vertical aiming angle provides less light spill, less visibility of lamps and shielding is easier, enabling more control of spill light (Table A1, AS/NZS 4282-2019) the proposed lighting shall be comprised of downward facing LED light units.
- Section 3.3 of the standard concerns design guidelines including siting and aiming of floodlights to minimise obtrusive effects – design shall be undertaken for efficient use of lighting which maximises on-field luminescence while minimising light-spill elsewhere. Luminous flux output shall be designed in accordance with AS 2560.1-2002 Sports Lighting – General Principles and AS 2560.2.3-2007 Sports Lighting – Specific Applications.
- Section 3.3.4 of the standard notes that the objective of the design should be to ensure that, as far as is practicable, direct view of the bright parts of the floodlights is prevented from positions of importance at eye-height, on neighbouring properties. Where possible,



advantage should be taken of the shielding which may be provided by trees, earth embankments, spectator stands or other existing physical features.

- The standard prescribes curfew hours between 11:00PM and 6:00AM usage is not anticipated to breach this period.
- The proposal shall also meet the general principles for control of the obtrusive effects of outdoor lighting (Appendix A, AS/NZS 4282-2019).
- Additionally, the proposal is consistent with the existing uses of the site.

The lighting will be installed as per manufacturer's and supplier's recommendations, ensuring directional alignment conforms to the proposal.

Testing of illuminances shall be undertaken following installation to ensure that light spill outside the target area is not excessive (pursuant to AS/NZS 4282-2019). Re-calibration of light positioning and/or installation of lighting shields is to be undertaken accordingly to achieve an acceptable, non-invasive light spill, particularly toward nearby residences along Park Rd to the north and north-west.

Testing and re-calibration will be in accordance with AS/NZS 4282-2019 with particular regard to the following:

- Luminous intensities section 5.3 Determination of illuminance
- Table 3.2 Recommended maximum values of light technical parameters for the control of obtrusive light
- Table 3.3 Maximum luminous intensity per luminaire for non-curfew operating times
- Table 3.4 Maximum vertical illuminance non-curfew limits for sports venues illuminated for TV coverage.

Design, calibration and operation of the floodlights shall therefore minimise and manage obtrusive light-spill.

3.90ther considerations

In the context of this environmental assessment, the area to be affected by the proposed activity:

- is not an Aboriginal Place in the context of the NSW National Parks and Wildlife Act 1974, nor is it known to contain Aboriginal artefacts
- is not mapped as "potentially contaminated land"
- is not within or in close proximity to mapped Key Fish Habitat
- the site does not occur within land which is mapped as being flood liable

3.10 EP&A Regulation – Clause 228 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 2 deals with each of the factors in relation to the proposed activity.



Table 2. Section 171 Matters of consideration

| Does the proposal: | Assessment | Reason | |
|---|-----------------------------|--|--|
| a) Have any environmental | Positive | The proposal involves upgrades to the Park Rd Netball Courts and associated fixtures and structures. | |
| impact on a community? | | The proposed activity would not have any impact on community services and infrastructure such as power, waste water, waste management, educational, medical or social services. | |
| b) Cause any transformation of | Low adverse | The locality's current use would remain relatively unchanged. | |
| a locality? | | The proposed vegetation removal would be minimal and occur along existing disturbed edges to enable relatively minor widening and extension of the courts, in addition to the construction of a footpath. | |
| | | The proposed upgrades have been designed within the existing cleared and modified areas in such a way as to minimise the requirement for clearing. | |
| c) Have any environmental impact on the ecosystem of the | Low adverse | The five-part test of significance (Section 3.2) concludes that the proposed activity would not have a significant impact upon threatened species or endangered ecological communities. | |
| locality? | | No significant habitat features would be removed or otherwise impacted. No food resources critical to the survival of a particular species would be removed. | |
| | | Aquatic ecosystems are not likely to be affected 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. | |
| | | Environmental safeguards and mitigation measures (Section 7) would be employed to minimise risk of impacts. | |
| d) Cause a diminution of the aesthetic, recreational, | Positive / Low adverse | The area that would be affected by the proposed activity has no significant value in terms of aesthetic or scientific qualities. The proposed activity would have no impact on these values. | |
| scientific or other environmental | | Recreational values of the site would be enhanced as a result of the proposed upgrades. | |
| a locality? | | Removal of vegetation and habitat will be minimal, occurring on existing edges and not resulting in fragmentation of habitat. | |
| e) Have any effect on a locality, place or building having | Negligible / Low adverse | The site of the proposed activity has no significant aesthetic, architectural, cultural, historical or scientific | |



| aesthetic, anthropological, | | values. As such, the proposed activity would have no impact on these items. |
|--|-------------|---|
| archaeological, architectural, cultural, historical, scientific, or social | | No items in the vicinity of the work site which are listed on the State Heritage Register and the Shoalhaven Local environmental Plan would be impacted by the proposal. |
| significance or other special | | The site is not within an Aboriginal Place declared under the National Parks and Wildlife Act 1974. |
| value for present or future generations? | | 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). |
| f) Have any impact on the habitat of protected fauna (within the meaning of the Biodiversity | Low adverse | A small area of marginal fauna habitat will be removed by the activity. No important habitat will be removed or otherwise impacted. The potential impact is therefore considered to be minimal and not significant. The five-part test of significance, provided in Section 3.2 above, concludes that the proposed activity would not have a significant impact upon threatened fauna |
| Conservation Act 2016)? | | The specified environmental mitigation measures (Section 7 would mitigate indirect impacts to fauna and habitat including through control of sediment. |
| g) Cause any endangering of any species of | Negligible | The five-part test of significance, provided in Section 3.2 above, concludes that the proposed activity would not have a significant impact upon threatened fauna. |
| animal, plant or other form of life, whether living on land, in water or in the air? | | 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 of extinction. |
| h) Have any long- term effects on the environment? | Low adverse | The proposed vegetation removal would be minimal and occur along existing disturbed edges to enable relatively minor widening and extension of the existing courts in addition to construction of a footpath. |
| | | The possible impacts have been discussed in detail under Section 3. Refer also to the conclusions and recommendations in Section 7. |
| i) Cause any degradation of the quality of the environment? | Low-adverse | Aquatic ecosystems are not likely to be affected 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. |
| | | The proposal would not intentionally introduce noxious weeds, vermin, or feral animals into the area or contaminate the soil. |
| | | Environmental safeguards and mitigation measures (Section 7) would be employed to minimise risk of impacts. |



| j) Cause any risk to the safety of the | Negligible | The proposed activity would not involve hazardous wastes and would not lead to increased bushfire or landslip risks. | |
|--|-------------|--|--|
| environment? | | The activity is not going to adversely affect flood or tidal regimes, or exacerbate flooding risks. | |
| k) Cause any reduction in the range of beneficial uses of the environment? | Negligible | The site is an existing sporting complex. Proposed works would achieve relatively minor widening and extension of the existing courts and upgrade to an existing carpark. | |
| I) Cause any pollution of the | Low adverse | Nearby schools, residents and hospital would be notified of potential noise and disruption. | |
| environment? | | Sediment and erosion control in accordance with the Blue Book will be implemented to minimise movement of sediment into the creek from the embankments. | |
| | | 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. | |
| | | The proposal does not involve the use, storage or transportation of hazardous substances or the generation of chemicals which may build up residues in the environment. | |
| | | The risk of contamination and spills from machinery including fuel and hydraulic fluids would be minimised through safeguards and mitigation measures (Section 7). | |
| m) Have any environmental problems associated with the disposal of waste? | Negligible | There would be no trackable waste, hazardous waste, liquid waste, or restricted solid waste as described in the NSW Protection of the Environment Operations Act 1997. | |
| n) Cause any increased demands on resources (natural or otherwise) which are, or are likely to become, in short supply? | Negligible | 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. | |
| o) Have any cumulative environmental effect with other existing or likely future activities? | Negligible | The assessed low adverse or negligible impacts of the proposal are not likely to interact. Mitigation measures (Section 7) shall be implemented to minimise the risk of cumulative environmental effects. The current proposal would not significantly affect habitat connectivity or reduce any significant vegetation. | |



| p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions | Negligible | The proposed activity would have no effect on coastal processes including those projected under climate change conditions. The site is not located in the coastal zone. |
|--|------------|--|
| q) Any applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act | Positive | The proposed activity meets Planning Priority 2 (Delivering Infrastructure) of the <i>Shoalhaven 2040</i> Strategic Land-use Planning Statement <u>https://doc.shoalhaven.nsw.gov.au/displaydoc.aspx?record</u> <u>=D20/437277</u> The proposal is consistent with Council's Pedestrian Access & Mobility Plan (PAMP): <u>https://www.shoalhaven.nsw.gov.au/Planning- Development/Development-Plans-and-Policies/Pedestrian- Access-and-Mobility-Plan</u> The proposed activity is not inconsistent with the Illawarra Shoalhaven Regional Plan 2041 (ISRP): <u>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</u> |
| r) Any other relevant environmental factors | N/A | |

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4. PERMISSIBILITY

4.1 Environmental Planning & Assessment Act 1979

Section 4.1 (Development that does not need consent) of the *Environmental Planning and* Assessment Act 1979 (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, clause 2.73(3) of the NSW State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP) provides that (<u>emphasis underlined</u>):

"Any of the following development may be carried out by or on behalf of a council without consent on a public reserve under the control of or vested in the council—

(a) development for any of the following purposes—

(i) roads, <u>pedestrian pathways</u>, cycleways, <u>single storey car parks</u>, ticketing facilities, viewing platforms and pedestrian bridges,

(ii) recreation areas and recreation facilities (outdoor), but not including grandstands,

. . .

(iv) <u>lighting</u>, if light spill and artificial sky glow is minimised in accordance with the Lighting for Roads and Public Spaces Standard,

(v) <u>landscaping, including landscape structures</u> or features (such as art work) and <u>irrigation systems</u>,

..."

Additionally, clause 2.74(1) of the TISEPP provides that (emphasis underlined):

"Development for any of the following purposes that is carried out in the prescribed circumstances is exempt development—

- (a) construction or maintenance of-
 - (i) walking tracks, raised walking paths (including boardwalks), <u>ramps, stairways or gates</u>, or
 - (iii) handrail barriers or vehicle barriers, or

(vi) <u>sporting facilities, including goal posts, sight screens and fences</u>, if the visual impact of the development on surrounding land uses is minimal, or

(viii) <u>seats</u>, picnic tables, barbecues, <u>bins</u> (including frames and screening), shelters or shade structures, or

(b) routine maintenance of playing fields and other infrastructure, including landscaping,

..."

Clause 2.136(1) of the TISEPP states:

"Development for the purpose of stormwater management systems may be carried out by or on behalf of a public authority without consent on any land".

Clause 2.112(1) of the TISEPP provides that (emphasis underlined):



"Development for any of the following purposes is exempt development if it is carried out by or on behalf of a public authority or the Minister responsible for Crown roads (within the meaning of the Roads Act 1993) in connection with a road or road infrastructure facilities and complies with section 2.20—

(a) erection, installation, maintenance, reconstruction or replacement of any of the following, and any associated landscaping works—

(iv) pedestrian and cyclist facilities (such as <u>footpaths</u>, street lighting, <u>kerb</u> <u>adjustments and ramps</u>, pedestrian fences, refuges, holding rails, and bollards),

. . .

..."

(xii) kerb and guttering,

(xiii) <u>culverts, drains</u> and other works to improve the quality or control of stormwater runoff,

The proposed upgrades to the carpark and courts, in addition to the construction of footpaths, accessibility ramp and steps, construction of retaining walls, and the replacement of floodlights, can be carried out as development without consent under the provisions of clause 2.73(3).

Proposed upgrades to stormwater can be carried out as development without consent under the provisions of clause 2.136(1) and 2.112(1).

As the proposal does not require development consent, and as it constitutes an 'activity' for the purposes of Part 5 of the EP&A Act, being carried out by (or on behalf of) a public authority, environmental assessment under Part 5 of the EP&A Act is required. This REF provides this assessment.

Proposed minor works including the removal and reinstatement of seating, painting and linemarking of courts, and the re-installation of goal posts and can be carried out as exempt development under the provisions of clause 2.74(1).

Proposed construction of shared-user path along John Purcell Way can be undertaken as exempt development under the provisions of clause 2.112(1).

The EP&A Act provides that exempt development can be carried out without requirement for environmental impact assessment under Division 5.1 (EP&A Act Clause 1.6).

4.2 Local Government Act 1993

Under section 35 of the *Local Government Act 1993*, community land is required to be used and managed in accordance with the plan of management applying to the land, any laws permitting the use of the land for a specified purpose or otherwise regulating the use of the land, and any other relevant clause in Part 2, Division 2 of the Act.

Crown Reserve CEN354 is categorised as Sportsground.

Council's *Generic Community Land Plan of Management Sportsground* (D09/60401) provides core objectives for this land categorisation as follows:

Core Objectives for Community Land Categorised as Sportsground

The core objectives for Sportsgrounds are to:



- encourage, promote and facilitate recreational pursuits in the community involving organised and informal sporting activities and games, and to
- ensure that such activities are managed having regard to any adverse impacts on nearby residents.

The proposal would involve upgrades to the Park Rd Netball Courts and associated fixtures and structures for the benefit of user groups in the community.

No adverse impacts on nearby residents are anticipated.

The proposal is therefore consistent with the objectives of the plan of management applicable to these community land types.

4.3 Protection of the Environment Operations Act 1997

The storage and /or application to land of waste is administered by the POEO Act which requires an Environmental Protection Licence (EPL) for storage/land application of 1000 tonnes or 1000 cubic metres of such waste material at any one time, or receiving on site of more than 6,000 tonnes of waste material per year (applying to a regulated area, which includes the Shoalhaven).

An EPL is not required however if the material complies with a 'resource recovery exemption' and associated 'resource recovery order' issued by the Environment Protection Authority (EPA) under clauses 91 and 92 of the NSW *Protection of the Environment Operations (Waste) Regulation 2014* (hereafter referred to as the 'Waste Regulation'). The following current exemptions may be applicable for the activity:

- The Excavated Natural Material Exemption 2014 http://www.epa.nsw.gov.au/resources/waste/rre14-excavated-natural-material.pdf
- The Recovered Aggregate Exemption 2014
 <u>http://www.epa.nsw.gov.au/resources/waste/rre14-aggregate.pdf</u>
- The Excavated Public Road Exemption 2014
 https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/rre14-public-road.pdf

In the absence of an EPL, all waste material brought the site must comply with all conditions of the Exemption and associated Orders. This requirement is reflected in the Environmental Safeguards listed in Section 7.

Similarly, an EPL is not required for the land application of Virgin Excavated Natural Material (VENM), which the Act defines as:

"natural material (such as clay, gravel, sand or rock fines):

- (a) that has been excavated or quarried form areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities and
- (b) that does not contain any sulfidic ores or soils or any other waste.

If any VENM is transported to the site (*i.e.* without chemical testing and validation) the VENM certificate must be filled out and completed by the supplier

(<u>http://www.epa.nsw.gov.au/waste/virgin-material.htm</u>). This record must be kept for six years and made available to EPA officers upon any request.



4.40ther

A summary of other relevant legislation and permissibility is provided in Table 3 below.

Table 3. Summary of other relevant legislation and permissibility

| NSW STATE LEGISLATION | | | |
|--|--|--|--|
| Environmental Planning and Assessment Act 1979 (EP&A Act) | | | |
| Permissible $$ Not permissible | | | |
| Justification: | | | |
| The Transport and Infrastructure SEPP provides for the proposed works to be undertaken without development consent (refer above). In circumstances where development consent is not required, the environmental assessment provisions outlined in Part 5 of the Act are required to be complied with. This REF fulfils this requirement. | | | |
| Shoalhaven Local Environmental Plan 2014 (SLEP) | | | |
| Permissible $$ Not permissible | | | |
| Justification: | | | |
| Under the SLEP the proposed activity may have required development consent. The provisions of Transport and Infrastructure SEPP, 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. | | | |
| 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 knowlingly 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. | | | |



| Fisheries Management Act 1994 | | | |
|--|--|--|--|
| Permissible $$ Not permissible | | | |
| Permissible V Not permissible | | | |
| A Fisheries Permit is therefore not required. | | | |
| Heritage Act 1977 | | | |
| Permissible $$ 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 sottlement; | | | |
| b) is of state and local heritage significance" | | | |
| As the site has little to no archaeological potential, a permit is not required. | | | |
| Biodiversity Conservation Act 2016 | | | |
| Permissible $$ Not permissible | | | |
| Justification: | | | |
| The proposed activity is unlikely to have a significant impact on species and communities listed in the schedules of the Act (refer to Section 3.2). The proposed development is not within an area declared to be of "outstanding biodiversity value" as defined in the Act. | | | |

• The design and mitigation measures (Section 7) would ensure that no *serious and irreversible impacts on biodiverstiy values* (as defined by the BC Act) occur at the site of the proposed activity.

The proposed activity therefore is not deemed to be *likely to significantly affect threatened species* and an environmental impact statement (EIS) or a Biodiversity Development Assessment Report (BDAR) is not required.

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.

Water Management Act 2000

| Permissible ~ | √ Not | permissible |
|---------------|-------|-------------|
|---------------|-------|-------------|

Justification:

- Local councils are exempt from s.91E(1) of the Act in relation to all controlled activites 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 & Hazards) 2021

Permissible $\sqrt{}$ Not permissible

Justification:

• The site is not mapped for the purpose of the SEPP.

COMMONWEALTH LEGISLATION

Commonwealth *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.

Commonwealth Native Title Act 1993

Permissible $\sqrt{}$

Not permissible



Justification:

Works would occur within Council freehold land Lot 1 DP 390432 in addition to the Park Rd and John Purcell Way road reserves, for which Council is the road authority.

Native Title has therefore been extinguished as a Previous Exclusive Possession Act. Consultation or approval from native title claimants, or other procedural requirements do not apply.



5. CONSULTATION WITH GOVERNMENT AGENCIES & OTHER ORGANISATIONS

5.1 Transport & Infrastructure SEPP (TISEPP)

Clause 2.10 – Development with impacts on council-related infrastructure or services

No impacts to sewerage systems, water infrastructure, nor excavation of footpaths, such as described under clause 2.10 would occur.

Works would occur in the Park Rd and John Purcell Way road reserves. These works shall be referred to Council's Roads Assets Manager, pursuant to Clause 2.10.

Works would occur which may impact on the stormwater system. These works shall be referred to Council's District Engineer – Central, pursuant to Clause 2.10.

Clause 2.11 – Development with impacts on local heritage

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

Clause 2.12 – Development with impacts on flood liable land

The site is not mapped as being flood liable and the proposal would not affect flood behaviour.

Consultation under Clause 2.12 is therefore not required.

<u>Clause 2.13 – Consultation with State Emergency Service—development with impacts on flood</u> <u>liable land</u>

The site is not mapped as being flood liable and the proposal would not affect flood behaviour.

Consultation under Clause 2.13 is therefore not required.

Clause 2.14 - 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.

Clause 2.15 - Consultation with public authorities other than councils

In consideration of the consultation requirements specified under Clause 2.15 of the TISEPP, the proposed activity:

- would not be undertaken on adjacent to land reserved under the *National Parks and Wildlife Act 1974* or in Zone E1 or in equivalent zones.
- does 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*

The consultation requirements specified under Clause 2.15 of the TISEPP therefore do not apply.

Clause 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.

<u>Summary</u>

Works shall be referred to Council's Roads Assets Manager and Council's District Engineer – Central pursuant to Clause 2.10.

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

6. COMMUNITY ENGAGEMENT

The proposed upgrade works have been planned in consultation with the Shoalhaven Netball Association (SNA), representing the primary user-group of the venue (refer to D21/507665). Planning has included:

- Design work commenced October 2020
- Onsite meetings with SNA representatives and consultants in 3rd and 8th June 2021
- Final Draft Designs prepared November 2021

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

It was noted during a site inspection that the Netball Courts carparks are utilised for parking associated with St Johns School student drop-off and pick-up. The closure of the Park Rd carpark for reconstruction may cause disruption and displacement of parking. It is therefore recommended that consultation be undertaken with St Johns School to determine the level of disruption and whether there are means to minimise this.

Additionally, the site is within 200m of Nowra Private Hospital. It is recommended that consultation be undertaken with the hospital to ensure that the impacts of noise disturbance are minimised.

A traffic management plan shall be developed to minimise disruption and risk associated with truck and machinery access and egress to the site.

Notification of the project, timeframe and potential disruptions shall be provided to nearby (within 200m of the site) residents, landowners and schools at least 4 weeks prior to commencement of works.



7. ENVIRONMENTAL SAFEGUARDS AND MEASURES TO MINIMISE IMPACTS

Note that safeguards are prescribed unless stated otherwise.

| Safeg | juard / Measure | Responsibility | | | | |
|---|--|---|--|--|--|--|
| Work | Works planning, approvals, consultation & notification | | | | | |
| 1. | Works occurring in the Park Rd and John Purcell Way road reserves, including the traffic management for truck and machinery access and egress, shall be referred to Council's Roads Assets Manager. | SCC Project Manager | | | | |
| 2. | Works connecting to or otherwise affecting the stormwater system shall be referred to Council's District Engineer – Central. | SCC Project Manager | | | | |
| 3. | It is recommended that consultation be undertaken with St Johns School to determine the level of potential disruption that would result from the closure of the Park Rd carpark for reconstruction, and whether there are means to minimise this disruption. | SCC Project Manager | | | | |
| 4. | It is recommended that consultation be undertaken with Nowra Private Hospital to ensure that the impacts of noise disturbance are minimised. | SCC Project Manager | | | | |
| 5. | A traffic management plan shall be developed to minimise disruption and risk associated with truck and machinery access and egress to the site. | SCC Project Manager; Construction Site Manager / Contractor | | | | |
| 6. | This REF must be published on the determining authority's (Council's) website or the NSW planning portal, in accordance with clause 171(4) EP&A Regulation 2021 (as a matter of "public interest"). | SCC Environmental Officer | | | | |
| Site establishment & construction works | | | | | | |
| 7. | The construction compound and stockpile area(s) shall be located within existing cleared areas and shall not encroach into native vegetation, including the drip-lines of trees. | Construction Site Manager / Contractor | | | | |
| 8. | The construction compound and works areas shall be appropriately fenced and signed to exclude access by the public. Note that para-webbing or similar may be acceptable for low-risk areas. | Construction Site Manager / Contractor | | | | |

Shoalhaven City Council

| Safeguard / Measure | Responsibility |
|---|---|
| Erosion and sediment controls in accordance with the 'Blue Book' (Landcom 2004) shall be installed and maintained to prevent the entry of sediment into waterways and adjacent intact vegetation. | Construction Site Manager / Contractor |
| 10. Dust suppression measures including wetting down of stockpiles and disturbed surfaces shall be employed as appropriate to minimise the impacts of dust on surrounding receivers. | Construction Site Manager / Contractor |
| 11. The limit of vegetation to be removed shall be delineated with flagging or similar prior to clearing works. | Construction Site Manager / Contractor |
| 12. Tree protection measures in accordance with AS4970 – Protection of trees on development sites shall be implemented to minimise the risk of trees to be retained. Machinery, vehicles and stockpiles shall not encroach into native vegetation, including the drip zone of trees. | Construction Site Manager / Contractor |
| Pruning of trees where required is to be undertaken in accordance with AS 4373-1996 "Pruning of Amenity Trees". | Construction Site Manager / Contractor |
| 14. Trees to be removed shall be felled into cleared areas to avoid damage to adjacent vegetation. | Construction Site Manager / Contractor |
| 15. 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). | Construction Site Manager / Contractor |
| 16. 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. | Construction Site Manager / Contractor |
| 17. Any waste material which is brought to or stored on the site, including engineering fill, must comply with relevant Resource Recovery Orders and associated Exemption (refer to Section 4.3). | Construction Site Manager / Contractor |
| 18. Testing of floodlight illuminances shall be undertaken following installation to ensure that light spill outside the target area is not excessive (pursuant to AS/NZS 4282- 2019). Re-calibration of light positioning and/or installation of lighting shields is to be undertaken accordingly to achieve an acceptable, non-invasive light spill, particularly toward | Contractor |



| Safeguard / Measure | Responsibility |
|--|---------------------|
| nearby residences along Park Rd to the north and north- | |
| west. | |
| 19. Replacement of trees to be removed along John Purcell Way shall be undertaken at a ratio of 2 replacements for each removed tree of 20 cm DBH or greater. Replanting shall occur in disturbed areas between John Purcell Way and the lower courts. Replacement trees shall be selected from the following endemic species: <i>Eucalyptus longifolia, E.amplifolia, E.paniculata, E.punctata</i> <i>Angophora floribunda, Callistemon salignus,</i> and <i>Melaleuca</i> <i>decora.</i> | SCC Project Manager |
| Post construction | |
| 20. An asset form must be trimmed to file 44574E on commissioning of each facility within the proposed activity in accordance with POL15/8 Asset Accounting Policy section 3.1.4 and POL16/79 Asset Management Policy section 3.3. | SCC Project Manager |



8. SIGNIFICANCE EVALUATION & CONCLUSION

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 upgrades to Park Rd Netball Courts and associated fixtures and structures.

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 work and an Environmental Impact Statement is not required for the proposed works.
- 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 additional statutory approvals, licences, permits and 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:



Craig Exton Manager – Technical Services City Services Shoalhaven City Council

Date: 18/1/2023

9. REFERENCES

- DAWE (Department of Agriculture, Water and the Environment, Australian Government). 2021. Species Profiles and Threats Database (online database). Available at https://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl
- DECCW (Department of Environment, Climate Change and Water, NSW) 2010 Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales.
- DoE (Department of Environment, Commonwealth of Australia). 2013. *Matters of National Environmental Significance Significant Impact Guidelines 1.1*. Available at: <u>http://155.187.2.69/epbc/guidelines-policies.html</u>
- EES (Environment, Energy and Science NSW Department of Planning, Industry and the Environment). 2020. Surveying threatened plants and their habitats.
- Jones, D.L. 2021. *Native orchids of Australia,* 3rd edn. New Holland Publishers Pty Ltd: Sydney, NSW.
- Klaphake, V. 2010. Eucalypts of the Sydney region (2nd edn.). Van Klaphake: Byabarra, NSW.
- Morcombe, M. 2004. Field Guide to Australian Birds. Steve Parish Publishing, Australia.
- NSW Government. 2021. *Threatened Biodiversity Data Collection* (online database). Available at: <u>https://www.environment.nsw.gov.au/AtlasApp/UI_Modules/TSM_/Default.aspx</u>
- NSW Scientific Committee. 2011. Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions - Determination to make a minor amendment to Part 3 of Schedule 1 of the Threatened Species Conservation Act. Available at: <u>https://www.environment.nsw.gov.au/Topics/Animals-and-plants/Threatened-species/NSW-Threatened-Species-Scientific-Committee/Determinations/Finaldeterminations/2011-2012/Swamp-Sclerophyll-Forest-on-Coastal-Floodplains-of-the-NSW-North-Coast-minor-amendment-Determination</u>
- OEH (NSW Office of Environment & Heritage). 2017. *Grey-headed Flying-fox profile*. Available from: <u>https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10697</u>



APPENDIX A – Design plans

"PARK ROAD NETBALL COURTS FINAL DRAFT PACKAGE" by MI ENGINEERS Council reference D21/444926



APPENDIX B - Likelihood of Occurrence Table (NSW Threatened Species)



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 (<u>https://www.environment.nsw.gov.au/threatenedspeciesapp/</u>).

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).



| Endangered Ecological | Community name | | Status | Likelihood of pre | esence within areas impacted by the activity |
|---|--|--|---|---|---|
| Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions | | Enc | dangered - <i>NSW</i> BC <i>Act</i> | Does not occur on-s proximity to the site of the site). | ite and is not mapped as occurring in close (nearest records are approx. 4.03km to the north |
| Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion | | Enc Crit Cor | dangered - <i>NSW</i> BC <i>Act</i> ically Endangered - mmonwealth <i>EPBC Act</i> | Does not occur on-site and is not mapped as occurring in close proximity to the site (nearest records are approx. 1.73km to the ear of the site). | |
| Illawarra Subtropical Rainfo Basin Bioregion | Jubtropical Rainforest in the Sydney egionEndangered - NSW BC Act Critically Endangered - Commonwealth EPBC ActDoes not occur on-site and is not mapped as occur proximity to the site (nearest records are approx. of the site). | | ite and is not mapped as occurring in close (nearest records are approx. 4.03km to the north | | |
| Swamp oak floodplain fore Coast, Sydney Basin and S bioregions | st of the NSW North South East Corner | Enc Enc EPI | dangered - <i>NSW</i> BC <i>Act</i> dangered - Commonwealth BC Act | Does not occur on-site and is not mapped as occurring in clos proximity to the site (nearest records are approx. 1.1km to the east of the site). | |
| Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregionsEndangered - NSW BC ActMap how withi impa | | Mapped as occurring however, site assess within the site, nor in impact on the EEC a | g in the locality, approx. 125m to the south-west, sment confirmed that the EEC does not occur a close proximity such that there is any risk of as a result of the proposal. | | |
| Species name | Status | | Habitat requir (www.environment. | ements .nsw.gov.au) | Likelihood of presence within areas impacted by the activity |
| FLORA | | | | | |
| <i>Acacia pubescens</i> Downy Wattle | Vulnerable EPBC Act Vulnerable NSW BC Act | Occurs on alluviums, shales a between shales and sandstor characteristically gravely soils ironstone. Occurs in open wo in a variety of plant communit River/Castlereagh Ironbark F Transition Forest and Cumbe Woodland. Longevity is unkn | | and at the intergrade ines. The soils are is, often with bodland and forest, ities, including Cooks Forest, Shale/Gravel erland Plain hown, but clonal | No suitable habitat on site. Understorey is very degraded. A conspicuous species, not detected during survey. |



| | | species have been known to survive for many decades. Flowers from August to October. Pollination of Acacia flowers is usually by insects and birds. The pods mature in October to December. Recruitment is more commonly from vegetative reproduction than from seedlings. The percentage of pod production and seed fall for this species appears to be low. Acacia species generally have high seed dormancy and long- lived persistent soil seedbanks. It is thought that the species needs a minimum fire free period of 5 - 7 years to allow an adequate seedbank to develop. | |
|--|--|--|---|
| <i>Cryptostylis hunteriana</i> Leafless tongue Orchid | Vulnerable EPBC Act Vulnerable NSW BC Act | Occurs in a wide variety of habitats from moist sandy soil to dense heathland, sedgeland and verges of fire trails. The larger populations typically occur in woodland dominated by Scribbly Gum (Eucalyptus sclerophylla), Silvertop Ash (E. sieberi), Red Bloodwood (Corymbia gummifera) and Black Sheoak (Allocasuarina littoralis); appears to prefer open areas in the understorey of this community and is often found in association with the Large Tongue Orchid (C. subulata) and the Tartan Tongue Orchid (C. erecta). | Unlikely to occur. No suitable habitat present within the site. Understorey is very degraded. |
| Eucalyptus langleyi Albatross Mallee | NSW BC Act Vulnerable EPBC Act Vulnerable | Found in Mallee shrub land on poorly drained, shallow, sandy soils on sandstone. | No suitable habitat on site. A conspicuous species, not detected during survey. |
| <i>Genoplesium baueri</i> Bauer's Midge Orchid | Endangered EPBC Act Endangered NSW BC Act | Grows in dry sclerophyll forest and moss gardens over sandstone. | Unlikely to occur. No suitable habitat present within or in vicinity of site. Understorey is very degraded. |



| Hibbertia stricta subsp. furcatula | Endangered NSW BC Act | Habitat of the Southern Sydney population is broadly dry eucalypt forest and woodland. This population appears to occur mainly on upper slopes and above the Woronora River gorge escarpment, at or near the interface between the Lucas Heights soil landscape and Hawkesbury sandstone. Toelken & Miller (2012) note that the species usually grows in 'gravelly loam or clay soil in heath under open woodland'. Habitat of the South Coast population is poorly recorded, but appears to be dry sclerophyll forest or woodland associations in sandy soils over sandstone. | No suitable habitat on site. Understorey is very degraded. A conspicuous species, not detected during survey. |
|---|--|--|---|
| <i>Pterostylis gibbosa</i> Illawarra Greenhood | Endangered EPBC Act Endangered NSW BC Act | All known populations grow in open forest or woodland, on flat or gently sloping land with poor drainage. In the Illawarra region, the species grows in woodland dominated by Forest Red Gum Eucalyptus tereticornis, Woollybutt E. longifolia and White Feather Honey-myrtle Melaleuca decora. Near Nowra, the species grows in an open forest of Spotted Gum Corymbia maculata, Forest Red Gum and Grey Ironbark E. paniculata. | Unlikely to occur. No suitable habitat present within or in vicinity of site. Understorey is very degraded. |
| Pterostylis vernalis | Critically Endangered EPBC Act Critically Endangered NSW BC Act | Pterostylis vernalis grows in open sites in shallow soil over sandstone sheets, in heath and heathy forest. | Unlikely to occur. No suitable habitat present within or in vicinity of site. |
| Rhodamnia rubescens Scrub Turpentine | Critically Endangered NSW BC Act | Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. | No suitable habitat on site. Understorey is very degraded. A conspicuous species, not detected during survey. |



| Solanum celatum | NSW BC Act Endangered | Grows in rainforest clearings or in wet sclerophyll forests. Flowers August to October and produces fruit between December and January. Normally recorded in disturbed margins and clearings. | No suitable habitat on site. Understorey is very degraded. A conspicuous species, not detected during survey. | | |
|--|--|---|---|--|--|
| Syzygium paniculatum Magenta Lilly Pilly | 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. | No suitable habitat on site. A conspicuous species, not detected during survey. | | |
| Triplarina nowraensis Nowra Heath Myrtle | NSW BC Act Endangered EPBC Act Endangered | Nowra Heath Myrtle occurs on poorly drained, gently sloping sandstone shelves or along creek lines underlain by Nowra Sandstone. The sites are often treeless or have a very open tree canopy due to the impeded drainage. | No suitable habitat on site. A conspicuous species, not detected during survey. | | |
| Zieria baeuerlenii Bomaderry Zieria | NSW BC Act Endangered EPBC Act Endangered | Occurs on skeletal sandy loam overlaying sandstone, on a rocky plateau amongst sandstone boulders in either shrubby open forest, shrubby woodland or closed shrub. | No suitable habitat on site. A conspicuous species, not detected during survey. | | |
| AMPHIBIANS | . 2 | | | | |
| Green and Golden Bell Frog <i>Litoria aurea</i> | Vulnerable EPBC Act Endangered NSW BC Act | Marshes, dams and stream-sides, particularly those containing bullrushes (<i>Typha</i> spp.) or spikerushes (<i>Eleocharis</i> spp.). 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 present within or in vicinity of site. | | |
| MICRO-CHIROPTERAN BATS | | | | | |
| Eastern (Large) Bentwing-bat <i>Miniopterus orianae</i> <i>oceanensis</i> | 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. | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. No breeding habitat occurs within the site. | | |

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| | / | |

| Eastern False Pipistrelle Falsistrellus tasmaniensis | NSW BC Act Vulnerable | Prefers moist habitat that contains trees greater than 20 m high with a dense undertstorey. 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). | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. No breeding habitat occurs within areas that would be impacted. |
|---|--|--|---|
| Eastern (Coastal) Freetail-Bat <i>Micronomus norfolkensis</i> | <i>Vulnerable NSW</i> BC <i>Act</i> Vulnerable <i>EPBC Act</i> | Small tree hollows/fissures in bark for roosting in dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. No breeding habitat occurs within areas that would be impacted. |
| Greater Broad-nosed Bat <i>Scoteanaux ruepelli</i> | Vulnerable <i>NSW</i> BC <i>Act</i> | 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 | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. No breeding habitat occurs within areas that would be impacted. |



| Large –eared Pied Bat Chalinobolus dwyeri | Vulnerable <i>NSW</i> BC <i>Act</i> Vulnerable <i>EPBC Act</i> | Found mainly in areas with extensive cliffs and caves, from Rockhampton in Queensland south to Bungonia in the NSW Southern Highlands. It is generally rare with a very patchy distribution in NSW. There are scattered records from the New England Tablelands and North West Slopes. Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (<i>Petrochelidon ariel</i>), frequenting low to mid-elevation dry open forest and woodland close to these features | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. No breeding habitat occurs within the site. |
|--|--|---|---|
| Yellow-bellied Sheathtail- bat <i>Saccolaimus flaviventris</i> | Vulnerable <i>NSW</i> BC <i>Act</i> | 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 | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. No breeding habitat occurs within areas that would be impacted. |
| BIRDS | | | |
| Australasian Bittern | NSW BC Act | Occurs in terrestrial freshwater wetlands and, | Unlikely to occur. No suitable habitat present |
| Botaurus poiciloptilus | Endangered | farely, estuarine habitals. It lavours wellands with | |
| | Endangered | 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. Available data indicate that the Australasian Bittern breeds in relatively deep, densely vegetated freshwater swamps and pools, building its nests in deep cover over shallow water. | |
|---------------------------------------|-----------------------|---|--|
| Bar-tailed Godwit Limosa lapponica | 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. Forages near the edge of water or in shallow water, mainly in tidal estuaries and harbours. They appear not to forage at high tide and prefer exposed sandy substrates on intertidal flats, banks and beaches. The also prefer soft mud; often with beds of eelgrass Zostera or other seagrasses. Occasionally they have been known to forage among mangroves, or on coral reefs or rock platforms among rubble, crevices and holes. They rarely forage in grassy or vegetated areas. On Heron Island they have been seen feeding on insect larvae among the roots of Casuarina. Roosts on sandy beaches, sandbars, spits and also in near-coastal saltmarsh. In some conditions, waders may choose roost sites where a damp substrate lowers the local temperature. | Unlikely to occur. No suitable habitat present |



| Black Bittern Ixobrychus flavicollis | 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 present |
|--|--|---|--|
| Black Falcon Falco subniger | Vulnerable NSW BC Act | The Black Falcon is widely, but sparsely, distributed in New South Wales, mostly occurring in inland regions. Some reports of 'Black Falcons' on the tablelands and coast of New South Wales are likely to be referable to the Brown Falcon. In New South Wales there is assumed to be a single population that is continuous with a broader continental population, given that falcons are highly mobile, commonly travelling hundreds of kilometres (Marchant & Higgins 1993) | Possibly occurring transiently over the site. Unlikely to be affected by proposed works. No important habitat for the species would be removed. |
| Crested Tern Thalasseus bergii | 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. Nesting occurs on sand or shingle among low vegetation behind the beaches (Pizzey & Knight 2012; Morcombe 2011) | Unlikely to occur. No suitable habitat present |
| Eastern Hooded Dotteral (Hooded Plover) Thinornis cucullatus cucullatus (synThinornis rubricollis) | NSW BC Act: Critically Endangered EPBC Act: Vulnerable | In south-eastern Australia Hooded Plovers prefer sandy ocean beaches, especially those that are broad and flat, with a wide wave-wash zone for feeding, much beachcast seaweed, and backed by sparsely vegetated sand-dunes for shelter and nesting. Occasionally Hooded Plovers are found on tidal bays and estuaries, rock platforms and rocky or sand-covered reefs near sandy beaches, and small beaches in lines of cliffs. They regularly use near-coastal saline and freshwater lakes and lagoons, often with saltmarsh. | Unlikely to occur. No suitable habitat present |
| Freckled Duck Stictonetta naevosa | Vulnerable NSW BC Act | Found primarily in south-eastern and south- western Australia, occurring as a vagrant elsewhere. It breeds in large temporary swamps | Unlikely to occur. No suitable habitat present |



| | | created by floods in the Bulloo and Lake Eyre basins and the Murray-Darling system, particularly along the Paroo and Lachlan Rivers, and other rivers within the Riverina. The duck is forced to disperse during extensive inland droughts when wetlands in the Murray River basin provide important habitat. The species may also occur as far as coastal NSW and Victoria during such times. Prefer permanent freshwater swamps and creeks with heavy growth of Cumbungi, Lignum or Tea-tree. During drier times they move from ephemeral breeding swamps to more permanent waters such as lakes, reservoirs, farm dams and sewage ponds | |
|---|--|---|--|
| Gang-gang Cockatoo Callocephalon fimbriatum | Vulnerable NSW BC 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 | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. No suitable hollows were noted in trees within or adjacent to the sites. |
| Glossy Black-cockatoo Calyptorhynchus lathami | Vulnerable <i>NSW</i> BC <i>Act</i> | 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</i> <i>littoralis</i> , shredding the cones with their bill | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. No evidence of foraging was noted during surveys. No suitable hollows were noted in trees within or adjacent to the sites. |
| Latham's Snipe Gallinago hardwickii | 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 | Unlikely to occur. No suitable habitat present |



| | | habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity. | |
|---|--------------------------|---|--|
| Little Lorikeet Glossopsitta pusilla | 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). These nest sites are often used repeatedly for decades, suggesting that preferred sites are limited. Riparian trees often chosen, including species like Allocasuarina | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. No suitable hollows were noted in trees within or adjacent to the sites. |
| Powerful Owl Ninox strenua | 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 <i>Syncarpia glomulifera</i> , Black She- oak <i>Allocasuarina littoralis</i> , Blackwood <i>Acacia melanoxylon</i> , Rough-barked Apple <i>Angophora floribunda</i> , 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 | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. No suitable hollows were noted in trees within or adjacent to the sites. |



| Scarlet Robin Petroica boodang | Vulnerable <i>NSW</i> BC <i>Act</i> | 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. | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. |
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| Short-tailed Shearwater Ardenna tenuirostris | Migratory EPBC Act | Coastal, oceanic. | Unlikely to occur. No suitable habitat present |
| Sooty Owl | Vulnerable | Occurs in rainforest, including dry rainforest, | Unlikely to occur. No suitable habitat present |
| Tyto tenebricosa | NSW BC Act | subtropical and warm temperate rainforest, as well as moist eucalypt forests | |
| Square-Tailed Kite Lophoictinia isura | 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 100km2. Breeding is from July to February, with nest sites generally located along or within 200m of riparian areas, near watercourses, in a fork or on large horizontal limbs. | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. |
| Turquoise Parrot <i>Neophema pulchella</i> | Vulnerable <i>NSW</i> BC <i>Act</i> | Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Prefers to feed in the shade of a tree and spends most of the day on the ground searching for the seeds or grasses and herbaceous plants, or browsing on vegetable matter. Nests in tree hollows, logs or posts, from August to December. It lays four or five white, rounded eggs on a nest of decayed wood dust. | Unlikely to occur. No suitable habitat present |
| Wedge-tailed Shearwater Ardenna pacificus | 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 | Unlikely to occur. No suitable habitat present |



| White-bellied Sea-Eagle Haliaeetus leucogaster | NSW BC Act Vulnerable Migratory EPBC Act | 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. 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. Breeding has been recorded on the coast, at inland sites, and on offshore islands. Breeding territories are located close to water, and mainly in tall open forest or woodland, although nests are sometimes located in other habitats such as dense forest (including rainforest), closed scrub or in remnant trees on cleared land. Forages over large expanses of open water; this is particularly true of birds that occur in coastal environments close to the sea-shore, where they forage over in-shore waters. However, the White- bellied Sea-Eagle will also forage over open terrestrial habitats (such as grasslands). Birds may move to and congregate in favorable sites | Possibly occurring transiently over the site but will not be affected by proposal or associated works. No important habitat will be affected by the proposal. |
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| White-fronted Chat Epthianura albifrons | Vulnerable NSW BC Act | during drought or food shortage. Commonly occurring in the saltmarshes of southern Australia, the White-fronted Chat is often seen foraging for insects and their larvae | Unlikely to occur. No suitable habitat present |



| | | among the succulent leaves and stems of stunted saltmarsh plants. | |
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| MAMMALS | | | |
| Eastern Pygmy-possum Cercatetus nanus | Vulnerable NSW BC Act | Rainforest, sclerophyll forest & woodland to heath – but heath & woodland preferred. Forages on banksias, eucalypts & bottlebrushes. | Unlikely to occur. No suitable habitat present within or in vicinity of site. |
| Greater Glider Petauroides Volans | Vulnerable EPBC Act | Feeds exclusively on eucalypt leaves, buds, flowers and mistletoe. Shelter during the day in tree hollows and will use up to 18 hollows in their home range. Occupy a relatively small home range with an average size of 1 to 3 ha. Give birth to a single young in late autumn or early winter which remains in the pouch for approximately 4 months and is independent at 9 months of age. Usually solitary, though mated pairs and offspring will share a den during the breeding season and until the young are independent. Can glide up to a horizontal distance of 100m including changes of direction of as much as 90 degrees. Very loyal to their territory. | Unlikely to occur. No suitable habitat present within or in vicinity of site. |
| Grey-headed Flying-fox Pteropus poliocephalus | Vulnerable <i>EPBC Act</i> Vulnerable <i>NSW</i> BC <i>Act</i> | 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. | Possibly occurring within the site and utilising foraging habitat. Further assessment has been undertaken in the form of a Test of Significance in Section 3.2. |
| Koala Phascolarctos cinereus | 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 <i>Eucalyptus</i> | Unlikely to occur. No suitable habitat present within or in vicinity of site. |



| | | <i>amplifolia, E.viminalis, & E.tereticornis</i> but numerous other species also known food trees. | |
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| Southern Brown Bandicoot (eastern) Isoodon obesulus obesulus | Endangered EPBC Act Endangered NSW BC Act | Southern Brown Bandicoots are largely crepuscular (active mainly after dusk and/or before dawn). They are generally only found in heath or open forest with a heathy understorey on sandy or friable soils. They feed on a variety of ground-dwelling invertebrates and the fruit- bodies of hypogeous (underground-fruiting) fungi. Their searches for food often create distinctive conical holes in the soil. Males have a home range of approximately 5-20 hectares whilst females forage over smaller areas of about 2-3 hectares. Nest during the day in a shallow depression in the ground covered by leaf litter, grass or other plant material. Nests may be located under Grass trees Xanthorrhoea spp., blackberry bushes and other shrubs, or in rabbit burrows. The upper surface of the nest may be mixed with earth to waterproof the inside of the nest. | Unlikely to occur. No suitable habitat present within or in vicinity of site. |
| Yellow-bellied Glider - <i>Petaurus Australis</i> | Vulnerable <i>NSW</i> BC <i>Act</i> | 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. Very mobile and occupy large home ranges between 20 to 85 ha to encompass dispersed and seasonally variable food resources. | Unlikely to occur. No suitable habitat present within or in vicinity of site. |