Appendix D Assessment of likelihood

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
Plants					
Pedley's Wattle (*Acacia pedleyi*)	V	-	*Acacia pedleyi* is found on alluvial flats, hill slopes and tops of ridges in open forest and woodland communities. This species occurs in understorey, sometimes with *Acacia crassa*, in open forest with *Corymbia citriodora*, *Eucalyptus moluccana* and/or *Eucalyptus crebra*, and in *Eucalyptus populnea* woodland. This species is endemic to the Callide and Calliope Ranges, Port Curtis District (World Wide Wattle, 2018).	**High** Suitable habitat for this species is mapped within the Project site. This species was recorded at the Callide Mine by AECOM ecologists in 2012. Essential habitat for this species is mapped just outside the Project Site.	**Low**
Acacia spania	NT	-	*Acacia spania* grows mostly on rocky sandstone ridges and hills in sandy to loamy soils in eucalypt or *Acacia* dominated woodland communities. The species sometimes forms relatively pure stands within these communities, and has also been recorded in vine thickets along scarp edges. Altitudinal range from 400 to 600 m. Within open woodland communities *Acacia spania* has been recorded in association with *Eucalyptus lamprophylla* with occasional patches of *Eucalyptus cloeziana*; *Eucalyptus crebra* with semi-evergreen vine thicket; and *Eucalyptus melanophloia*, *Acacia crassa*. Within tall open shrubland, *Acacia spania* has been recorded growing with *Acacia aneura, Acacia kempeana, Acacia shirleyi*, and *Triodia pungens.* This species is only known from two locations near Emerald Queensland (WetlandInfo, 2019).	**Moderate** Preferred *Acacia* dominated woodlands are mapped within the Project site, and a record from 1999 occurs approximately 10 km west of the Project site.	**Low**
Hairy Joint Grass *Arthraxon hispidus*	V	V	Hairy-joint Grass has been recorded from scattered locations around Queensland, however most occurrences are from Noosa southwards. This species is found in or on the edges of rainforest and in wet eucalypt forest, often near creeks or swamps, as well as woodland (DEWHA (2008).	**Low** No habitat is mapped for this species within the Project site. No records for this species occur within 10 km of the Project Site.	**Low**
Bertya opponens	-	V	*Bertya opponens* has been recorded growing in a variety of community types including mixed shrubland, lancewood woodland, mallee woodland, eucalypt/acacia open forest with shrubby understorey, eucalypt/callitris open forest, woodland and semi-evergreen vine-thicket. The soils are recorded as generally shallow sandy loams or red earths associated mostly with sandstone, but also with rhyolite, shale and metasediments. In Queensland, this species is widely distributed within an area bounded by Emerald in the north and Charleville in the west, with an outlier near Charters Tower (Department of the Environment, 2019).	**High** Suitable habitat for this species is mapped within the Project site. Records of this species occur immediately south of the Project site at the Callide Mine.	**Low**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
Yellow Satinheart (*Bosistoa transversa*)	-	V	*Bosistoa transversa* grows in wet sclerophyll forest, dry sclerophyll forest and rainforest up to 300 m in altitude. Associated vegetation includes *Argyrodendron trifoliolatum*, *Syzygium hodgkinsoniae*, *Endiandra pubens*, *Dendrocnide photinophylla*, *Acmena ingens*, *Diploglottis australis* and *Diospyros mabacea.*	**Low** Suitable habitat for this species occurs within the Project site. No records for this species occur within 10 km of the Project Site.	**Low**
Miniature Moss-orchid (*Bulbophyllum globuliforme*)	NT	V	A tiny, rhizomatous, epiphytic orchid that has a preference for growing on the bark of the upper branches of emergent *Araucaria cunninghamii* (hoop pine) at altitudes between 500 to 900 m. It prefers cool, moist rainforest and upland subtropical rainforest. The miniature moss-orchid is endemic to eastern Australia. The species is recorded from near Paluma, north-east Queensland and south to the McPherson Range on the Queensland/New South Wales border (Department of the Environment, 2019).	**Low** REs with *Araucaria cunninghamii* as a potential species are mapped within the Project site; however, the highest point of the Project site is Mount Gerard at 424 m. No rainforest is mapped within the Project site. The closest record of this species is at Kroombit Tops National Park, approximately 45 km south-east of the Project site.	**Low**
Ooline (*Cadellia pentastylis*)	V	V	Ooline grows in semi-evergreen vine thickets and sclerophyll vegetation on undulating terrain of various geology, including sandstone, conglomerate and claystone. Soils generally have low to medium nutrient content and are normally associated with upper and mid-slopes in the landscape. The altitude is generally 300-460 m above sea level, with some stands known to occur at 600 m. In Queensland, ooline occurs from Balcomba (west of Rockhampton) south to the New South Wales border and west to near Blackall (Department of the Environment, 2019).	**Moderate** Preferred habitat for this species is mapped within the Project site; however, the closest record of this species is from 1949 approximately 55 km south-west of the Project site.	**Low**
Cerbera dumicola	NT	-	This species is known to be locally common in lancewood thickets on laterite away from the coast and in coastal and sub-coastal semi-evergreen vine thickets. Populations are disjunct across its geographical range. This species has also been observed to form a sub-canopy shrub in eucalypt woodland habitats on sandy plains and colluvial wash. *Cerbera dumicola* is endemic to central coastal and sub coastal Queensland. The type specimen was collected from Middle Percy Island; however, was also known as a small tree from the Dingo and Blackwater districts. The extent of the broader population occurs from Biloela in the south, west to Blackall and north to Charters Towers (WetlandInfo, 2019).	**Low** Laterite is not mapped within the Project site. Records of this species occur adjacent to the Callide Mine, approximately 7 km south of the Project site.	**Low**
Cossinia	E	E	Cossinia occurs from 20 to 520 m altitude. This species appears to prefer ecotonal situations around dry rainforest edges, although it also occurs as scattered individual plants within closed forest communities. It grows in	**High** Suitable habitat for this species is mapped within the Project site. Records	**Low**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
(*Cossinia australiana*)			*Araucaria* microphyll vine forest and relict semi-evergreen vine thicket on a variety of soils, including red volcanic soil and black loam. This species' distribution is from Rockhampton to Kingaroy, east of the Great Dividing Range, a distance of approximately 300 km. At most sites it is recorded as uncommon, usually as scattered individuals (Department of the Environment, 2019).	of this species occur adjacent to the Callide Mine, approximately 7 km south of the Project site. Essential habitat for this species is mapped adjacent to the Project site.	
Cycas megacarpa	E	E	*Cycas megacarpa* is found in woodland, open woodland and open forests, often in conjunction with a grassy understory. This species is found in habitat dominated by *Eucalyptus crebra* and *Corymbia citriodora* as well as *Corymbia erythrophloia, Eucalyptus melanophloia* and *Lophostemon confertus*. There are also reports that it can be found in or on the edge of rainforest habitat. *Cycas megacarpa* is endemic to south-east Queensland. It is found from as far south as Woolooga to Bouldercombe in the north. Illegal collection of Cycad species is a major threat and, therefore, detailed distribution information is not available (Department of the Environment, 2019).	**Confirmed** Essential habitat for this species is mapped within the Project site, and a confirmed record from the Spring 2020 surveys was lodged with the Queensland Herbarium. Large populations were observed on in the Project Site Additional records of this species occur immediately adjacent to the Project site at the Don River State Forest. .	**High**
Marlborough Blue (*Cycas ophiolitica*)	E	E	This species grows on hills and slopes in sparse, grassy open forest at altitude ranges from 80–400 m above sea level. Although this species reaches its best development on red clay soils near Marlborough, it is more frequently found on shallow, stony, infertile soils, which are developed on sandstone and serpentinite, and is associated with species such as *Corymbia dallachiana*, *Corymbia erythrophloia, Corymbia xanthope* and *Eucalyptus fibrosa*. Marlborough blue is endemic to Queensland, occurring from Marlborough to Rockhampton in central-eastern Queensland (Department of the Environment, 2019).	**Low** Suitable habitat for this species is mapped within the Project site; however, the Project Site is outside the known distribution. No nearby records occur.	**Low**
King Blue-grass (*Dichanthium queenslandicum*)	V	E	This species occurs on black cracking clay in tussock grasslands mainly in association with other species of blue grasses (*Dichanthium* spp. and *Bothriochloa* spp.) but also with other grasses restricted to this soil type. King blue-grass is mostly confined to natural grassland on the heavy black clay soils (basalt downs, basalt cracking clay, open downs) on undulating plains. King blue-grass is endemic to central and southern Queensland where it occurs in three disjunct populations: 1) Hughenden district (one record); 2) from Nebo to Monto and west to Clermont and Rolleston; and 3) Dalby district, Darling Downs (Department of the Environment, 2019).	**Low** Suitable habitat for this species is not mapped within the Project site. Historical records from 1948 occur approximately 55 km south of the Project site.	**Low**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
Blue-grass (*Dichanthium setosum*)	-	V	*Dichanthium setosum* occurs in heavy soils (predominantly cracking clays or alluvium, often in gilgai) in woodland or open woodland usually dominated by *Acacia* (brigalow) and/or *Eucalyptus* species. The climate is tropical to subtropical and markedly seasonal with the habitat drying out for part of the year. In Queensland the species has been reported from the Leichhardt, Morton, North Kennedy and Port Curtis regions (Department of the Environment, 2019).	**Low** Suitable habitat for this species is mapped within the Project site. However, no nearby records occur.	**Low**
Discolourous-leaved Ironbark (*Eucalyptus decolor*)	NT	-	*Eucalyptus decolor* grows in open forest or open tall woodland on ridges, crest or steep slopes on grey loams or shallow soils derived from granite or sandstone from 160 to 550 m asl. Associated species include: *Corymbia citriodora*, *C. trachyphloia* subsp. *trachyphloia*, *Eucalyptus major*, *E. moluccana*, *E. acmenoides*, *E. montivaga*, *E. exserta*, *Allocasuarina littoralis*, *Lophostemon confertus*, *Leptospermum neglectum*, *Pomaderris argyrophylla*, *Arundinella nepalensis* and *Eremochloa bimaculata*	**High** There is a record for this species on the Inverness property.	**Low**
Grevillea hockingsii	V	-	*Grevillea hockingsii* is found on slopes in hilly sandstone country on shallow sandy to sandy loam soils which are light brown to red in colour and occasionally stony or gravelly. It grows in woodland or open forest communities mostly dominated by either *Eucalyptus decorticans* and *Corymbia citriodora* subsp. *variegata*, *Eucalyptus suffulgens* or *Eucalyptus acmenoides*. Occasionally it is found on the edge of soaks containing species of *Melaleuca*. This species is known from a few disjunct location centred around Biloela, central Queensland (WetlandInfo, 2019).	**High** Suitable habitat for this species is mapped within the Project site. Numerous records of this species occur at the Callide Timber Reserve, approximately 10 km south of the Project site. Essential habitat for this species is mapped adjacent to the Project site.	**Low**
Melaleuca groveana	NT	-	*Melaleuca groveana* grows on exposed rocky ridges, high mountain slopes and the summits of mountains, at altitudes between 340-600 m above sea level. It generally occurs in heaths and eucalypt woodlands and forests with heath understoreys. It is also found in tall open forest with a grassy understorey and in microphyll vine forests. It has been recorded growing on red sandy loams, brown loams, skeletal rocky soils and sandy soils over sandstone rock. *Melaleuca groveana* has a fragmented distribution from the Port Stephens district in New South Wales to the Bluff district in Queensland (WetlandInfo, 2019).	**High** Suitable habitat for this species is mapped within the Project site. Numerous records of this species occur at the Callide Timber Reserve, approximately 10 km south of the Project site.	**Low**
Polianthion minutiflorum	V	V	*Polianthion minutiflorum* grows in forest and woodland on sandstone slopes and gullies with skeletal soil, or deeper soils adjacent to deeply weathered laterite. This species is known from five areas in east Queensland, from Redcliffe Vale, about 110 km west of Mackay, south to Kingaroy, covering a distance of approximately 800 km. Locations include Redcliffe Vale; near	**High** Suitable habitat for this species is located within the Project site. Numerous records of this species occur at the Callide	**Low**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
			Blackwater; Callide Range, north-east of Biloela; East Boogalgopal, west of Monto; and in the Kingaroy area north of Nanango, north-east of Jandowae and near Goodger (Department of the Environment, 2019).	Timber Reserve, approximately 1.6 km south of the Project site.	
Quassia (*Samadera bidwillii*)	V	V	Quassia commonly occurs in lowland rainforest or on rainforest margins, but it can also be found in other forest types, such as open forest and woodland. Quassia is commonly found in areas adjacent to both temporary and permanent watercourses in locations up to 510 m altitude. Quassia is endemic to Queensland and is currently known to occur in several localities between Scawfell Island, near Mackay, and Goomboorian, north of Gympie. Quassia has been confirmed as occurring in at least 40 sites (Department of the Environment, 2019).	**High** Marginal suitable habitat for this species is mapped within the Project site. Numerous records of this species occur at adjacent to the Project Site, Essential habitat for this species is mapped adjacent to the Project site.	**Low**
Solanum dissectum	E	E	Within its range, this species may be found in open forest and woodland habitats where brigalow (*Acacia harpophylla*) and/or lapunyah (*Eucalyptus thozetiana*) characterise the dominant vegetation types on solodic clay soils. *Solanum dissectum* is endemic to Queensland is and found within a region bounded by the towns of Blackwater to Bauhinia to Thangool to Dululu, which is centred about 150 km due west of Gladstone. However, it is restricted to very small localised areas where populations exist (Department of the Environment, 2019).	**Low** No suitable habitat in the form of clay soils occurs within the Project Site. The closest record of this species is 20 km north-west of the Project Site.	**Low**
Solanum johnsonianum	E	E	This species may be found in open forest and woodland habitats where brigalow (*Acacia harpophylla*) dominates or co-dominates on heavy cracking clay soils. Other associated species include lapunyah (*Eucalyptus thozetiana*) with an understory of wilga (*Geijera parviflora*). *Solanum johnsonianum* is endemic to Queensland, and found within a region bounded by the towns of Rolleston to Theodore to Biloela to Dululu, which is centred about 160 km due west of Gladstone (Department of the Environment, 2019).	**Low** No suitable habitat in the form of clay soils occurs within the Project site. The closest record of this species is 25 km west of the Project Site.	**Low**
Birds					
Curlew Sandpiper (*Calidris ferruginea*)	E	CE, M	Curlew sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They occur in both fresh and brackish waters. In Australia, curlew sandpipers occur around the coasts and are also quite widespread inland, though in smaller numbers (Department of the Environment, 2019).	**Low** Suitable habitat does not appear to be found within the Project site. No nearby records occur.	**Low**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
Glossy Black-cockatoo (northern) (*Calyptorhynchus lathami erebus*)	V	-	The glossy black cockatoo (northern) prefers woodland areas dominated by sheoak *Allocasuarina*, or open sclerophyll forests and woodlands with a stratum of *Allocasuarina* beneath *Eucalyptus*, *Corymbia* or *Angophora*. Glossy Black-cockatoos have also been observed in mixed *Allocasaurina*, *Casuarina*, *Callitris* and *Acacia harpophylla* woodland assemblages. This species occurs in the north and central east coast of Queensland, ranging from the Dawson-Mackenzie-Isaac Rivers basin, north to the Connors-Clarke Ranges,south to Dawes and Many Peaks Ranges, and inland to the Expedition, Peak and Denham Ranges, including the Blackdown Tableland (Hourigan, 2012).	**Low** Suitable habitat is not mapped within the Project site. The closest records are at Kroombit Tops National Park, approximately 45 km south-east of the Project site.	**Low**
Red Goshawk (*Erythrotriorchis radiatus*)	E	V	The red goshawk occurs mostly in extensive areas of coastal and subcoastal open forest and woodland that support a mosaic of vegetation types. The vegetation types include eucalypt woodland, open forest, tall open forest, gallery rainforest, swamp sclerophyll forest, and rainforest margins. Permanent water (watercourses and wetlands) is usually present in close proximity, with tall emergent trees used for nesting. The red goshawk is thought to have a very large home range covering between 50 and 220 square kilometres. Sparsely distributed across coastal and sub-coastal Australia, from the western Kimberly to northern New South Wales. Appears to have been a contraction in range in recent years. Occasionally recorded from gorge country in central Australia and western Queensland (Department of the Environment, 2019).	**Low** Vast areas of contiguous woodland containing a mix of eucalypt, ironbark and bloodwood species is mapped within the Project site. Records of this species occur at Kroombit Tops National Park. This species is restricted in range.	**Low** **COLLISION RISK: HIGH** High-flying, soaring species. (Department of the Environment, 2019).
Grey Falcon *Falco hypoleucos*	V	V	The species occurs in arid and semi-arid Australia, including the Murray-Darling Basin, Eyre Basin, central Australia and Western Australia. The species is mainly found where annual rainfall is less than 500 mm, except when wet years are followed by drought, when the species might become marginally more widespread, although it is essentially confined to the arid and semi-arid zones at all times (Grey Falcon Conservation Advice, Threatened Species Scientific Committee, 2020)	**Low** Suitable habitat is not mapped within the Project site.	**Low**
Squatter Pigeon (southern) (*Geophaps scripta scripta*)	V	V	The squatter pigeon (southern) occurs in dry grassy woodland and open forest, mostly in sandy areas close to water. This species is now largely (if not wholly) restricted to Queensland, from the New South Wales border, north to the Burdekin River, west to Charleville and Longreach, and east to the coast to Townsville and Proserpine (Department of the Environment, 2019).	**Confirmed** This species was confirmed during site assessment in spring surveys (November 2020) and recorded in the following autumn surveys. Suitable habitat is mapped within the Project Site, and numerous records are found surrounding the Project Site. This species was also	**Moderate** **COLLISION RISK: LOW** Generally fly above the ground and below tree canopy height (Department of

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
				recorded at the Callide Mine by AECOM ecologists in 2012.	the Environment, 2019).
Painted Honeyeater (*Grantiella picta*)	V	V	The painted honeyeater occurs in dry forests and woodlands, where its primary food is mistletoes in the genus *Amyema*, though it will also take some nectar and insects. It is also known to occur in riparian woodland communities dominated by eucalypt species such as *Eucalyptus camaldulensis,* although its breeding distribution is dictated by the presence of mistletoes which are largely restricted to older trees. The species is sparsely distributed from south-eastern Australia to north-western Queensland and eastern Northern Territory. The greatest concentrations and almost all records of breeding come from south of 26ºS, on inland slopes of the Great Dividing Range between the Grampians, Victoria and Roma, Queensland (Department of the Environment, 2019).	**Low** It is unknown whether the Project site contains suitable mistletoe for this species; however, the Project site is outside the mapped distribution for this species (ALA) and no nearby records occur.	**Low**
White-throated Needletail (*Hirundapus caudacutus*)	V	V, M	The white-throated needletail is found across a range of habitats, more often over wooded areas, where it is almost exclusively aerial, though does occasionally roost in tree hollows and the foliage canopy. It forages for insects on the wing; flying anywhere between “cloud level” and “ground level” and readily forms mixed feeding flocks with other aerial insectivores. This species is widespread in eastern and south-eastern Australia. In eastern Australia, it is recorded in all coastal regions of Queensland and New South Wales, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains (Department of the Environment, 2019).	**Confirmed** This species was confirmed during surveys in both spring and autumn. Suitable habitat for this species is mapped within the Project site. Numerous records of this species occur surrounding the area.	**Moderate** **COLLISION RISK: HIGH** High-flying, soaring species (Department of the Environment, 2019).
Star Finch (eastern) (*Neochmia ruficauda ruficauda*)	E	E	The star finch (eastern) occurs mainly in grasslands and grassy woodlands that are located close to bodies of fresh water. It also occurs in cleared or suburban areas such as along roadsides and in towns. Studies at nine former sites of the star finch (eastern) found that the habitat consisted mainly of woodland. These habitats are dominated by trees that are typically associated with permanent water or areas that are regularly inundated; the most common species are *Eucalyptus coolabah, Eucalyptus tereticornis, Eucalyptus tessellaris, Melaleuca leucadendra, Eucalyptus camaldulensis* and *Casuarina cunninghamii*. Based on the small number of accepted records, the distribution of this species formerly extended from Bowen in central Queensland, south to the Namoi River in northern New South Wales, and west to the Blackall Range. Recent records have been obtained only from scattered sites in central Queensland (i.e. between 21°S and 25°S, and 141°E and 150°E) and,	**Low** Suitable habitat is mapped within the Project site. However, no nearby records occur. The total population of the star finch (eastern) is estimated to consist of 50 or less breeding birds (Department of the Environment, 2019).	**Low**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
			consequently, the star finch (eastern) now appears to be extinct in both south-eastern Queensland and northern New South Wales (Department of the Environment, 2019).		
Eastern Curlew (*Numenius madagascariensis*)	E	CE, M	During the non-breeding season in Australia, the eastern curlew is most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass (*Zosteraceae*). Occasionally, the species occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets. Within Australia, the eastern curlew has a primarily coastal distribution, they are rarely recorded inland (Department of the Environment, 2019).	**Low** Suitable habitat does not appear to be found within the Project site. Undated records are found on the eastern side of the Don River State Forest.	**Low**
Black-throated Finch (southern) *Poephila cincta cincta*	E	E	The black-throated finch's (southern) preferred habitat is grassy open woodland/forest dominated by *Eucalyptus*, *Melaleuca* or *Acacia*, but they are also known from pandanus flats and scrubby plains. The black-throated finch (southern) feeds on the seed of native grasses from the ground. Three resources are required for the species to persist: water, grass seeds and trees providing suitable habitat. If any of these three resources are not available, black-throated finch (southern) is unlikely to be present. The black-throated finch's (southern) primary stronghold is the region surrounding Townsville; however it is also known to occur in scattered locations across central-eastern Queensland (Department of the Environment, 2019).	**Low** Suitable habitat is mapped within the Project site. However, this species is now only known from a few key locations in Queensland, and no nearby records occur.	**Low**
Australian Painted Snipe (*Rostratula australis*)	V	E	Preferred habitat includes shallow inland wetlands, brackish or freshwater, that are permanently or temporarily inundated. Breeding habitat requirements may be quite specific: shallow wetlands with areas of bare wet mud and both upper and canopy cover nearby. Has been recorded from wetlands in all Australian states, however is most common in eastern Australia, especially the Murray-Darling Basin. Individuals are nomadic, and there is some evidence of partial migration from south-eastern wetlands to coastal central and northern Queensland in autumn and winter (Department of the Environment, 2019).	**Confirmed** This species was confirmed during site assessment in spring (November) 2020. Suitable habitat for this species is mapped within the Project site. Records of this species occur surrounding the area.	**Low** **COLLISION RISK: MODERATE** Forage on the ground; however, can fly at considerable heights when dispersing (Department of the Environment, 2019). The relative time spent at height is likely to be low.

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
Black-breasted Buttonquail (*Turnix melanogaster*)	V	V	The black-breasted button-quail is restricted to rainforests and forests, mostly in areas with 770-1200 mm rainfall per annum. They prefer drier low closed forests, particularly semi-evergreen vine thicket, low microphyll vine forest, araucarian microphyll vine forest and araucarian notophyll vine forest. They may also be found in low, dense acacia thickets and, in littoral area, in vegetation behind sand dunes. The black-breasted button-quail is endemic to eastern Australia. Present-day known distribution in Queensland extends from near Byfield in the north, south to the New South Wales border and westwards to Palm Grove National Park and Barakula State Forest. The most significant populations appear to be in the Yarraman-Nanango, Jimna-Conondale and Great Sandy regions (Department of the Environment, 2019).	**Moderate** Preferred habitat for this species is mapped within the Project Site. No records within 10 km. The closest records of this species occur at Kroombit Tops National Park.	**Low** **COLLISION RISK: LOW** Generally fly above the ground and below tree canopy height (Department of the Environment, 2019).
Mammals					
Large-eared Pied Bat (*Chalinolobus dwyeri*)	V	V	Sandstone cliffs and fertile woodland valley habitat within close proximity of each other is habitat of importance to the large-eared pied bat. Records from southeast Queensland suggest that rainforest and moist eucalypt forest habitats at high elevation are of similar importance to the species. The species' current distribution is also poorly known. Records exist from Shoalwater Bay, north of Rockhampton, Queensland, through to the vicinity of Ulladulla, New South Wales in the south. Despite the large range, it has been suggested that the species is far more restricted within the species' range than previously understood (Department of the Environment, 2019).	**Moderate** Preferred habitat for this species is mapped within the Project site. No nearby records occur.	**Low** **COLLISION RISK: LOW** Flight is slow, typically at midcanopy level 6-10 m above the ground (Churchill, 2008).
Northern Quoll (*Dasyurus hallucatus*)	-	E	The northern quoll occupies a diversity of habitats across its range which includes rocky areas, eucalypt forest and woodlands, rainforests, sandy lowlands and beaches, shrubland, grasslands and desert. Northern quoll are also known to occupy non-rocky lowland habitats such as beachscrub communities in central Queensland. Northern quoll habitat generally encompasses some form of rocky area for denning purposes with surrounding vegetated habitats used for foraging and dispersal. Eucalypt forest or woodland habitats usually have a high structural diversity containing large diameter trees, termite mounds or hollow logs for denning purposes. In Queensland, the northern quoll is known to occur as far south as Gracemere and Mount Morgan, south of Rockhampton, as far north as Weipa in Queensland and extends as far west into central Queensland to the vicinity of Carnarvon Range National Park (Department of the Environment, 2019).	**Moderate** Suitable habitat for this species is mapped within the Project site. Records of this species occur north of the Project Site at Mount Morgan.	**Low**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
Semon's Leaf-nosed Bat (*Hipposideros semoni*)	E	V	Semon's leaf-nosed bat is found in tropical rainforest, monsoon forest, wet sclerophyll forest and open savannah woodland. The known broad-scale distribution for Semon's leaf-nosed bat includes coastal Queensland from Cape York to just south of Cooktown. There is an outlier population at Kroombit Tops, near Gladstone (Department of the Environment, 2019).	**Low** Suitable habitat for this species is mapped within the Project site; however, the Project site is outside the mapped distribution. Two individuals have been captured at Kroombit Tops National Park, approximately 45 km south-east of the Project site. It is hypothesized that the warm and humid microclimate of the cave may have permitted these bats to be so far south of their known distribution (Churchill, 2008).	**Low**
Ghost Bat (*Macroderma gigas*)	E	V	This species is recorded from a wide range of habitats from rainforest, monsoon and vine scrub in the tropics to open woodlands and arid areas. Maternity roost sites are deep natural caves or disused mines with a specific microclimate, which is a relatively stable temperature (23ºC to 28ºC) with moderate to high (50-90 %) relative humidity, and the ceiling at least 2 m above the floor. During the nonbreeding season, ghost bats use large numbers of caves, rock shelters, overhangs, vertical cracks, and mines during the year as day roosts. In Queensland this species is currently distributed in only 4-5 highly disjunct populations along the coast and inland from the McIlwraith Range in Cape York to Rockhampton. The major colony of ghost bat occurs at Mount Etna. (Department of the Environment, 2019).	**Low** Suitable foraging habitat is mapped within the Project site; however suitable roosting habitat was not identified in the Project Site. The closest records of this species are at Rockhampton, approximately 65 km north of the Project site.	**Low** **COLLISION RISK: LOW** Typically fly from the ground to the canopy (Tidemann *et al.*, 1985).
Corben's Long-eared Bat (*Nyctophilus corbeni*)	V	V	The Corben's long-eared bat is found in a wide range of inland woodland vegetation types. These include box/ironbark/cypress pine woodlands, *Allocasuarina luehmannii* woodlands, *Acacia harpophylla* woodland, *Casuarina cristata* woodland, *Angophora costata* woodland, *Eucalyptus camaldulensis* forest, *Eucalyptus largiflorens* woodland, and various types of tree mallee. The Corben's long-eared bat is found in southern central Queensland, central western New South Wales, north-western Victoria and eastern South Australia, where it is patchily distributed, with most of its range in the Murray Darling Basin. Most records are from inland of the Great Dividing Range (Department of the Environment, 2019).	**Low** Suitable habitat for this species is mapped within the Project site. The Project Site lies just outside the known distribution of the species.	**Low** **COLLISION RISK: LOW** Typically fly from the ground to the canopy (Department of the Environment, 2019).
Greater Glider (*Petauroides volans*)	V	V	The greater glider is largely restricted to eucalypt forests. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. The greater glider is restricted to eastern Australia, occurring from the Windsor Tableland in north Queensland through	**Confirmed** This species was confirmed during site assessment in November 2020. Suitable habitat for this species is mapped within	**Moderate**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
			to central Victoria, with an elevational range from sea level to 1200 m above sea level. An isolated inland subpopulation occurs in the Gregory Range west of Townsville, and another in the Einasleigh Uplands (Department of the Environment, 2019).	the Project site and records occur at the Don River State Forest, immediately adjacent to the Project site.	
Koala (*Phascolarctos cinereus*)	V	V	Koalas inhabit a range of temperate, sub-tropical and tropical forest, woodland and semi-arid communities. Koalas eat a variety of eucalypt leaves and a few other related tree species, including *Lophostemon*, *Melaleuca* and *Corymbia* species. Koalas are found in higher densities where food trees are growing on more fertile soils and along watercourses. They do, however, remain in areas where their habitat has been partially cleared and in urban areas. In Queensland, the koala's distribution extends inland from the east coast: from the Wet Tropics interim biogeographic regionalisation of Australia bioregion, into the Einasleigh Uplands bioregion in the north of the state; from the Central Mackay Coast bioregion, through the Brigalow Belt North bioregion to the Desert Uplands and Mitchell Grass Downs bioregions, and from the Southeast Queensland bioregion, through the Brigalow Belt to the Mulga Lands and Channel Country bioregions in the southwest of the state (Department of the Environment, 2019).	**Confirmed** Scratches from Koala have been recorded at two locations within the Project Site along creek lines. Suitable habitat is mapped across large areas of the Project Site.	**Moderate**
Grey-headed Flying-fox (*Pteropus poliocephalus*)	-	V	The Grey-headed Flying-fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, *Melaleuca* swamps and *Banksia* woodlands. The primary food source is blossom from *Eucalyptus* and related genera but in some areas it also utilises a wide range of rainforest fruits. Previous studies of movements of the species in northern New South Wales and southern Queensland have indicated that various seasonal movements occur among camps. It is believed that Grey-headed Flying-foxes respond to changes in the amount of available food by migrating between camps in irregular patterns. Grey-headed Flying-foxes occupy the coastal lowlands and slopes of southeastern Australia from Bundaberg to Geelong and are usually found at altitudes <200 m. Areas of repeated occupation extend inland to the tablelands and western slopes in northern New South Wales and the tablelands in southern Queensland (Department of the Environment, 2019).	**Moderate** Suitable habitat for this species is mapped within the Project site. The closest camp that is known to contain Grey-headed Flying-fox is located at Wowan, approximately 46 km north-west of the Project Site. This species can move up to 50 km each night to different foraging areas and the species may move through the Project site when suitable food sources are flowering.	**Low** **COLLISION RISK: MODERATE** Forage within the tree canopy; however, can fly at considerable heights when dispersing (Department of the Environment, 2019).
Reptiles					

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
Collared Delma *(Delma torquata*)	V	V	The Collared Delma normally inhabits eucalypt-dominated woodlands and open forests in Queensland RE Land Zones 3, 9, and 10. The presence of rocks, logs, bark and other coarse woody debris, and mats of leaf litter (typically 30–100 mm thick) appears to be an essential characteristic of the Collared Delma microhabitat and is always present where the species occurs. This species has been recorded at the following sites: the Bunya Mountains, Blackdown Tablelands National Park, Expedition National Park, Western Creek, and the Toowoomba Range (Department of the Environment, 2019).	**High** Suitable habitat for this species is mapped within the Project site. Records of this species occur immediately adjacent to the Project Site at the Don River State Forest.	**Moderate**
Ornamental Snake (*Denisonia maculate*)	V	V	This species is known to prefer woodlands and open forests associated with moist areas, particularly gilgai mounds and depressions in Queensland RE Land Zone 4, but also lake margins and wetlands. This species' habitat is likely to be found in *Acacia harpophylla*, *Acacia cambagei*, *Acacia argyrodendron* or *Eucalyptus coolabah*-dominated vegetation communities, or pure grassland associated with gilgais. This species is known only from the Brigalow Belt North and parts of the Brigalow Belt South biogeographical regions. The core of the species' distribution occurs within the drainage system of the Fitzroy and Dawson Rivers (Department of the Environment, 2019).	**Low** Suitable soil (cracking clays) for this species is not mapped within the Project Site. Historical records of this species occur along Callide Creek to the west of the Project Site.	**Low**
Yakka Skink (*Egernia rugosa*)	V	V	Yakka skinks occur in a wide variety of vegetation types including poplar box, ironbark, brigalow, white cypress pine, mulga, bendee and lancewood woodlands and open forests. Substrates include rock, sand, clay and loamy red earth. They can persist in clearings where shelter sites such as tunnel erosion, rabbit warrens and log piles exist. The known distribution of the yakka skink extends from the coast to the hinterland of sub-humid to semi-arid eastern Queensland. This vast area covers portions of the Brigalow Belt, Mulga Lands, South-east Queensland, Einasleigh Uplands, Wet Tropics and Cape York Peninsula Biogeographical Regions (Department of the Environment, 2019).	**Moderate** Suitable habitat for this species is mapped within the Project site. Records of this species occur surrounding within 10 km.	**Low**
Southern Snapping Turtle (*Elseya albagula*)	E	CE	Prefers clear, flowing, well-oxygenated waters. It prefers waters with complex subsurface structure in the form of log tangles, undercut banks, and irregular rocky substrata. It is typically absent or rare in standing waters impounded by dams or weirs, unless associated with free-flowing streams. This species occurs throughout the Fitzroy, Burnett and Mary River catchments, with an area of occupancy of an estimated less than 500 km2 (Department of the Environment, 2019).	**Moderate** Suitable habitat for this species may be found within the Project Ssite. Records of this species occur south of the Timber Reserve.	**Low**
Dunmall's Snake	V	V	This species has been found in a broad range of habitats, including: forests and woodlands on black alluvial cracking clay and clay loams dominated by *Acacia harpophylla*, *Acacia burrowii, Acacia deanei, Acacia leiocalyx*, *Callitris*	**Moderate**	**Low**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
(*Furina dunmalli*)			spp. or *Allocasuarina luehmannii*; and various *Corymbia citriodora*, *Eucalyptus crebra* and *Eucalyptus melanophloia*, *Callitris glaucophylla* and *Allocasuarina luehmannii* open forest and woodland associations on sandstone derived soils. The Dunmall's snake occurs primarily in the Brigalow Belt region in the southeastern interior of Queensland. Records indicate sites at elevations between 200–500 m above sea level (Department of the Environment, 2019).	Suitable habitat for this species is mapped within the Project site. Records of this species occur near Calliope.	
Fitzroy River Turtle (*Rheodytes leukops*)	V	V	Preferred habitat areas have high water clarity and are often associated with Ribbon weed (*Vallisneria* sp.) beds. Common riparian vegetation associated with the Fitzroy River turtle includes *Eucalyptus tereticornis*, *Casuarina cunninghamiana, Melaleuca viminalis* and paperbark species including *Melaleuca linariifolia*. While riffle zones are considered particularly important habitat, the species also inhabits pools, runs and creeks. The Fitzroy River turtle is endemic to the Fitzroy Basin catchment, Queensland, with the species' distribution extending over a total area of less than 10,000 km2 (Department of the Environment, 2019).	**Moderate** Suitable habitat for this species may be found within the Project Site.	**Low**
Golden-tailed Gecko (*Strophurus taenicauda*)	NT	-	The golden-tailed gecko lives in open woodland and open forest where it shelters under loose bark and hollow limbs. This species is distributed in the south-eastern part of the Queensland Brigalow Belt bioregion (Cogger, 2014).	**High** Suitable habitat for this species is mapped within the Project Site. Records of this species occur surrounding the area.	**Moderate**
Migratory					
Fork-tailed swift (*Apus pacificus*)	SL	M	The fork-tailed swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher. This species mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand dunes. This species is generally found east of the Great Dividing Range from Cooktown to the New South Wales border, but extends further west in southern Queensland (Department of the Environment, 2019).	**Moderate** Suitable habitat for this species is located within the Project site. Records of this species occur in Biloela.	**Moderate** **COLLISION RISK: HIGH** High-flying, soaring species (Department of the Environment, 2019).
Oriental cuckoo (*Cuculus optatus*)	SL	M	This species uses a range of vegetated habitats such as monsoon rainforest, wet sclerophyll forest, open woodlands and appears quite often along edges of forests, or ecotones between forest types. The oriental cuckoo is a regular migrant to Australia, where it spends the nonbreeding season (Sept- May) in coastal regions across northern and eastern Australia as well as offshore	**Low** Suitable habitat for this species is located within the Project site. Records of this species occur surrounding	**Low** **COLLISION RISK: MODERATE**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
			islands. They are more widespread in the Top End and coastal Queensland with the odd vagrant records south to the Pilbara (Department of the Environment, 2015).	the area.	Forage at canopy height; however, may fly at considerable heights when migrating.
Black-faced monarch (*Monarcha melanopsis*)	SL	M	The black-faced monarch is a wet forest specialist, occurring mainly in rainforests and riparian vegetation. This species mainly occurs in rainforest ecosystems, including semi-deciduous vine-thickets, complex notophyll vineforest, tropical (mesophyll) rainforest, subtropical (notophyll) rainforest, mesophyll (broadleaf) thicket/shrub land, warm temperate rainforest, dry (monsoon) rainforest and (occasionally) cool temperate rainforest. In Queensland, the black-faced monarch is widespread from the islands of the Torres Strait and on Cape York Peninsula, south along the coasts (occasionally including offshore islands) and the eastern slopes of the Great Divide, to the New South Wales border (Department of the Environment, 2015).	**High** Suitable habitat for this species is located within the Project site. Numerous records of this species occur surrounding the area.	**Low** **COLLISION RISK: MODERATE** Forage at canopy height; however, may fly at considerable heights when migrating.
Spectacled monarch (*Monarcha trivirgatus*)	SL	M	This species occupies dense vegetation, mainly in rainforest but also in moist or wet sclerophyll forest and occasionally in other densely vegetated habitats such as mangroves, drier forest, woodlands, parks and gardens. The spectacled monarch is found in coastal north-eastern and eastern Australia, including coastal islands, from Cape York, Queensland to Port Stephens, New South Wales (Department of the Environment, 2015).	**Moderate** Suitable habitat for this species is located within the Project site. The only record nearby is south of Biloela.	**Low** **COLLISION RISK: MODERATE** Forage at canopy height; however, may fly at considerable heights when migrating.
Yellow wagtail (*Motacilla flava*)	SL	M	Habitat requirements for the yellow wagtail are highly variable, but typically include open grassy flats near water. Habitats include open areas with low vegetation such as grasslands, airstrips, pastures, sports fields; damp open areas such as muddy or grassy edges of wetlands, rivers, irrigated farmland, dams, waterholes; sewage farms, sometimes utilise tidal mudflats and edges of mangroves. The yellow wagtail is a regular wet season visitor to northern Australia. In Queensland this species is a regular visitor from Mossman south	**Low** Suitable habitat for this species is located within the Project site; however, the distribution of this species in Queensland is considered	**Low**

Species	NC Act status	EPBC Act status	Habitat	Likelihood of occurrence in the Project Area	Likelihood of Impact (with no mitigation)
			to Townsville. The species is a vagrant further south and on Heron Island (Department of the Environment, 2015).	from Mossman to Townsville. Individuals records further south are considered vagrants. No nearby records occur.	
Satin flycatcher (*Myiagra cyanoleuca*)	SL	M	Satin flycatchers are eucalypt forest and woodland inhabitants. They are particularly common in tall wet sclerophyll forest, often in gullies or along water courses. In woodlands they prefer open, grassy woodland. In Queensland, this species is widespread but scattered in the east, being recorded on passage on a few islands in the western Torres Strait. Satin flycatchers are widespread in south-eastern Queensland, in the area from Fraser Island, west to Goombi and south to the New South Wales border. This species is also found extensively along the Great Dividing Range (Department of the Environment, 2015).	**High** Suitable habitat for this species is located within the Project site. Numerous records of this species occur surrounding the area, including within the Project site.	**Low** **COLLISION RISK: MODERATE** Forage at canopy height; however, may fly at considerable heights when migrating.
Rufous fantail (*Rhipidura rufifrons*)	SL	M	In east and south-east Australia, the rufous fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts, usually with a dense shrubby understorey often including ferns. The rufous fantail is found in northern and eastern coastal Australia, being more common in the north. This species migrates to south-east Australia in October- April to breed, mostly in or on the coastal side of the Great Dividing Range (Department of the Environment, 2015).	**High** Suitable habitat for this species is located within the Project site. Numerous records of this species occur surrounding the area, including within the Project site.	**Low** **COLLISION RISK: MODERATE** Forage at canopy height; however, may fly at considerable heights when migrating.